

# National Avenue Corridor Master Plan



CITY OF SAN DIEGO

## EXISTING CONDITIONS REPORT

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# I. introduction

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## **BACKGROUND**

This Existing Conditions Report has been prepared as part of a corridor master plan for a specific segment of National Avenue. The segment addressed (“Project Area”) functions as a two-lane collector street with a two-way left turn lane, and extends eastward approximately 1.8 miles from Interstate (I)-5 to 43rd Street in the Southeastern San Diego Community Planning Area. A major purpose of the National Avenue Master Plan is to recommend an appropriate mix of land uses and densities, and balance the needs of all modes of travel along the corridor, resulting in a welcoming roadway that enhances connectivity to residential areas, schools, parks, recreation, shopping and other commercial activities.

The City of San Diego (City) is currently in the process of working with the community to update the 1987 Southeastern San Diego Community Plan. This urbanized and ethnically diverse planning area is bordered by I-5 on the west, I-805 on the east, SR-94 on the north, and segments of Division Street, 43rd Street, and Delta Street on the south. Downtown San Diego and Balboa Park lie to the west-

northwest; National City lies to the south. The 1987 Community Plan provides detail on existing conditions and future objectives for each of the neighborhoods within the Southeastern community, including the Encanto Neighborhoods east of I-805. The City also has undertaken a master plan for the Commercial/Imperial Corridor, two other major east-west streets in the community planning area. The community plan update process will result in two new community plans: one covering Southeastern San Diego and one for the Encanto Neighborhoods. The National Avenue Project Area extends east-west in the southern portion of the Southeastern San Diego Community Planning area (see Appendix 1 for map).

The current effort to update the Southeastern San Diego Community Plan has resulted in a draft Existing Conditions Report for that area (“Southeastern San Diego ECR”). Where the maps and findings in the Southeastern San Diego ECR apply to the segment of National Avenue that is the focus of this report, they will be referenced here; applicable maps will be included in Appendix 1 of this report. This summary report focuses on the assets, issues, and

## I. introduction

opportunities in the Project Area that inform future master planning and recommended improvements. Additional existing conditions information is presented as appendices to this summary:

- The existing planning and policy context that informs potential improvements in the Project Area
- Environment and collocation issues in the Project Area
- Mobility-related issues and opportunities

### LOCATION AND STUDY AREA

This Existing Conditions Report addresses land use, urban design, mobility and other characteristics of the Project Area, which encompasses the area one block to the north and one block to the south along the entire 1.8-mile reach of National Avenue (see Appendix 1 for location and study area maps). The mobility analysis locations for the Project Area include level of service (LOS)

evaluation for pedestrians, bicycles, transit, and vehicles. In general, roadway and intersection LOS is based on the facility operations, while LOS evaluations for pedestrians, bicycle, and transit facilities are evaluated based on user perception of the traveling experience on the subject facilities.

National Avenue passes through the Logan Heights neighborhood from I-5 to SR-15, and east of SR-15 forms the boundary between the Mountain View and Southcrest neighborhoods to 43rd Street. SR-15 bisects the National Avenue corridor on four overhead crossings. Two branches of Chollas Creek flow under National Avenue; the main branch crossing is west of SR-15, and the south branch crossing is west of 43rd Street. National Avenue is in the 100-year flood zone of Chollas Creek in both of these locations (see Southeastern San Diego ECR, Figure 7-2, shown in Appendix 1).

## II. assets, issues, and opportunities

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In some respects, the National Avenue Project Area could be considered two distinct corridors, with SR-15 as the dividing line. This stems from several observations:

- The SR-15 dividing line is accentuated by an island of industrial zoning and land uses immediately to the east of SR-15, and by the relatively low elevation of National Avenue in this area compared with high points near 30th Street and 38th Street
- Existing zoning and land uses emphasize commercial uses on National Avenue west of SR-15, and residential uses east of SR-15
- West of SR-15, National Avenue is closely bounded by I-5 along the south, which suggests focusing on neighborhood connectivity to the north
- East of SR-15, National Avenue is bounded on both sides by residential neighborhoods, and should facilitate connectivity to commercial clusters at the west and east ends of the corridor, as well as linkages with nearby green space and community facilities

This report builds on assessments already conducted for the Southeastern San Diego Community Plan Update, which were focused on land use, mobility, urban design, historic resources, public facilities and services, and environmental issues. The following section highlights assets, issues, and opportunities characteristic of the National Avenue corridor that may be particularly relevant to recommending future improvements.

### ASSETS

The National Avenue corridor exhibits several key assets that future improvements can complement (Figure 1). These include a fairly fine-grain mix of uses including neighborhood-serving retail and Otto Square Shopping Center, plus existing sidewalks along most of the corridor. One bus route (MTS Route 11) serves the corridor with stops every one or two blocks. In addition, there are two San Diego Trolley stations nearby. The Orange Line station at 32nd/Commercial is located about 0.75 mile north of the National Avenue intersection with 32nd Street, and the Blue Line Harborside Station is less than 0.5 mile south of the National Avenue intersection with 28th Street, south of I-5.

Existing assets also include nearby institutional uses, primarily schools. These include Logan Elementary, King Chavez Academy of Excellence, Rodriguez Elementary, Emerson/Bandini Elementary, and Baker Elementary. These are supplemented by other public facilities, such as the Logan Heights and Mountain View Beckworth Libraries, Neighborhood House Association, and San Diego City College's Educational Cultural Complex. In addition, several religious facilities are located along National Avenue, including Community of Praise Baptist Church, Community Baptist Church, Victory Outreach Church, and Nu-Way Christian Ministries.

## II. assets, issues, and opportunities

Open space and recreation assets consist of Chollas Creek, with the main branch crossing just west of SR-15, and the south branch crossing located west of 43rd Street. Chollas Creek is a heavily altered drainage channel that has the potential to become an outstanding environmental and recreational resource for the community, providing opportunities for walking, biking, and much needed park land. In the vicinity of National Avenue, the 2002 Chollas Creek Enhancement Program calls for trails along the south branch of Chollas Creek south of National Avenue. The Project Area also is near Memorial Park, Mountain View Park and Community Center, Southcrest Park and Recreation Center, and the Willie Henderson Sports Complex.

### ISSUES AND OPPORTUNITIES

The National Avenue corridor presents both issues and opportunities that inform planning efforts (Figure 2). One of the major issues along the National Avenue corridor is the need to improve the safety and experience of pedestrians and bicyclists. Collisions involving pedestrians and bicyclists have occurred at most of the street intersections along the corridor (see Southeastern San Diego ECR Figures 3-4 and 3-11, shown in Appendix 1), highlighting the need for enhanced multi-modal facilities. In terms of the mobility assessment for the Project Area, key findings include the following:

- All of the existing roadway segments along National Avenue are operating at acceptable LOS C, with the exception of the segment between 28th Street and I-5 Northbound Ramps operating at unacceptable LOS F.

- The existing intersection analysis indicates that all of the study intersections are operating at acceptable LOS (LOS D or better) during both the AM and PM peak hour, with the exception of the two-way stop controlled intersection of 41st Street and National Avenue which operates at substandard LOS E during the PM peak hour.
- The Project Area is served by one transit route, Route 11. The methodology calculates a fair to good transit service (LOS D or better) for segments providing a bus stop, but the methodology reports a transit LOS F for the remaining segments that do not provide a bus stop. This is a result of the program and reflects the lack of a stop, and is not indicative of delays in bus service.
- The multi-modal LOS analysis indicates that bicycle facilities in the Project Area generally operate at LOS C or D during both the AM and PM peak hour, with the exception of one eastbound segment (between 28th Street and I-5 Northbound Ramps), which operates at LOS E during both the morning and evening peak hours. Although some cyclists share the lane with vehicles, other cyclists were observed riding on the sidewalk, which is allowed except in business districts or where specifically prohibited.
- The multi-modal LOS analysis indicates that pedestrians in the Project Area generally experience good levels of service (LOS C or better) when walking along both sides of National Avenue during the AM and PM peak hour. Crossing of National Avenue at selected locations was observed to be a challenge for some pedestrians.

There are opportunities to improve pedestrian and bicyclist safety, along with the appearance of the National Avenue corridor, including:



FIG. 1: NATIONAL AVENUE CORRIDOR ASSETS



## II. assets, issues, and opportunities

- Traffic-calming for speeding vehicles
- Designation of formal bicycle facilities (e.g., bike lanes or sharrows)
- Improving safety for pedestrians crossing National Avenue
- Ensuring ADA-compliant facilities
- Improving amenities at bus stops along National Avenue
- Providing more shade trees along sidewalks, to supplement existing trees and have more continuous shade for pedestrians

Regarding air quality and noise from stationary sources, no impacts were identified, although many existing land uses can potentially exceed air quality or noise standards (see Appendix 3). In addition, no significant unavoidable traffic noise or air quality impacts were identified along the National Avenue corridor.

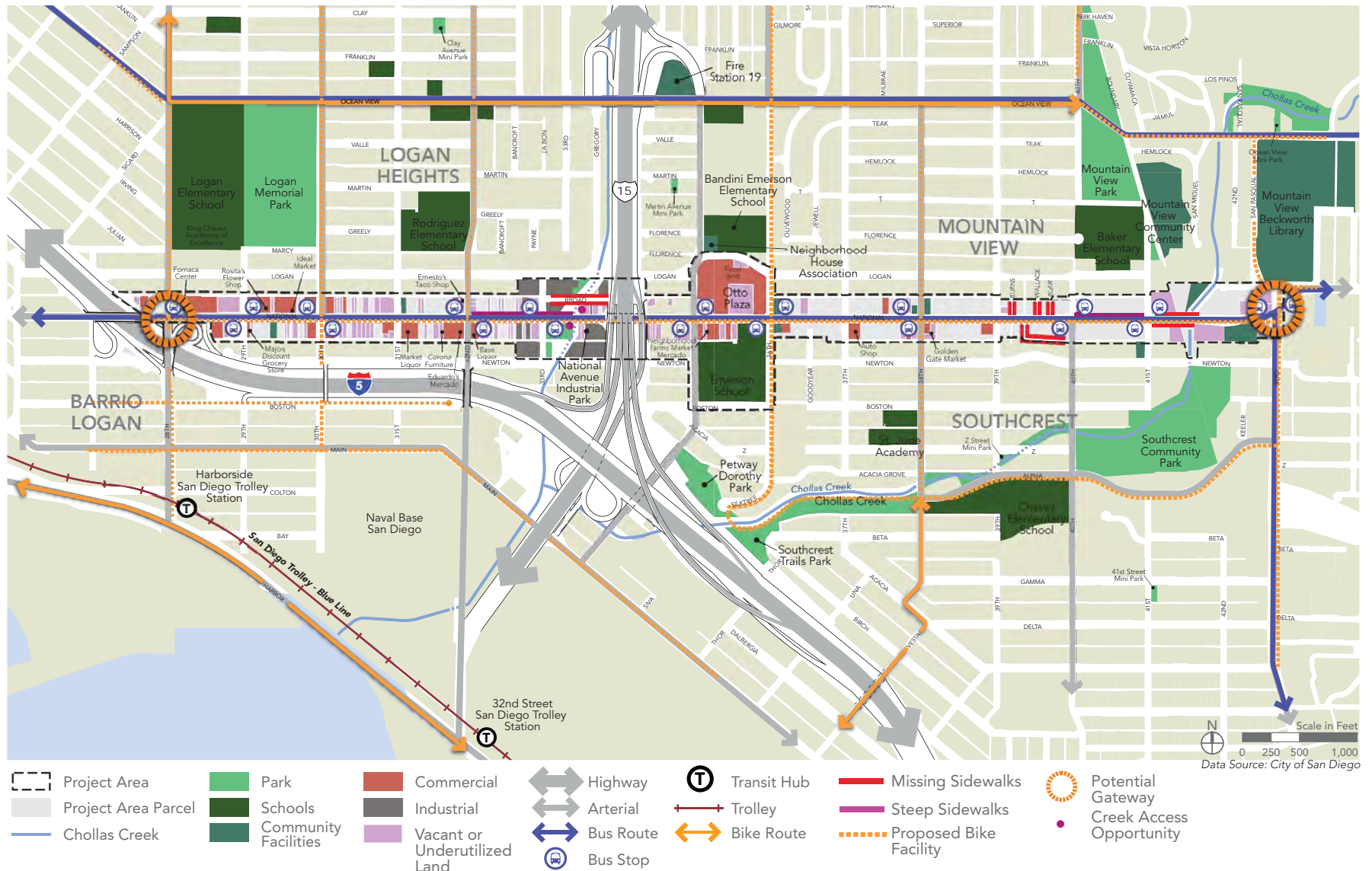
Many properties within the Project Area have been identified as hazardous materials sites; these all are either closed or have no reported releases. However, it should be noted that for cases reported as closed, standards for closure have varied over the years, and may not meet current standards. If redevelopment of a closed release case property is proposed, additional research into the unauthorized release case should be performed.

The Project Area includes both vacant and underutilized parcels, especially west of SR-15 (see Southeastern San Diego ECR Figure 2-5, shown in Appendix 1), which provide development opportunities to improve the public realm along National Avenue and make the corridor more pedestrian-friendly. Some of this vacant land is near Chollas Creek, potentially serving as a gateway

to this resource in the event that pedestrian access along the creek is provided in the future. In addition to vacant and underutilized parcels, another opportunity area worth exploring is the frontage below SR-15, especially south of National Avenue.

The issues identified above also have been raised by stakeholders engaged through the Southeastern San Diego Community Plan Update. This input highlights the desire for increased transit service, bicycle facilities, safe pedestrian facilities, traffic calming, and narrowing roadways. Needs for improved sidewalks (repairs and construction where missing) and more street lighting, especially around bus stops have also been noted. Most participants mentioned that streets in the planning areas are in disrepair, making the area seem neglected and contributing to actual or perceived crime. Biking was identified as dangerous and bike lanes and routes as lacking. The desire for freeway crossings to be pedestrian friendly was expressed, which relates to the SR-15 overpasses along National Avenue. Several stakeholders suggested that some of the wider streets in commercial areas and around schools be narrowed to reduce vehicle speeds and make walking safer. Development opportunities were primarily identified along commercial and mixed-use corridors, including National Avenue and 35th Street. Suggestions to address needed park space include the potential for closing off certain streets in the summer for community events, and widening sidewalks and curbs to create gathering space along the street. Also related to National Avenue were comments that cleaning up and otherwise improving Chollas Creek, as planned and underway, would better connect communities.

FIG. 2: NATIONAL AVENUE CORRIDOR ISSUES AND OPPORTUNITIES



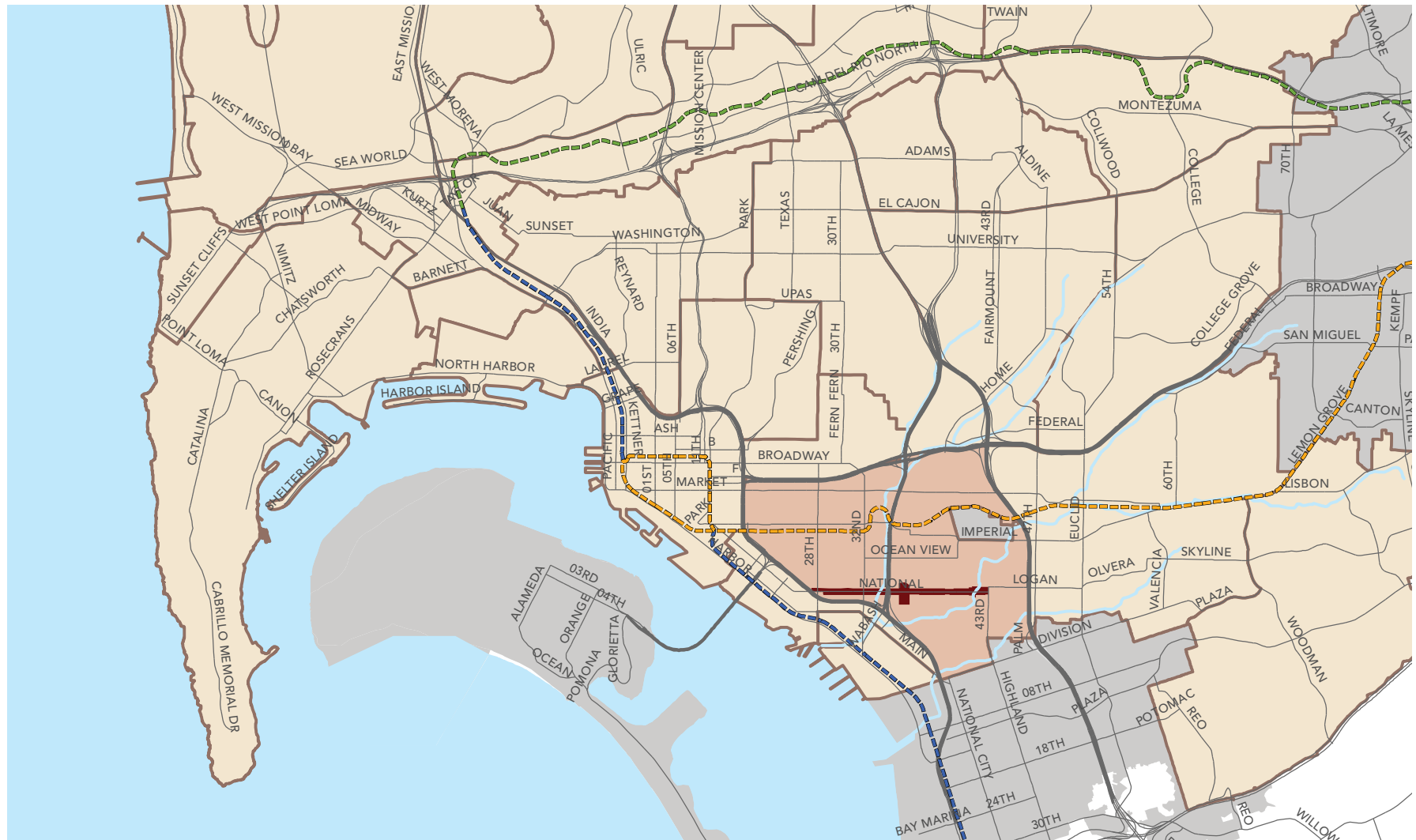


# III. appendices

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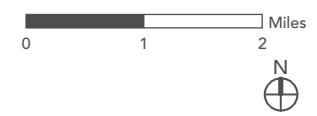
- 1 LOCATION MAPS AND SOUTHEASTERN SAN DIEGO ECR MAPS
- 2 SUMMARY OF EXISTING PLANS AND POLICIES
- 3 ENVIRONMENT AND COLLOCATION ASSESSMENT
- 4 MOBILITY ASSESSMENT
- 5 SITE IMAGES
- 6 STREET SECTION - EXISTING CONDITIONS

**APPENDIX 1: REGIONAL LOCATION MAP**

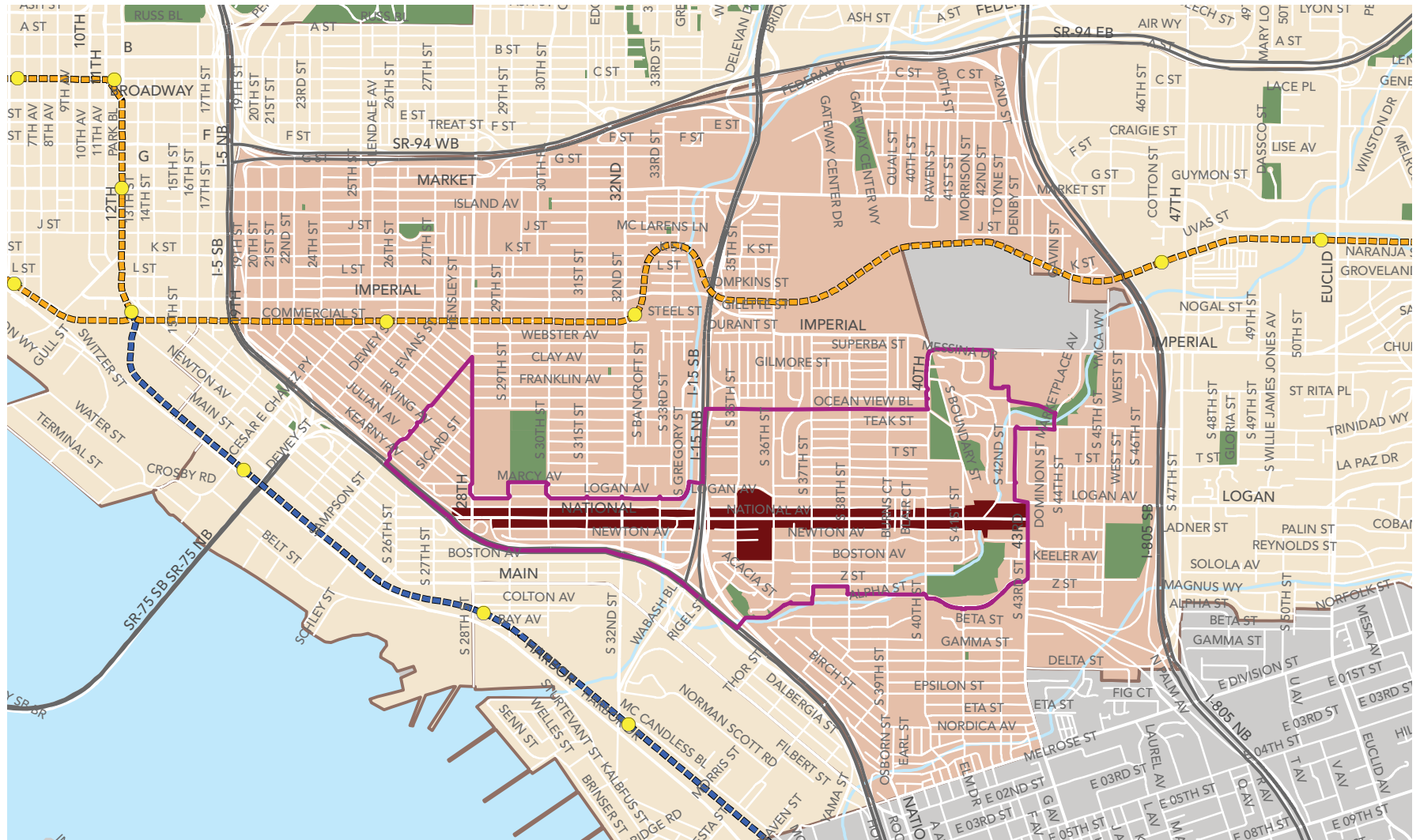


- National Avenue Project Area
- Southeastern San Diego Community Plan Area (CPA)
- Other City of San Diego CPAs
- San Diego County
- Blue Line Trolley
- Green Line Trolley
- Orange Line Trolley

Data Source: City of San Diego



APPENDIX 1: STUDY AREA MAP



- National Avenue Project Area
- Transportation Analysis Zones (TAZ) Study Area
- Southeastern San Diego Community Plan Area (CPA)
- Other City of San Diego CPAs
- San Diego County
- Trolley Stops
- Orange Trolley Line
- Blue Trolley Line

Data Source: City of San Diego



III. appendix 1: location and southeastern san diego ecr maps

APPENDIX 1: FIGURE 7-2 FROM SED EXISTING CONDITIONS REPORT, DYETT AND BHATIA (12-28-2012)

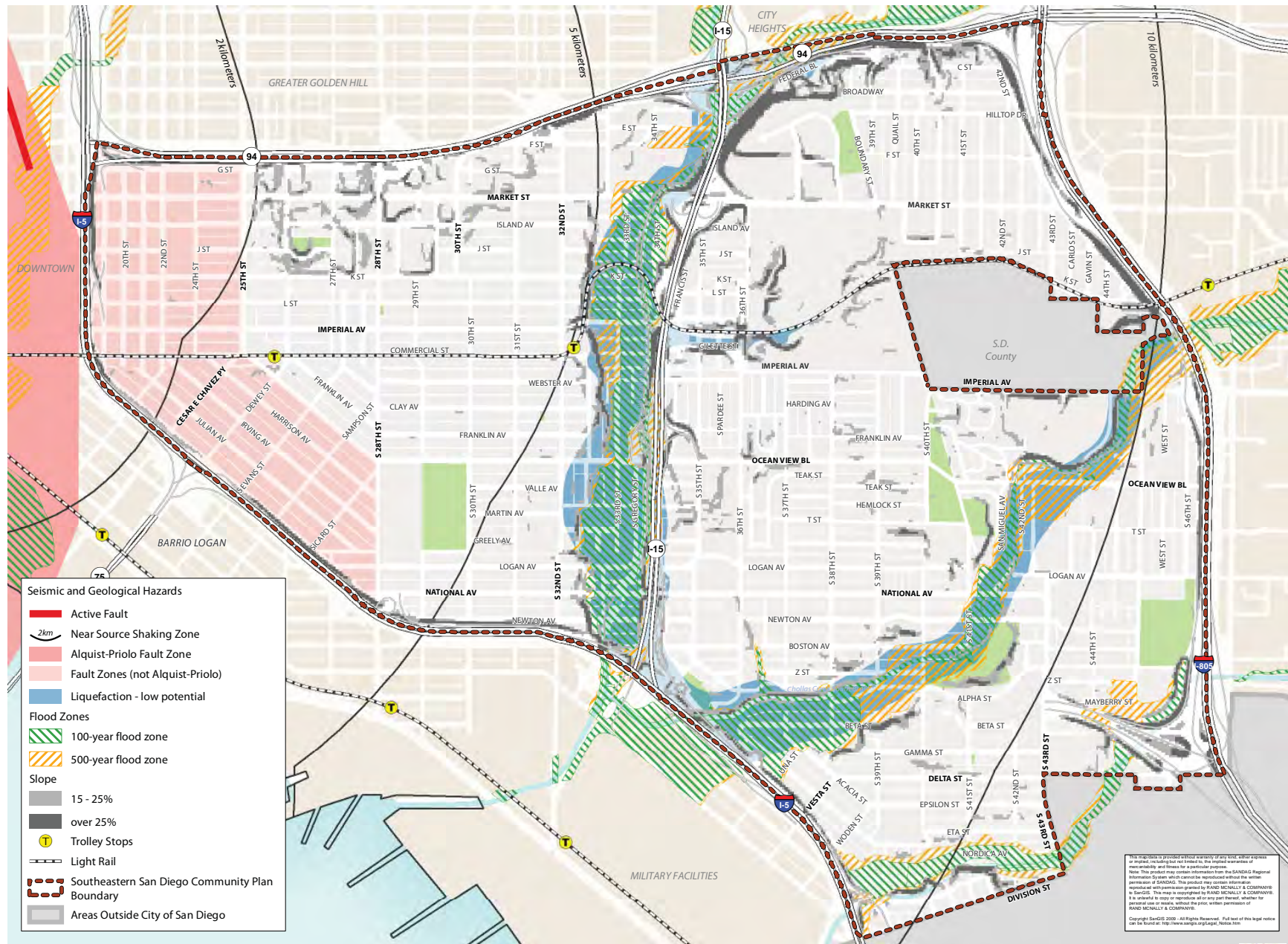


Figure 7-2: Environmental Constraints

Data Source: City of San Diego, 2012; SanGIS Regional Data Warehouse, 2012; USGS 2012; Federal Emergency Management Agency, County of San Diego, 2012; Dyett & Bhatia, 2012






APPENDIX 1: FIGURE 3-4 FROM SED EXISTING CONDITIONS REPORT, DYETT AND BHATIA (12-28-2012)

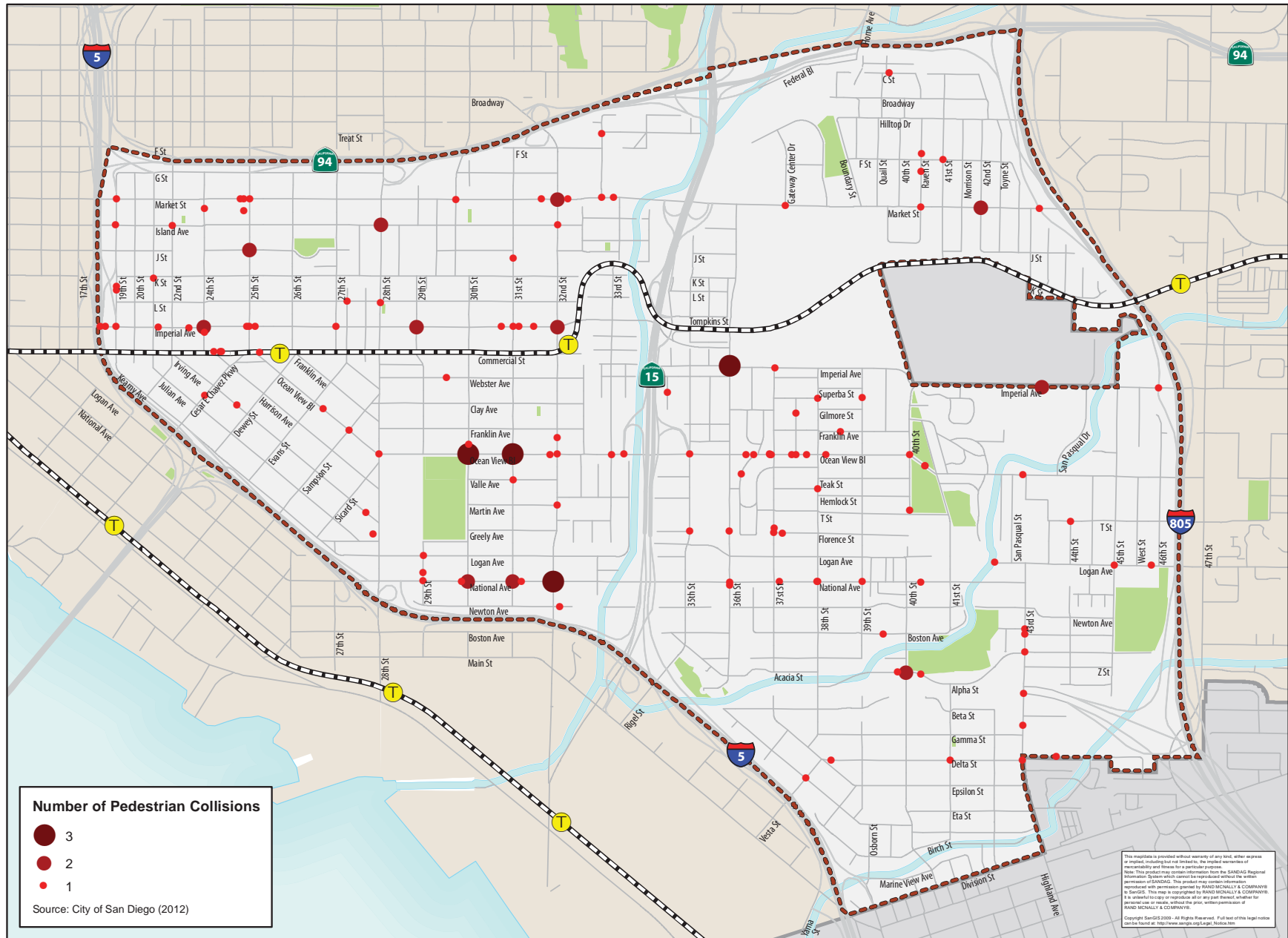


Figure 3-4: Pedestrian Collisions (July 2007 - September 2012)

APPENDIX 1: FIGURE 3-11 FROM SED EXISTING CONDITIONS REPORT, DYETT AND BHATIA (12-28-2012)

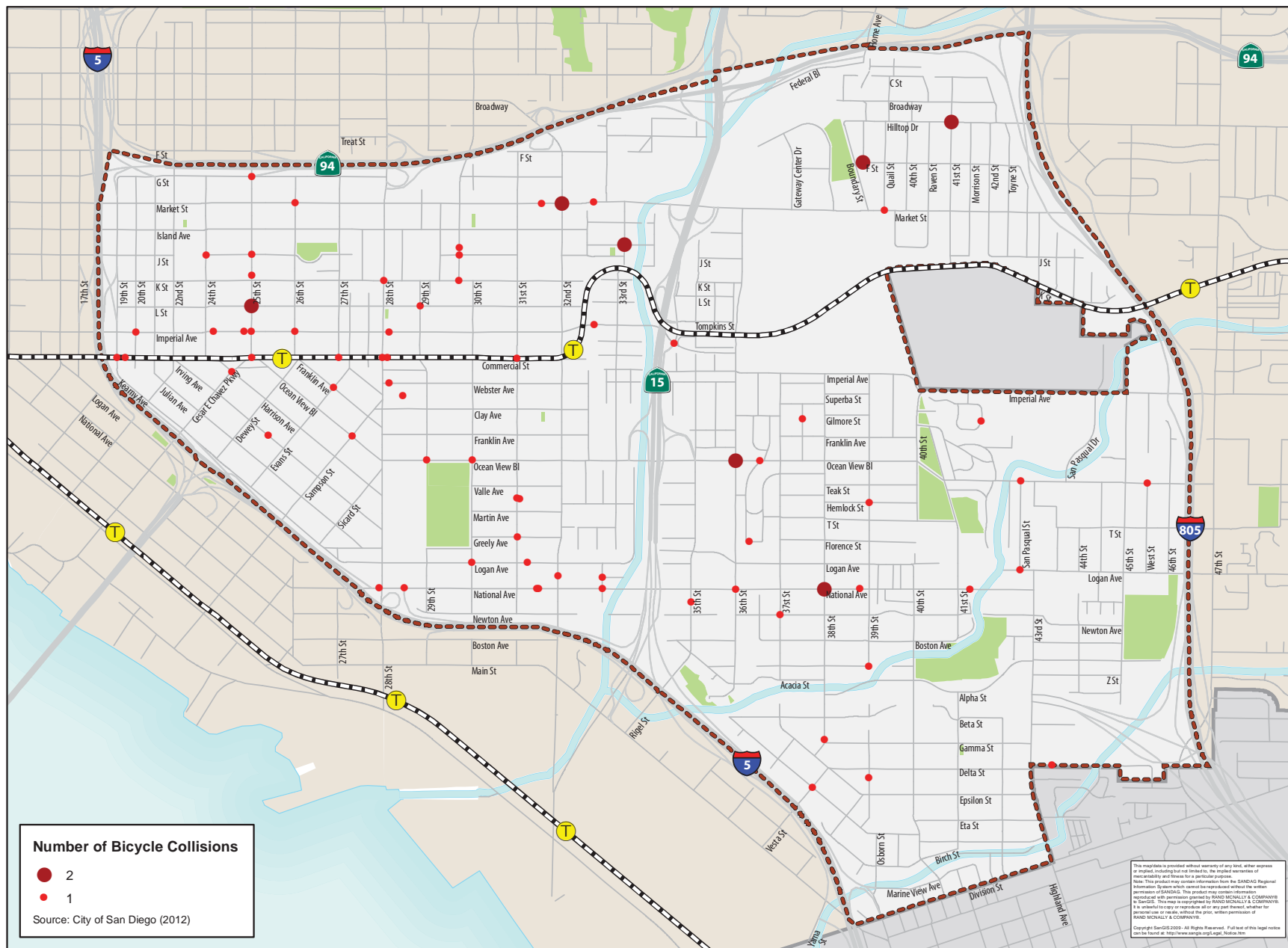


Figure 3-11: Bicycle Collisions (July 2007 - September 2012)

APPENDIX 1: FIGURE 2-5 FROM SED EXISTING CONDITIONS REPORT, DYETT AND BHATIA (12-28-2012)

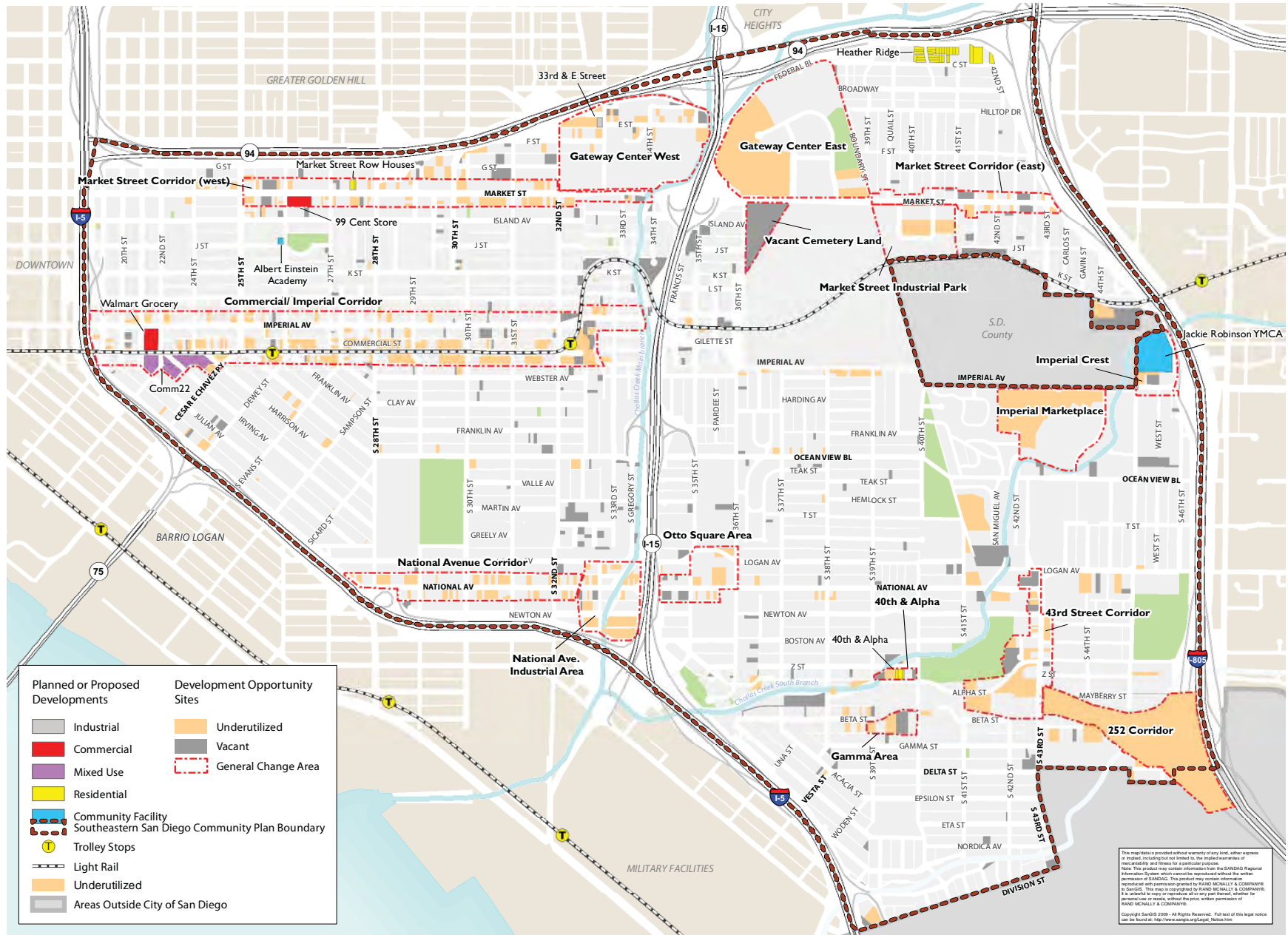


Figure 2-5: Opportunity Sites

## APPENDIX 2: SUMMARY OF EXISTING PLANS AND POLICIES

A variety of City plans and programs apply to the Community Planning Area in general and the National Avenue corridor in particular. These include the following:

- San Diego General Plan
- Southeastern San Diego Community Plan
- Chollas Creek Enhancement Program
- Chollas Creek South Branch Implementation Program

The City of San Diego Land Development Code and Southeastern San Diego Planned District Ordinance also affect design of projects in the area. The Land Development Code is the citywide zoning ordinance that covers many development regulations. The Southeastern San Diego Planned District Ordinance provides special regulations for urban development in relation to use and site development standards such as building setbacks, parking requirements, landscaping, and height. Any development within the communities has to obtain a development permit as required by these regulations.

### San Diego General Plan

The 2008 San Diego General Plan provides goals and objectives for the entire City, and is built around the “City of Villages” strategy, which “focuses growth into mixed-use activity centers that are pedestrian-friendly districts linked to an improved regional transit system.” The General Plan is described in ten elements: Land Use and Community Planning; Mobility; Economic Prosperity; Public Facilities, Services and Safety; Urban Design; Recreation; Historic Preservation; Conservation; Noise; and Housing. The elements with the most applicable policies for the National Avenue Master Plan are Land Use and Community Planning (LU), Mobility (ME), Urban Design (UD), and Noise (NE). Relevant General Plan policies include the following:

**LU-C.2.** Prepare community plans to address aspects of development that are specific to the community, including:...the local street and transit network...

f. Establish a mobility network to effectively move workers and residents.

**LU-H.1.** Promote development of balanced communities that take into account community-wide involvement, participation, and needs.

b. Invest strategically in public infrastructure and offer development incentives that are consistent with the neighborhood’s vision.

d. Ensure that neighborhood development and redevelopment addresses the needs of older people, particularly those disadvantaged by age, disability, or poverty.

**LU-H.6.** Provide linkages among employment sites, housing, and villages via an integrated transit system and a well-defined pedestrian and bicycle network.

**LU-I.8.** Expand public outreach on transportation policy, projects, and operations in order to get input from ethnic minorities, low-income residents, persons with disabilities, the elderly and other under-represented communities. Ensure that people who are directly affected by a proposed action are given opportunities to provide input.

**LU-1.9.** Design transportation projects so that the resulting benefits and potential burdens are equitable.

**LU-1.10.** Improve mobility options and accessibility for the non-driving elderly, disabled, low-income and other members of the population.

**ME-A.1.** Design and operate sidewalks, streets, and intersections to emphasize pedestrian safety and comfort through a variety of street design and traffic management solutions.

**ME-A.4.** Make sidewalks and street crossings accessible to

pedestrians of all abilities.

**ME-A.5.** Provide adequate sidewalk widths and clear path of travel as determined by street classification, adjoining land uses, and expected pedestrian usage.

**ME-A.6.** Work toward achieving a complete, functional and interconnected pedestrian network.

**ME-A.7.** Improve walkability through the pedestrian-oriented design of public and private projects in areas where higher levels of pedestrian activity are present or desired. (Features noted include street trees, benches, plazas, public art, and traffic calming measures.)

**ME-C.3.** Design an interconnected street network within and between communities, which includes pedestrian and bicycle access, while minimizing landform and community character impacts.

b. Use local and collector streets to form a network of connections to disperse traffic and give people a choice of routes to neighborhood destinations such as schools, parks, and village centers. This network should also be designed to control traffic volumes and speeds through residential neighborhoods.

d. Where possible, design or redesign the street network, so that wide arterial streets do not form barriers to pedestrian traffic and community cohesiveness.

### III. appendix 2: plans and policies

**UD-A.10.** Design or retrofit streets to improve walkability, bicycling, and transit integration; to strengthen connectivity; and to enhance community identity. Streets are an important aspect of Urban Design.

**UD-B.5.** Design or retrofit streets to improve walkability, strengthen connectivity, and enhance community identity.

f. Enhance community gateways to demonstrate neighborhood pride and delineate boundaries.

g. Clarify neighborhood roadway intersections through the use of special paving and landscape.

h. Develop a hierarchy of walkways that delineate village pathways and link to regional trails.

**NE-B.2.** Consider traffic calming design, traffic control measures, and low-noise pavement surfaces that minimize motor vehicle traffic noise.

**NE-B.3.** Require noise reducing site design, and/or traffic control measures for new development in areas of high noise to ensure that the mitigated levels meet acceptable decibel limits.

**NE-B.4.** Require new development to provide facilities which support the use of alternative transportation modes such as walking, bicycling, carpooling and, where applicable, transit to reduce peak-hour traffic.

#### **Southeastern San Diego Community Plan**

The Southeastern San Diego Community Plan provides a framework to guide development in the Southeastern community. The plan was originally adopted by City Council in 1969, updated in 1987, and is currently being updated again. Relevant policies and objectives from the adopted 1987 Community Plan include the following:

##### **Urban Design:**

4. Enhance the community's visual image through streetscape improvements along major streets and within the neighborhoods.

##### **Drainage/Flood Control:**

6. Protect property from flooding while retaining the natural appearance of drainage areas to the extent feasible.

##### **Commercial Objectives:**

5. Improve vehicular and pedestrian access to commercial sites, and ensure adequate and aesthetically pleasing parking facilities.

**Commercial Recommendations:**

12. Urban Plazas and Landscaped Settings. Create urban plazas in park-like setting along Chollas Creek from Imperial Avenue near Interstate 805 on the north to National Avenue on the south which consist of landscaping, enhanced paving, and a location for public art.

**Proposed Industrial Sites:**

The community plan land use map will provide for a slight increase in the total of industrial land use acreage allowed by existing zoning. Industrial sites in the community plan are designated in six consolidated industrial development centers. These include National Avenue (33rd Street to Highway 15).

**Open Space and Recreation Recommendations:**

b. Chollas Creek. The remaining natural portions of Chollas Creek should be planned as a linear park with bicycle and pedestrian paths along a natural or landscaped creek bottom. Public access to the creek should be provided from and through private development and public rights-of-way along the creek.

**Transportation:**

Several major and collector streets in the community are currently carrying traffic volumes in excess of the City’s design standards.

These streets include National Avenue (from I-5 to 43rd Street). Some major and collector streets in the community have accident rates which exceed citywide averages, including National Avenue (from I-5 to 43rd Street). National Avenue should be widened to become a four-lane major street between SR-15 and 43rd Street to accommodate 14,000 expected weekday trips for the year 2000. At selected intersections this will require the prohibition of parking to create room for left-turn lanes.

**Bicycle/Pedestrian:**

Pedestrian access throughout Southeastern San Diego is readily available by means of sidewalks along public streets; however, these walkways are not being used to their full potential in some areas because of a lack of attention to the aesthetics and perceived safety of the walking environment.

**Pedestrian/Bicycle Transportation Objectives:**

1. Increase the aesthetic quality of street corridors to encourage pedestrian activity.
2. Maintain and improve pedestrian and bicycle access to public transportation.
3. Enhance bicycle circulation by improving designated routes to City standards and by attention to aesthetic quality and safety.

### III. appendix 2: plans and policies

#### Public Facilities:

Two elementary schools have been closed in the community in the last ten years. Crocket Elementary School was closed in 1975 for the purpose of establishing an alternative school on the site. Because the school did not generate sufficient interest and enrollment, the district converted the site to administrative office space. Bandini School was closed due to declining enrollment in March 1976 and the site has been converted to an administrative use.

#### Urban Design:

Streets should be designed and developed as pleasant places to walk as well as drive. Pedestrian areas should be emphasized through the use of wider sidewalks, benches, pedestrian scale signs, paving materials and landscaping. Landscaping which de-emphasizes turf areas and utilizes native and drought resistant plant materials is encouraged. Street development should provide for trees and shrubs along sidewalks as well as median strips and should utilize native or drought resistant plants where possible. Landscaping should be placed in the median strips of streets wherever feasible.

#### Southcrest Redevelopment Project:

The Redevelopment Project, which was approved by the City Council on April 1, 1986 by Resolution No. R-265347, outlines

a development plan for the rescinded State Route 252 land, revitalization and widening of National Avenue, and redevelopment of 43rd Street between Beta Street and Logan Avenue. The Southcrest Redevelopment Project area is located between Highway 15 and I-5 on the west and 44th Street on the east, and an additional residential area between 44th Street and Interstate 805. The report to Council identifies five major projects which are also recommended as part of the 1987 community plan, three of which relate to National Avenue. Those three projects are:

1. Acquisition of blighted and nonconforming uses (principally along National Avenue and 43rd Street).
2. Improvement of the intersection of National/Logan, and 43rd Street.
3. Rehabilitation of Otto Square.

Traffic is congested along the National Avenue/Logan Avenue corridor, especially during the afternoon rush hours when the area is used by workers from the nearby naval and industrial facilities. The strip commercial area at National Avenue and 43rd Street and extending south on 43rd to the vacant freeway corridor suffers from unsightly structures, traffic congestion and parking problems.



Street improvements are needed for both 43rd Street and National Avenue, as well as a major realignment of the intersection of these two streets. Illegal, nonconforming, and deteriorated commercial uses are scattered along National Avenue from 36th Street to 43rd Street. The Redevelopment Plan recommends a residential revitalization effort here, eliminating the illegal and deteriorating commercial uses. The plan designates National Avenue for residential densities of 15-30 units per net acre.

### **Chollas Creek Enhancement Program**

The Chollas Creek Enhancement Program was adopted in 2002 to express the community's vision for Chollas Creek and provides detailed policies, funding strategies, and a phasing plan to guide the plan's implementation. The Enhancement Program envisions a linear park encompassing the system's multiple branches, bicycle and pedestrian linkages, a return to the natural state of the creek where feasible, and development that is integrated with the creek and accessible open space to create attractive sustainable spaces.

Changes to National Avenue should consider the Enhancement Program design/development guideline that whenever physically feasible, the land adjacent to Chollas Creek should be planned as a linear park and trail system. When there is inadequate space, the

trail system should be routed back to public sidewalks until it can be constructed along the creek, and wherever a trail has to follow a public street instead of the creek, enhanced sidewalks with street trees should be provided on both sides of the street. These guidelines would apply to both creek crossings of National Avenue in the Project area.

### **Chollas Creek South Branch Implementation Program**

Design/Development Guidelines and management measures to achieve management and restoration of the South Branch of Chollas Creek and its associated wetlands are detailed in the Phase I Wetlands Management Plan for Chollas Creek. Segment 7 (which runs from north of Ocean View Blvd., near San Pasqual Street, south to Southcrest Community Park and then travels westerly along the north border of the park and continues on to 38th Street), crosses under National Avenue near 43rd Street/Logan Avenue. An Arts Project addressing hydrology, flood safety, and environmental enhancement is proposed at the undercrossing. Upstream of the National Avenue crossing, stream reconstruction is proposed, and downstream of National Avenue habitat enhancement/restoration or management actions are proposed.

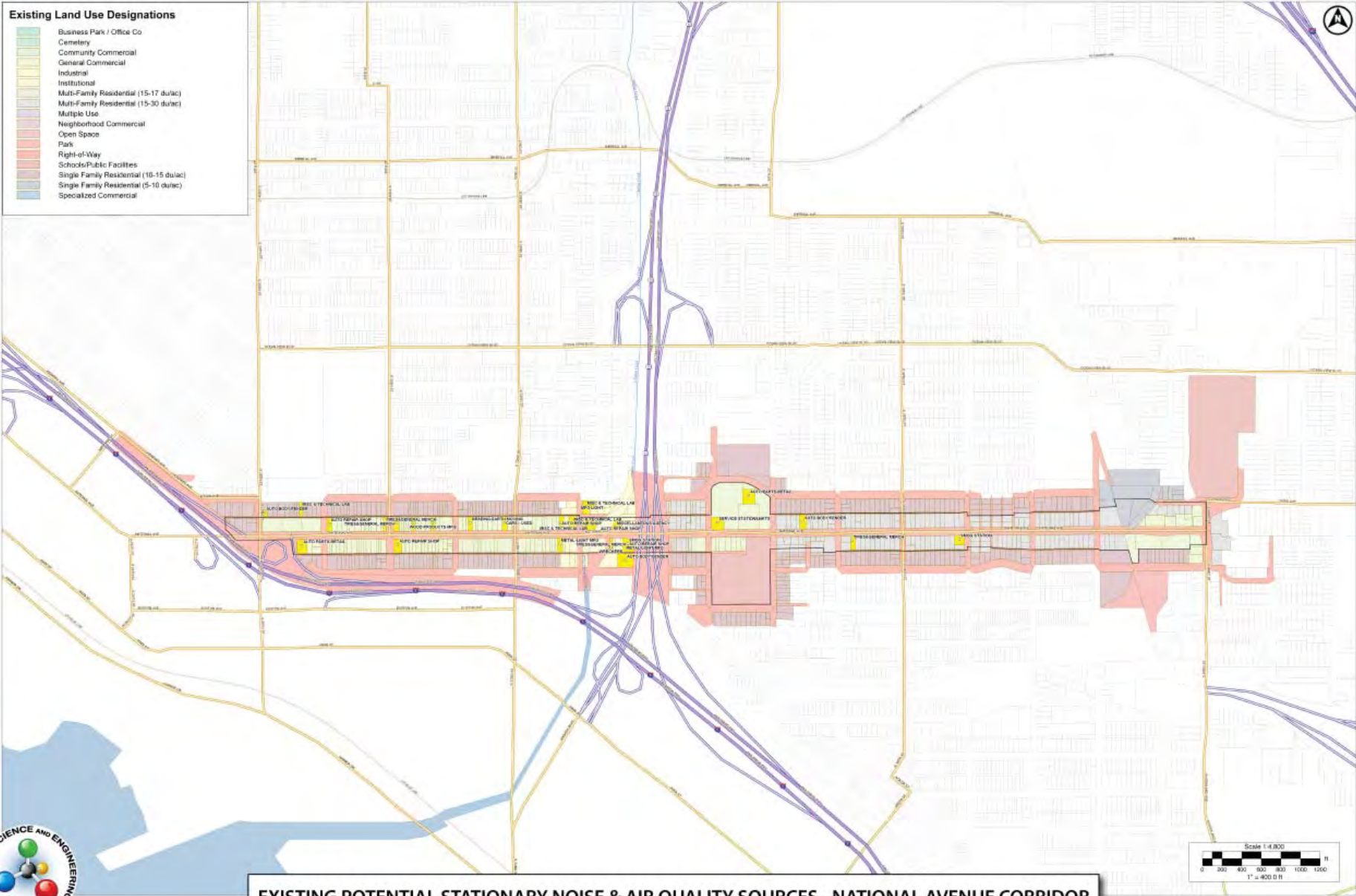
## APPENDIX 3: ENVIRONMENT AND COLLOCATION ASSESSMENT

### Land Use Screening for Noise and Air Quality: Fixed Sources

The study area was screened using Geographic Information System (GIS) methods for land use consistency pertaining to noise and air quality emissions from stationary onsite generators capable of producing either, 1) excessive criteria air pollutant emissions as defined under the California Ambient Air Quality Standards (CAAQS – see attachment) and permitted per the San Diego Air Pollution Control District (SDAPCD) Rules 20.1 et.al., or, 2) potential violation of the City of San Diego Noise Ordinance (City Municipal Code Section 59.5.01 – see attachment). Source data for the GIS analysis was obtained from SANDAG SANGIS data layers updated in March 2013. Stationary onsite generators with the potential to generate excessive criteria air pollutant emissions or violate noise standards are delineated as yellow polygons in the attached graphic (Existing Potential Stationary Noise & Air Quality Sources - National Avenue Corridor).

Land uses that would typically exceed air quality or noise standards include businesses such as woodworking facilities, auto body paint and repair shops, and general light industrial uses. These uses are found among parcels listed in the table to the right. No existing stationary noise or air quality impacts were identified nor are there any records on current remedial enforcement actions on file with SDAPCD or the City of San Diego Code Enforcement department. It is recommended that future new onsite development be mindful of the areas shown when siting potential noise or air quality sensitive land uses.

<u>APN</u>	<u>Adopted Zone</u>	<u>Land Use Description</u>
55017007	SESDPD-I-1	Warehousing
55004220	SESDPD-CSR-2	Arterial Commercial
55003221	SESDPD-CSR-2	Warehousing
55002216	SESDPD-CSR-2	Arterial Commercial
55014001	SESDPD-CSR-2	Arterial Commercial
55004228	SESDPD-CSR-2	Arterial Commercial
55003226	SESDPD-CSR-2	Arterial Commercial
55003232	SESDPD-CSR-2	Arterial Commercial
55006115	SESDPD-I-1	Light Industry - General
55006301	SESDPD-I-1	Light Industry - General
55016110	SESDPD-I-1	Light Industry - General
55006302	SESDPD-I-1	Light Industry - General
55005334	SESDPD-I-1	Arterial Commercial
55017014	SESDPD-I-1	Light Industry - General
55006404	SESDPD-I-1	Light Industry - General
55006113	SESDPD-I-1	Light Industry - General
55009223	SESDPD-MF-1500	Arterial Commercial
55006403	SESDPD-I-1	Light Industry - General
55077011	SESDPD-CT-2	Service Station
55017005	SESDPD-I-1	Light Industry - General
55077006	SESDPD-CT-2	Community Shopping Center (100,000 SF or more)
55005343	SESDPD-I-1	Arterial Commercial
55022113	SESDPD-MF-1500	Other Retail Trade and Strip Commercial
55021133	SESDPD-MF-1500	MF Residential over 20 DU/acre



### Land Use Screening for Noise: Mobile Sources

Mobile noise emissions were quantified based upon existing conditions traffic segment data provided by Fehr+Peers. The data source is the SANDAG Series 11 traffic model predictions dated 2011.

Traffic segment noise modeling utilized the ISE RoadNoise v2.4 traffic noise prediction model, which is based upon the Federal Highway Administration's RD-77-108 Noise Prediction Model with California (CALVENO, FHWA/CA/TL-87/03) noise emission factors. This model calculates the increase in vehicular traffic noise levels. The model assumed a 'hard-site' propagation rule and a 95/3/2 mix of automobiles/midsize vehicles/trucks, thereby yielding a representative worst-case noise contour set.

The noise findings were then incorporated into GIS and assigned a unique color code based upon the land use compatibility standards set forth in the City of San Diego Noise Element of the General Plan. The results are shown in the attached graphic (Existing Traffic Segment Noise Conditions - National Avenue Corridor) with the delineation of:

- Areas less than the City's General Plan 65 dBA CNEL noise abatement standards (no impact – shown in green)
- Areas equal to or slightly above the City's General Plan 65 dBA CNEL noise abatement standards (moderate impact – shown in yellow), and,
- Areas far greater than the City's General Plan 65 dBA CNEL noise abatement standards (severe impact – shown in red).

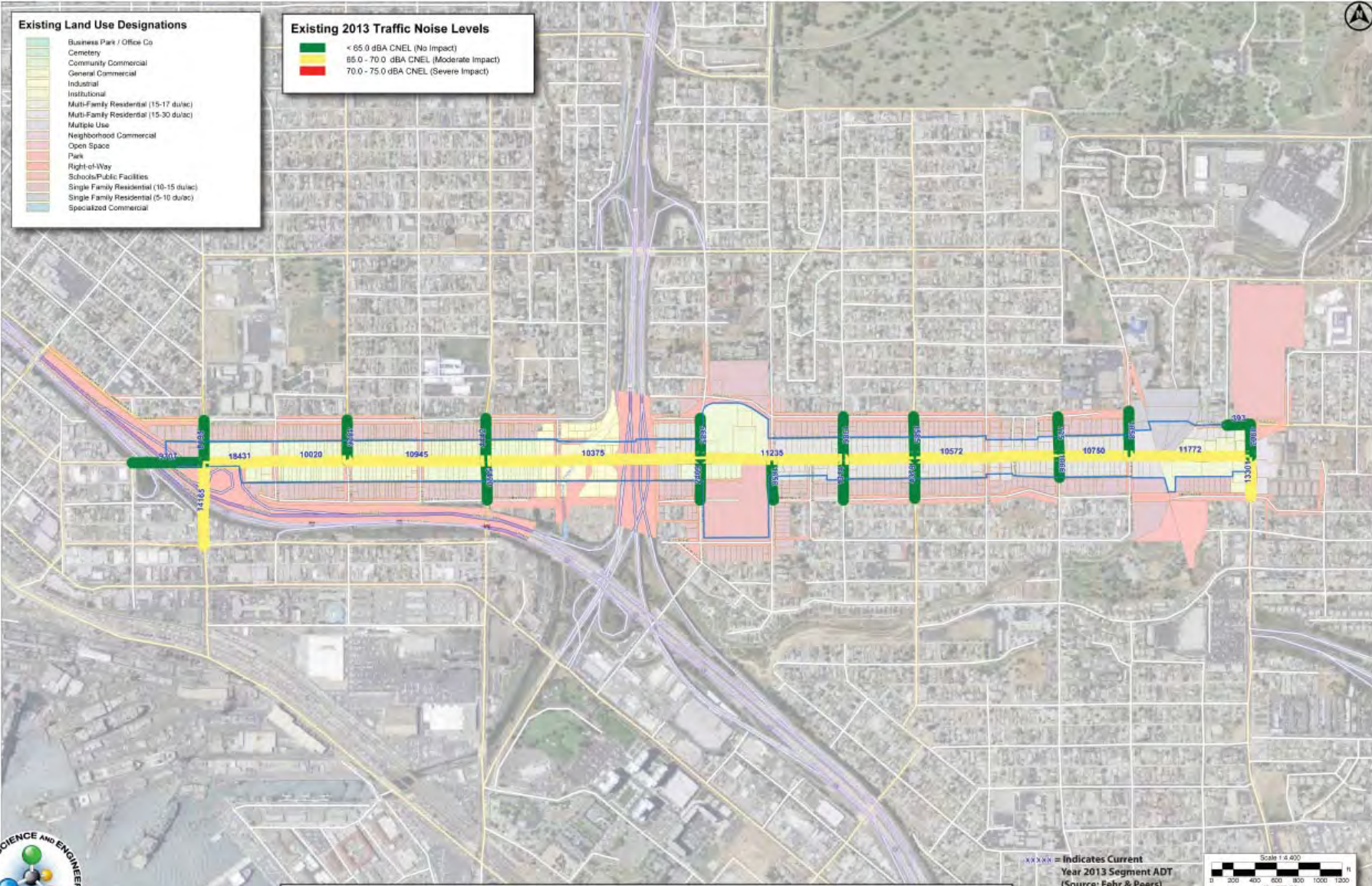
No significant unavoidable traffic noise impact was identified along the National Avenue corridor.

### Land Use Screening for Air Quality: Mobile Sources

Mobile air quality emissions were quantified based upon existing conditions traffic intersection delay data provided by Fehr+Peers. The data source is the SANDAG Series 11 traffic model predictions dated 2011.

A screening risk assessment for the SDAPCD identified criteria pollutants Carbon Monoxide (CO), Oxides of Nitrogen (NO<sub>x</sub>), Oxides of Sulfur (SO<sub>x</sub>), 10- and 2.5-micron particulate matter (PM<sub>10</sub>, PM<sub>2.5</sub>) and reactive organic gasses (ROG). The assessment was performed using the SCREEN3 dispersion model developed by the EPA's Office of Air Quality Planning and Standards. The SCREEN3 model uses a Gaussian plume dispersion algorithm that incorporates source-related and meteorological factors to estimate pollutant concentration from continuous sources.

An area-source consistent in dimensions with the existing intersections analyzed was assumed. The pollution generating 'source' is assumed to be an area, in this case, an area equal to the square-footage of the intersection. The SCREEN3 model has different types of air pollution sources that can be modeled. They are point sources, area sources, volume sources, and line sources. In the case of analysis performed for this project, an area source was used because the 'area' of the intersection is where all the pollution is being generated while the vehicles are waiting for the light to turn green.



EXISTING TRAFFIC SEGMENT NOISE CONDITIONS - NATIONAL AVENUE CORRIDOR

III. appendix 3: environment and collocation

A simplified elevated terrain model with no building downwash<sup>1</sup> corrections and a worst-case wind direction was also utilized. The delineated intersections are shown for each criteria pollutant and ranked according to toxicity level at 100-feet. They are shown in the attached GIS figure (Existing Traffic Intersection Air Quality Conditions - National Avenue Corridor).

Based upon the findings, no significant existing intersection air quality impacts or significant ambient air quality degradation due to traffic was indicated for any area examined.

<sup>1</sup> Downwash is simply the airflow down the leeward side of a structure or building. The model assumes that there is no additional mixing of air pollutant concentrations from a higher elevation to a lower one due to a ‘downdraft’ from the opposite side of a structure. In short, there are no corrections to the airflow due to the presence of structures.

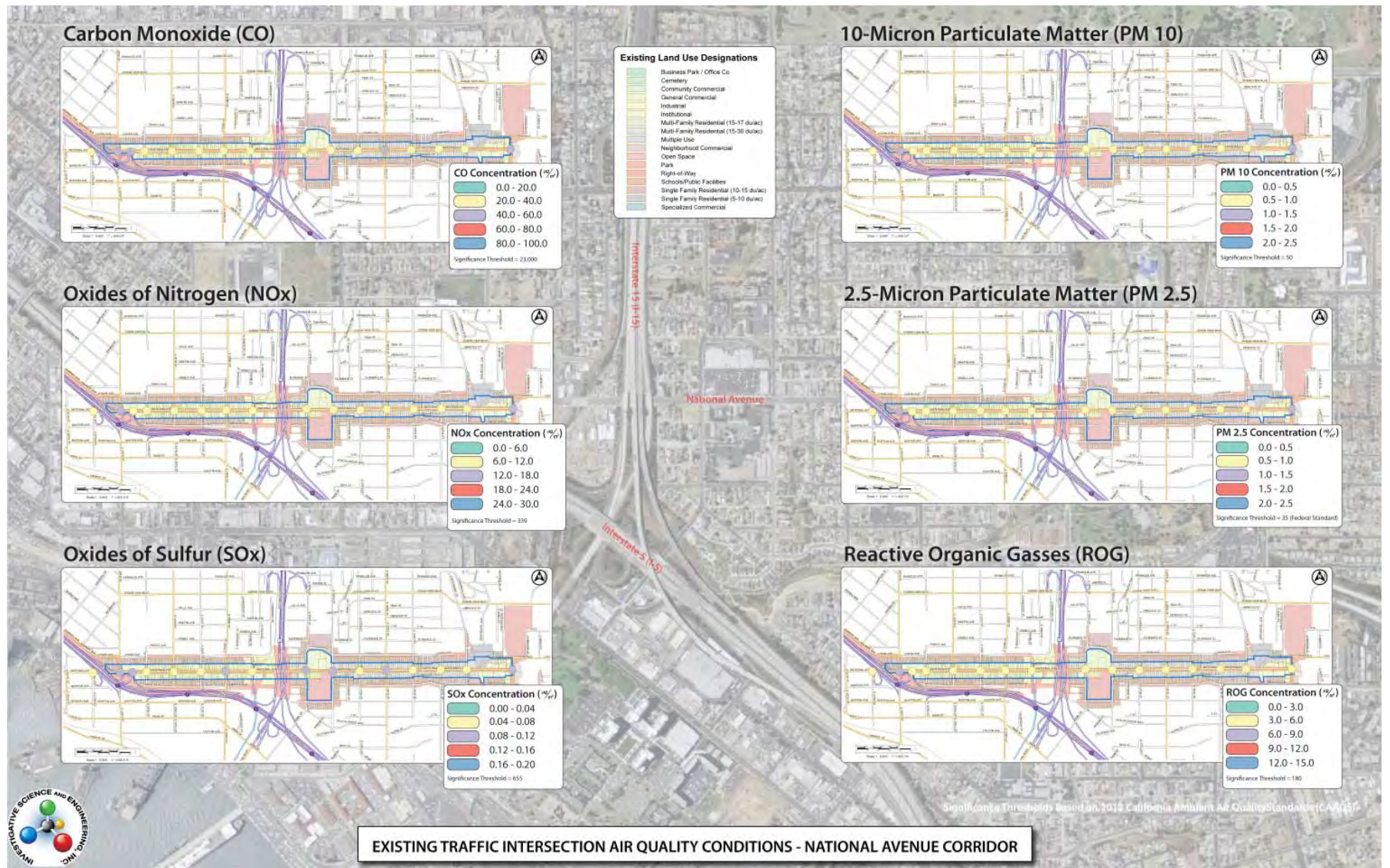
Air Quality Standards

Ambient Air Quality Standards						
Pollutant	Averaging Time	California Standards <sup>1</sup>		National Standards <sup>2</sup>		
		Concentration <sup>3</sup>	Method <sup>4</sup>	Primary <sup>3,5</sup>	Secondary <sup>3,6</sup>	Method <sup>7</sup>
Ozone (O <sub>3</sub> )	1 Hour	0.09 ppm (180 µg/m <sup>3</sup> )	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m <sup>3</sup> )		0.075 ppm (147 µg/m <sup>3</sup> )		
Respirable Particulate Matter (PM <sub>10</sub> )	24 Hour	50 µg/m <sup>3</sup>	Gravimetric or Beta Attenuation	150 µg/m <sup>3</sup>	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m <sup>3</sup>		—		
Fine Particulate Matter (PM <sub>2.5</sub> )	24 Hour	—	—	35 µg/m <sup>3</sup>	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m <sup>3</sup>	Gravimetric or Beta Attenuation	15 µg/m <sup>3</sup>		
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m <sup>3</sup> )	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m <sup>3</sup> )	—	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10 mg/m <sup>3</sup> )		9 ppm (10 mg/m <sup>3</sup> )	—	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m <sup>3</sup> )		—	—	
Nitrogen Dioxide (NO <sub>2</sub> ) <sup>8</sup>	1 Hour	0.18 ppm (339 µg/m <sup>3</sup> )	Gas Phase Chemiluminescence	100 ppb (188 µg/m <sup>3</sup> )	—	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m <sup>3</sup> )		0.053 ppm (100 µg/m <sup>3</sup> )	Same as Primary Standard	
Sulfur Dioxide (SO <sub>2</sub> ) <sup>9</sup>	1 Hour	0.25 ppm (655 µg/m <sup>3</sup> )	Ultraviolet Fluorescence	75 ppb (196 µg/m <sup>3</sup> )	—	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method)
	3 Hour	—		—	0.5 ppm (1300 µg/m <sup>3</sup> )	
	24 Hour	0.04 ppm (105 µg/m <sup>3</sup> )		0.14 ppm (for certain areas) <sup>9</sup>	—	
	Annual Arithmetic Mean	—		0.030 ppm (for certain areas) <sup>9</sup>	—	
Lead <sup>10,11</sup>	30 Day Average	1.5 µg/m <sup>3</sup>	Atomic Absorption	—	—	High Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m <sup>3</sup> (for certain areas) <sup>11</sup>	Same as Primary Standard	
	Rolling 3-Month Average	—		0.15 µg/m <sup>3</sup>		
Visibility Reducing Particles <sup>12</sup>	8 Hour	See footnote 12	Beta Attenuation and Transmittance through Filter Tape	<b>No National Standards</b>		
Sulfates	24 Hour	25 µg/m <sup>3</sup>	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m <sup>3</sup> )	Ultraviolet Fluorescence			
Vinyl Chloride <sup>10</sup>	24 Hour	0.01 ppm (26 µg/m <sup>3</sup> )	Gas Chromatography			

See footnotes on next page ...

For more information please call ARB-PIO at (916) 322-2990

California Air Resources Board (6/7/12)



## Noise Standards

San Diego Municipal Code (7-2010)	Chapter 5: Public Safety, Morals and Welfare	
<p>Article 9.5: Noise Abatement and Control</p> <p>Division 4: Limits</p> <p><i>("Noise Level Limits, Standards and Control"</i>  <i>added 9-18-1973 by O-11122 N.S.)</i>  <i>(Retitled to "Limits" on 9-22-1976 by O-11916 N.S.)</i></p>		
<p>§59.5.0401 Sound Level Limits</p> <p>(a) It shall be unlawful for any person to cause noise by any means to the extent that the one-hour average sound level exceeds the applicable limit given in the following table, at any location in the City of San Diego on or beyond the boundaries of the property on which the noise is produced. The noise subject to these limits is that part of the total noise at the specified location that is due solely to the action of said person.</p>		
<p>TABLE OF APPLICABLE LIMITS</p>		
Land Use	Time of Day	One-Hour Average Sound Level (decibels)
1. Single Family Residential	7 a.m. to 7 p.m.	50
	7 p.m. to 10 p.m.	45
	10 p.m. to 7 a.m.	40
2. Multi-Family Residential (Up to a maximum density of 1/2000)	7 a.m. to 7 p.m.	55
	7 p.m. to 10 p.m.	50
	10 p.m. to 7 a.m.	45
3. All other Residential	7 a.m. to 7 p.m.	60
	7 p.m. to 10 p.m.	55
	10 p.m. to 7 a.m.	50
4. Commercial	7 a.m. to 7 p.m.	65
	7 p.m. to 10 p.m.	60
	10 p.m. to 7 a.m.	60
5. Industrial or Agricultural	any time	75
<p>(b) The sound level limit at a location on a boundary between two zoning districts is the arithmetic mean of the respective limits for the two districts. Permissible construction noise level limits shall be governed by Sections 59.5.0404 of this article.</p>		



### Hazardous Sites

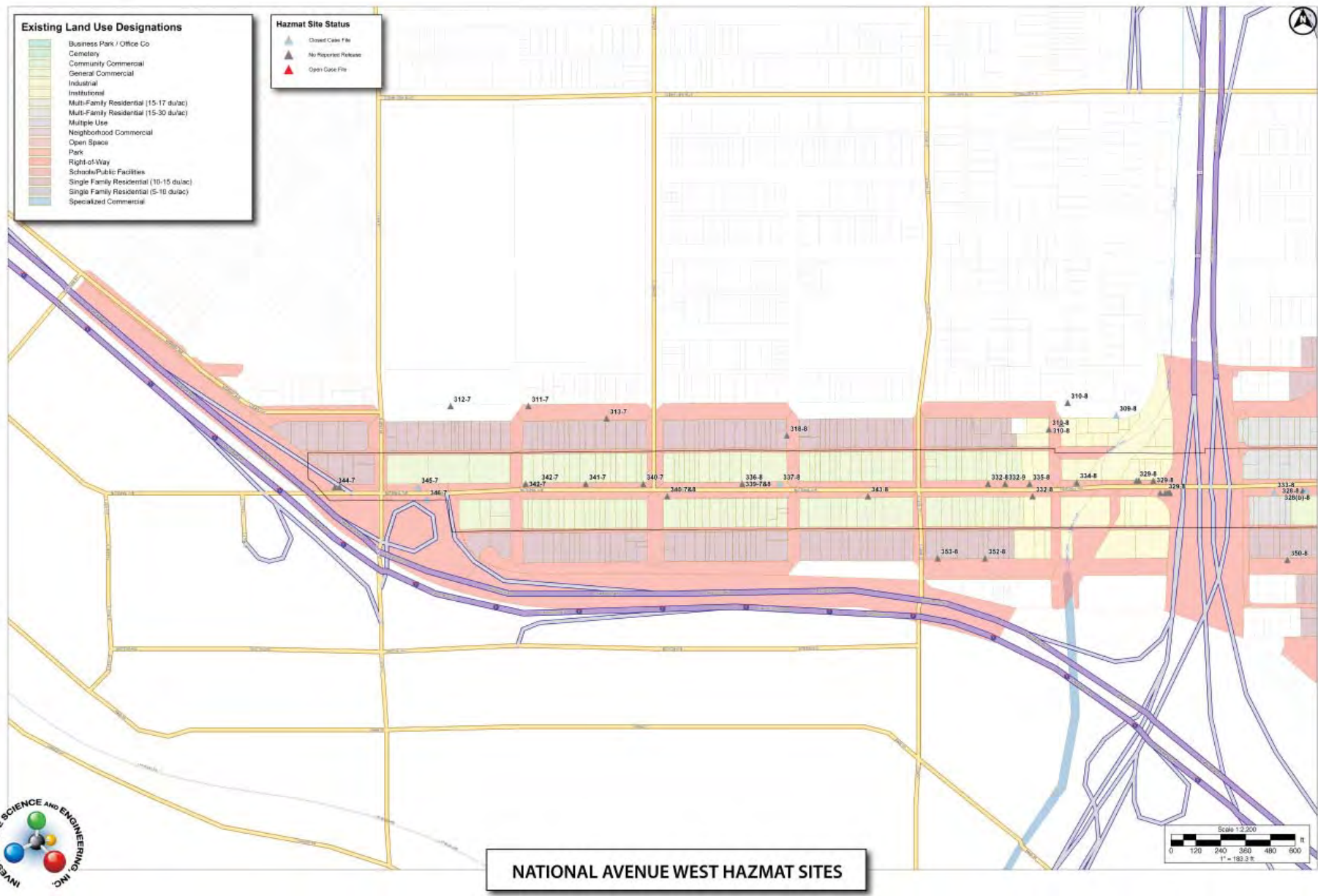
A search of federal, state, and local environmental regulatory agency databases was conducted. Environmental Data Resources, Inc. assessed the significance of properties within the Southeastern San Diego Planning Area that contain documented hazardous waste impacts. The standard databases searched were consistent with those described in the ASTM International (ASTM) Standard for Phase I Environmental Site Assessments (ESAs) and the United States Environmental Protection Agency (EPA) All Appropriate Inquiry (AAI) regulation. To supplement the environmental database report, Geotracker and Envirostor online databases were searched for additional information available.

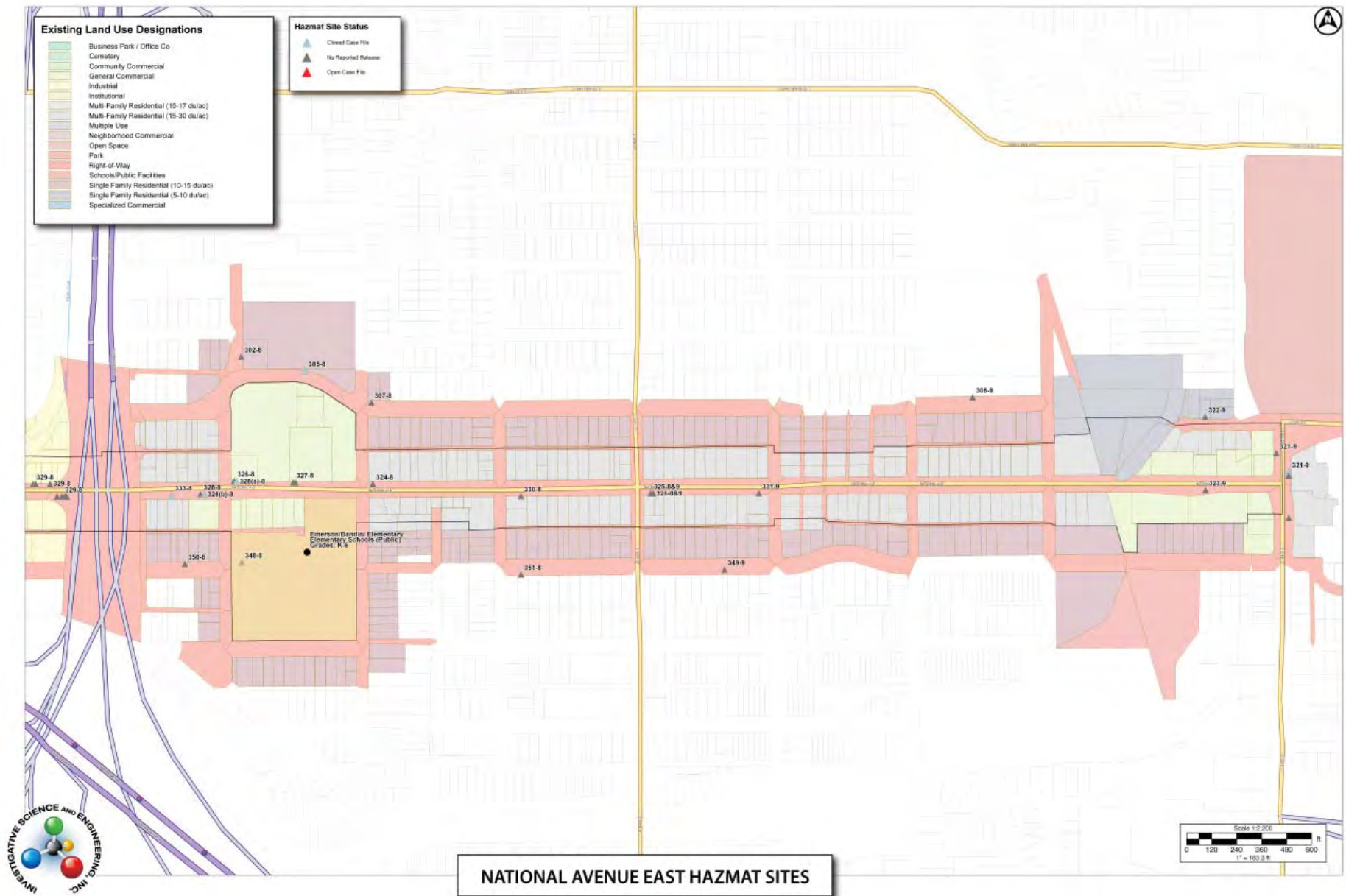
The National Avenue West Hazmat Sites and National Avenue East Hazmat Sites graphics that follow depict the sites contained within the National Avenue Master Plan Area - the blue triangles indicate closed release sites and red triangles indicate open release sites. Properties with open cases represent a moderate to high

risk of encountering hazardous materials during potential future redevelopment. The gray triangles indicate sites where hazardous materials are, or have been, used with no reported releases. Closed release cases represent a moderate to low risk of encountering hazardous materials during potential future redevelopment. Within the National Avenue Master Plan Area all of the identified sites are closed or have no reported releases. However, it should be noted that for cases reported as closed, standards for closure have varied over the years, and may not meet current standards. If redevelopment of a closed release case property is proposed, additional research into the unauthorized release case should be performed.

The table that follows the graphics lists the closed and no reported release sites within the National Avenue Master Plan Area. The table includes a unique Map ID # for each site, business name, address, case status and Federal, State and Local Hazardous Materials Lists where each site is listed. A brief description of each list is included in the notes at the end of the table.

III. appendix 3: environment and collocation





III. appendix 3: environment and collocation

National Avenue Hazardous Materials Sites																								
Map ID # - Focus Map	Business Name	Address	Technical Study <sup>a</sup>			Case Status <sup>b</sup>		Federal, State and Local Hazardous Materials Lists <sup>c, d</sup>																
			Table	Page	Figure	Closed	Open	ERNS	CA HIST CORTESE	FINDS	RCRA-SQG	RCRA-LQG	STATE & LOCAL RECORDS	RCRA-NONGEN	CA NPDES & ICIS	FTTS	CA SWRCY	CA LUST	CA SLIC	CA CHMIRS	CA AST	CA NOTIFY 65	CA HAZNET	CA EMI
302-8	Neighborhood House Association	851 S. 35th St																				X		
305-8	San Diego Unified School	3550 Logan Ave	5	19	2	X		X	X								X							
307-8	Not Reported	3600 Logan Ave																	X					
308-9	Not Reported	4090 Logan Ave																	X					
310-8	Education / Cultural Complex	920 South 33rd St.																			X			
310-8	Not Reported	3294 Logan Ave																	X					
309-8	Bulldog Concrete Pumping Waste	3365 Logan Ave	5	19	2	X												X						
310-8	California Marine Cleaning, Inc.	905 S 33rd Street								X	X									X		X		
311-7	Ekim Builders, Inc.	2902 Logan Ave																				X		
312-7	San Diego Memorial Jr. HS	2850 Logan Ave								X	X											X		
313-7	Cooper Scafani Property Mgmt.	2967 Logan Ave																			X			

National Avenue Hazardous Materials Sites																								
Map ID # - Focus Map	Business Name	Address	Technical Study <sup>a</sup>			Case Status <sup>b</sup>		Federal, State and Local Hazardous Materials Lists <sup>c, d</sup>																
			Table	Page	Figure	Closed	Open	ERNS	CA HIST CORTESE	FINDS	RCRA-SQG	RCRA-LQG	STATE & LOCAL RECORDS	RCRA-NONGEN	CA NPDES & ICIS	FTTS	CA SWRCY	CA LUST	CA SLIC	CA CHMIRS	CA AST	CA NOTIFY 65	CA HAZNET	CA EMI
314-9	Memorial Area Middle School	43rd St and Logan Ave										X												X
315-9	Kennedy/Knox School Site No. 1	Logan Ave / Dominion St.																						X
316-9	Not Reported	33rd St & Broad St																				X		
318-8	KDME, Inc.	924 31st St																				X		
319-7	Ortiz Automotive	931 30th St																				X		
321-9	City San Diego Environmental Services	950 S. 43rd St.																				X		
321-9	Former Spencer Auto Repair (43rd St. Suto Repair & Vacant Property)	991 S 43rd St	5	20	2	X											X		X				X	
321-9	Vacant Property / Floyd Robertson / Cool Way Radiator & Air Cond. / 43rd St Auto Repair	999 43rd St							X	X	X					X							X	
322-9	Not Reported	4202 Logan Ave																	X					

III. appendix 3: environment and collocation

National Avenue Hazardous Materials Sites																											
Map ID # - Focus Map	Business Name	Address	Technical Study <sup>a</sup>			Case Status <sup>b</sup>		Federal, State and Local Hazardous Materials Lists <sup>c,d</sup>																			
			Table	Page	Figure	Closed	Open	ERNS	CA HIST CORTESE	FINDS	RCRA-SQG	RCRA-LQG	STATE & LOCAL RECORDS	RCRA-NONGEN	CA NPDES & ICIS	FTTS	CA SWRCY	CA LUST	CA SLIC	CA CHMIRS	CA AST	CA NOTIFY 65	CA HAZNET	CA EMI	CA ENVIROSTOR		
323-9	JIL Enterprises, Inc. / George Gonzalez General Contractor / Victory Outreach Church	4235 National Ave																							X		
324-8	Not Reported / Community Missionary Baptisty	3602 National Ave.																									X
325-8&9	Not Reported	3805 National Ave						X																			
326-8&9	Not Reported	3807 National Ave																									
326-8	One Hour Cleaners	3500 National Ave									X	X														X	
327-8	Kragen Auto Parts	3548 National Ave									X															X	
327-8	Food Palace Market	3550 National Ave																								X	
328-8	USA Station #855 / Hawthorne Machine Co., Inc.	3481 National Ave																								X	
328(a)-8	USA Gasoline Corp #50 /USA Petroleum / G&M Oil Co., Inc. #125	3502 National Ave	5	20	2	X		X	X	X	X													X	X		

National Avenue Hazardous Materials Sites																									
Map ID # - Focus Map	Business Name	Address	Technical Study <sup>a</sup>			Case Status <sup>b</sup>		Federal, State and Local Hazardous Materials Lists <sup>c, d</sup>																	
			Table	Page	Figure	Closed	Open	ERNS	CA HIST CORTESE	FINDS	RCRA-SQG	RCRA-LQG	STATE & LOCAL RECORDS	RCRA-NONGEN	CA NPDES & ICIS	FTTS	CA SWRCY	CA LUST	CA SLIC	CA CHMIRS	CA AST	CA NOTIFY 65	CA HAZNET	CA EMI	CA ENVIROSTOR
328(b)-8	American Forklift	3485 National Ave	5	20	2	X			X								X	X							
329-8	Lincoln Financial Media	3360 National Ave																				X			
329-8	Martinez Auto Repair (Adams Commercial Property) (G&M Oil Co LLC	3369 National Ave	5	20	2	X			X								X								
329-8	Cool Radiator Shop	3362 National Ave								X	X											X			
329-8	Adams Commercial Property / Mary Adams	3369 National Ave															X					X			
329-8	Innovative Marine	3373 National Ave																				X			
329-8	J&R Recycling	3374 National Ave													X	X									
329-8	Car Auto Body	3375 National Ave																				X			
329-8	Shining Auto Body / Moe Man Truck Auto Body	3377 National Ave								X												X	X		
329-8	Sunshine Truck Works	3361 National Ave								X	X														
330-8	Cool Way Radiator & Air	3711 National Ave																				X			

III. appendix 3: environment and collocation

National Avenue Hazardous Materials Sites																								
Map ID # - Focus Map	Business Name	Address	Technical Study <sup>a</sup>			Case Status <sup>b</sup>		Federal, State and Local Hazardous Materials Lists <sup>c, d</sup>																
			Table	Page	Figure	Closed	Open	ERNS	CA HIST CORTESE	FINDS	RCRA-SQG	RCRA-LQG	STATE & LOCAL RECORDS	RCRA-NONGEN	CA NPDES & ICIS	FTTS	CA SWRCY	CA LUST	CA SLIC	CA CHMIRS	CA AST	CA NOTIFY 65	CA HAZNET	CA EMI
331-9	Jema Auto Paint & Body Shop / El Pariente Auto Repair Service	3893 National Ave																					X	
332-8	Robert Gulotta	3250 National Ave & 3264 National Ave																					X	
332-8	Southern California Plating	3261 National Ave							X	X	X				X	X						X	X	
333-8	General Auto Repair	3451 National Ave	5	20	2	X		X										X	X					
334-8	Stoody Industrial & Welding Supply	3316 National Ave																				X		
335-8	Not Reported	3284 National Ave																	X					
336-8	Steve's Wood Studio	3064 National Ave																				X		
337-8	Cal-Soft Water Service Inc.	3094 National Ave	5	20	2	X				X								X						
339-7&8	D&M Performance Inc.	3064 National Ave																				X		
340-7&8	A&A Truck & Auto Electric	3005 National Ave								X	X											X		



National Avenue Hazardous Materials Sites																									
Map ID # - Focus Map	Business Name	Address	Technical Study <sup>a</sup>			Case Status <sup>b</sup>		Federal, State and Local Hazardous Materials Lists <sup>c, d</sup>																	
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340-7	Dynamic Worldwide Trading	2996 National Ave														X									
341-7	Hayes Bolt & Supply, Inc.	2950 National Ave																					X		
342-7	Jeff Haro	2912 National Ave																					X		
342-7	Guzmans Garage	2902 National Ave																					X		
343-8	Corona Furniture Store	3161 National Ave																					X		
344-7	Loomis Fargo & Co	2762 National Ave																					X		
344-7	Francis Grube	2776 National Ave																					X		
345-7	Former Fornaca Bakery (Holsum Bakery) / National LLC	2828 National Ave	5	20	2	X			X	X	X				X		X						X		
346-7	AutoZone #5674	2865 National Ave	5	20	2	X				X									X				X		
347	So Cal Underground Contractors	1045 S 43rd Street																					X		
348-8	Emerson-Bandini Elementary	3510 Newton Ave								X													X		

III. appendix 3: environment and collocation

National Avenue Hazardous Materials Sites																								
Map ID # - Focus Map	Business Name	Address	Technical Study <sup>a</sup>			Case Status <sup>b</sup>		Federal, State and Local Hazardous Materials Lists <sup>c, d</sup>																
			Table	Page	Figure	Closed	Open	ERNS	CA HIST CORTESE	FINDS	RCRA-SQG	RCRA-LQG	STATE & LOCAL RECORDS	RCRA-NONGEN	CA NPDES & ICIS	FTTS	CA SWRCY	CA LUST	CA SLIC	CA CHMIRS	CA AST	CA NOTIFY 65	CA HAZNET	CA EMI
349-9	Imperial Hardwood	3865 Newton Ave																				X		
350-8	Not Reported	3448 Newton Ave																	X					
351-8	Sixto Mendoza	3711 Newton Ave																				X		
352-8	MQ Ornaments	3284 Newton Ave																				X		
353-8	Scotty Schuetz	3212 Newton Ave																				X		

**Notes:**

a - Ninyo & Moore, *Hazardous Materials Technical Study Southeastern San Diego Community Plan Update San Diego, CA* . November 30, 2012.

b - As identified in the *Hazardous Materials Technical Study Southeastern San Diego Community Plan Update San Diego, CA* .

c - Appendix A, Environmental Data Base for the *Hazardous Materials Technical Study Southeastern San Diego Community Plan Update San Diego, CA* .

d - Legend for column headings

**ERNS** - The Emergency Response Notification System records and stores information on reported release of oil and hazardous substances.

**CA HIST CORTESE** - Sites designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

**FINDS** - The Facility Index System contains both facility information and "pointers" to other sources of information that contain more detail.

**RCRA-SQG** - EPA database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste. Small quantity generators (SQGs) generate between 100 kg of hazardous waste and 1,000 kg of hazardous waste per month.

National Avenue Hazardous Materials Sites																						
Map ID # - Focus Map	Business Name	Address	Technical Study <sup>a</sup>			Case Status <sup>b</sup>		Federal, State and Local Hazardous Materials Lists <sup>c, d</sup>														
			Table	Page	Figure	Closed	Open	ERNS	CA HIST CORTESE	FINDS	RCRA-SQG	RCRA-LQG	STATE & LOCAL RECORDS	RCRA-NONGEN	CA NPDES & ICIS	FTTS	CA SWRCY	CA LUST	CA SLIC	CA CHMIRS	CA AST	CA NOTIFY 65

**RCRA-LQG** - EPA database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste. Large quantity generators (LQGs) generate over 1,000 kg of hazardous waste, or over 1 kg of acutely hazardous waste per month.

**STATE & LOCAL RECORDS** - This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination.

**RCRA-NONGEN** - EPA database with selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste. Non-Generators do not presently generate hazardous waste.

**CA NPDES & ICIS** - CA NPDES is a listing of NPDES permits, including stormwater. ICIS - The Integrated Compliance Information System supports the information needs of the national enforcement and compliance program as well as the unique needs of the NPDES program.

**FTTS** - FTTS tracks administrative cases and pesticide enforcement actions over the previous five years.

**CA SWRCY** - A listing of recycling facilities in California.

**CA LUST** - Leaking Underground Storage Tank Incident Report from State Water Resources Control Board.

**CA SLIC** - Slic Region comes from the California Regional Water Control Board.

**CA CHMIRS** - The California Hazardous Material Incident Report System contains information on Reported hazardous material incidents (i.e., accidental releases or spills)

**CA AST** - Above ground Storage Tank database of registered ASTs. Data from the State Water Resources Control Board.

**CA NOTIFY 65** - Listings of Proposition 65 incidents report to State Water Resources Control Board and Regional Water Quality Control Board.

**CA HAZNET** - Data extracted from hazardous waste manifests received by the DTSC.

**CA EMI** - Toxics and criteria pollutant emission data collected by the Air Resources Board or local pollution agencies

**CA ENVIROSTOR** - The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifies sites that have known contamination or sites for which there may be reasons to investigate further.

## APPENDIX 4: MOBILITY ASSESSMENT

This Appendix presents the physical and operational conditions of the existing circulation network in the National Avenue Corridor Project Area, including the evaluation of streets, non-motorized (bicycle and pedestrian) facilities, public transit, and parking. Developing a better understanding of the current state of the transportation infrastructure and its operational characteristics in the National Avenue Corridor Project Area will also help to identify and prioritize future improvements.

### STREETS

National Avenue is a major corridor located in the Southeastern Community Planning Area in the City of San Diego. The Southeastern Community is located directly to the east of Downtown, bounded by State Route 94 to the north, City of National City to the south, Interstate 5 (I-5) to the west, and Interstate 805 (I-805) to the east. For the purposes of this Master Plan, the Project Area is identified as the National Avenue corridor between 27th Street and 43rd Street.

### GEOMETRICS AND TRAFFIC VOLUMES

This section describes the following key roadways comprising the vehicular circulation system in the Project Area, in terms of east-west roadways and north-south roadways:

- National Avenue
- Logan Avenue

- 28th Street
- 30th Street
- 32nd Street
- 35th Street
- 36th Street
- 37th Street
- 38th Street
- 40th Street
- 41st Street
- 43rd Street

### EAST-WEST ROADWAYS

National Avenue is a 4-lane roadway between 27th and 28th streets, and a 2-lane roadway with a two-way left-turn lane between 28th Street and 43rd Street. No bike lanes are provided, but parallel parking is available on both sides of the roadway east of the I-5 freeway. The right-of-way width is approximately 68 to 80 feet and the curb to curb width ranges from 50 to 54 feet. The posted speed limit along this facility is 30 miles per hour (mph), with the exception of some segments that are within the designated school zone areas where the posted speed limit becomes 25 mph when children are present. Within the Project Area, National Avenue provides direct access to adjacent land uses, freeway access to I-5, and local connectivity for inter-community trips. This facility is classified as a major roadway in the adopted Southeastern San Diego Community Plan (City of San Diego, 1987).

Logan Avenue is a 2-lane roadway that runs directly north of National Avenue before merging with National Avenue east of 43rd Street. There are no bike lanes, and parallel parking is available on both sides of the roadway west of 43rd Street. The right-of-way width is 42 feet and the curb to curb width is currently 32 feet. Logan Avenue is not classified as a Circulation Element roadway in the currently adopted Southeastern Community Plan west of 43rd Street, and is classified as a major roadway in the Southeastern San Diego Community Plan (City of San Diego, 1987).

#### NORTH-SOUTH ROADWAYS

28th Street is a 2-lane roadway with a posted speed limit of 25 mph north of National Avenue and a 3-lane roadway with a posted speed limit of 30 mph south of National Avenue. There are no bike lanes, and parallel parking is available on both sides of the street north of National Avenue while prohibited south of National Avenue in the Project Area. North of National Avenue, the right-of-way width is 50-60 feet and the curb to curb width is 40-50 feet. South of National Avenue, the right-of-way width is 90 feet and the curb to curb width is 76 feet. 28th Street is classified as a two-lane collector street in the adopted Southeastern San Diego Community Plan (City of San Diego, 1987).

30th Street is a 2-lane roadway with a posted speed limit of 25 mph within the Project Area. There are no bike lanes, and parallel parking is available on both sides of the street. The right-of-way width is 72 feet and the curb to curb width is currently 50-60 feet. 30th Street

is classified as a two-lane collector street in the adopted Southeastern San Diego Community Plan (City of San Diego, 1987).

32nd Street is a 2-lane roadway with a posted speed limit of 30 mph north of National Avenue within the Project Area. There are no bike lanes, and parallel parking is available on both sides of the street. The right-of-way width is 60 feet and the curb to curb width is currently 40 feet. 32nd Street is classified as a two-lane collector street in the adopted Southeastern San Diego Community Plan (City of San Diego, 1987).

35th Street is a 2-lane roadway with a posted speed limit of 25 mph within the Project Area. There are no bike lanes, and parallel parking is available on one or both sides of the street. The right-of-way width is 60 feet and the curb to curb width is currently 40-50 feet. 35th Street is classified as a two-lane collector street in the adopted Southeastern San Diego Community Plan (City of San Diego, 1987).

36th Street is a 2-lane roadway with a posted speed limit of 25 mph within the Project Area. There are no bike lanes, and parallel parking is available on both sides of the street. The right-of-way width is 60 feet and the curb to curb width is currently 40 feet. 36th Street is classified as a two-lane collector street in the adopted Southeastern San Diego Community Plan (City of San Diego, 1987).

37th Street is a 2-lane roadway with a posted speed limit of 25 mph within the Project Area. There are no bike lanes, and parallel parking

### III. appendix 4: mobility

is available on both sides of the street. The right-of-way width is 60 feet and the curb to curb width is currently 40 feet. 37th Street is classified as a Collector Street in the currently adopted Southeastern Community Plan. 37th Street is not classified as a Circulation Element roadway in the currently adopted Southeastern San Diego Community Plan (City of San Diego, 1987).

38th Street is a 2-lane roadway with a posted speed limit of 25 mph within the Project Area. There are no bike lanes, and parallel parking is available on both sides of the street. The right-of-way width is 60 feet and the curb to curb width is currently 40 feet. 38th Street is classified as a two-lane collector street in the adopted Southeastern San Diego Community Plan (City of San Diego, 1987).

40th Street is a 2-lane roadway with a posted speed limit of 25 mph within the Project Area. There are no bike lanes, and parallel parking is available on both sides of the street. The right-of-way width is 44-50 feet and the curb to curb width is currently 35 feet. 40th Street is not classified as a Circulation Element roadway in the currently adopted Southeastern San Diego Community Plan (City of San Diego, 1987).

41st Street is a 2-lane roadway with a posted speed limit of 25 mph within the Project Area. There are no bike lanes, and parallel parking is available on both sides of the street. The right-of-way width is 60 feet and the curb to curb width is currently 40 feet. 41st Street is not classified as a Circulation Element roadway in the currently adopted Southeastern San Diego Community Plan (City of San Diego, 1987).

43rd Street is a 2-lane roadway with a posted speed limit of 25 mph north of National Avenue and a 3-lane roadway with a posted speed limit of 30 mph south of National Avenue within the Project Area. There are no bike lanes, and parallel parking is available on both sides of the street. The Right-of-Way width is 80 feet and the curb to curb width is currently 70 feet. 43rd Street is classified as a two-lane collector street with Center Left Turn Lane in the currently adopted Southeastern San Diego Community Plan (City of San Diego, 1987).

#### ROADWAY SEGMENTS

Figure 4-1 displays both the existing Project Area roadway geometrics and daily traffic volumes. Roadway segment counts were conducted in October 2012 and are included in Appendix A (separate attachment). As shown in the figure, daily traffic volumes along National Avenue range between 9,707 and 18,431 vehicles per day (vpd).

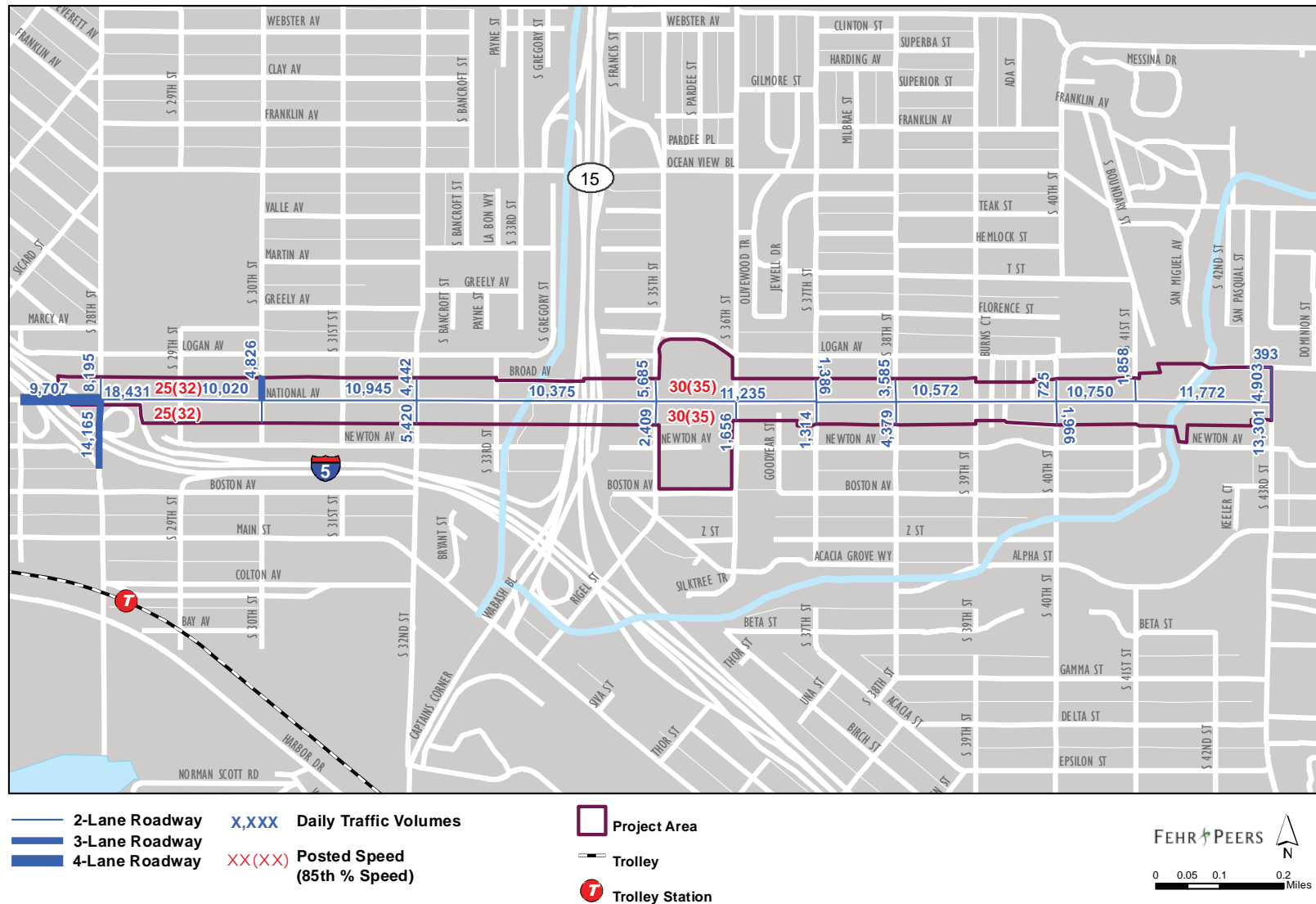
#### INTERSECTIONS

A total of 16 key Project Area intersections have been identified for analysis for this project:

- 27th Street/I-5 SB Off-Ramp & National Avenue (one-way stop controlled)
- 28th Street/I-5 NB On-Ramp & National Avenue (signalized)
- I-5 NB Ramps & National Avenue (signalized)
- 29th Street & National Avenue (two-way stop controlled)
- 30th Street & National Avenue (signalized)

**Figure 4-1: Existing Roadway Geometrics and Daily Traffic Volumes National Ave**

May 2013



Source: City of San Diego (2010-2012)

### III. appendix 4: mobility

- 31st Street & National Avenue (two-way stop controlled)
- 32nd Street & National Avenue (signalized)
- 33rd Street & National Avenue (two-way stop controlled)
- 35th Street & National Avenue (signalized)
- 36th Street & National Avenue (signalized)
- 37th Street & National Avenue (two-way stop controlled)
- 38th Street & National Avenue (signalized)
- 39th Street & National Avenue (two-way stop controlled)
- 40th Street & National Avenue (two-way stop controlled)
- 41st Street & National Avenue (two-way stop controlled)
- 43rd Street & National Avenue (signalized)

Figure 4-2 displays both the existing Project Area intersection geometrics and AM/PM peak hour turning movements. The intersection counts were conducted in October 2012. The peak hour intersection turning movement counts are provided in Appendix B (separate attachment).

#### SAFETY

Automobile collision data was obtained from the City of San Diego for the Project Area. The reports provide collision data over a period of five years (2008 – 2012), indicating a total of 125 vehicle-to-vehicle or vehicle-to-fixed object collisions. Figure 4-3 shows the distribution of automobile collisions and Table 4-1 provides a general summary of all vehicle-to-vehicle collisions, including location (intersection vs. mid-block), lighting (daylight vs. night), and primary cause.

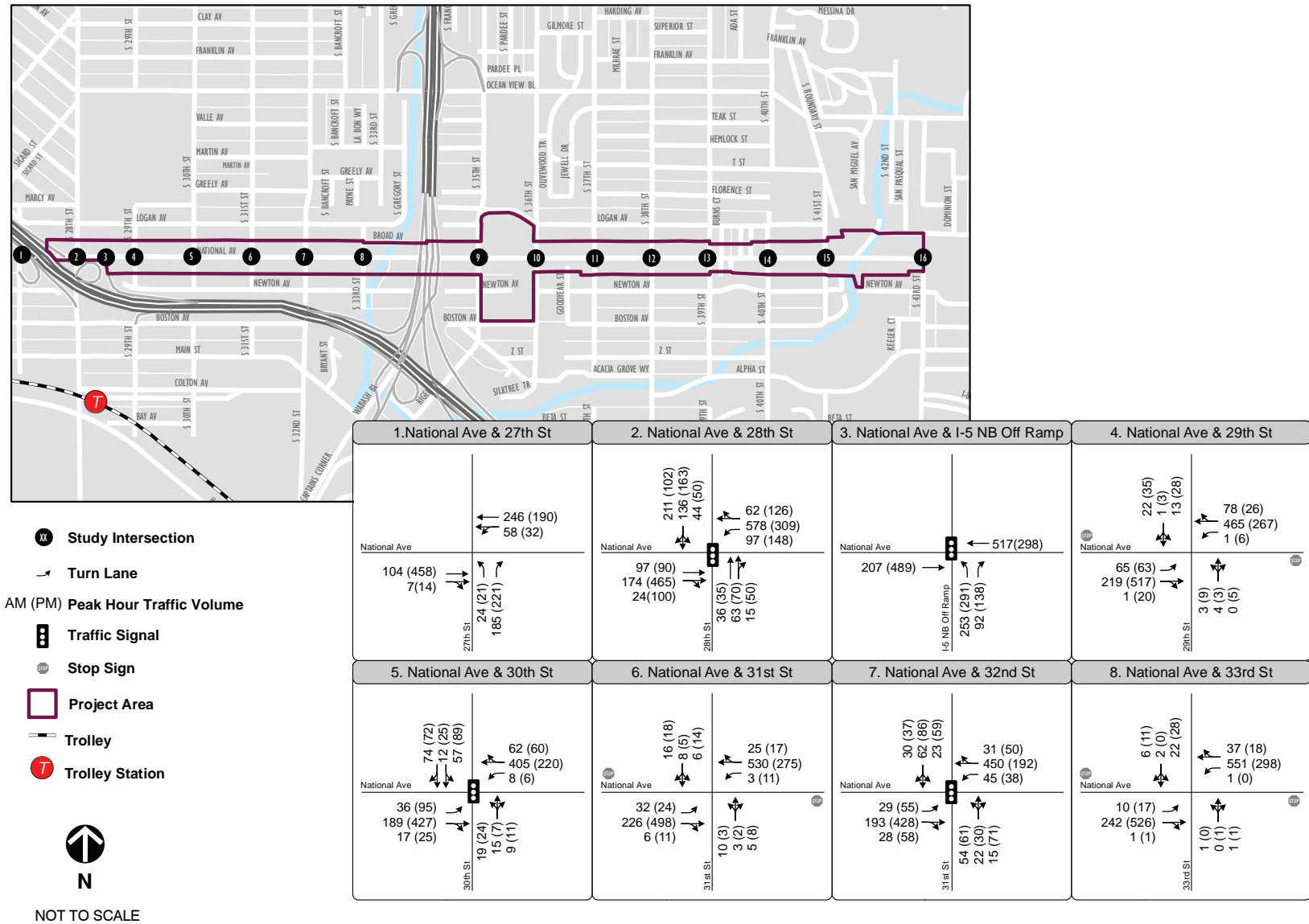
As shown in Figure 4-3, of the 125 recorded vehicle-to-vehicle collisions, 42 resulted in injuries, 83 resulted in no injuries, and none resulted in a fatality. Approximately 41 percent of the collisions occurred at intersections, while the other 59 percent occurred at mid-block. Approximately 43 percent occurred during daylight while the other 57 percent occurred at night (dark/dusk/dawn). The leading cause of the collisions was unsafe maneuvers including improper lane changes/starts/passing/turns, unsafe backing, at approximately 60 percent. The second leading cause was speeding at 19 percent, followed by “other” causes, such as falling asleep, not paying attention, losing control, medical conditions, open vehicle doors, and unsecured loads, at 8 percent. From a geographic perspective, automobile collisions were distributed throughout the corridor. The highest number of collisions occurred at five mid-block locations:

- 31st Street to 32nd Street
- I-15 overcrossing to 35th Street
- 35th to 36th Street
- 38th Street to 39th Street
- 39th Street to 40th Street



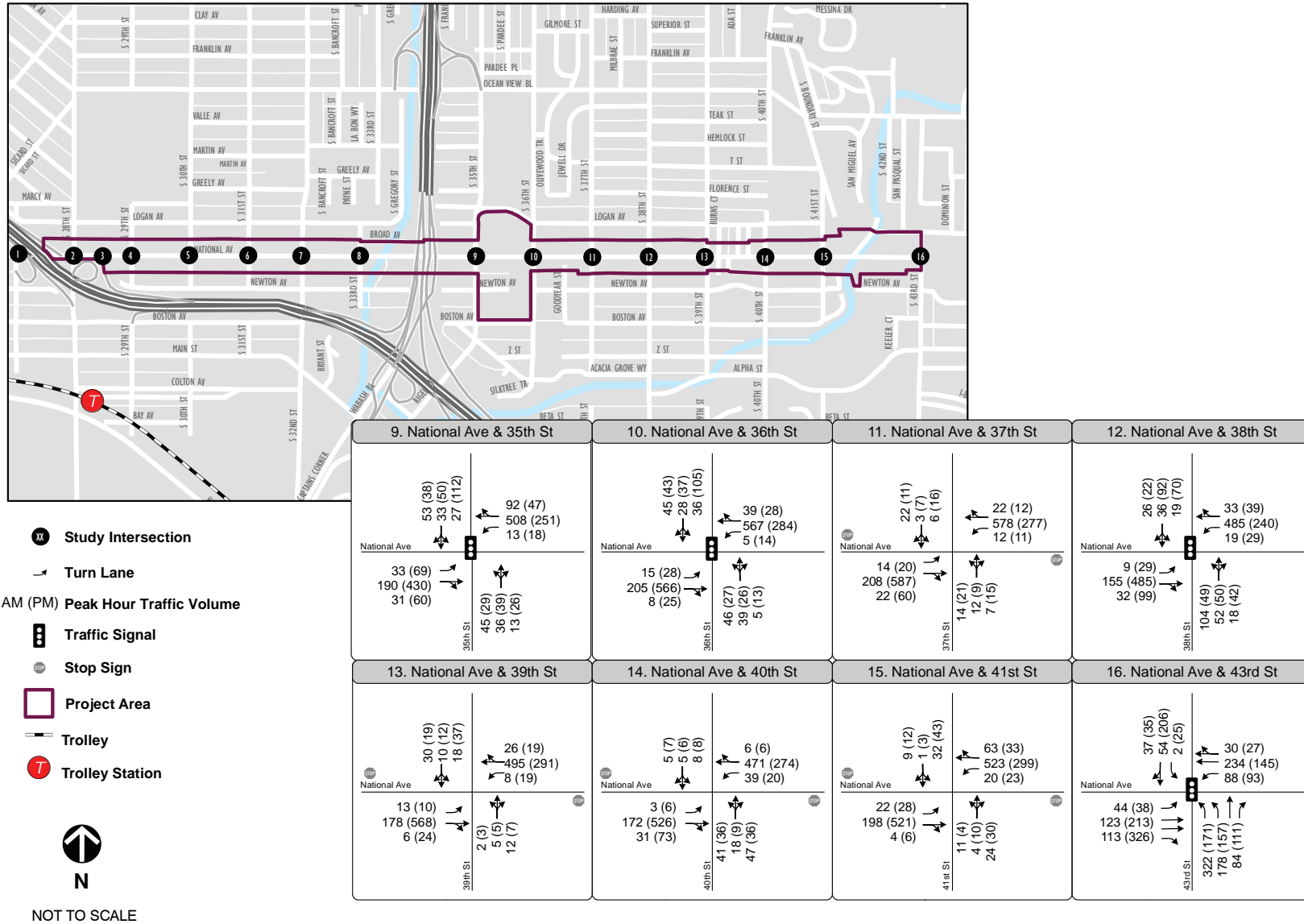
Figure 4-2: Peak Hour Intersection Volumes  
National Ave (Page 1 of 2)

April 2013



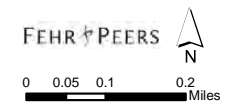
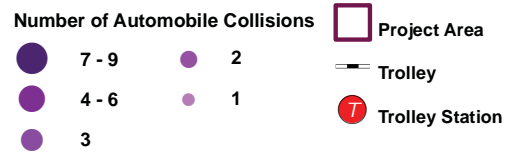
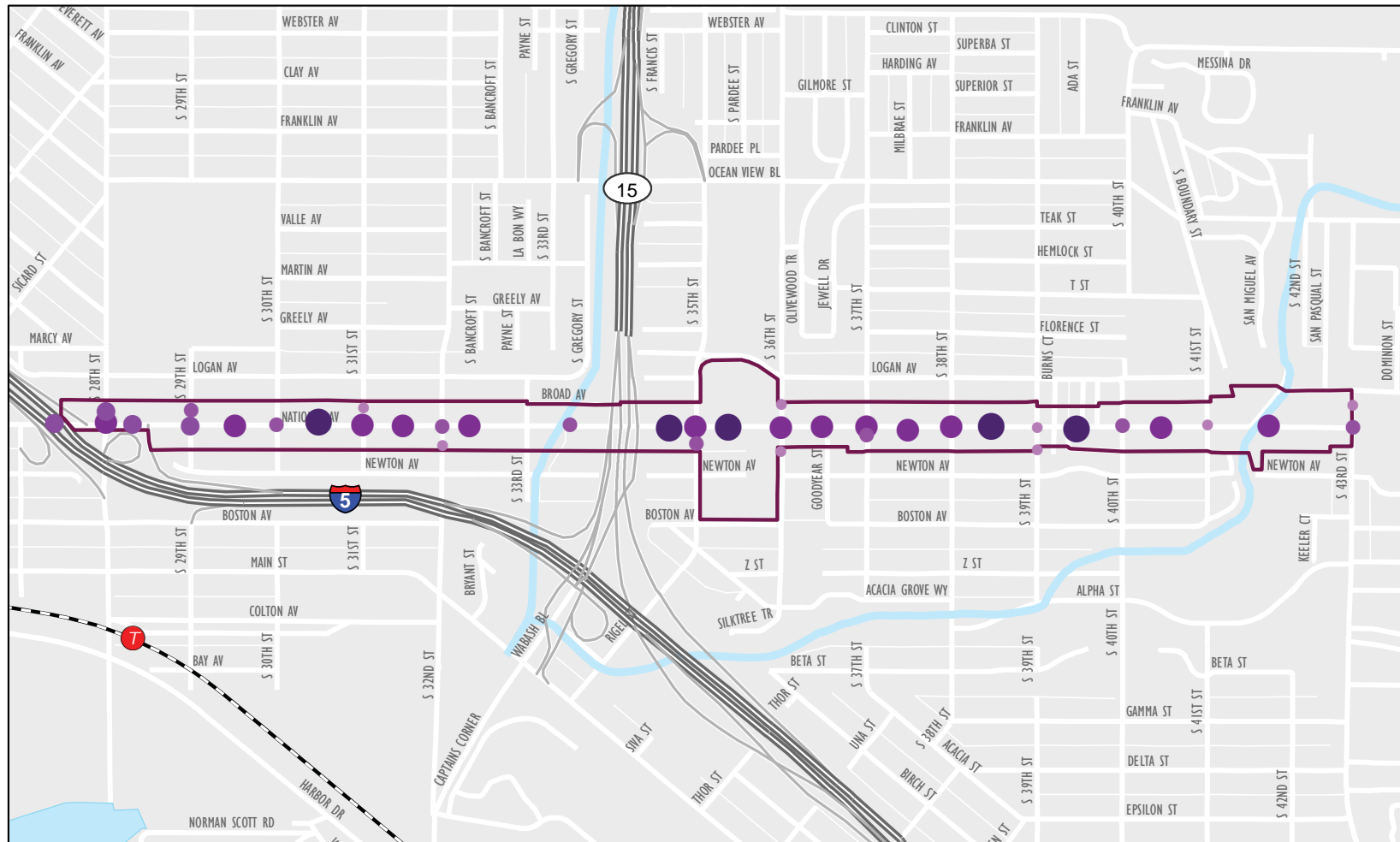
# Figure 4-2: Peak Hour Intersection Volumes National Ave (Page 2 of 2)

April 2013



**Figure 4-3: Automobile Collisions  
National Ave**

May 2013



Source:  
City of San Diego (2012)

**TABLE 4-1 COLLISION DATA SUMMARY**

Location	Lighting	Primary Cause
Intersection	Day	Unsafe Movement <sup>1</sup>
51	54	75
41%	43%	60%
Mid-Block	Night (Dark/Dusk/Dawn)	Ran Red Light or Stop Sign
74	71	9
59%	57%	7%
		Unsafe Speed
		23
		19%
		Violated R-O-W
		8
		6%
		Other <sup>2</sup>
		10
		8%

<sup>1</sup> "Unsafe Movement" includes improper lane changes/starts/passing/turns, unsafe backing, and other general unsafe maneuvers.  
<sup>2</sup> "Other" includes fell asleep, not paying attention, losing control, medical conditions, open vehicle door, unsecured load, etc.

City of San Diego, 2012

### PUBLIC TRANSIT SYSTEM

Public transit for the Project Area is provided by the San Diego Metropolitan Transit System (MTS) and consists of public bus and paratransit. Figure 4-4 displays the transit routes and stops serving the Project Area.

### BUS SYSTEM

MTS Route 11 primarily provides bus service in the Master Plan Project Area and is described in detail below.

#### ROUTE 11

Route 11 runs between San Diego State University and Skyline Hills starting at 4:29 am with headways of approximately 15 minutes before 7:30 pm and 30 minutes thereafter on weekdays. On Saturdays, Route 11 operates starting at 4:06 am with 30-minute headways before 8:00 pm and 60-minute headways thereafter. Sunday services are provided starting at 5:21 am with 30-minute headways.

Ten (10) bus stops in the eastbound direction and twelve bus stops in the westbound direction are located in the Project Area and the list below provides the location of the bus stop (intersection and far-side or near-side) and any amenities such as a bench, shelter, or trash receptacle:

*Eastbound*

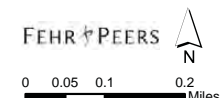
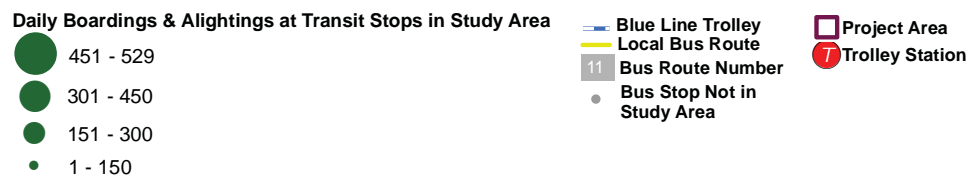
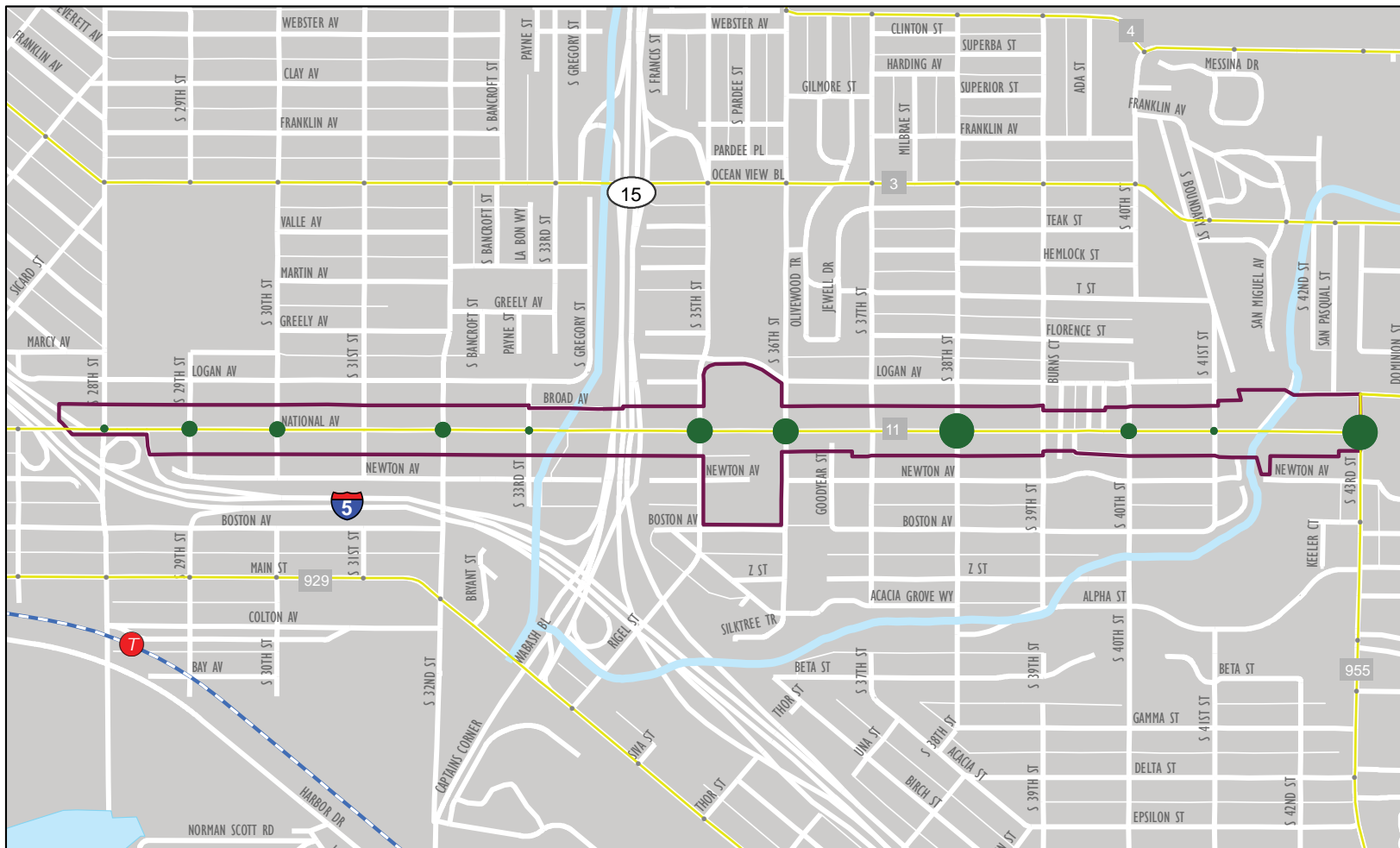
- 27th Street & National Avenue – Far side bus stop with bench
- 29th Street & National Avenue – Near side bus stop with bench and trash receptacle
- 30th Street & National Avenue – Far side bus stop with no amenities
- 32nd Street & National Avenue – Far side bus stop with bench and trash receptacle
- 33rd Street & National Avenue – Far side bus stop with no amenities
- 35th Street & National Avenue – Near side bus stop with bench and trash receptacle
- 36th Street & National Avenue – Near side bus stop with no amenities
- 38th Street & National Avenue – Near side bus stop with no amenities
- 40th Street & National Avenue – Near side bus stop with trash receptacle
- 41st Street & National Avenue – Near side bus stop with no amenities

*Westbound*

- 43rd Street & National Avenue – Far side bus stop with trash receptacle
- 41st Street & National Avenue – Near side bus stop with no amenities
- 40th Street & National Avenue – Near side bus stop with trash receptacle
- 38th Street & National Avenue – Far side bus stop with shelter, bench, and trash receptacle
- 36th Street & National Avenue – Near side bus stop with bench
- 35th Street & National Avenue – Near side bus stop with shelter, bench, and trash receptacle
- 33rd Street & National Avenue – Far side bus stop with no amenities
- 32nd Street & National Avenue – Far side bus stop with bench and trash receptacle
- 30th Street & National Avenue – Far side bus stop with shelter, bench, and trash receptacle; nearby lighting provided by storefront behind bus shelter
- 29th Street & National Avenue – Near side bus stop with trash receptacle
- 28th Street & National Avenue – Near side bus stop with bench and trash receptacle
- 27th Street & National Avenue – Near side bus stop with bench

**Figure 4-4: Existing Public Transit Facilities  
National Ave**

May 2013



Source:  
City of San Diego (2012)

### BOARDINGS AND ALIGHTINGS

Year 2010 transit (public bus) passenger load information was obtained from SANDAG and included in Appendix C (separate attachment). Table 4-2 summarizes the daily boardings/alightings at all transit stops within the Project Area.

As shown in the table, there were 1,467 boardings and 1,438 alightings, for a total of 2,905 boardings/alightings at all transit stops in the Project Area, all on route 11. The bus stops at National Avenue & 38th Street and National Avenue & 43rd Street have the highest bus loading activity at 517 and 529 total boardings/alightings daily, respectively.

**TABLE 4-2: EXISTING TRANSIT DAILY BOARDINGS AND ALIGHTINGS SUMMARY**

<b>Transit Stop</b>	<b>Boarding</b>	<b>Alighting</b>	<b>Total</b>
<u>Route 11</u>			
National Avenue & 28 <sup>th</sup> Street	45	79	124
National Avenue & 29 <sup>th</sup> Street	114	125	239
National Avenue & 30 <sup>th</sup> Street	133	142	275
National Avenue & 32 <sup>nd</sup> Street	122	117	239
National Avenue & 33 <sup>rd</sup> Street	22	19	41
National Avenue & 35 <sup>th</sup> Street	179	161	340
National Avenue & 36 <sup>th</sup> Street	165	153	318
National Avenue & 38 <sup>th</sup> Street	257	260	517
National Avenue & 40 <sup>th</sup> Street	83	80	163
National Avenue & 41 <sup>st</sup> Street	61	59	120
National Avenue & 43 <sup>rd</sup> Street	286	243	529
<b>Total</b>	<b>1,467</b>	<b>1,438</b>	<b>2,905</b>

Source: SANDAG, 2010

## BICYCLE FACILITIES

Bicycling is considered an environmentally-friendly mode of transportation that enhances both personal and social well-being. Bicycling is recognized as an integral component of the Southeastern Community's transportation system, currently and in the future. It is an important travel mode and a key component of a seamless multi-modal transportation system. In addition to transportation, this mode of travel provides many public access, health and economic benefits.

Safe, convenient, attractive, and well-designed bicycle facilities are essential if this mode is to be properly accommodated and encouraged. Well-designed bicycle facilities are safe, attractive, convenient, and easy to use. Inadequate facilities discourage users and unnecessary facilities waste money and resources.

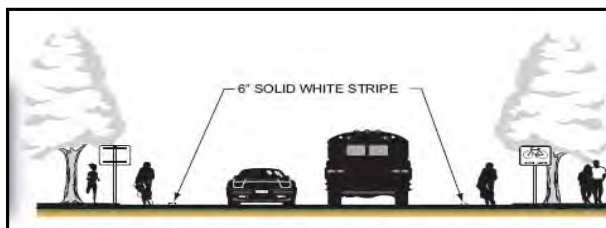
### STANDARD BICYCLING TYPOLOGY

Bicycle facilities are classified based on a standard typology, which is described as follows:

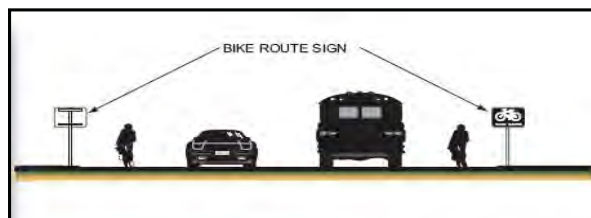
Class I Bikeway (Bike Path) provides a completely separate right-of-way and is designated for the exclusive use of bicycles and pedestrians with vehicle and pedestrian cross-flow minimized.



Class II Bikeway (Bike Lane) provides a restricted right-of-way and is designated for the use of bicycles with a striped lane on a street or highway. Bicycle lanes are generally five feet wide. Vehicle parking and vehicle/pedestrian cross-flow are permitted.



Class III Bikeway (Bike Route) provides for a right-of-way designated by signs or pavement markings for shared use with pedestrians or motor vehicles.





## BICYCLE FACILITIES AND VOLUMES

No designated bicycle facilities are provided on National Avenue. A bicycle & pedestrian overcrossing on 30th Street crosses I-5 and connects 30th Street between Newton Avenue and Boston Avenue. A second pedestrian and bicycle crossing is located at the cul-de-sac on 36th Street, south of Acacia Grove Way, which connects from the adjacent park to Beta Street. These represent the nearest existing designated bicycle facilities in and near the Project Area. Figure 4-5 displays the locations of various existing bicycle facilities, as well as planned facilities identified in the City of San Diego Bicycle Master Plan Update (2011).

Although National Avenue is not designated as a bicycle facility, bicycles are accommodated on the street. With relatively low traffic volumes (less than 12,000 ADT except for the segment immediately east of 28th Street), one travel lane in each direction, and a 30 mile per hour posted speed limit, National Avenue serves bicycle travel and provides a reasonable environment for more experienced bicyclists. According to field observations, some cyclists use the sidewalk to avoid sharing the road with vehicles. While bicycling on the sidewalk is generally permitted in residential areas, it is prohibited in business districts similar to those along portions of National Avenue.

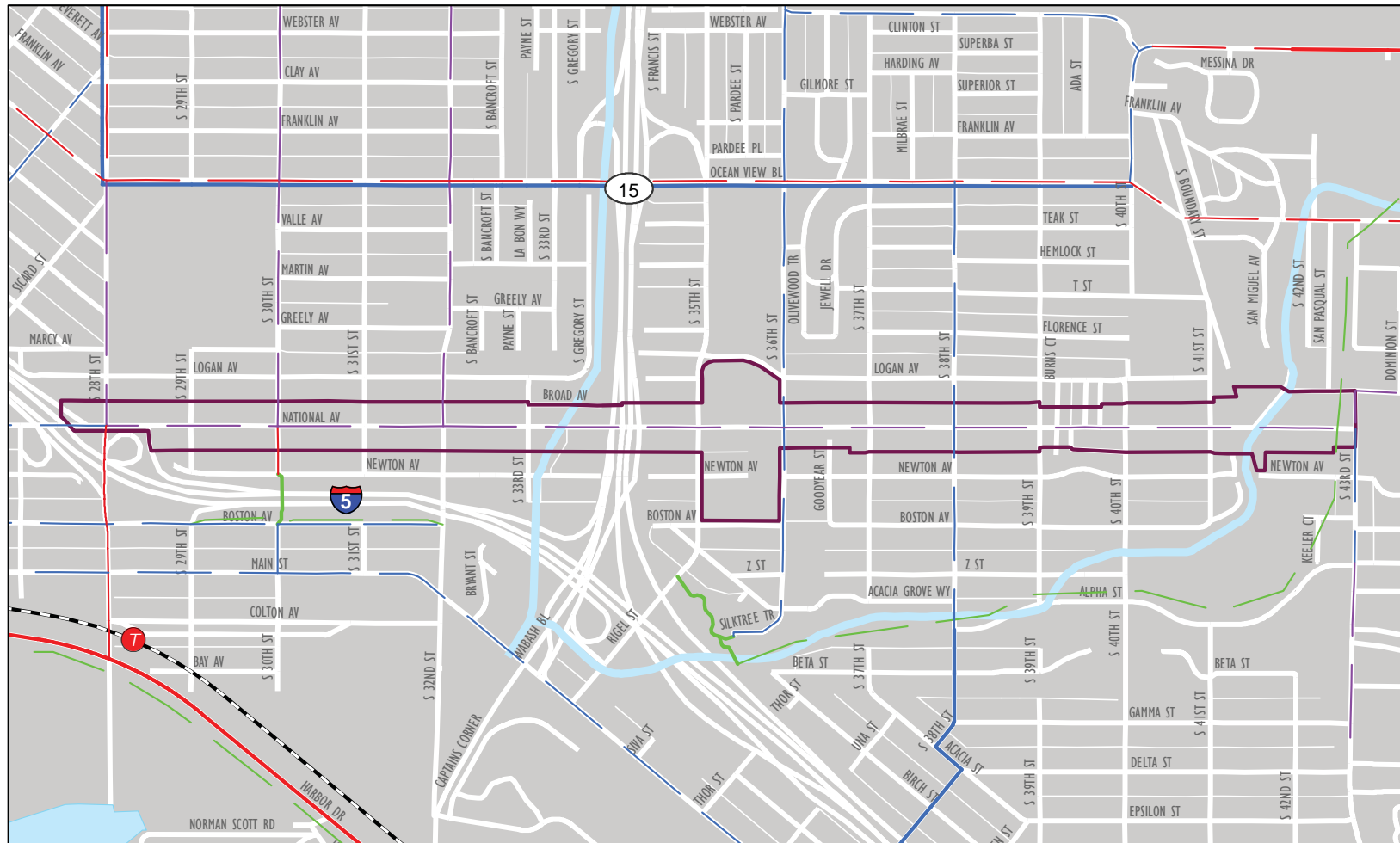
Existing bicycle data was collected at all of the Project Area intersections during the AM/PM peak periods, and are displayed in Figure 4-6. The counts sheets are included in Appendix D (separate attachment). On any one segment, bicycle usage along National Avenue is relatively low, with fewer than five bicyclists traveling along the corridor during the AM or PM peak hours.

## SAFETY

Bicycle-related collision data was obtained from the City of San Diego for the Project Area. The reports provide collision data over a period of five years (2008 – 2012), which indicates a total of 10 collisions. Figure 4-7 shows the distribution of the bicycle-related collisions. Of the 10 recorded collisions, all ten resulted in injuries, but there were no fatalities. Approximately 40 percent of the collisions occurred at intersections while the other 60 percent occurred at mid-block. Approximately 80 percent occurred during daylight, while the other 20 percent occurred at night (dark/dusk/dawn). Overall, no single location within the corridor experienced more than one bicycle-related collision except for the mid-block area between 31st and 32nd Street, where two collisions occurred.

**Figure 4-5: Existing and Proposed Bicycle Facilities  
National Ave**

May 2013



- |                                    |                                    |                        |
|------------------------------------|------------------------------------|------------------------|
| <b>Existing Bicycle Facilities</b> | <b>Proposed Bicycle Facilities</b> | <b>Project Area</b>    |
| <b>Class I - Bicycle Path</b>      | <b>Class I - Bicycle Path</b>      | <b>Trolley</b>         |
| <b>Class II - Bicycle Lane</b>     | <b>Class II - Bicycle Lane</b>     | <b>Trolley Station</b> |
| <b>Class III - Bicycle Route</b>   | <b>Class III - Bicycle Route</b>   |                        |
| <b>Class II or III</b>             |                                    |                        |



Source:  
City of San Diego Bicycle  
Master Plan Update (2011)

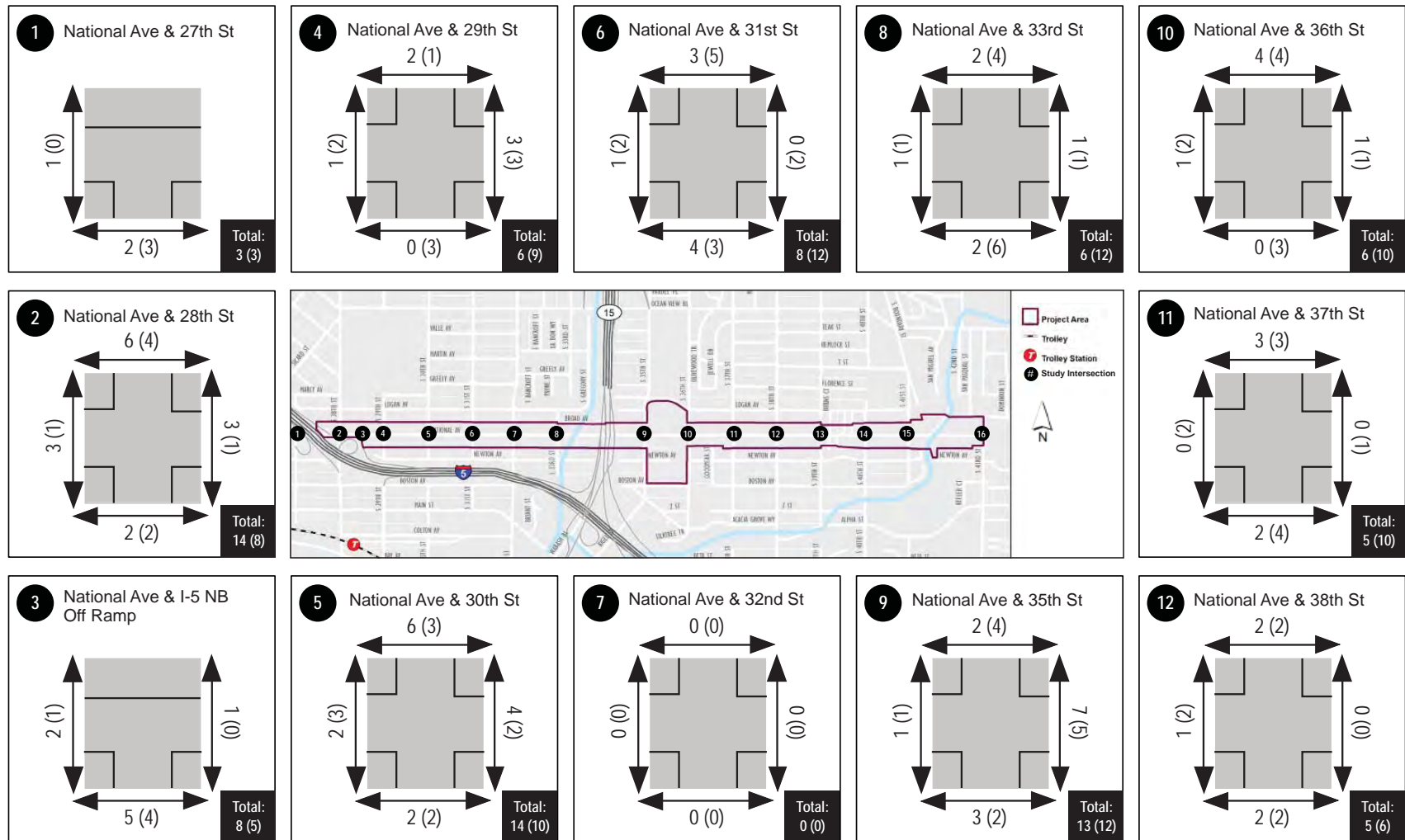


Figure 4-6: Existing Bicycle Peak Hour Volumes National Ave (Page 1 of 2)

XX (XX) AM(PM) Count Totals  
 ←→ Intersection Leg  
 ▬▬▬ Crosswalk

III. appendix 4: mobility

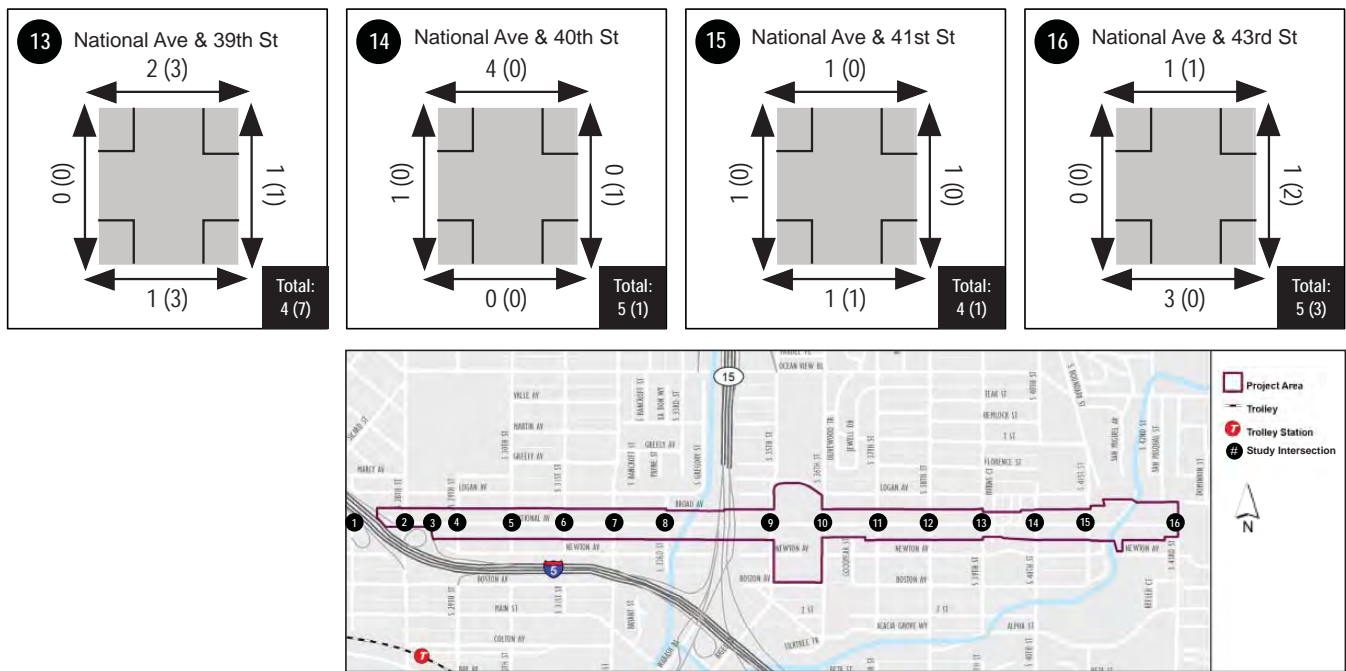

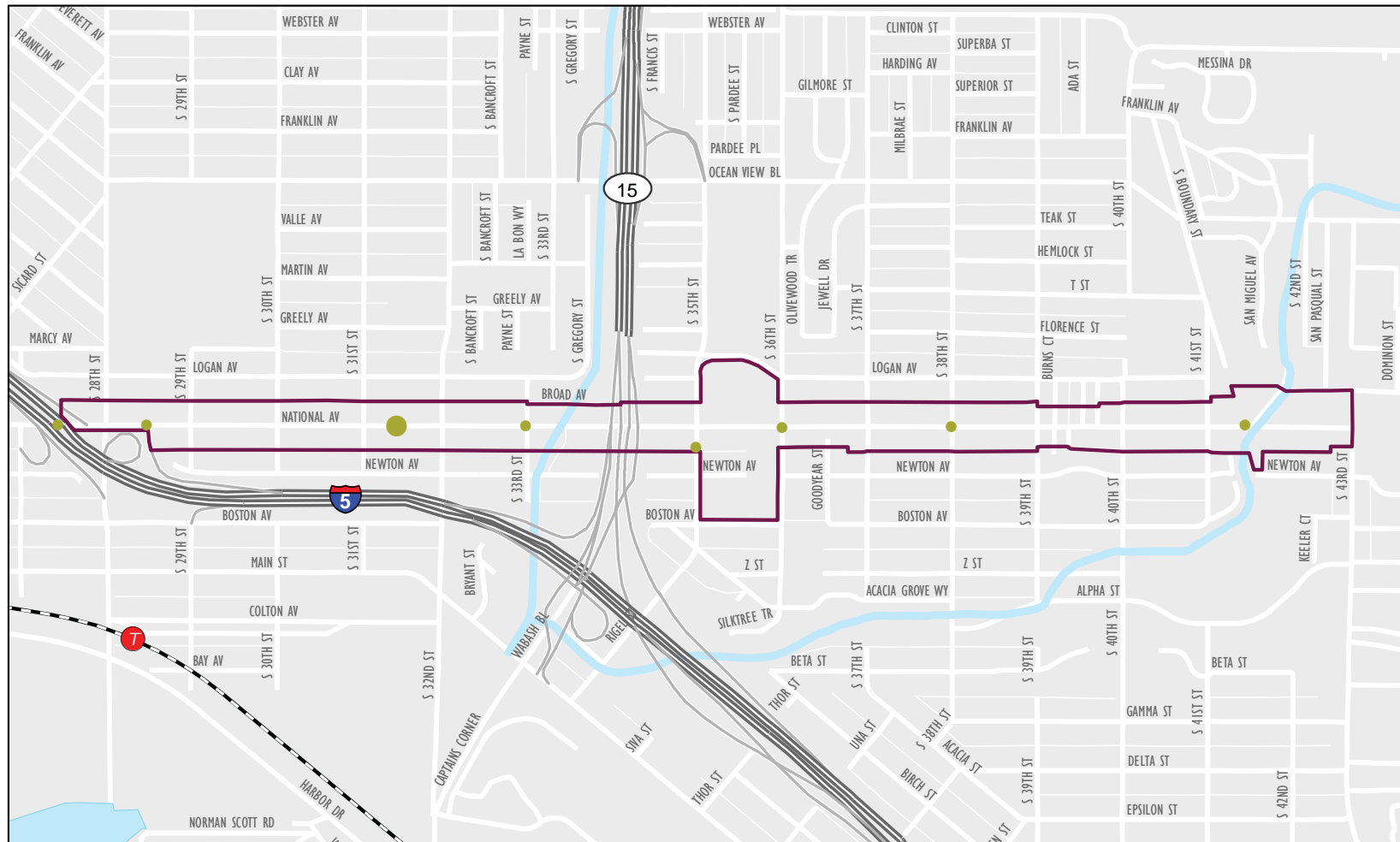


Figure 4-6: Existing Bicycle Peak Hour Volumes National Ave (Page 2 of 2)

XX (XX) AM(PM) Count Totals  
 ←→ Intersection Leg  
 Crosswalk

**Figure 4-7: Bicycle-Related Collisions  
National Ave**

April 2013



Source:  
City of San Diego (2012)

## PEDESTRIAN FACILITIES

Walking is another environmentally-friendly mode of transportation that enhances both personal and social well-being. In addition to transportation, this mode of travel provides many public access, health and economic benefits. Safe, convenient, attractive, and well-designed pedestrian facilities are essential if this mode is to be properly accommodated and encouraged. Pedestrian circulation is particularly important in this Project Area because approximately 14 percent of the total occupied households do not own a motor vehicle.

The land-uses, density, scale, and configuration of National Avenue are conducive to pedestrian activity. There are several storefronts lining National Avenue, and community-based organizations and public uses, such as schools and parks, located on side-streets proximate to National Avenue. These land uses typically generate pedestrian traffic.

### PEDESTRIAN FACILITIES AND VOLUMES

Figure 4-8 displays the existing pedestrian facilities map with identifications of missing sidewalks and curb ramps. National Avenue generally provides an inviting streetscape with sidewalks and several amenities for pedestrians and transit patrons. Frontages along both sides of National Avenue generally include active commercial uses with a sidewalk approximately five feet wide and an additional four to five feet containing a row of recurring trees between the sidewalk

and vehicular right-of-way. On-street parking is allowed along National Avenue and provides an additional buffer.

A number of the intersections along National Avenue are controlled by traffic signals or all-way stop signs, such that all street approaches are controlled. At some of these intersections, marked crosswalks are generally provided across all four legs. Examples include the intersection of National Avenue at:

- 28th Street (signalized with marked crosswalks on all four legs)
- I-5 NB Off Ramp (signalized with marked crosswalk on southern leg)
- 30th Street (signalized with no marked crosswalks)
- 32nd Street (signalized with marked crosswalks on all four legs)
- 35th Street (signalized with marked school crosswalks on all four legs)
- 36th Street (signalized with marked school crosswalks on all four legs)
- 37th Street (two-way stop-controlled with a marked crosswalk on the western leg)
- 38th Street (signalized with marked crosswalks on all four legs)
- 41st Street (stop-controlled with marked school crosswalks on the western leg)
- 43rd Street (signalized with marked crosswalks on all four legs)

All of the remaining intersections on National Avenue in the Project Area are side-street stop controlled, with vehicular traffic on National Avenue uncontrolled, and marked crosswalks not provided across National Avenue, including:

- 27th Street
- 29th Street
- 31st Street
- 33rd Street
- 39th Street
- 40th Street

Despite the variations in traffic controls, land uses, and the availability of pedestrian crossings, the presence of sidewalks, short block lengths, street tree buffers, and on-street parking are generally present and tend to promote a more comfortable pedestrian experience on National Avenue. Additionally, curb ramps exist at all corners of the intersections along National Avenue, however some are non-compliant with current ADA standards.

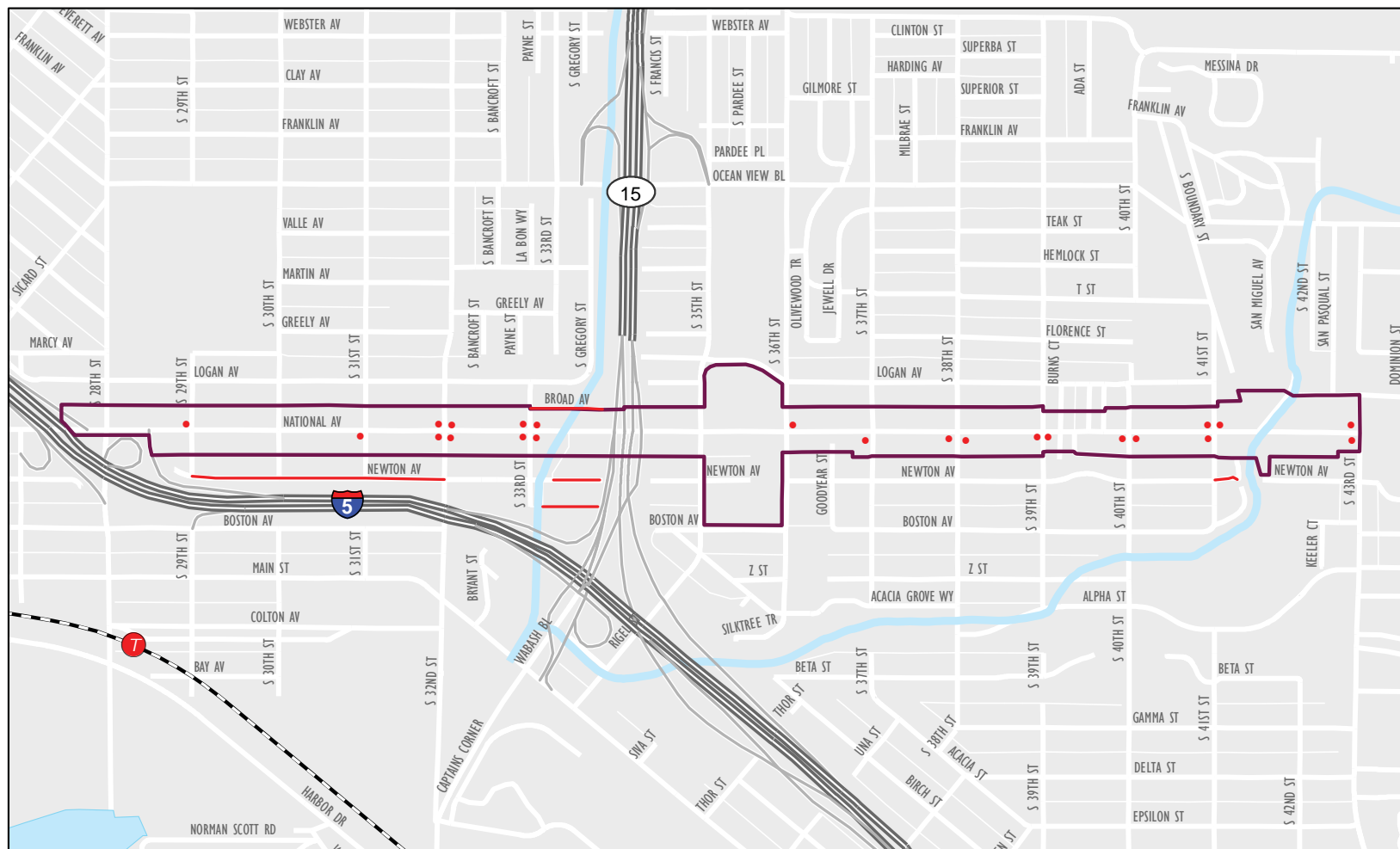
Existing pedestrian data was collected at all of the Project Area intersections during the AM/PM peak periods, and are displayed in Figure 4-9. The counts sheets are included in Appendix E (separate attachment).

## SAFETY

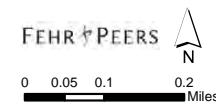
Pedestrian related collision data was obtained from the City of San Diego for the Project Area. The reports provide collision data over a period of five years (2008 – 2012), which indicates a total of 18 collisions. Figure 4-10 shows the distribution of the pedestrian related collisions. Of the 18 recorded collisions, all resulted in injuries, but there were no fatalities. Approximately 61 percent of the collisions occurred at intersections, while the other 39 percent occurred at mid-block locations. Approximately 61 percent occurred during daylight while the other 39 percent occurred at night (dark/dusk/dawn). The location with the highest number of pedestrian collisions is the 32nd Street intersection with three, followed by three other intersections (30th and 31st Streets) or midblock segments (37th to 38th Street) with two each.

### Figure 4-8: Missing Sidewalk and Curb Ramp Infrastructure National Ave

April 2013



- Missing Sidewalk
- Existing Non-Compliant Curb Ramp
- Missing Curb Ramp
- Project Area
- Trolley
- T Trolley Station



Source:  
City of San Diego (2012)



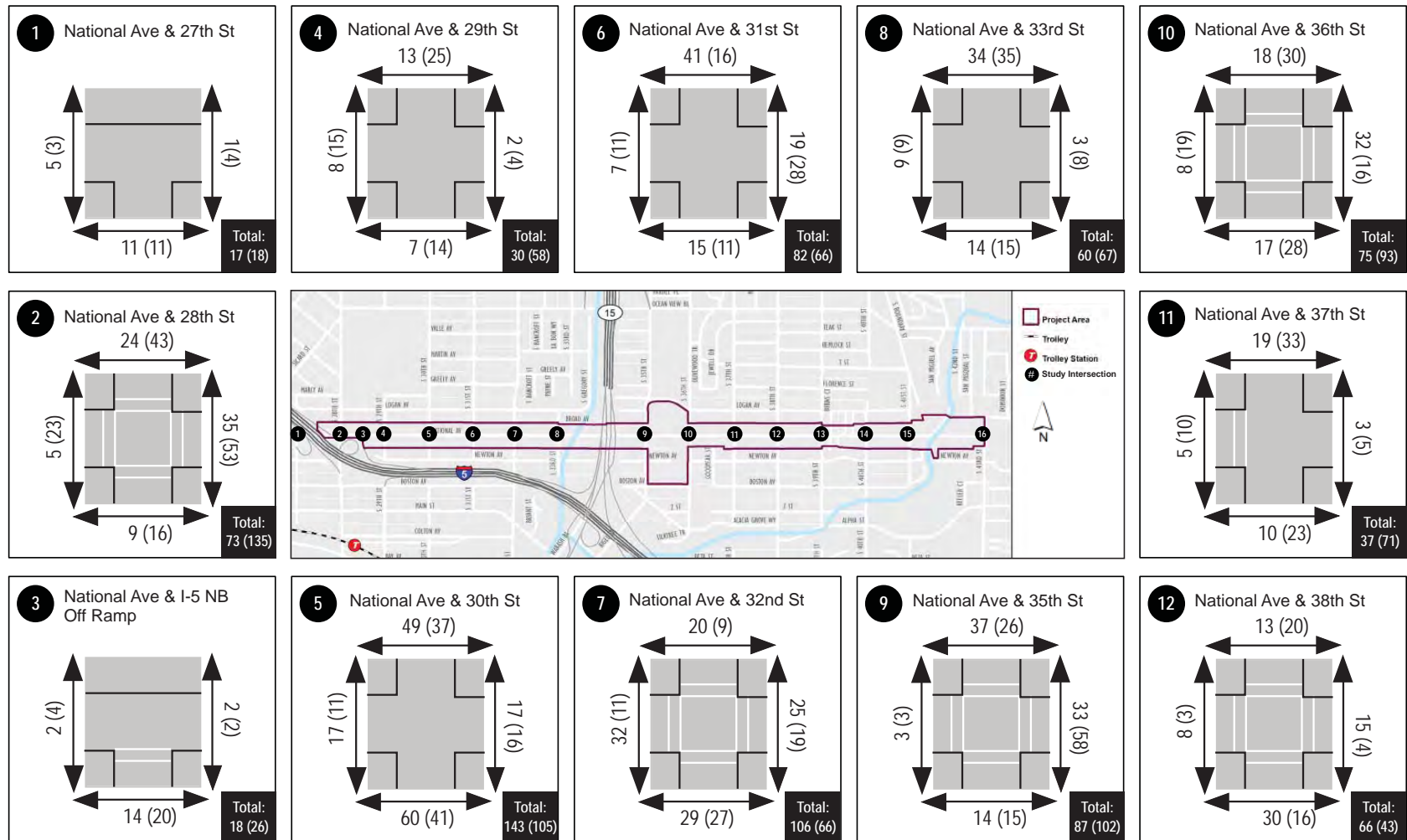


Figure 4-9: Existing Pedestrian Peak Hour Volumes National Ave (Page 1 of 2)

XX (XX) AM(PM) Count Totals  
 ↔ Intersection Leg  
 ▬ Crosswalk

III. appendix 4: mobility

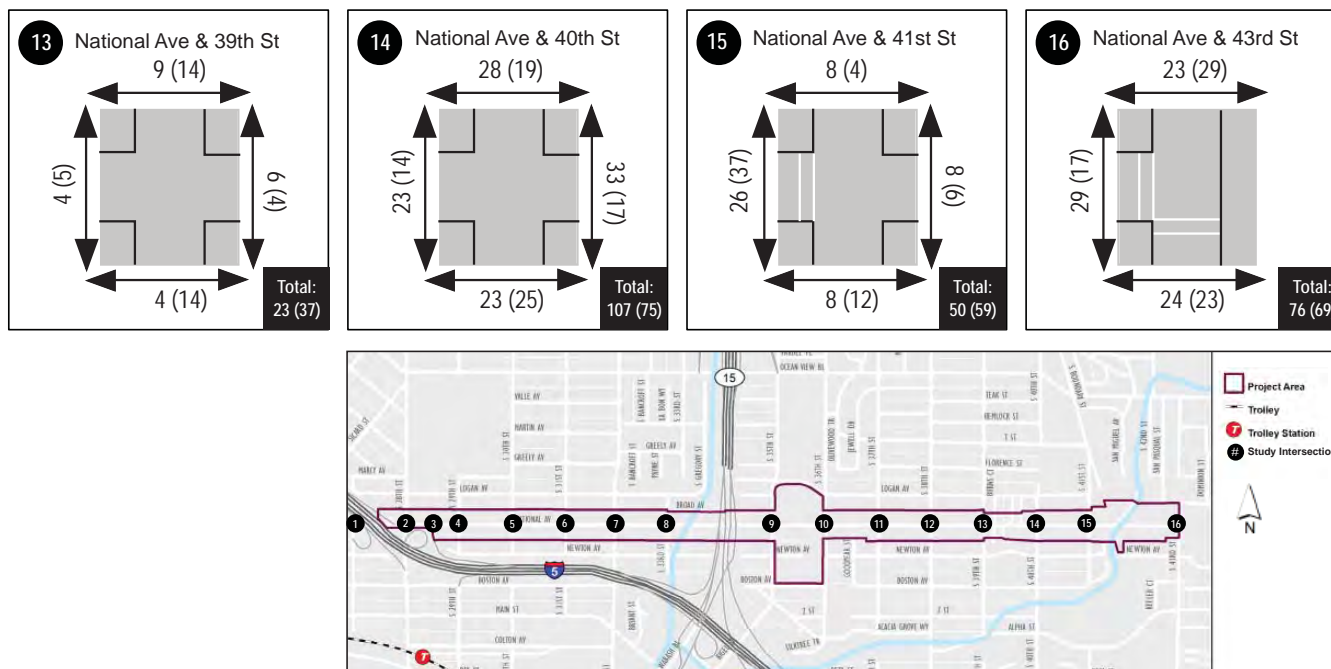
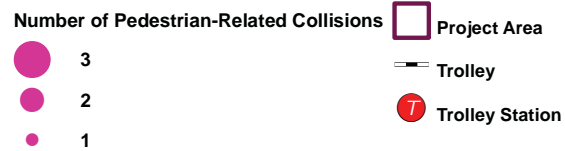
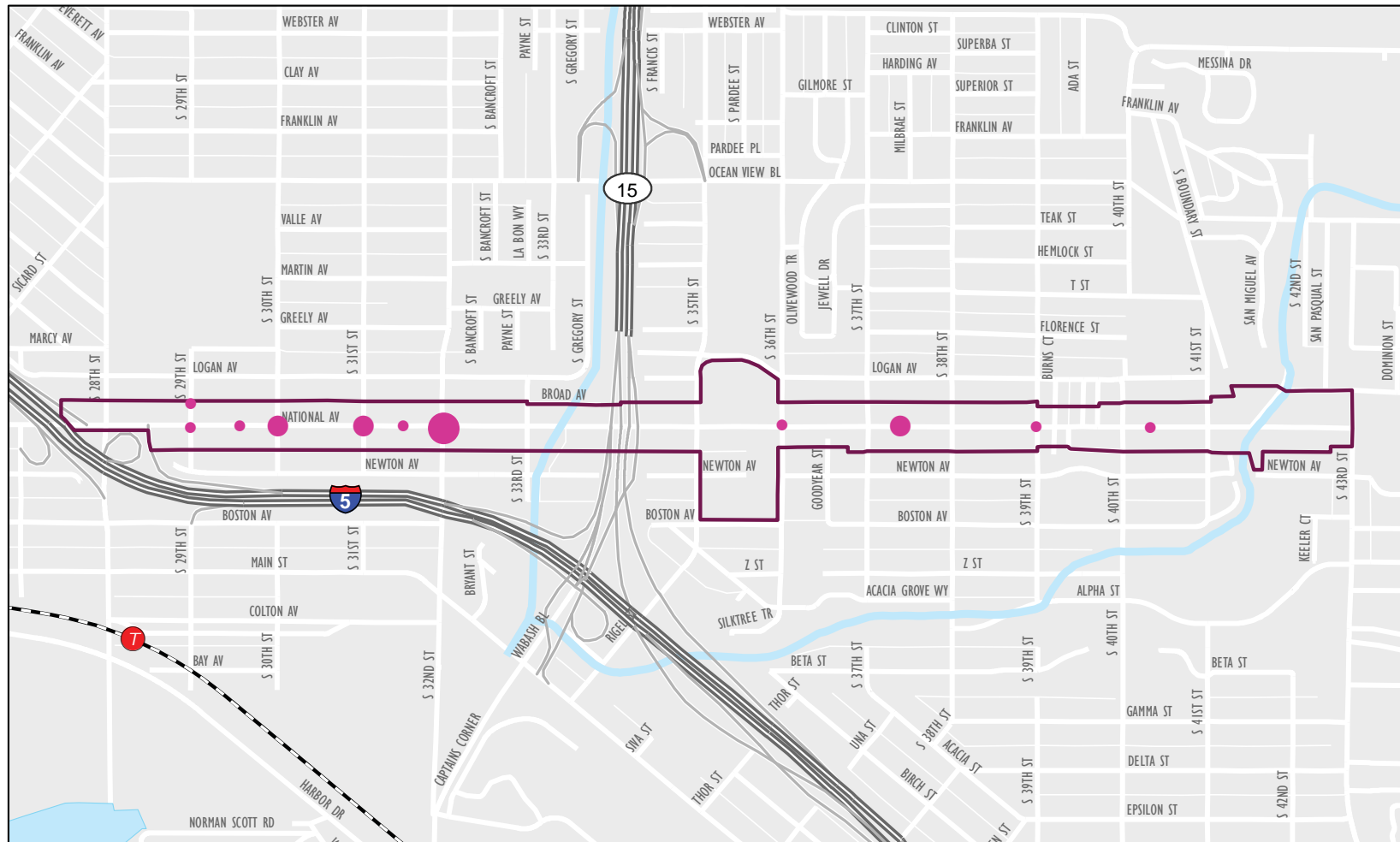


Figure 4-9: Existing Pedestrian Peak Hour Volumes National Ave (Page 2 of 2)

XX (XX) AM(PM) Count Totals  
 ↔ Intersection Leg  
 █ Crosswalk

**Figure 4-10: Pedestrian-Related Collisions  
National Ave**

April 2013



Source:  
City of San Diego (2012)

### PARKING

An inventory of all on-street parking spaces within the Project Area was conducted in April 2013. The area consisted of National Avenue between 27th Street and 43rd Street. On-street parking is generally parallel parking with no time restrictions (except for the locations listed in Table 4-3) and free of charge. There are roughly 575 on-street parking spaces in the entire Project Area.

On-street parking demand data was collected on April 3, 2013 during the vehicular AM and PM peak period. Table 4-4 summarizes the findings of the on-street parking demand survey. As shown in the table, the highest occupied block by direction is:

- Eastbound, between 31th Street and 32nd Street in the AM and PM peak - at 100%
- Westbound, between 38th Street and 39th Street in the AM and PM peak – at approximately 65% occupied in the AM peak hour period and 85% occupied in the PM peak period

**TABLE 4-3: EXISTING ON-STREET PARKING WITH TIME LIMITS**

<i>National Roadway Segment</i>	<i>Time Limit</i>				<i>Loading Zone</i>	<i>Disabled</i>
	<i>15-min</i>	<i>30-min</i>	<i>60-min</i>	<i>2-hour</i>		
I-5 NB Ramps to 29 <sup>th</sup> Street	2					
29 <sup>th</sup> Street to 30 <sup>th</sup> Street	3	1	36		2	2
35 <sup>th</sup> Street to 36 <sup>th</sup> Street				51		
36 <sup>th</sup> Street to 37 <sup>th</sup> Street	1					1
37 <sup>th</sup> Street to 38 <sup>th</sup> Street	2					
<b>Total</b>	<b>8</b>	<b>1</b>	<b>36</b>	<b>51</b>	<b>2</b>	<b>3</b>

Source: Fehr & Peers, April 2013.

**TABLE 4-4: EXISTING ON-STREET PARKING DEMAND SUMMARY**

<b><i>National Avenue Roadway Segments</i></b>	<b><i>Eastbound</i></b>		<b><i>Westbound</i></b>	
	<b><i>AM Peak</i></b>	<b><i>PM Peak</i></b>	<b><i>AM Peak</i></b>	<b><i>PM Peak</i></b>
27 <sup>th</sup> Street to 28 <sup>th</sup> Street	0%	0%	0%	0%
28 <sup>th</sup> Street to I-5 NB Ramps	0%	0%	0%	0%
I-5 NB Ramps to 29 <sup>th</sup> Street	0%	50%	35%	25%
29 <sup>th</sup> Street to 30 <sup>th</sup> Street	35%	60%	15%	35%
30 <sup>th</sup> Street to 31 <sup>st</sup> Street	60%	55%	50%	55%
31 <sup>st</sup> Street to 32 <sup>nd</sup> Street	100%	100%	45%	55%
32 <sup>nd</sup> Street to 33 <sup>rd</sup> Street	40%	50%	30%	65%
33 <sup>rd</sup> Street to 35 <sup>th</sup> Street	25%	30%	30%	30%
35 <sup>th</sup> Street to 36 <sup>th</sup> Street	5%	20%	10%	10%
36 <sup>th</sup> Street to 37 <sup>th</sup> Street	50%	55%	50%	40%
37 <sup>th</sup> Street to 38 <sup>th</sup> Street	55%	65%	40%	70%

<b><i>National Avenue Roadway Segments</i></b>	<b><i>Eastbound</i></b>		<b><i>Westbound</i></b>	
	<b><i>AM Peak</i></b>	<b><i>PM Peak</i></b>	<b><i>AM Peak</i></b>	<b><i>PM Peak</i></b>
38 <sup>th</sup> Street to 39 <sup>th</sup> Street	25%	25%	65%	85%
39 <sup>th</sup> Street to 40 <sup>th</sup> Street	65%	65%	35%	25%
40 <sup>th</sup> Street to 41 <sup>st</sup> Street	45%	55%	60%	45%
41 <sup>st</sup> Street to 43 <sup>rd</sup> Street	30%	40%	15%	20%

Source: Fehr & Peers, April 2013.

### MULTI-MODAL LEVEL OF SERVICE

On September 30, 2008, the State of California approved Assembly Bill 1358 – The Complete Streets Act. This act requires, commencing January 1, 2011, that the legislative body of a city or county, plan for a balanced, multimodal transportation network that meets the needs of all users of streets, roads, and highways, defined to include motorists, pedestrians, bicyclists, children, persons with disabilities, seniors, movers of commercial goods, and users of public transportation, in a manner that is suitable to the rural, suburban, or urban context of the general plan.

Demographics and observed travel patterns for the area surrounding the National Avenue corridor indicate that transit, walking, and bicycling are modes of transportation commonly used by residents and/or employees. The combination of a relatively high degree of reliance on non-vehicular travel and the surrounding land uses results in steady pedestrian and bicycle activity in the Project Area.

### METHODOLOGY

The respective analysis methodologies are described for each mode of travel in this section. In general, roadway and intersection LOS is based on facility operations, while transit, bicycle and pedestrian facilities are evaluated based on user perception of the traveling experience on the subject facilities. The multimodal LOS analysis method used herein for transit, bicycle and pedestrian was developed under the National Cooperative Highway Research Program (NCHRP) Project 3-70, Multimodal Level of Service for Urban Streets.

### AUTOMOBILE

Level of service (LOS) is a quantitative measure describing operational conditions within a traffic stream, and the motorist's and/or passengers' perception of operations. A LOS definition generally describes these conditions in terms of such factors as delay, speed, travel time, freedom to maneuver, interruptions in traffic flow, queuing, comfort, and convenience. Table 4-5 describes generalized definitions of the various LOS categories (A through F) as applied to roadway operations.

#### *Roadway Segment Level of Service Standards and Thresholds*

Roadway segment LOS standards and thresholds provide the basis for analysis of arterial roadway segment performance. The analysis of roadway segment LOS is based on the functional classification of the roadway, the maximum capacity, roadway geometrics, and existing or forecast Average Daily Traffic (ADT) volumes. Table 4-6 presents the roadway segment capacity and LOS standards utilized to analyze arterial roadways. This table was developed based on similar standards currently utilized by jurisdictions throughout the San Diego region, and has been approved for use in the City of San Diego.

These standards are generally used as long-range planning guidelines to determine the functional classification of roadways. The actual capacity of a roadway facility varies according to its physical attributes. Typically, the performance and LOS of a roadway segment is heavily influenced by the ability of the arterial intersections to accommodate peak hour volumes. For the purposes of this traffic analysis, LOS D is considered acceptable for Circulation Element roadway segments.

*Signalized Intersection Analysis*

The analysis of signalized intersections utilized the operational analysis procedure as outlined in the *2000 Highway Capacity Manual (HCM), Transportation Research Board Special Report 209*. This method defines LOS in terms of delay, or more specifically, average control delay per vehicle. Delay is a measure of driver and/or passenger discomfort, frustration, fuel consumption and lost travel time. This technique uses 1,900 vehicles per hour per lane

(VPHPL) as the maximum saturation volume of an intersection. This saturation volume is adjusted to account for lane width, on-street parking, pedestrians, traffic composition (i.e., percentage trucks) and shared lane movements (i.e., through and right-turn movements originating from the same lane). The LOS criteria used for this technique are described in Table 4-7. The computerized analysis of intersection operations was performed utilizing the *SYNCHRO 7.0* traffic analysis software.

**TABLE 4-5: LEVEL OF SERVICE DEFINITIONS**

LOS Category	Definition of Operation
A	This LOS represents a completely free-flow condition, where the operation of vehicles is virtually unaffected by the presence of other vehicles and only constrained by the geometric features of the highway and by driver preferences.
B	This LOS represents a relatively free-flow condition, although the presence of other vehicles becomes noticeable. Average travel speeds are the same as in LOS A, but drivers have slightly less freedom to maneuver.
C	At this LOS the influence of traffic density on operations becomes marked. The ability to maneuver within the traffic stream is clearly affected by other vehicles.
D	At this LOS, the ability to maneuver is notably restricted due to traffic congestion, and only minor disruptions can be absorbed without extensive queues forming and the service deteriorating.
E	This LOS represents operations at or near capacity. LOS E is an unstable level, with vehicles operating with minimum spacing for maintaining uniform flow. At LOS E, disruptions cannot be dissipated readily thus causing deterioration down to LOS F.
F	At this LOS, forced or breakdown of traffic flow occurs, although operations appear to be at capacity, queues form behind these breakdowns. Operations within queues are highly unstable, with vehicles experiencing brief periods of movement followed by stoppages.

Source: Highway Capacity Manual 2000.

**TABLE 4-6: CITY OF SAN DIEGO CIRCULATION ELEMENT ROADWAY CLASSIFICATIONS AND LOS STANDARDS**

<b>Roadway Functional Classification</b>	<b>LOS A</b>	<b>LOS B</b>	<b>LOS C</b>	<b>LOS D</b>	<b>LOS E</b>
Expressway (6-lane)	< 30,000	< 42,000	< 60,000	< 70,000	< 80,000
Prime Arterial (6-lane)	< 25,000	< 35,000	< 50,000	< 55,000	< 60,000
Major Arterial (6-lane, divided)	< 20,000	< 28,000	< 40,000	< 45,000	< 50,000
Major Arterial (4-lane, divided)	< 15,000	< 21,000	< 30,000	< 35,000	< 40,000
Secondary Arterial/Collector (4-lane w/ center lane)	< 10,000	< 14,000	< 20,000	< 25,000	< 30,000
Collector (4-lane w/o center lane)	< 5,000	< 7,000	< 10,000	< 13,000	< 15,000
Collector (2-lane w/continuous left-turn lane)	< 5,000	< 7,000	< 10,000	< 13,000	< 15,000
Collector (2-lane no fronting property)	< 4,000	< 5,500	< 7,500	< 9,000	< 10,000
Collector (2-lane w/commercial fronting)	< 2,500	< 3,500	< 5,000	< 6,500	< 8,000
Collector (2-lane multi-family)	< 2,500	< 3,500	< 5,000	< 6,500	< 8,000
Sub-Collector (2-lane single-family)	-	-	< 2,200	-	-

Source: SANTEC/ITE Guidelines for Traffic Impact Studies in the San Diego Region, February 2004



**TABLE 4-7 SIGNALIZED INTERSECTION LEVEL OF SERVICE CRITERIA**

Average Control Delay Per Vehicle (seconds)	Level of Service (LOS) Characteristics
<10.0	<i>LOS A</i> describes operations with very low delay. This occurs when progression is extremely favorable, and most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.
10.1 – 20.0	<i>LOS B</i> describes operations with generally good progression and/or short cycle lengths. More vehicles stop than for <i>LOS A</i> , causing higher levels of average delay.
20.1 – 35.0	<i>LOS C</i> describes operations with higher delays, which may result from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.
35.1 – 55.0	<i>LOS D</i> describes operations with high delay, resulting from some combination of unfavorable progression, long cycle lengths, or high volumes. The influence of congestion becomes more noticeable, and individual cycle failures are noticeable.
55.1 – 80.0	<i>LOS E</i> is considered the limit of acceptable delay. Individual cycle failures are frequent occurrences.
>80.0	<i>LOS F</i> describes a condition of excessively high delay, considered unacceptable to most drivers. This condition often occurs when arrival flow rates exceed the <i>LOS D</i> capacity of the intersection. Poor progression and long cycle lengths may also be major contributing causes to such delay.

Source: Highway Capacity Manual 2000, TRB Special Report 209.

### III. appendix 4: mobility

#### *Unsignalized Intersection Analysis*

Unsignalized intersections, including two-way and all-way stop controlled intersections were analyzed using the *2000 Highway Capacity Manual* (Section 10) unsignalized intersection analysis methodology. The *SYNCHRO 7.0* Traffic Analysis software supports this methodology and was utilized to produce LOS results. The LOS for a two-way stop controlled (TWSC) intersection is determined by the computed control delay and is defined for each minor movement. Table 4-8 summarizes the LOS criteria for unsignalized intersections.

The City of San Diego considers LOS D or better during the AM and PM peak hours to be acceptable for intersection LOS.

**TABLE 4-8: UNSIGNALIZED INTERSECTION LEVEL OF SERVICE CRITERIA**

Average Control Delay (sec/veh)	Level of Service (LOS)
≤10	A
>10 and ≤15	B
>15 and ≤25	C
>25 and ≤35	D
>35 and ≤50	E
>50	F

Source: Highway Capacity Manual 2000, TRB Special Report 209.

### TRANSIT

The transit LOS is based on a combination of the access experience, the waiting experience, and the ride experience. The access experience is represented by the pedestrian LOS score (to be discussed later in this section) for pedestrian access to bus stops in the direction of travel along the street. The waiting and riding experiences are combined into a transit wait/ride score. The transit wait/ride score is a function of the average headway between transit vehicles and the perceived travel time.

The following six variables are used to determine the transit LOS:

- Frequency of service
- Mean speed
- Reliability of service
- Load factors
- Quality of pedestrian access to transit stops
- Transit stop amenities

The computerized analysis of the transit LOS was performed utilizing the *Complete Streets LOS, A Multimodal Level of Service Toolkit, Version 3* analysis software developed by Dowling Associates, Inc. This software outputs numerical ratings of the mode of travel, and these rating are then converted into the traditional A-F letter grade system. *Complete Streets LOS (CSLOS)* uses methodologies outlined in the *2010 Highway Capacity Manual (HCM)* to simultaneously determine the LOS for each of the four primary modes along a street: auto, transit, pedestrian, and bicycle. Table

4-9 displays the LOS letter grade numerical equivalents for transit, bicycle, and pedestrian facilities.

### BICYCLE

The bicycle LOS is a weighted combination of the bicyclists' experiences at intersections and on street links in between the intersections. Bicycle LOS is a function of the following five variables:

- Lateral separation between bicycles and vehicular traffic
- Speed and makeup of the vehicular traffic
- Pavement conditions
- Directional vehicular traffic volumes
- Intersection crossing distance

**TABLE 4-9 LOS LETTER GRADE NUMERICAL EQUIVALENTS**

LOS Model Outputs	LOS Letter Grade
Model $\leq$ 2.00	A
2.00 < Model $\leq$ 2.75	B
2.75 < Model $\leq$ 3.50	C
3.50 < Model $\leq$ 4.25	D
4.25 < Model $\leq$ 5.00	E
Model > 5.00	F

Source: Transportation Research Board NCHRP Project 3-70.

### III. appendix 4: mobility

The computerized analysis of the bicycle LOS was performed utilizing the *Complete Streets LOS, A Multimodal Level of Service Toolkit, Version 3* analysis software developed by Dowling Associates, Inc.

#### PEDESTRIAN

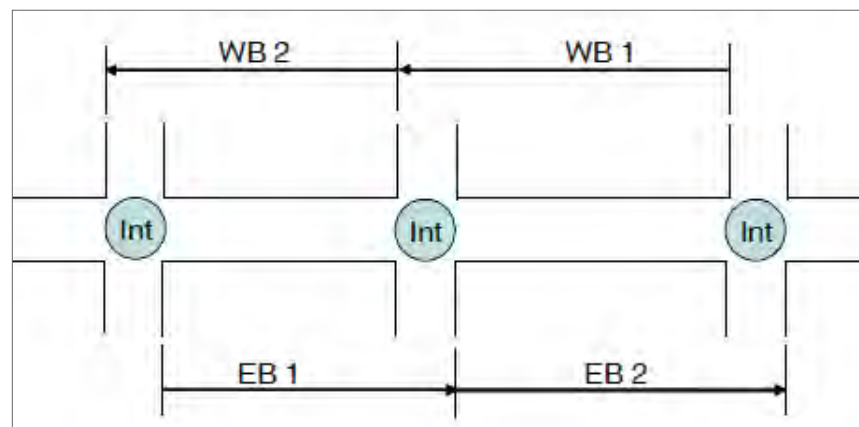
The pedestrian LOS is a measure of the pedestrians' experiences at intersections and on street links in between the intersections. Pedestrian LOS is a function of the following number of variables:

- Lateral separation between pedestrians and vehicular traffic
- Width of sidewalk
- Speed and makeup of the vehicular traffic
- Difficulty of crossing arterial
- Directional vehicular traffic volumes
- Right-turn on red
- Left-turn during "Walk" phase
- Delay waiting to cross at signal
- Intersection crossing distance
- Cross-street vehicular traffic volume and speed
- Pedestrian density

The computerized analysis of the pedestrian LOS was performed utilizing the *Complete Streets LOS, A Multimodal Level of Service Toolkit, Version 3* analysis software developed by Dowling Associates, Inc. Both pedestrian link and intersection LOS were evaluated as

the experiences walking along the roadway/sidewalk could be very different than crossing an intersection.

Transit, bicycle and pedestrian LOS analysis were determined for the length of National Avenue. The corridor was divided into analysis segments, with each segment consisting of a length of street (link) plus the downstream intersection at the end of the link. Cross section measurements (i.e. widths for travel lanes, buffers, shoulder parking, and medians) of a segment were taken at locations that predominately reflected approximately 75% of a segment's characteristics. In most cases, such segment characteristics were represented and measured in the center of the segment length. An intersection is any point on the street where through traffic is subject to signal control, stop-sign control, or yield-sign control. In the case of transit analysis, a segment included one or two transit stops.



### LEVEL OF SERVICE EVALUATION

LOS was analyzed for each mode of travel under existing conditions and the findings are documented below.

#### ROADWAY LEVEL OF SERVICE

Table 4-10 displays the LOS analysis results for key Project Area roadway segments under existing conditions.

As shown in the table, all of the roadway segments are currently operating at acceptable LOS C, with the exception of the National Avenue segment between 28th Street and I-5 Northbound Ramps which operates at an unacceptable LOS F. This is primarily due to the increased vehicular activity accessing the freeway ramps and commercial uses within this short segment.

#### INTERSECTION LEVEL OF SERVICE

Table 4-11 displays intersection LOS and average vehicle delay results for the key intersections under existing conditions. Calculation worksheets are provided in Appendix F (separate attachment). As shown in the table, all of the study intersections are currently operating at acceptable LOS D or better, with the exception of the two-way stop controlled intersection of 41st Street and National Avenue which operates at substandard LOS E during the PM peak hour. This is primarily due to the limited gap opportunities for vehicles at the stop-controlled 41st Street approach to make left-turns and proceed through the intersection.

Figure 4-11 displays the existing LOS for both the Project Area roadway segments and intersections.

**Table 4-10: EXISTING ROADWAY SEGMENT LOS RESULTS**

<i>National Avenue Roadway Segments</i>	<i>Cross-Section</i>	<i>Average Daily Traffic (ADT)</i>	<i>LOS D Threshold</i>	<i>LOS</i>
27 <sup>th</sup> Street to 28 <sup>th</sup> Street	4-Ln	9,707	9,000	C
28 <sup>th</sup> Street to I-5 NB Ramps	2-Ln w/ raised median	18,341	13,000	<b>F<sup>1</sup></b>
I-5 NB Ramps to 30 <sup>th</sup> Street	2-Ln w/TWLTL	10,020	13,000	C
30 <sup>th</sup> Street to 32 <sup>nd</sup> Street	2-Ln w/TWLTL	10,945	13,000	C
32 <sup>nd</sup> Street to 35 <sup>th</sup> Street	2-Ln w/TWLTL	10,375	13,000	C
35 <sup>th</sup> Street to 38 <sup>th</sup> Street	2-Ln w/TWLTL	11,235	13,000	C
38 <sup>th</sup> Street to 40 <sup>th</sup> Street	2-Ln w/TWLTL	10,572	13,000	C
40 <sup>th</sup> Street to 41 <sup>st</sup> Street	2-Ln w/TWLTL	10,750	13,000	C
41 <sup>st</sup> Street to 43 <sup>rd</sup> Street	2-Ln w/ raised median	11,772	13,000	C

1. Bold letter indicates unacceptable LOS E or F.  
Source: Fehr & Peers, April 2013.

**Table 4-11: EXISTING INTERSECTION LOS RESULTS**

<i>Intersection</i>	<i>AM Peak Hour</i>		<i>PM Peak Hour</i>	
	<i>Avg. Delay (sec)</i>	<i>LOS</i>	<i>Avg. Delay (sec)</i>	<i>LOS</i>
1. 27 <sup>th</sup> Street & National Avenue <sup>1</sup>	9.8	A	12.5	B
2. 28 <sup>th</sup> Street & National Avenue	28.6	C	21.1	C
3. I-5 NB Off Ramp & National Avenue	10.5	B	10.3	B
4. 29 <sup>th</sup> Street & National Avenue <sup>1</sup>	20.8	C	22.7	C
5. 30 <sup>th</sup> Street & National Avenue	8.8	A	10.2	B
6. 31 <sup>st</sup> Street & National Avenue <sup>1</sup>	22.0	C	17.3	C
7. 32 <sup>nd</sup> Street & National Avenue	6.6	A	7.7	A
8. 33 <sup>rd</sup> Street & National Avenue <sup>1</sup>	24.5	C	21.9	C
9. 35 <sup>th</sup> Street & National Avenue	7.9	A	8.1	A
10. 36 <sup>th</sup> Street & National Avenue	13.0	B	14.8	B
11. 37 <sup>th</sup> Street & National Avenue <sup>1</sup>	25.4	D	28.9	D
12. 38 <sup>th</sup> Street & National Avenue	9.9	A	10.1	B
13. 39 <sup>th</sup> Street & National Avenue <sup>1</sup>	16.7	C	28.8	D
14. 40 <sup>th</sup> Street & National Avenue <sup>1</sup>	19.4	C	25.7	D
15. 41 <sup>st</sup> Street & National Avenue <sup>1</sup>	22.7	C	40.1	<b>E</b> <sup>2</sup>
16. 43 <sup>rd</sup> Street & National Avenue	12.2	B	11.8	B

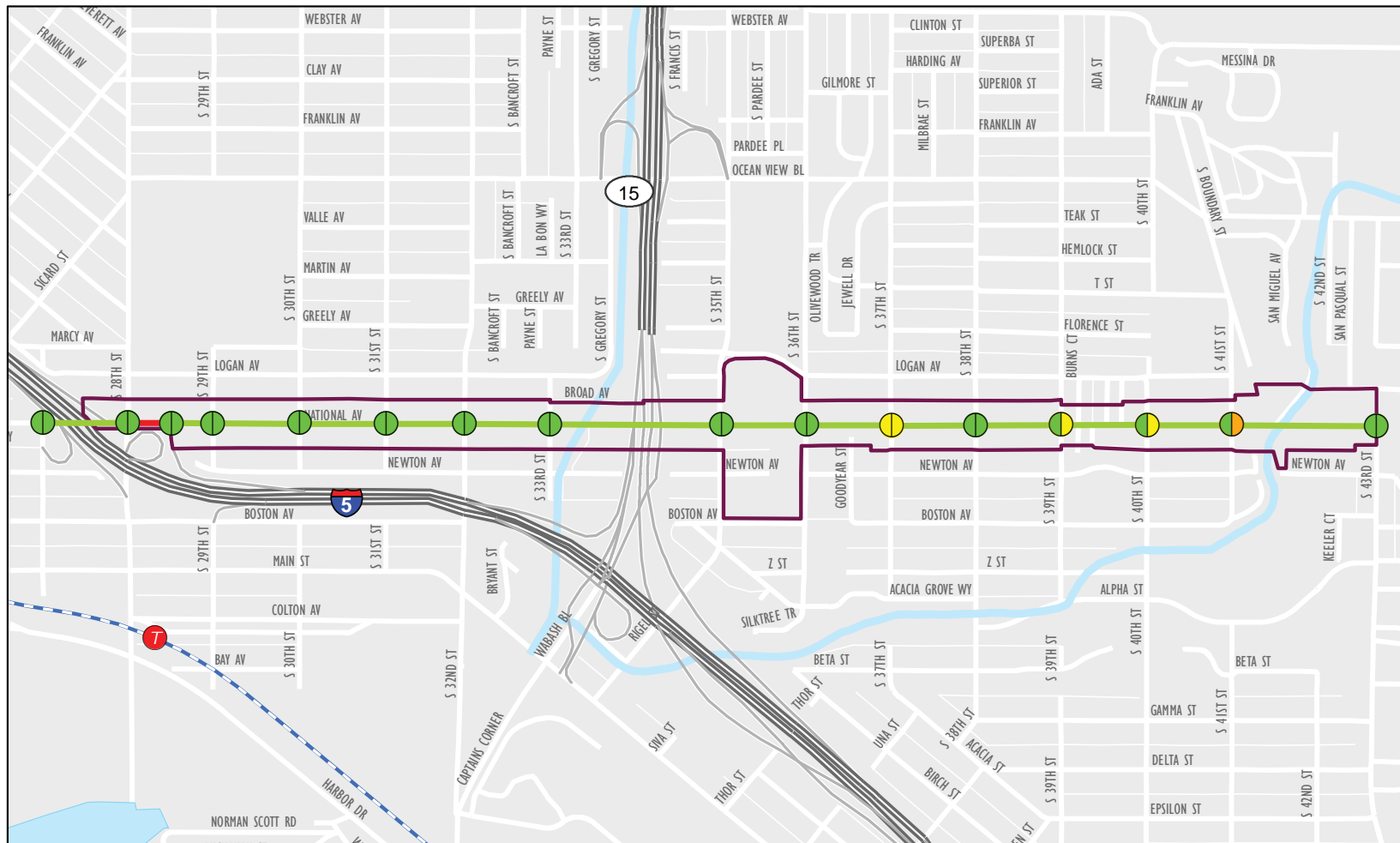
1. For one or two-way stop controlled intersections, the delay shown is the worst delay experienced by any of the approaches.

2. Bold letter indicates unacceptable LOS E or F.

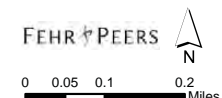
Source: Fehr & Peers, April 2013.

**Figure 4-11: Existing Roadway and Intersection LOS National Ave**

April 2013



- Roadway Segment Level of Service**
- A - C (Green)
- D (Yellow)
- E / F (Orange)
- AM/PM (White Circle)
- T (Red Circle)
- Blue Line Trolley (Blue Dashed Line)
- Project Area (Purple Outline)
- Trolley Station (Red Circle with T)



Source:  
 City of San Diego (2012)

III. appendix 4: mobility

TRANSIT LEVEL OF SERVICE

Table 4-12 and Figure 4-12 each display transit LOS in the Project Area under existing conditions during the AM peak hour. LOS calculation worksheets are provided in Appendix G (separate attachment).

The CSLOS program used to calculate the transit LOS, incorporates bus stop information within a segment to estimate the transit LOS. As shown, transit riders for the most part currently experience fair service of LOS C or D along National Avenue in both directions during the AM peak hour.

**Table 4-12: EXISTING TRANSIT AM PEAK HOUR LOS RESULTS**

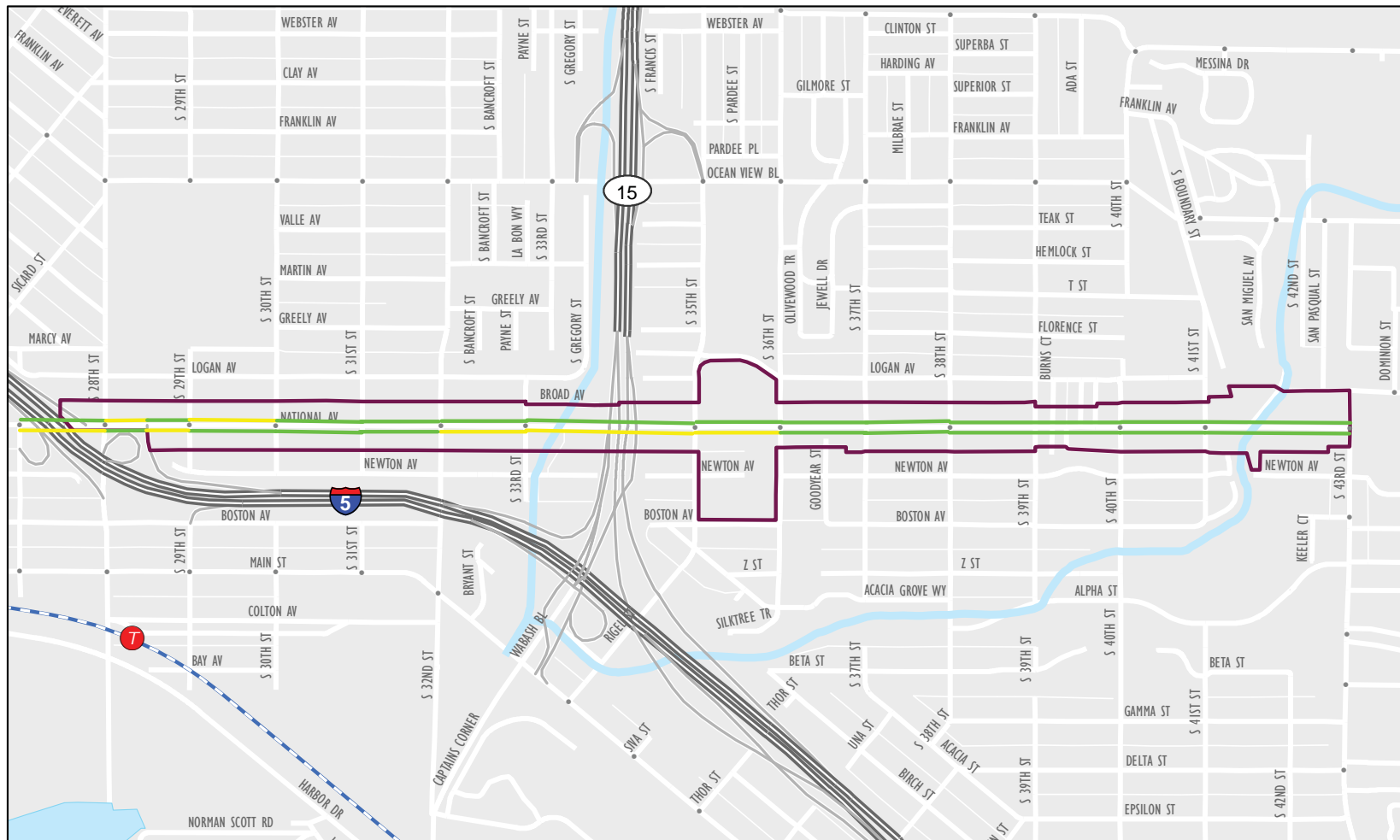
<i>National Avenue Roadway Segments</i>	<i>Eastbound</i>		<i>Westbound</i>	
	<i>LOS Score</i>	<i>Transit LOS</i>	<i>LOS Score</i>	<i>Transit LOS</i>
27 <sup>th</sup> Street to 28 <sup>th</sup> Street	3.54	D	2.95	C
28 <sup>th</sup> Street to I-5 NB Ramps	3.20	C	3.51	D
I-5 NB Ramps to 29 <sup>th</sup> Street	3.89	D	2.83	C
29 <sup>th</sup> Street to 30 <sup>th</sup> Street	2.90	C	3.61	D
30 <sup>th</sup> Street to 31 <sup>st</sup> Street	3.44	C	2.52	B
31 <sup>st</sup> Street to 32 <sup>nd</sup> Street	2.83	C	3.25	C
32 <sup>nd</sup> Street to 33 <sup>rd</sup> Street	3.53	D	3.25	C
33 <sup>rd</sup> Street to 35 <sup>th</sup> Street	3.55	D	2.53	B
35 <sup>th</sup> Street to 36 <sup>th</sup> Street	3.53	D	2.77	C
36 <sup>th</sup> Street to 37 <sup>th</sup> Street	2.87	C	3.07	C
37 <sup>th</sup> Street to 38 <sup>th</sup> Street	3.35	C	2.83	C
38 <sup>th</sup> Street to 39 <sup>th</sup> Street	2.91	C	2.54	B
39 <sup>th</sup> Street to 40 <sup>th</sup> Street	3.17	C	2.48	B
40 <sup>th</sup> Street to 41 <sup>st</sup> Street	3.22	C	2.81	C
41 <sup>st</sup> Street to 43 <sup>rd</sup> Street	2.90	C	3.00	C

1. Bold letter indicates unacceptable LOS E or F.  
Source: Fehr & Peers, April 2013.



**Figure 4-12: Existing Transit LOS (AM Peak)  
National Ave**

May 2013



- Transit Level of Service**
- A - C
  - D
  - E
  - F
- Blue Line Trolley
  - Project Area
  - T Trolley Station
  - Bus Stop



Source:  
City of San Diego (2012)

### III. appendix 4: mobility

Table 4-13 and Figure 4-13 display transit LOS in the Project Area under existing conditions during the PM peak hour. LOS calculation worksheets are provided in Appendix G (separate attachment).

As shown, transit riders traveling eastbound currently experience good service of LOS C or B along National Avenue, while the overall transit experience for patrons traveling westbound during the PM peak hour is considered fair (LOS C or D).

Based on field observations, transit vehicles experience limited delay and patrons have good access to existing transit stops during both AM and PM peak hours.

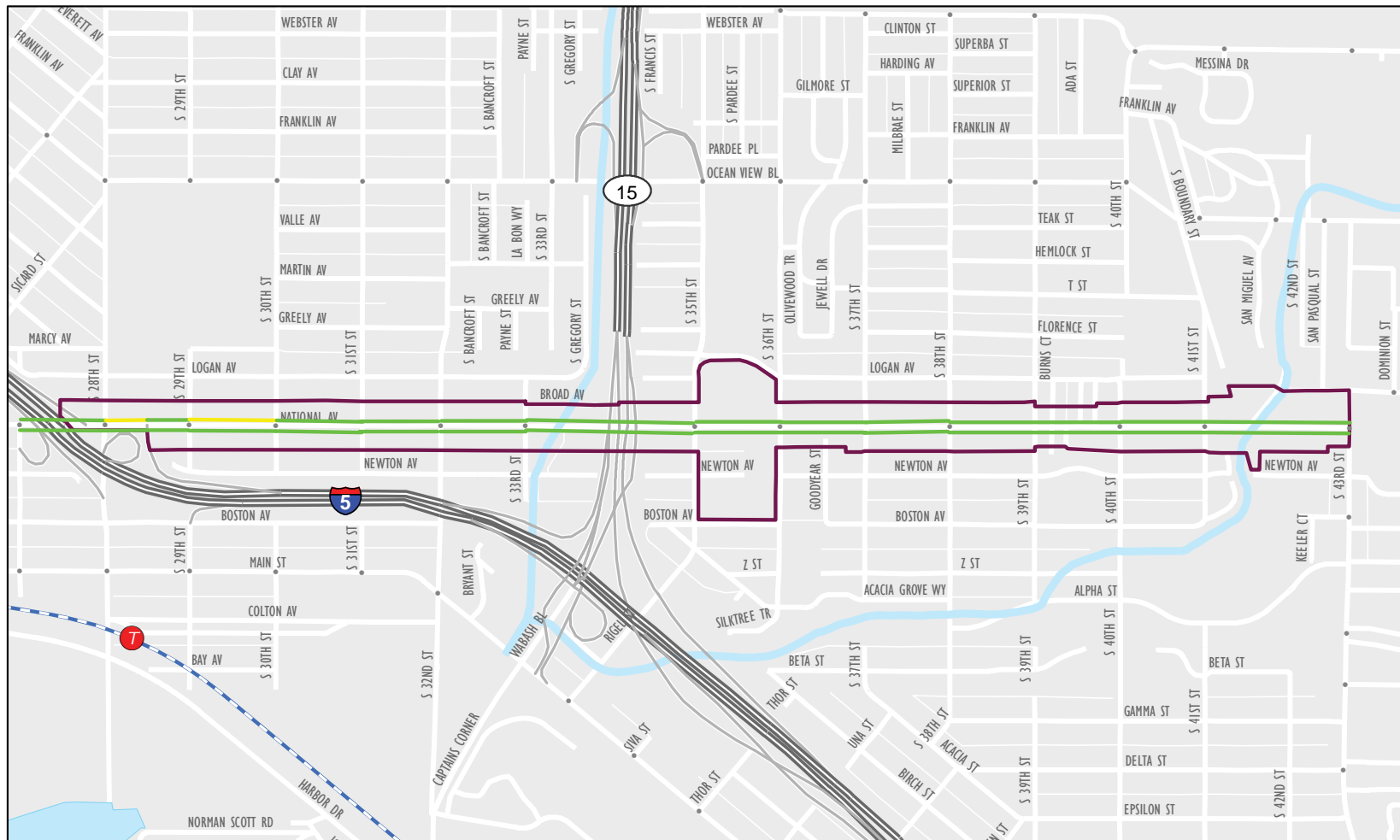
**Table 4-13: EXISTING TRANSIT PM PEAK HOUR LOS RESULTS**

<b>National Avenue Roadway Segments</b>	<b>Eastbound</b>		<b>Westbound</b>	
	<b>LOS Score</b>	<b>Transit LOS</b>	<b>LOS Score</b>	<b>Transit LOS</b>
27 <sup>th</sup> Street to 28 <sup>th</sup> Street	2.99	C	3.23	C
28 <sup>th</sup> Street to I-5 NB Ramps	2.55	B	3.74	D
I-5 NB Ramps to 29 <sup>th</sup> Street	3.46	C	3.03	C
29 <sup>th</sup> Street to 30 <sup>th</sup> Street	2.17	B	3.79	D
30 <sup>th</sup> Street to 31 <sup>st</sup> Street	2.93	C	2.76	C
31 <sup>st</sup> Street to 32 <sup>nd</sup> Street	2.16	B	3.47	C
32 <sup>nd</sup> Street to 33 <sup>rd</sup> Street	3.01	C	3.49	C
33 <sup>rd</sup> Street to 35 <sup>th</sup> Street	3.05	C	2.76	C
35 <sup>th</sup> Street to 36 <sup>th</sup> Street	3.04	C	3.23	C
36 <sup>th</sup> Street to 37 <sup>th</sup> Street	2.18	B	3.31	C
37 <sup>th</sup> Street to 38 <sup>th</sup> Street	2.83	C	3.43	C
38 <sup>th</sup> Street to 39 <sup>th</sup> Street	2.23	B	2.78	C
39 <sup>th</sup> Street to 40 <sup>th</sup> Street	2.57	B	2.79	C
40 <sup>th</sup> Street to 41 <sup>st</sup> Street	2.60	B	3.14	C
41 <sup>st</sup> Street to 43 <sup>rd</sup> Street	2.10	B	3.29	C

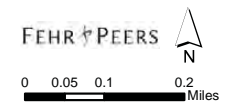
1. Bold letter indicates unacceptable LOS E or F.  
Source: Fehr & Peers, April 2013.

**Figure 4-13: Existing Transit LOS (PM Peak)  
National Ave**

May 2013



- Transit Level of Service**
- A - C
  - D
  - E
  - F
- Blue Line Trolley
  - Project Area
  - T Trolley Station
  - Bus Stop



Source:  
City of San Diego (2012)

III. appendix 4: mobility

BICYCLE LEVEL OF SERVICE

Table 4-14 displays Bicycle LOS in the Project Area under existing conditions during the AM Peak Hour. LOS calculation worksheets are provided in Appendix H (separate attachment). Figure 4-14 illustrates the Bicycle LOS for the National Avenue corridor.

As shown in Table 4-14, bicyclists often experience fair Levels of Service (C or D) when riding on segments along National Avenue during the AM peak hour.

**Table 4-14: EXISTING BICYCLE AM PEAK HOUR LOS RESULTS**

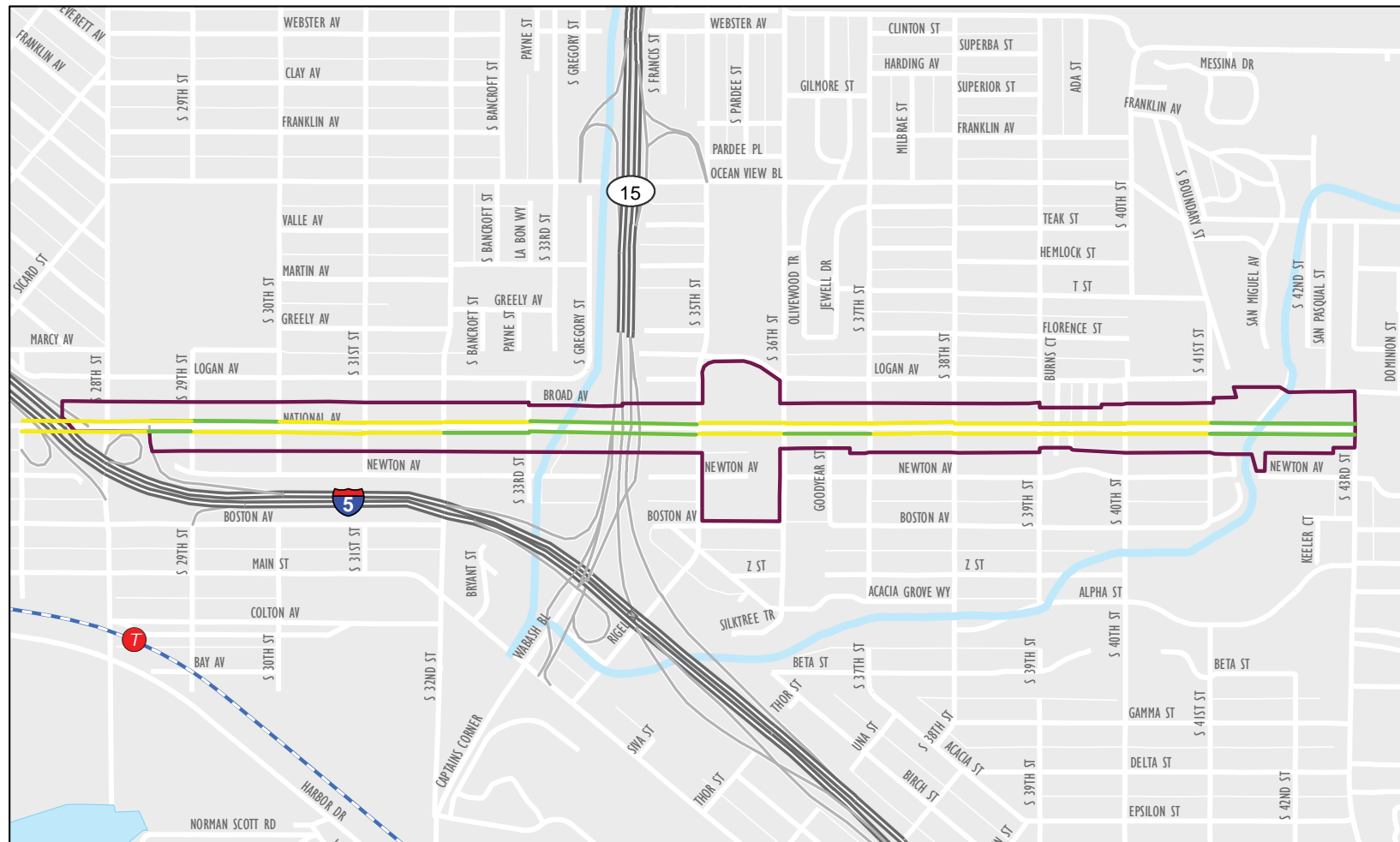
<b>National Avenue Roadway Segments</b>	<b>Eastbound</b>		<b>Westbound</b>	
	<b>LOS Score</b>	<b>Bicycle Segment LOS</b>	<b>LOS Score</b>	<b>Bicycle Segment LOS</b>
27 <sup>th</sup> Street to 28 <sup>th</sup> Street	3.51	D	3.65	D
28 <sup>th</sup> Street to I-5 NB Ramps	4.25	D	3.74	D
I-5 NB Ramps to 29 <sup>th</sup> Street	3.47	C	3.75	D
29 <sup>th</sup> Street to 30 <sup>th</sup> Street	3.85	D	3.39	C
30 <sup>th</sup> Street to 31 <sup>st</sup> Street	3.56	D	4.00	D
31 <sup>st</sup> Street to 32 <sup>nd</sup> Street	3.95	D	3.51	D
32 <sup>nd</sup> Street to 33 <sup>rd</sup> Street	3.43	C	3.66	D
33 <sup>rd</sup> Street to 35 <sup>th</sup> Street	3.34	C	3.34	C
35 <sup>th</sup> Street to 36 <sup>th</sup> Street	3.70	D	4.17	D
36 <sup>th</sup> Street to 37 <sup>th</sup> Street	3.47	C	3.80	D
37 <sup>th</sup> Street to 38 <sup>th</sup> Street	3.61	D	3.51	D
38 <sup>th</sup> Street to 39 <sup>th</sup> Street	3.62	D	3.77	D
39 <sup>th</sup> Street to 40 <sup>th</sup> Street	3.50	D	3.52	D
40 <sup>th</sup> Street to 41 <sup>st</sup> Street	3.52	D	3.60	D
41 <sup>st</sup> Street to 43 <sup>rd</sup> Street	3.43	C	3.37	C

1. Bold indicates unacceptable LOS E or F.

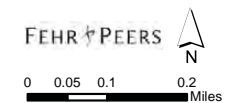
Source: Fehr & Peers, April 2013.

**Figure 4-14: Existing Bicycle LOS (AM Peak)  
National Ave**

May 2013



- Bicycle Level of Service**
- A - C
  - D
  - E
  - F
- Project Area
  - Trolley Station



Source:  
City of San Diego (2012)

### III. appendix 4: mobility

Table 4-15 displays Bicycle LOS in the Project Area under existing conditions during the PM Peak Hour. LOS calculation worksheets are provided in Appendix H (separate attachment). Figure 4-15 illustrates the Bicycle LOS for the National Avenue corridor.

As shown in Table 4-15, bicyclists often experience fair Levels of Service (C or D) when riding on segments along National Avenue during the PM peak hour. Bicyclists traveling eastbound along National Avenue between 28th Street and the I-5 ramps experience poor service conditions (LOS E) due to the due to the lack of designated bicycle facilities, lack of separation from traveling vehicles, relatively high vehicular traffic, and less than desirable pavement conditions.

**Table 4-15: EXISTING BICYCLE PM PEAK HOUR LOS RESULTS**

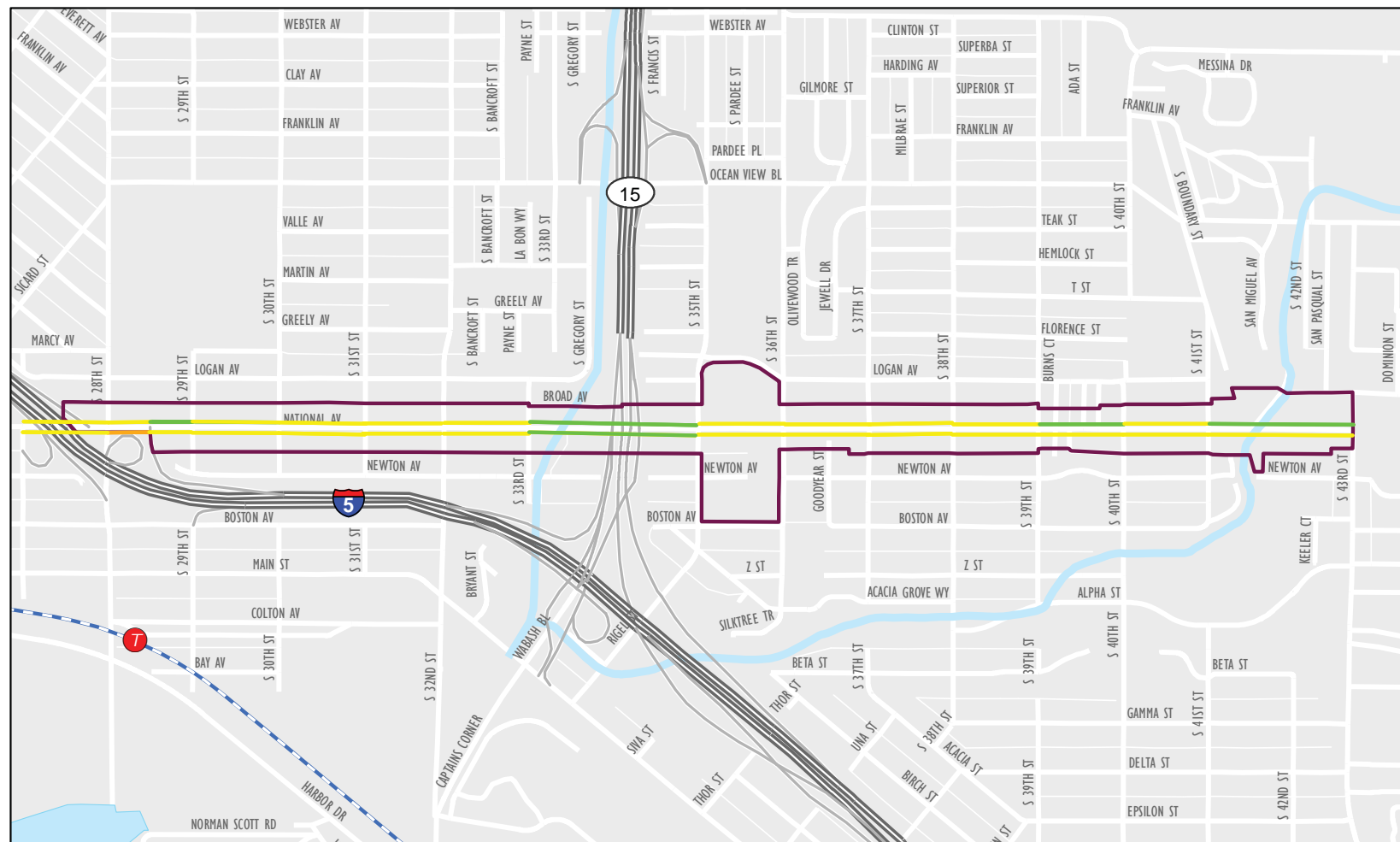
<i><b>National Avenue Roadway Segments</b></i>	<i><b>Eastbound</b></i>		<i><b>Westbound</b></i>	
	<i><b>LOS Score</b></i>	<i><b>Bicycle Segment LOS</b></i>	<i><b>LOS Score</b></i>	<i><b>Bicycle Segment LOS</b></i>
27 <sup>th</sup> Street to 28 <sup>th</sup> Street	3.62	D	3.64	D
28 <sup>th</sup> Street to I-5 NB Ramps	4.55	<b>E<sup>1</sup></b>	3.67	D
I-5 NB Ramps to 29 <sup>th</sup> Street	3.95	D	3.52	D
29 <sup>th</sup> Street to 30 <sup>th</sup> Street	4.07	D	3.42	C
30 <sup>th</sup> Street to 31 <sup>st</sup> Street	3.61	D	3.93	D
31 <sup>st</sup> Street to 32 <sup>nd</sup> Street	4.11	D	3.48	C
32 <sup>nd</sup> Street to 33 <sup>rd</sup> Street	3.53	D	3.61	D
33 <sup>rd</sup> Street to 35 <sup>th</sup> Street	3.47	C	3.33	C
35 <sup>th</sup> Street to 36 <sup>th</sup> Street	3.98	D	4.01	D
36 <sup>th</sup> Street to 37 <sup>th</sup> Street	3.55	D	3.63	D
37 <sup>th</sup> Street to 38 <sup>th</sup> Street	3.83	D	3.54	D
38 <sup>th</sup> Street to 39 <sup>th</sup> Street	3.70	D	3.67	D
39 <sup>th</sup> Street to 40 <sup>th</sup> Street	3.57	D	3.45	C
40 <sup>th</sup> Street to 41 <sup>st</sup> Street	3.62	D	3.52	D
41 <sup>st</sup> Street to 43 <sup>rd</sup> Street	3.54	D	3.36	C

2. Bold indicates unacceptable LOS E or F.

Source: Fehr & Peers, April 2013.

**Figure 4-15: Existing Bicycle LOS (PM Peak)  
National Ave**

May 2013



- Bicycle Level of Service**
- A - C
  - D
  - E
  - F
- Blue Line Trolley
  - Project Area
  - T Trolley Station



Source:  
City of San Diego (2012)

### III. appendix 4: mobility

#### PEDESTRIAN LEVEL OF SERVICE

Table 4-16 displays Pedestrian Segment LOS in the Project Area under existing conditions during the AM Peak Hour. LOS calculation worksheets are provided in Appendix I (separate attachment). Figure 4-16 illustrates the Pedestrian Segment LOS for the National Avenue corridor.

As shown in Table 4-16, pedestrians experience good levels of service (LOS C or better) when walking along both sides of National Avenue during the AM peak hour. The good levels of service along the corridor is a reflection of the corridor generally providing a sidewalk of approximately five feet wide and an additional four to five feet buffer of trees or landscape between the sidewalk and vehicular right-of-way. The presence of on-street parking along National Avenue also improved the pedestrian experience as it provides an additional buffer from roadway traffic.

**Table 4-16: EXISTING PEDESTRIAN SEGMENT AM PEAK HOUR LOS RESULTS**

<i><b>National Avenue Roadway Segments</b></i>	<i><b>Eastbound</b></i>		<i><b>Westbound</b></i>	
	<i><b>LOS Score</b></i>	<i><b>Pedestrian LOS</b></i>	<i><b>LOS Score</b></i>	<i><b>Pedestrian LOS</b></i>
27 <sup>th</sup> Street to 28 <sup>th</sup> Street	2.75	C	2.72	B
28 <sup>th</sup> Street to I-5 NB Ramps	2.47	B	2.61	C
I-5 NB Ramps to 29 <sup>th</sup> Street	2.72	B	2.47	B
29 <sup>th</sup> Street to 30 <sup>th</sup> Street	2.57	B	2.88	C
30 <sup>th</sup> Street to 31 <sup>st</sup> Street	2.47	B	2.69	B
31 <sup>st</sup> Street to 32 <sup>nd</sup> Street	1.95	A	2.80	C
32 <sup>nd</sup> Street to 33 <sup>rd</sup> Street	2.70	B	2.23	B
33 <sup>rd</sup> Street to 35 <sup>th</sup> Street	2.19	B	3.01	C
35 <sup>th</sup> Street to 36 <sup>th</sup> Street	2.50	B	2.56	B
36 <sup>th</sup> Street to 37 <sup>th</sup> Street	2.61	B	2.61	B
37 <sup>th</sup> Street to 38 <sup>th</sup> Street	2.21	B	3.02	C
38 <sup>th</sup> Street to 39 <sup>th</sup> Street	2.72	B	2.35	B
39 <sup>th</sup> Street to 40 <sup>th</sup> Street	2.59	B	2.90	C
40 <sup>th</sup> Street to 41 <sup>st</sup> Street	2.68	B	2.83	C
41 <sup>st</sup> Street to 43 <sup>rd</sup> Street	2.34	B	3.02	C

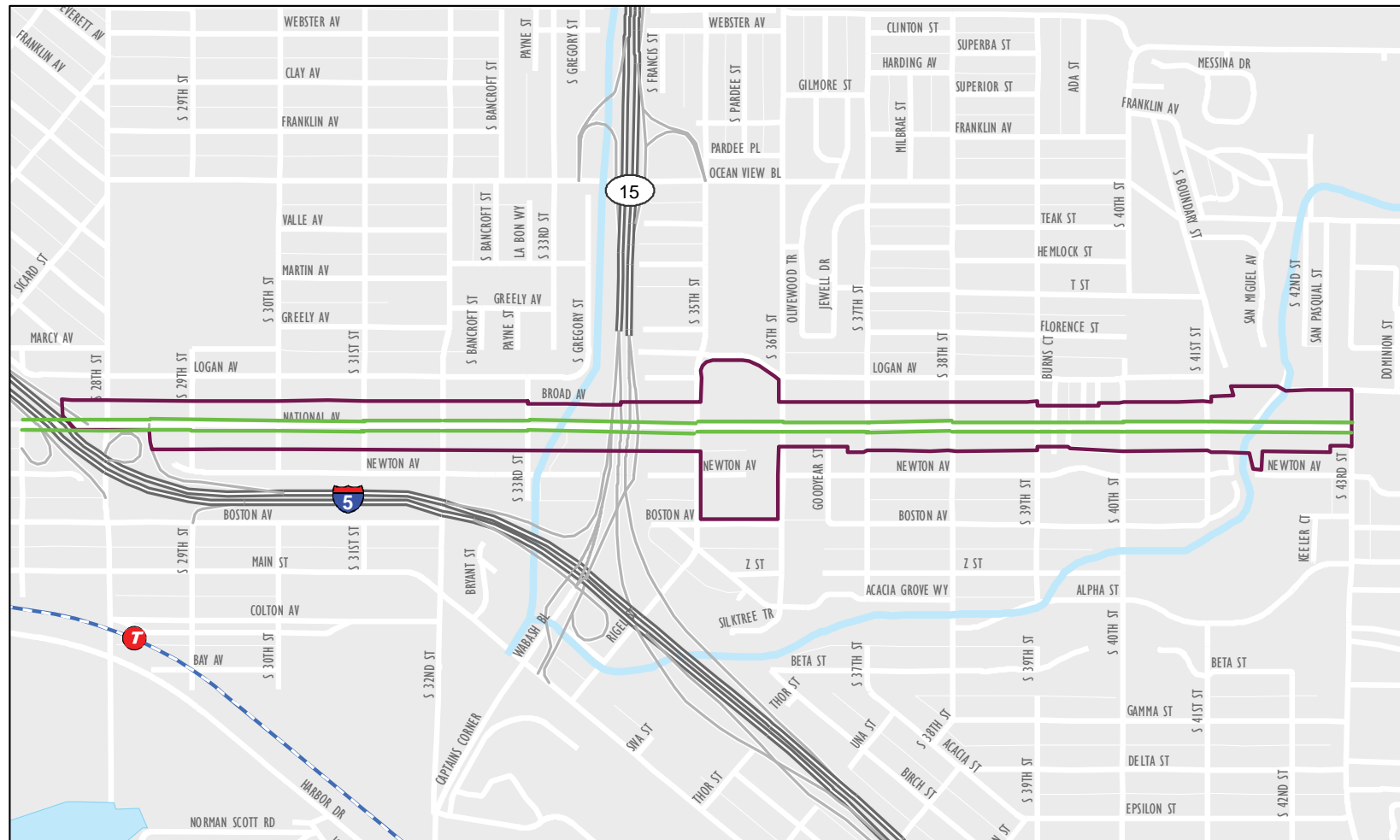
3. Bold indicates unacceptable LOS E or F.

Source: Fehr & Peers, April 2013.



**Figure 4-16: Existing Pedestrian LOS (AM Peak)  
National Ave**

April 2013



- Pedestrian Level of Service**
- A - C
  - D
  - E
  - F
- Project Area
  - Blue Line Trolley
  - Trolley Station



Source:  
City of San Diego (2012)

III. appendix 4: mobility

Table 4-17 displays the Pedestrian Segment LOS in the Project Area under existing conditions during the PM peak hour. LOS calculation worksheets are provided in Appendix I (separate attachment). Figure 4-14 illustrates the Pedestrian Segment LOS for the National Avenue corridor.

As shown in Table 4-17, pedestrians experience good levels of service (LOS C or better) when walking along both sides of National Avenue during the PM peak hour. The good levels of service along the corridor is a reflection of the corridor generally providing a sidewalk of approximately five feet wide and an additional four to five feet buffer of trees or landscape between the sidewalk and vehicular right-of-way. The presence of on-street parking along National Avenue also improved the pedestrian experience as it provides an additional buffer from roadway traffic.

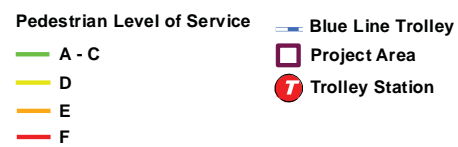
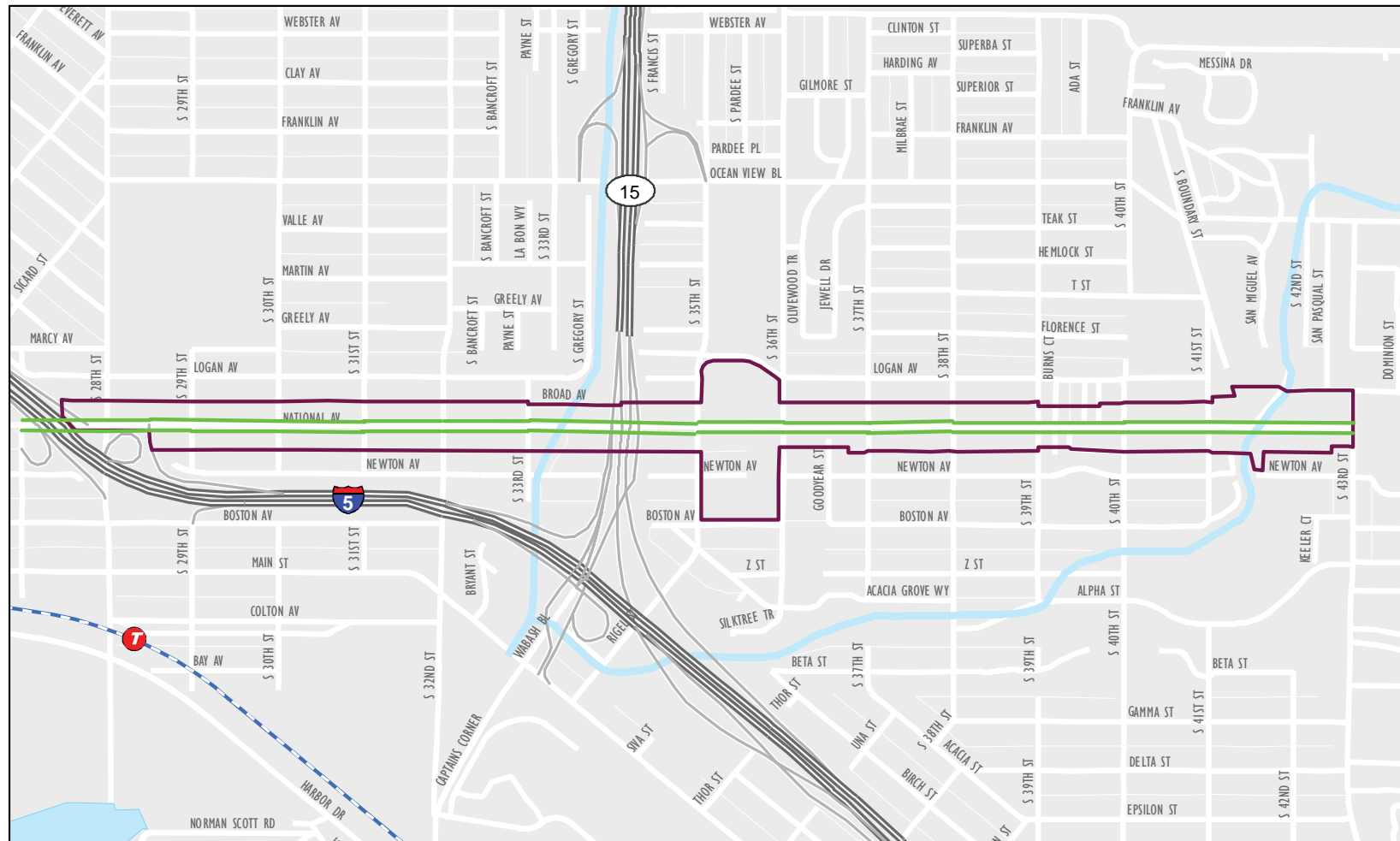
**Table 4-17: EXISTING PEDESTRIAN SEGMENT PM PEAK HOUR LOS RESULTS**

<i><b>National Avenue Roadway Segments</b></i>	<i><b>Eastbound</b></i>		<i><b>Westbound</b></i>	
	<i><b>LOS Score</b></i>	<i><b>Pedestrian LOS</b></i>	<i><b>LOS Score</b></i>	<i><b>Pedestrian LOS</b></i>
27 <sup>th</sup> Street to 28 <sup>th</sup> Street	2.83	C	2.71	B
28 <sup>th</sup> Street to I-5 NB Ramps	2.52	B	2.53	B
I-5 NB Ramps to 29 <sup>th</sup> Street	2.88	C	2.35	B
29 <sup>th</sup> Street to 30 <sup>th</sup> Street	2.73	B	2.63	B
30 <sup>th</sup> Street to 31 <sup>st</sup> Street	2.72	B	2.65	B
31 <sup>st</sup> Street to 32 <sup>nd</sup> Street	2.08	B	2.56	B
32 <sup>nd</sup> Street to 33 <sup>rd</sup> Street	2.91	C	2.07	B
33 <sup>rd</sup> Street to 35 <sup>th</sup> Street	2.29	B	2.78	C
35 <sup>th</sup> Street to 36 <sup>th</sup> Street	2.64	B	2.12	B
36 <sup>th</sup> Street to 37 <sup>th</sup> Street	2.94	C	2.48	B
37 <sup>th</sup> Street to 38 <sup>th</sup> Street	2.36	B	2.65	B
38 <sup>th</sup> Street to 39 <sup>th</sup> Street	3.06	C	2.22	B
39 <sup>th</sup> Street to 40 <sup>th</sup> Street	2.88	B	2.76	C
40 <sup>th</sup> Street to 41 <sup>st</sup> Street	2.93	C	2.72	B
41 <sup>st</sup> Street to 43 <sup>rd</sup> Street	2.40	B	2.82	C

1. Bold indicates unacceptable LOS E or F.  
Source: Fehr & Peers, April 2013.

**Figure 4-17: Existing Pedestrian LOS (PM Peak)  
National Ave**

April 2013



Source:  
City of San Diego (2012)

**APPENDIX 5: SITE IMAGES**



*Typical National Avenue corridor section*



*Bicyclist avoids riding on the street*



*Example of commercial development along National Avenue*



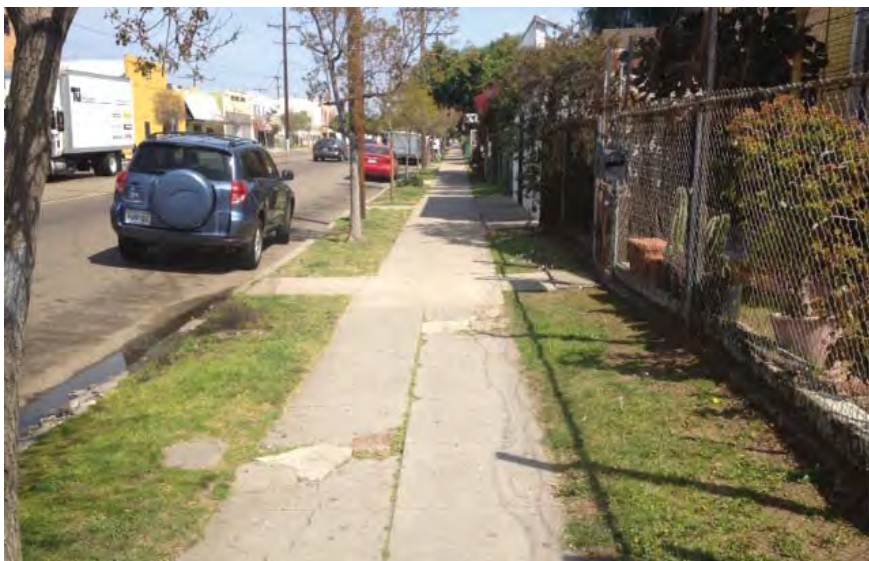
*View west on National Avenue, with SR-15 overpass in sight*



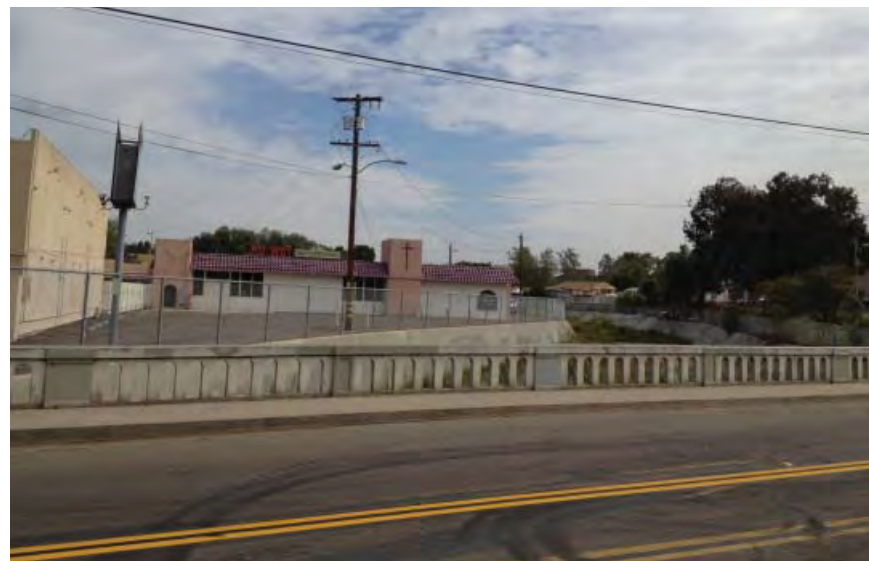
*Area below SR-15 presents a potential open space opportunity*



*View along industrial area just west of SR-15 overpass*

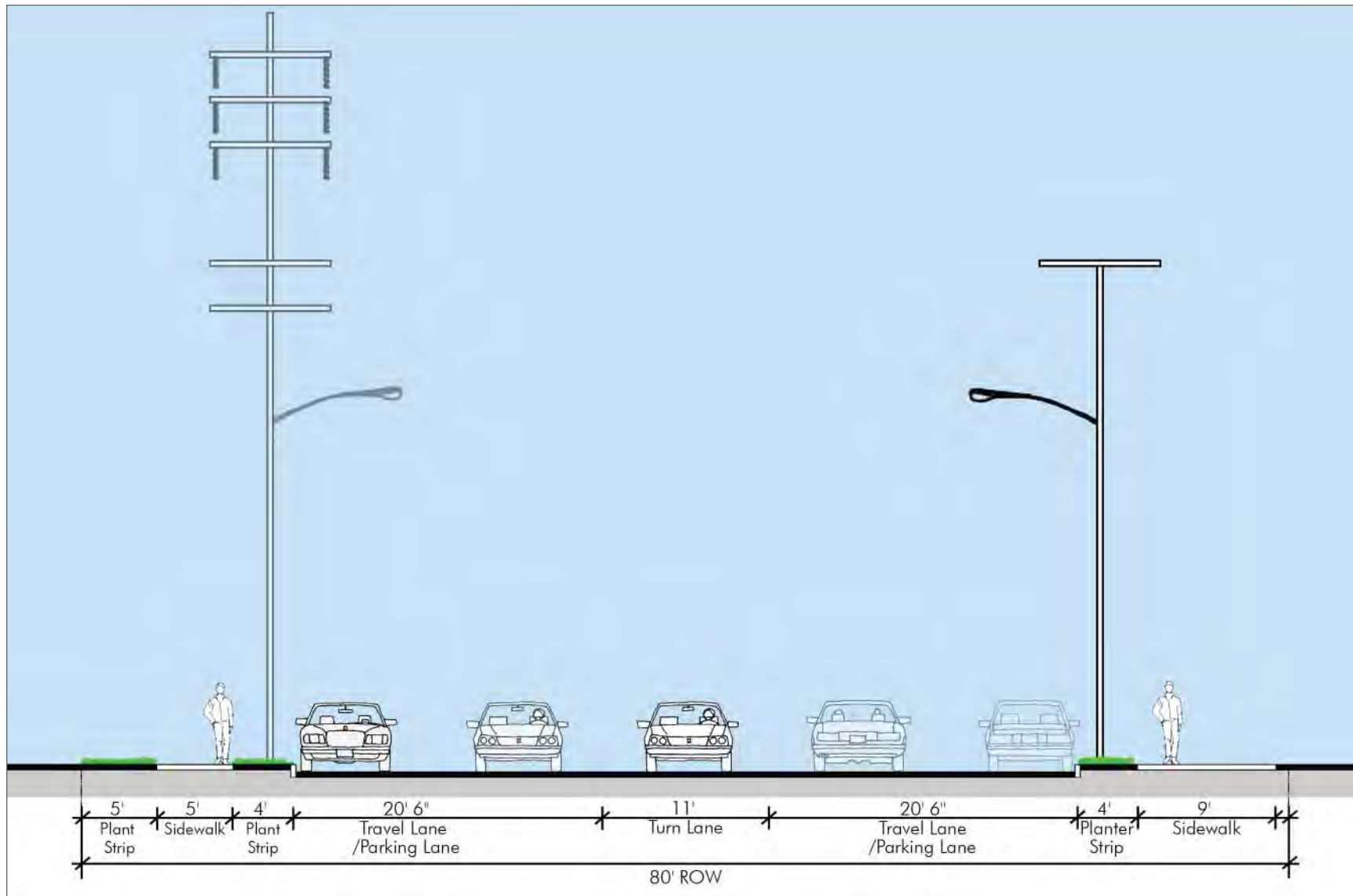


*Typical sidewalk condition along National Avenue*



*Bridge over Chollas Creek (right), which is channelized in the project area*

### APPENDIX 6: STREET SECTION - EXISTING CONDITIONS



*Prototypical Section for National Avenue: Existing Condition*

