Downtown San Diego Mobility Plan







June 2016

The City of SAN DIEGO

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1 Introduction

City centers across the nation are experiencing revival and renaissance. Urbanized communities are becoming increasingly desirable, with more people showing interest in living and working in locations with a variety of mobility, cultural, entertainment, employment, and housing options. A combination of transportation strategies is needed to accommodate these shifting attitudes and accompanying influx of residents, employees, and visitors to urbanized areas – even more so in downtown areas already experiencing high concentrations of residential and employment populations.



The Downtown San Diego Mobility Plan ("Mobility Plan") presents a balanced, multimodal long-range plan for transportation, setting the stage for Downtown San Diego ("Downtown") to become a world-class urban center that both accommodates high quality urban living for its residents and workers and attracts visitors from across the nation and world.

With these trends in mind, Civic San Diego and the City of San Diego are committed to a vision for Downtown that supports a lifestyle where active transportation options, specifically walking and bicycling, are comfortable, safe and fun.

DOWNTOWN MOBILITY VISION

An integrated transportation network of Greenways, sidewalks, bikeways, transit services, roadways and freeways that provides for the safety of all travelers – including the elderly, youth and disabled – both within Downtown and to surrounding communities. It is a transportation network that provides convenient access to valuable community resources such as employment centers, parks and the waterfront, cultural and entertainment attractions, and civic uses. It is a transportation network that supports community health and well-being, promotes a strong economy, and also builds social capital.

The Mobility Plan emphasizes the development of active transportation networks and the improvement of the walking and cycling environments, as these modes are not as advanced as transit and auto networks in terms of safe, quality facilities. In addition, the City of San Diego has authority over these active transportation facilities while it does not operate transit services within the city.

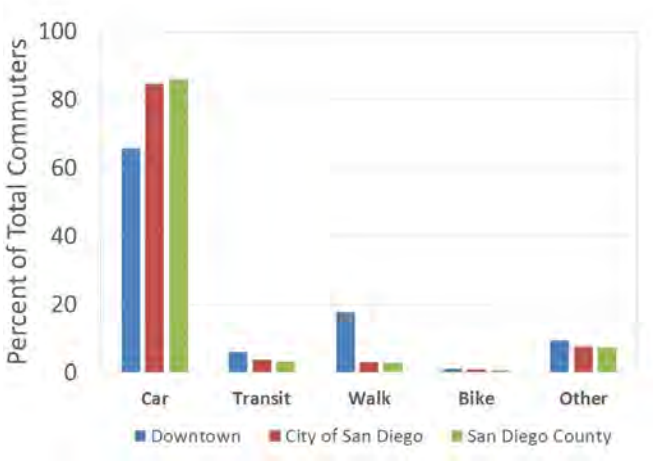
The development of active transportation facilities will involve the repurposing of Downtown's roadways with landscaping and greenery, providing streets where pedestrians and cyclists feel safe, and integrating a strong network of protected bikeways so that bicycle travel becomes a true option for the majority of residents and visitors. Taken together, implementation of this Plan promises to transform Downtown into a healthier, greener, economically vibrant city center with far-reaching attraction.

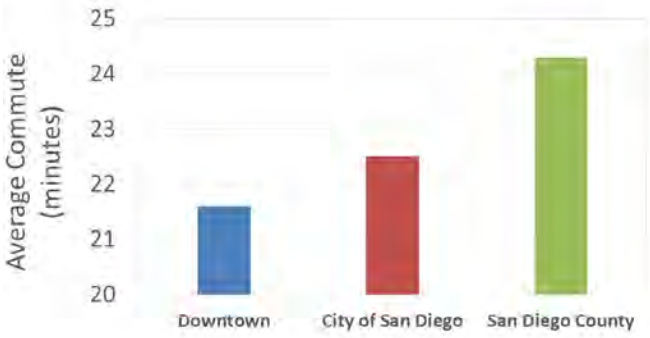
1.1 Downtown Travel Context

Downtown is unique compared to other communities in the San Diego region in terms of its mix, intensity, and concentration of land uses. These characteristics in turn create travel demands not experienced elsewhere in the region, supporting the need for a "complete streets" approach to mobility planning that accommodates and balances all travel modes.

When compared to the City of San Diego and the County of San Diego, Downtown residents report a relatively low rate of commuting by car. Downtown residents report much higher walking commute rates (17.7%) than the City of San Diego (2.9%) and the County (2.7%) and slightly higher cycling levels. The share of transit commuters is also higher in Downtown (6.1%) when compared to the City (3.9%) and the County (3.1%).

Notably, these data depict commuters traveling to work and do not reflect school commuters or other non-work trips. In addition to commute mode differences, average commute times vary between these three geographies, with average Downtown commute travel times over 12% less than the County average[1].





1.2 Regulatory Context

Statewide and local legislative trends of the past decade create a sense of urgency for this Plan. Significant trends toward multimodalism reflect a notable shift and are important background for this planning process.

Recent State Legislative Actions

The State of California is in the midst of a radical transformation that will forever change transportation planning, and more importantly, how future generations travel across the state.

In 2006, AB 32 introduced mandatory GHG emission reduction requirements, which was followed by the Complete Streets Act in 2008, requiring cities and counties to plan multimodal transportation networks that consider all travel modes and users. SB 743 modified the existing California Environmental Quality Act (CEQA) by removing auto delay, level of service (LOS), parking

[1] 2012 American Community Survey 5-Year Estimates.

and other vehicular capacity measures as metrics of transportation system impacts to mixed-use, infill, or transit oriented development projects. More recently, in 2014, Caltrans formally endorsed the National Association of City Transportation Officials' (NACTO) guidelines which include innovative bicycle facilities and pedestrian walkways, as part of an effort to provide flexibility in potential active travel infrastructure and to increase the sustainability of California's transportation system. These changes reflect a continued shift in California's transportation-related institutional foundation that promises to create healthier, cleaner, lower-resource consuming, and better connected communities.

Regional and Local Regulatory Changes

The state level legislative shifts have resulted in increased funding for active transportation related projects and programs. In 2014, SANDAG adopted the Regional Complete Streets Policy, as a means of encouraging the development of a regional transportation system that is safe, useful and attractive for motorists, pedestrians, bicyclists, transit users, and freight movement. This policy complements the existing regional planning framework based on smart growth and sustainability, and provides a regional level response to the State's adoption of AB 1358.

The State's Active Transportation Program, established in 2013 with the adoption of SB 99, made over $13 million dollars available for SANDAG to distribute throughout the region over the course of three years. Additionally, SANDAG established the regional Active Transportation Working Group in 2013 to provide input on regional active transportation policy, planning and implementation activities.

In 2013 the San Diego region experienced a historic financial commitment when the SANDAG Board of Directors approved the Regional Bike Plan Early Action Program – a $200 million initiative to expand the regional bike network and complete high-priority projects within a decade.



The City of San Diego adopted the Climate Action Plan (CAP) in December 2015 to identify effective measures for meeting greenhouse gas (GHG) emission reduction targets set for 2020 and 2035. One of the CAP's key strategies is to increase cycling, walking, and rapid transit users, and improve accessibility for vulnerable groups, such as children, the elderly, people with disabilities, and the economically disadvantaged.

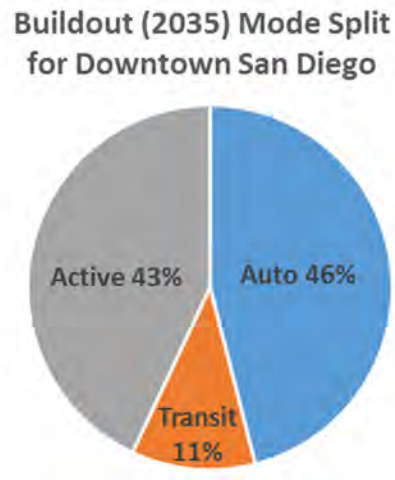
CLIMATE ACTION PLAN TARGETS

Some of the CAP's targets include the following:

- Achieve mass transit mode share of 12% by 2020 and 25% by 2035 in Transit Priority Areas.
- Achieve walking commuter mode share of 3% by 2020 and 7% by 2035 in Transit Priority Areas.
- Achieve 6% bicycle commuter mode share by 2020 and 18% mode share by 2035 in Transit Priority Areas.
- Reduce average vehicle commute distance by two miles through implementation of the General Plan City of Villages Strategy by 2035.

The CAP also recognizes the importance of coordinated land use and transportation planning, acknowledging that community design factors into transportation choices. The CAP strategies closely align with the broader complete streets philosophy as well as the Downtown Mobility Plan vision.

The charts below serve to compare the forecast buildout mode share (2035) for the Downtown Mobility Plan to the 2035 CAP mode share targets for Transit Priority Areas. As shown, the forecast auto mode share for Downtown San Diego of 46% is closely aligned with the CAP auto mode share target of 50%.





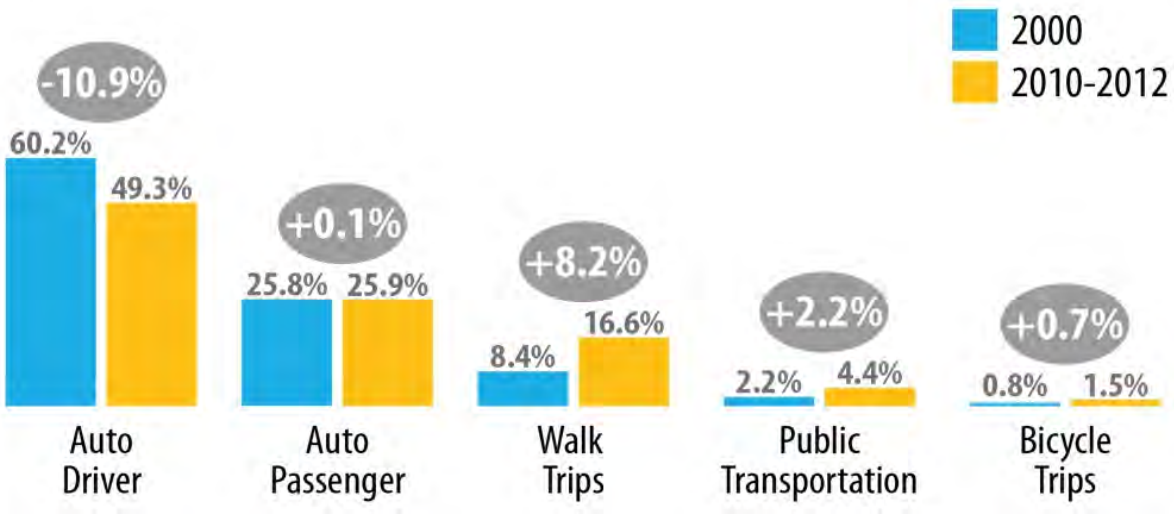
Additionally, the 43% forecast active transportation mode share for Downtown San Diego is much higher than the CAP Transit Priority Area target of 25%. Transit improvements are beyond the scope of the Mobility Plan. Public transportation infrastructure is planned, engineered, and built by SANDAG, and operated by MTS, NCTD, and Amtrak. The Mobility Plan incorporates the improvements identified in San Diego Forward The Regional Plan, resulting in a forecast buildout transit mode share of 11%.

The dense concentration of residential and employment-related land uses, combined with infrastructure improvements, will enable Downtown San Diego to make great strides towards achieving the targets set forth in the adopted CAP.

Taken together, these regulatory changes at the state, regional, and local levels show strong evidence of growing support for shifting how we travel, for re-purposing local roadways to accommodate modes other than cars, and to increase the overall health of our communities by making them desirable for walking and cycling.

The 2013 California addendum to the 2009 National Household Travel Survey (CA-NHTS) reported that the share of 2010-2012 daily trips made by walking, public transportation and bicycling have each doubled since 2000. The gains made by these three modes, a combined total of about 11%, parallels the rate of decline in auto trip shares – from 60.2% in 2000 to 49.3% in 2012.

Statewide Comparison of Mode Distribution (2010 – 2012 and 2000)



Source: 2010 – 2012 California Household Travel Survey Final Report

1.3 Active Travel Trends & Health Outcomes

Travel patterns in California have followed federal, state, regional and local investments. Over the three decades from 1960 to 1990, investments were focused on roadways and highways and consequently driving is the primary mode of travel. Since 2000, transportation funding is becoming more flexible with expanding investments in multimodal facilities and shifts in travel shares.

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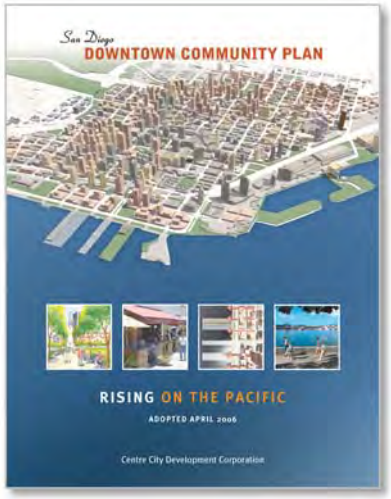
Mode choice also has significant health implications. The way we choose to travel has subsequent health effects on individuals and surrounding communities. Individuals are positively affected by the physical activity benefits of walking and biking, and can be adversely affected by stress and time spent sedentary in long vehicle commutes. In addition, air and noise emissions from motor vehicles create conditions that put people at risk for multiple negative health outcomes.

1.4 Downtown San Diego Plans

This section describes previous Downtown planning efforts. Relevant citywide, regional, and adjacent community planning documents are discussed in Appendix A. These planning efforts provide important context for the development of the Mobility Plan.

Downtown Community Plan (2006)

This document proposes planned mobility improvements for Downtown, as well as for several roadways connecting to surrounding communities. An amendment to the Downtown Community Plan will accompany the adoption of the Mobility Plan to include a new Mobility Chapter, replacing the existing Transportation Chapter. The Community Plan promotes reconfiguring streets where feasible in residential neighborhoods and in neighborhood centers to accommodate diagonal parking, widen sidewalks, and improve pedestrian and bicycle safety. It also promotes improving Broadway to reflect its status as Downtown's principal boulevard.



The Community Plan sets forth several mobility goals that are relevant to this Downtown San Diego Mobility Plan:

Pedestrian and Bicycle Movement:

- Develop a cohesive and attractive walking and bicycle system within Downtown that provides linkages within the area and to surrounding neighborhoods.
- Facilitate development of mixed-use neighborhoods, with open spaces, services, and retail within convenient walking distance of residents, to maximize opportunities for walking.

Transit System:

- Provide land uses to support a flexible, fast, frequent, and safe transit system that provides connections within Downtown and beyond.
- Increase transit use among Downtown residents, workers, and visitors.

Street System:

- Develop street typology based on functional and urban design considerations, emphasizing connections and linkages, pedestrian and cyclist comfort, transit movement, and compatibility with adjacent land uses.
- Maintain, re-establish, and enhance the street grid to promote flexibility of movement, preserve and/or open view corridors, and retain the historic scale of the streets.

Another important goal of the plan is to re-connect Downtown to the surrounding neighborhoods. The Plan encourages re-dedication of Park Boulevard as a pedestrian corridor and green street to provide the "Park-to-Bay" connection. The Plan also promotes evaluation of removing the Cedar Street off-ramp, and switching Cedar Street from one-way to two-way traffic to improve pedestrian safety and re-establish the historic connection between Balboa Park, Cortez, Little Italy, and the waterfront. Another way the plan promotes connecting Downtown to Balboa Park is through a local shuttle service. There are also regional connections for bicycle mobility such as the San Diego Bayshore Bikeway.

Downtown Public Open Space Implementation Plan Effort (2012)

This planning effort proposed a vision for open spaces in the community emphasizing Downtown's value as the center of the City and its street network as a crucial component of the public realm. The planning effort encouraged using park equivalencies and joint-use spaces to meet acreage deficits and converting traffic and parking space into open space opportunities.



A network of pedestrian promenades, specifically along Cedar Street, E Street, Island Avenue, Union Street, 8th Avenue, and 14th Street were proposed to connect Downtown's open spaces and create unique, attractive corridors for pedestrians.

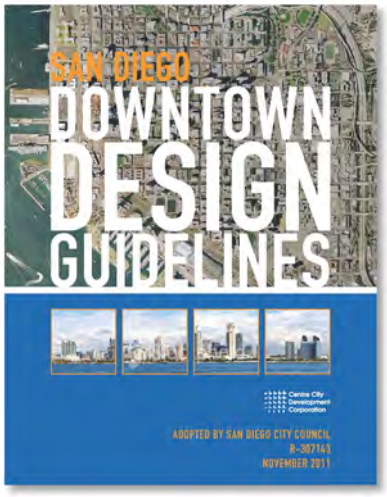
Significant public input was collected and policies developed, however, the planning effort was suspended and never officially adopted although key goals and policies embraced by the community are incorporated into this plan. Key strategies identified during this planning process include the following:

- The re-utilization of existing public rights-of-way for open space opportunities, and
- Creating a series of linear park promenades along the Downtown Community Plan designated green streets connecting existing and proposed public parks.

The planning effort was suspended due to the loss of funding associated with the dissolution of redevelopment agencies by the State; however, these key ideas which continue to be supported by the public are being incorporated into the Mobility Plan.

Downtown Design Guidelines (2011)

This document helps implement the guidelines and principles of the Downtown Community Plan and provides guidance to further enhance the natural beauty, physical character, and livability of Downtown. Chapter 2, the Urban Design Framework, establishes an image for Downtown emphasizing a legible hierarchy of street corridors and pathways and a clear network of linkages between Downtown districts and neighborhoods. The Urban Design Framework also focuses on the public realm, including streets, sidewalks, parks, and plazas where public life takes place. Figures 2-1 through 2-3 of the document display the overall urban design framework, including the street hierarchy and linkages.



Comprehensive Parking Plan for Downtown San Diego (2009)

This document provides guidance and implementation tools for parking strategies addressing parking infrastructure, supply, demand, policy requirements, and management. The Plan anticipates that new development in Downtown will add parking supply but there will be parking deficiencies in the neighborhoods of East Village, Little Italy, Cortez Hill, and Columbia between the years 2015 and 2030. The neighborhoods of Marina and Civic Core could also experience deficiencies by 2030. The Plan promotes the implementation of demand management strategies to reduce parking demand in Downtown and its surrounding communities when parking reaches 85% of capacity. Strategies include using incentives to promote transit use and non-vehicular modes of travel.

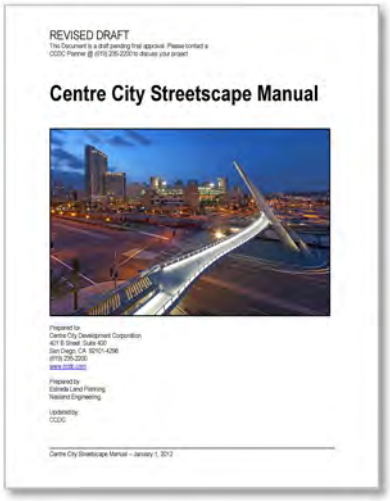


Other strategies encourage the minimum 85% utilization of all parking spaces, as well as policies for shared parking and uncoupling parking spaces reserved for single uses.

Centre City Streetscape Manual (1992 – Updated through 2012)

This document provides guidance for improving the functionality and aesthetic quality of Downtown through a streetscape improvement program. The Manual requires construction of improvements that enhance the quality of the pedestrian environment focusing on safety, convenience, and encouraging walking. The neighborhoods should have their own character through the use of street trees, sidewalk paving, and street lighting in the public right-of-way.

The Manual also classifies each Downtown street as a Neighborhood Street, Special Street, Gateway Street, or Ceremonial Street based on the associated land uses, architecture, scale, and vehicular traffic along those streets.



1.5 Planning Process

A four-phased planning process was employed for the Mobility Plan as depicted in the flow chart on the following page. The four phases include Existing Conditions Assessments (in orange), Developing Recommendations (in light blue), Plan Development and Implementation Strategies (in dark blue), and Environmental Analysis (in green). Each of these phases is discussed below.

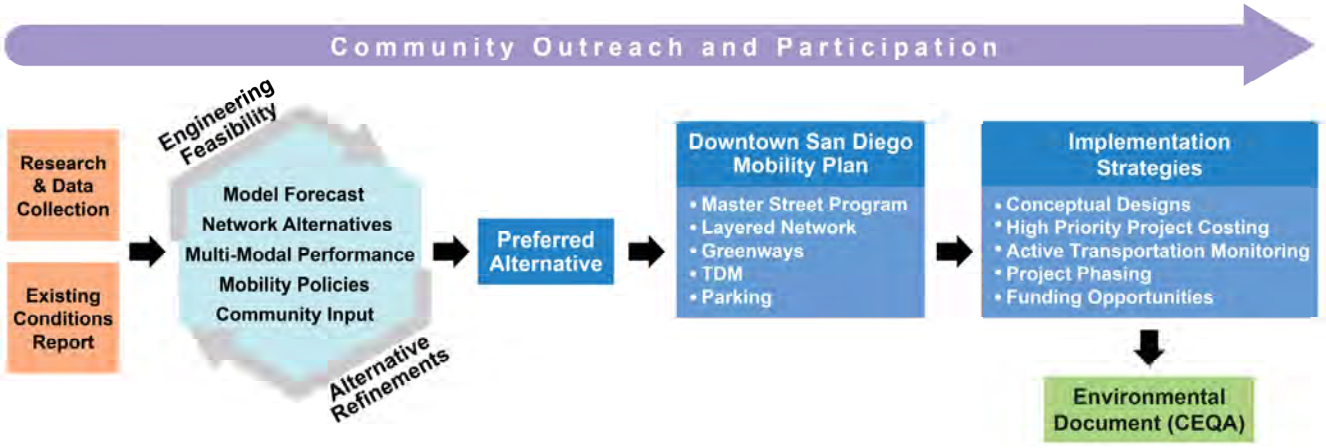
Existing Conditions Assessments: A comprehensive existing conditions report was prepared for Downtown addressing pedestrian, cycling, transit and vehicular systems and associated travel behaviors. Travel demands, deficiencies, opportunities and constraints were extensively documented for each mode. The data collection and analysis was complimented with community outreach, including stakeholder interviews, meetings with a Technical Advisory Group (TAG) consisting of SANDAG, MTS, City of San Diego and Civic San Diego staff, a public workshop, on-the-street surveying, and online surveying.

Developing Recommendations: This phase of the planning process focused on identifying and crafting a vision for overall mobility in Downtown, and then developing policy language and mobility network recommendations that would help achieve this vision. This phase was again supported by significant community involvement, TAG input, and City and Civic San Diego staff review.

A key planning strategy employed for network development included the overlaying of mode-specific networks to create a "layered network" that would promise strong connectivity throughout Downtown neighborhoods, and between Downtown and adjacent neighborhoods, for all types of travelers.

Plan Development and Implementation Strategies: Once a preferred network for Downtown – addressing all modes of travel – was agreed upon and thoroughly vetted with community members, stakeholders, the TAG, and City and Civic San Diego staff, the plan document was initiated. The plan document includes a chapter related to complete streets, and then individual chapters for each mode. The chapters were structured to present a summary of existing conditions and issues, policy language, and plan proposals. Implementation strategies were developed to identify key funding and regulatory mechanisms for bringing the plan to fruition over time and for identifying high priority projects with conceptual designs.

Environmental Analysis: A Supplemental Environmental Impact Report was prepared to provide CEQA clearance for the Plan. The City as the Lead Agency working with Civic San Diego, determined that the Mobility Plan required the preparation of a SEIR in compliance with CEQA. The Mobility Plan amends the 2006 Downtown Community Plan and replaces the existing Transportation Chapter with a new Mobility Chapter. The SEIR analyzed the potential environmental impacts of the proposed Plan as compared to the approved Downtown Community Plan for specific issue areas such as land use and planning, transportation, greenhouse gas emissions, air quality, noise, and hydrology/water quality. The Draft SEIR was circulated for public review. The comments received during the public review period, and responses, were incorporated into the Final SEIR before being considered by the City Council.



1.6 Plan Organization

Following this introductory Chapter, the remainder of the Mobility Plan is organized as follows:

Chapter 2 presents efforts made to engage community members and key stakeholders throughout the plan's preparation, and describes how their input shaped the overall project approach and vision of the Mobility Plan.

Chapter 3 describes the Downtown vision and the incorporation of complete streets into the Mobility Plan, presenting the approach to defining the network and the assigned street typologies. The Chapter concludes with a set of complete streets goals and policies, which closely follow the vision, and set the tone for the proceeding mode-specific chapters.

Chapter 4 summarizes the existing pedestrian conditions and introduces the goals and policies related to pedestrian movement. The Chapter concludes by introducing the proposed Greenways network and provides a description of the defining characteristics of a Greenway.

Chapter 5 addresses the bicycling mode, presenting a summary of existing conditions and introduces the goals and policies. Chapter 5 also presents the proposed bicycle network, identifying the different bicycle facility types. The Chapter also includes a cycle track network map figure, distinguishing between one- and two-way cycle tracks.

Chapter 6 describes existing transit conditions and introduces transit related goals and policies. Chapter 6 also presents the proposed Transitways, identifying corridors where transit and transit users are prioritized.

Chapter 7 presents existing conditions and goals and policies related to the street system. The Autoways network is presented, identifying corridors where vehicular efficiency should be emphasized while also considering safety. The Chapter also identifies one-way street segments proposed for conversion to two-way travel to provide for increased vehicular mobility.

Chapter 8 discusses existing Transportation Demand Management (TDM) programs, goals and policies related to TDM. This Chapter also includes TDM recommendations related to active transportation, such as wayfinding, bike parking, bike sharing, Open Streets events and community education, as well as conventional TDM strategies, including public transit, ridesharing, carsharing, parking, and flexible work schedules.

Chapter 9 presents goals and policies related to parking and identifies the existing parking management programs. Chapter 9 concludes with recommended parking strategies to consider for the future, including shared public parking facilities,

advertising, enhanced bicycle and pedestrian facilities, shared parking agreements, dynamic message signs, dynamic pricing, and enhanced parking enforcement.

Chapter 10 introduces the goals and policies related to Intelligent Transportation Systems (ITS) which aim to utilize technology to maximize the efficiency and effectiveness of multimodal transportation systems.

Chapter 11 presents the goals and policies associated with the Airports, Passenger Rail, and Goods Movement in the region, within the Downtown context.

Chapter 12 introduces the goals and policies related to Storm Water runoff and provides a summary of the City of San Diego Storm Water Standards and how the Mobility Plan fits within the standards.

The concluding *Chapter 13* is focused on plan implementation and potential funding opportunities. This Chapter presents conceptual designs for the recommendations set forth in the Downtown Mobility Plan and provides strategies that may assist with implementation.

2 Community Involvement

Throughout the planning process, community involvement played a critical role in shaping the overall project approach and vision of the Mobility Plan. Civic San Diego and the project team conducted a multi-pronged approach to engaging community members and key stakeholders during the planning process to ensure a wide range of visions, issues, opportunities and priorities informed development of the plan. Residents, businesses, property owners, tenants, visitors, and employees of Downtown businesses were provided the opportunity to participate in a variety of community involvement activities, including Stakeholder Interviews, On-the-Street Outreach Survey, Community Workshops, Public Scoping Meeting, and a Project Website.

This Chapter provides a summary of each activity and the key findings. More detailed summaries are available from Civic San Diego (www.civicsd.com).

2.1 Stakeholder Interviews

Civic San Diego identified and invited key stakeholders to meet in small groups (approximately 8-12 people each) to discuss the project. The groups and interviews summarized in this document include the following:

- City of San Diego Planning Department, Tuesday, March 25, 2014
- Active Transportation Advocates, Thursday, March 27, 2014
- Downtown Neighborhood Groups, Wednesday, April 9, 2014
- Downtown Partnership Planning and Policy Committee, April 10, 2014
- Downtown Community Planning Council Subcommittee, April 10, 2014
- Upper East Village Developers/Property Owners, April 11, 2014



Separately, Civic San Diego project team members engaged additional key stakeholders in informal discussions including public safety representatives, urban design and planning groups, and land developers.

Key Findings

Key findings from the stakeholder interviews are presented in **Table 2-1**.

Table 2-1 Stakeholder Interview Key Findings

Visions

Destinations are connected.
All modes are supported in a layered network.
New and existing places are activated in the public and private realms.
Best practices and creative designs apply new solutions.
Mobility and land use planning are linked and mutually supportive.
Near and long-term solutions are implemented in a phased approach.

Opportunities

Strengthen linkages between pedestrian and transit planning.
Develop flexible street designs and functionality at specific locations/corridors.
Support each district's uniqueness through streetscape and urban design.
Create "green" streets that are attractive and leverage stormwater regulations and funding.
Link to bikeway planning in adjacent communities.
Improve traffic and pedestrian safety at freeway access points.
Apply new, multimodal modeling tools.
Improve utilization of existing parking through programming, wayfinding/signage, and sharing.

Destinations to Connect

Little Italy	Civic Center	Bankers Hill
Columbia	Seaport District	Uptown
East Village	Convention Center	Golden Hill
Marina	Ballpark	Barrio Logan
Waterfront	City College	Five Points
Broadway Pier	Horton Plaza	Airport
Santa Fe Depot	Balboa Park	Mission Valley

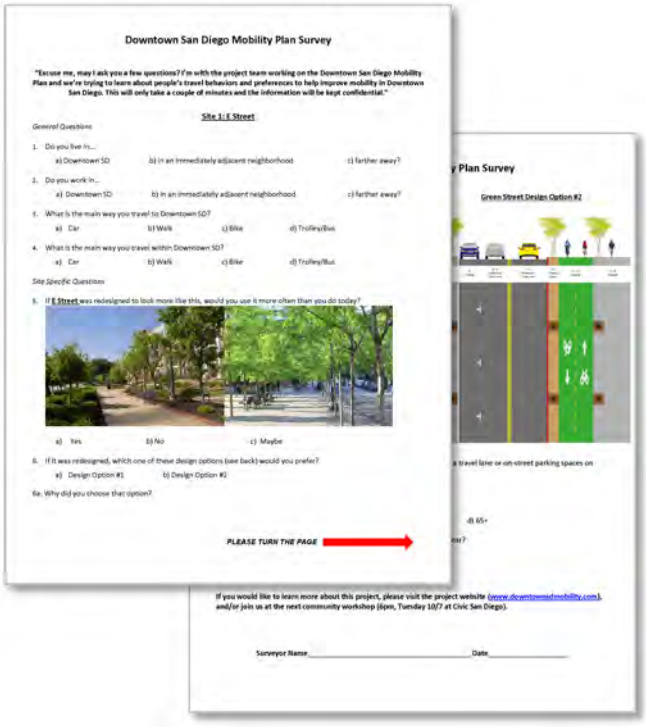
Corridors

Ash St	Market St	4th Ave
A St	Island Ave	5th Ave
B St	Cedar St	6th Ave
C St	Pacific Highway	10th Ave
E St	Harbor Drive	11th Ave
F St	India	Park Boulevard
G St	Kettner Blvd	14th St
Broadway	Front St	15th St

2.2 On-the Street Outreach Surveys

The purpose of the on-the-street outreach surveys was to engage people who live and work in the Downtown community to provide feedback on their travel patterns and potential design concepts for key locations in Downtown. The on-the-street outreach focused on the following objectives:

1. Explain (briefly) the purpose of the plan.
2. Collect information about where participants live and work, and their travel patterns to and within Downtown.
3. Gauge the level of willingness to use (or increase the use of) a particular corridor based on a potential design concept.
4. Gauge the level of acceptance for possible trade-offs to build a potential design concept (e.g., replacing a travel lane or on-street parking with a cycle track).
5. Explain how participants can stay informed and involved in the planning process.


Downtown San Diego Mobility Plan Survey

"Excuse me, may I ask you a few questions? I'm with the project team working on the Downtown San Diego Mobility Plan and we're trying to learn about people's travel behaviors and preferences to help improve mobility in Downtown San Diego. This will only take a couple of minutes and the information will be kept confidential."

Site 1: E Street

General Questions

1. Do you live in...
a) Downtown SD b) In an immediately adjacent neighborhood c) farther away?

2. Do you work in...
a) Downtown SD b) In an immediately adjacent neighborhood c) farther away?

3. What is the main way you travel to Downtown SD?
a) Car b) Walk c) Bike d) Trolley/Bus

4. What is the main way you travel within Downtown SD?
a) Car b) Walk c) Bike d) Trolley/Bus

Site Specific Questions

5. If E Street was redesigned to look more like this, would you use it more often than you do today?

a) Yes b) No c) Maybe

6. If it was redesigned, which one of these design options (see back) would you prefer?
a) Design Option #1 b) Design Option #2

6a. Why did you choose that option?

PLEASE TURN THE PAGE

Plan Survey

Green Street Design Option #2

d) 65+

If you would like to learn more about this project, please visit the project website (www.downtownsdmobility.com), and/or join us at the next community workshop (6pm, Tuesday 10/7 at Civic San Diego).

Surveyor Name_____ Date_____

The survey targeted people who live and/or work in Downtown and involved a total of 169 people across a range of age groups, gender, income levels, and the four project locations related to major design concepts.

Two project team members worked together at each of these locations and times on weekdays, where major design concepts are currently under study:

- E Street, between 4th Avenue and 6th Avenue - 11:30 am to 1:30 pm and 4:30 pm to 6:30 pm
- Market Street, between 1st Avenue and 5th Avenue - 11:30 am to 1:30 pm and 4:30 pm to 6:30 pm
- Broadway, between 1st Avenue and 5th Avenue - 11:30 am to 1:30 pm and 4:30 pm to 6:30 pm
- State Street, between Date Street and A Street- 11:30 am to 1:30 pm and 4:30 pm to 6:30 pm

A copy of each survey form and the survey results are provided in **Appendix B**.

Two roadways targeted through the survey outreach, Market Street and Broadway, were initially considered for more aggressive multi-modal improvements that would repurpose a vehicle travel lane to a cycle track and/or a dedicated bus lane. However, following discussions with community members and other key stakeholders the multi-modal improvements were not recommended along these corridors. The improvements were included in an alternative analysis to allow flexibility in the future should community attitudes regarding mobility along these corridors change.

2.3 Community Workshops

Workshop #1

On May 27, 2014, Civic San Diego convened Community Workshop #1 to a) explain the purpose and objectives of the project; b) present findings from initial outreach activities completed to date; and c) facilitate community input about Downtown mobility including visions and primary corridors for pedestrians and bicycles. Approximately 46 community members attended the workshop.

The project team presented findings from initial outreach efforts before initiating a discussion with participants about their visions for the future of Downtown mobility. Participants then organized into small groups of 5-8 people led by a facilitator for 30 minute discussions regarding a) primary pedestrian and bicycle corridors, and b) important features and designs for successful corridors. Two representatives from each group provided a brief report to the larger group about key discussion points.

A summary of the input collected from the first community workshop is provided in Table 2-2.

Workshop #2

On October 7, 2014, Civic San Diego convened Community Workshop #2 to (a.) update the project status and latest developments; (b.) present draft street system and corridor alternatives; and (c.) facilitate community input about preferences for developing the system and alternatives. Approximately 50 community members attended the workshop. The project team presented the latest project developments before initiating a discussion with participants about their preferences for developing a system and alternatives by mode. Participants reviewed questions and alternatives displayed on the presentation screen from the project team and provided responses using interactive polling technology that shows instant results. Project team members also facilitated discussions with participants about their preferences.

Workshop #2 Results

Participants supported the following proposed system alternatives:

- Retaining Ash/A; F/G; Front/1st, and Grape/Hawthorn as one-way couplets
- Converting 3rd, 8th, 9th and E streets from one-way to two-way streets
- Converting B, C, 6th and 7th streets from one-way to two-way streets
- Creating two-way cycle tracks on State and Beech streets
- Creating a couplet of one-way cycle tracks on Grape and Hawthorn streets
- Creating one-way cycle tracks north of Broadway on 4th and 5th avenues (either through loss of a travel lane, or loss of a parking lane
- Studying continuing facilities on 4th and 5th avenues with one-way cycle track, or locating a two-way cycle track on 6th Avenue
- Studying one-way cycle tracks or a two-way cycle track for Market St; or strengthening the existing bike boulevard on Island Avenue
- Creating buffered bike lanes on Park Blvd north of C Street
- Studying two-way cycle track or two-way side path on Park Blvd between Broadway and K Street, or a two-way cycle track on 13th Street
- Creating one-way cycle-tracks on Broadway west of 3rd Avenue and east of Park Blvd
- Creating two-way cycle-tracks on Broadway between 3rd Avenue and Park Blvd
- Creating a network of green streets focused on placemaking, traffic calming and bike boulevard designs.

Table 2-2 Community Workshop #1 Input Summary

Visions

All modes are balanced: pedestrian, bicycle, transit, auto.
Destinations are linked through safe connections.
Separated facilities improve safety and comfort, and are continuous.
Existing parking assets are easier to access and well-organized.
Priorities are implemented through short and long term strategies.
The mobility system flows and operates more efficiently.
Visual connectivity provides enhanced wayfinding.

Opportunities

Elevate pedestrian and bicycle modes, reducing demand on parking and auto traffic.
Improve connectivity to surrounding neighborhoods and major destinations, such as the waterfront and Balboa Park.
Translate the green transportation and public realm hierarchy into reality.
Develop connective loops for each mode between destinations.
Integrate innovative public transit enhancements such as technology, fare structures, peak service, and late night services.
Designate flexible/convertible streets where appropriate.
Utilize innovative infrastructure and technologies to enhance functionality and traffic flow such as signals, lighting, bicycle racks, and more.
Create safer environments through infrastructure improvements: green streets, gathering places, etc.
Develop new models and ideas that can be applied to other communities in the region.

Corridors

Participants identified many priority pedestrian and bicycle corridors through the small group discussions. Following are corridors identified during the small group reports.

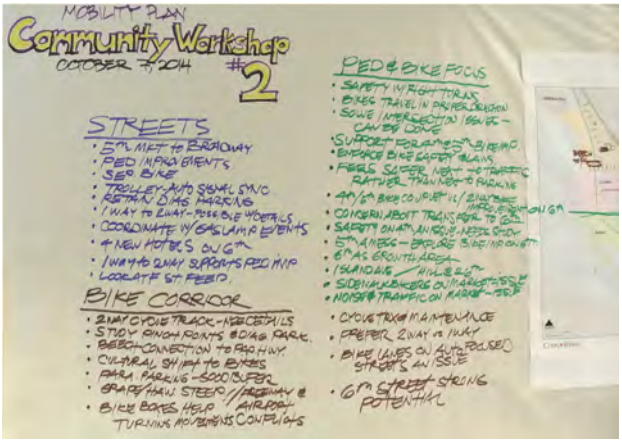
- Pacific Highway and Harbor Drive: Connecting the airport, waterfront, Convention Center, Gaslamp District, Ballpark District, and Barrio Logan
- C Street: Expanding the functionality and use beyond the trolley, through stronger pedestrian and/or bicycle design elements
- Gaslamp District (4th and 5th Avenues): Creating convertible streets that prioritize pedestrian activity
- Park Boulevard: Strengthening connectivity between Balboa Park and the waterfront, particularly for bicycle and pedestrian use
- Cedar Street: Improving pedestrian connectivity and safety at the freeway access points
- North and East access points: Creating freeway lids over Interstate 5
- E and F Streets: Improving pedestrian crossings between 9th and 11th Avenues
- J Street and Island Avenue: Strengthening pedestrian and bicycle connections between Marina District and East Village

Design and Amenities

Participants identified a range of design features and amenities that would strengthen pedestrian and bicycle corridors.

- Lighting
- Paving materials and colors, linked to modes
- Trees
- Upright bicycle racks
- Stormwater/water quality infrastructure





Public Scoping Meeting

In addition to the workshops and outreach, a public Scoping Meeting was held on December 16, 2014. The meeting, facilitated by Civic San Diego, is required by the California Environmental Quality Act (CEQA) for projects which may have statewide, regional or area-wide environmental impacts. The meeting included a presentation of the project as well as a public comment period for both verbal and written public comments on the environmental review process or the contents of the environmental document. Due to the focused scope of the policy and network improvements proposed, a Supplemental EIR is being prepared under CEQA Guidelines Section 15163(a). The public comments provide an opportunity for the public to assist Civic San Diego and the City of San Diego, as the lead agency, to define the scope of work for the EIR and include environmental impacts for analysis in the project's environmental document.

2.4 Project Website

Civic San Diego maintained an interactive project website for community members to engage in the project throughout the planning process. The website provided regularly-updated project information including project overview, links to related resources, news updates regarding community involvement activities, information on how to get involved, and web-based input opportunities. Community members who signed-up on the website received real-time email notifications when news, public notices and new information appeared on the project website.

As part of the first phase of the planning process, the project team solicited community input through the website from May-July 2014 regarding existing conditions and future vision for mobility in Downtown. Modeling the questions asked at Community Workshop #1, the questionnaire focused on opportunities, barriers, challenges, major destinations to connect, priority modes, priority corridors/streets, and locations for placemaking. During the second phase of the process, the project team solicited input through a detailed questionnaire of system and mode alternatives, which modeled the questions discussed at Community Workshop #2.



3 Complete Streets

THE CALIFORNIA COMPLETE STREETS ACT (AB 1358)

Commencing January 1, 2011, upon any substantive revision of the circulation element of the general plan, modify the circulation element to **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.

Throughout San Diego and cities across the nation, people increasingly rely on and expect a variety of transportation options. Decreases in personal vehicle commuters, and increases in public transportation, walking and bicycling trips are evidence of this change and put additional pressure on local and regional jurisdictions to accommodate these modes through improved infrastructure, service, and supporting policies. The Complete Streets movement is at the heart of this shift.

The Best Complete Streets Policies of 2014 (February, 2015), prepared by Smart Growth America and the National Complete Streets Coalition, concluded that over 70 jurisdictions adopted Complete Streets policies in 2014, bringing the nationwide total to 712 jurisdictions with Complete Streets policies in place.

The Complete Streets approach presented in the Mobility Plan provides guidance for developing a balanced multimodal transportation system through its vision, goals and policies, and proposed transportation network. The network is comprised of multiple layers of roadways that are emphasized for a particular mode or purpose.



This approach will allow for community members and visitors to enter, exit, and travel within Downtown by whichever mode they choose.

The layered approach, street typologies, Complete Streets goals and policies, and proposed mobility network are presented in the following sections.

3.1 Vision

The visions for mobility in Downtown express the desired outcome resulting from plan implementation. The vision is the target for the future, or the agreed upon desired end-state, setting the tone for recommendations in the Mobility Plan and defining the scope of goals and policies.

DOWNTOWN MOBILITY VISION

An integrated transportation network of Greenways, sidewalks, bikeways, transit services, roadways and freeways that provides for the safety of all travelers – including the elderly, youth and disabled – both within Downtown and to surrounding communities. It is a transportation network that provides convenient access to valuable community resources such as employment centers, parks and the waterfront, cultural and entertainment attractions, and civic uses. It is a transportation network that supports community health and well-being, promotes a strong economy, and also builds social capital.

The vision expressed in the Mobility Plan was heavily influenced by the following factors:

- Recently adopted legislature;
- Changes in active travel and overall mode shifts;
- Previous planning documents including the City of San Diego General Plan and the Downtown Community Plan; and
- Staff, TAG & community input.

3.2 The Layered Network

Complete Streets is predicated upon the idea that a majority of modes should be accommodated along *all roadways*. Another more flexible approach to Complete Streets planning is to assess the level of comfort and connectivity for every mode across community-wide networks. In other words, instead of balancing every street, we can seek to balance travel across a community's entire network, thereby achieving a "complete network" where all modes are able to access necessary opportunities in a convenient manner. This works especially well in communities that have strong grid networks such as Downtown San Diego. The grid network provides for parallel routes to focus or prioritize facilities for different modes, and in doing so, providing connectivity for every mode, but along slightly different corridors.

The layered network approach prioritizes specific corridors for specific modes, while allowing for travel by the non-prioritized modes. The layered approach takes into consideration transit modes and corridors both within Downtown and connecting to adjacent communities. Figure 3-1 depicts the layering of modal networks to obtain the final planned network for Downtown. The various typologies reflected in each network layer to achieve a complete network for Downtown are presented in Section 3.3.

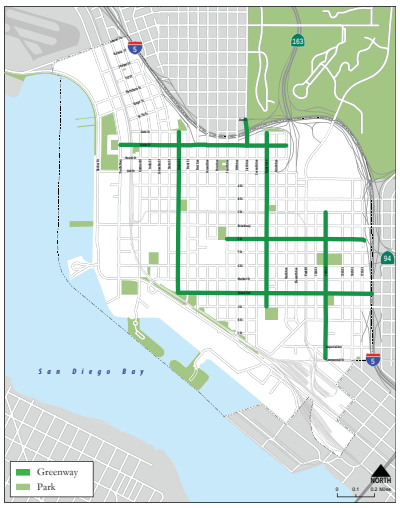
The outcome of the Complete Streets planning process should be well-connected "layered" networks for each individual mode across a community, in a manner that minimizes conflicts and provides for comfortable and convenient travel choices community-wide.

The layered network approach prioritizes specific corridors for specific modes, while allowing for travel by the non-prioritized modes.

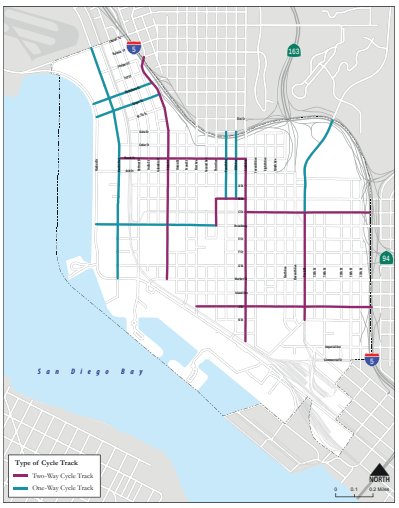
Feasibility

One of the overarching themes of this plan's development revolves around a proposed network that is feasible and constructible. To achieve this, most improvements are intended to be implemented within the pavement area between existing curbs to the extent feasible, avoiding significant additional costs. To accommodate the various improvements, such as bicycle facilities or Greenways, a series of roadway alterations are proposed for bicycle and pedestrian enhancements through lane or road diets in select locations.

Figure 3-1 Layered Mobility Network



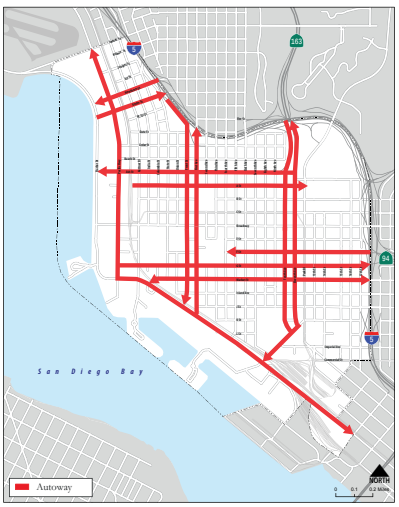
Greenway Network



Cycleway Network



Transitway Network



Autoway Network



Layered Mobility Network

3.3 Street Typologies

Streets are commonly categorized by “functional classifications” based on the level of access and mobility they provide. However, the functional classification system typically only takes into consideration the vehicular network, neglecting other modal networks (such as transit and bicycle) and surrounding land uses. Categorizing streets using a “typology” system considers the street’s locational context and provides a simplified planning framework that addresses all modes. The typology system is not intended to replace the functional classification, but rather supplement it as a guide for designing appropriate streetscape environments and supporting high quality travel for all modes.

The street typology system is intended to take into account the street’s locational context in relation to the greater transportation network and to provide a framework that addresses all modes. Each street typology represents a “layer” of the mobility network, emphasizing specific modes or purposes for each Downtown roadway. Combined, the typologies form the Downtown Mobility Network.



Greenways

Greenways prioritize pedestrian travel, but allow for automobile, transit and bicycle travel. They are intended to showcase landscaping features and roadway designs that slow vehicular traffic and prioritize walking. Greenways link Downtown parks, the waterfront, and various outdoor destinations. A key feature of Greenways is the inclusion of enhanced landscaping, including double rows of trees, and wide sidewalks with ample public amenities. Greenways provide a necessary respite from urban life and allow the Downtown to ‘breathe’.



Greenway in West Sacramento

Cycleways

Cycleways prioritize travel by bike and include facility types such as cycle tracks, buffered bicycle lanes, and bicycle boulevards. They are intended to showcase high quality, comfortable cycling environments with low vehicular travel speeds, volumes, and conflicts. Cars, transit and pedestrians will also be accommodated. The Cycleway typology does not identify every existing or planned bicycle facility, but rather identifies a network of "high-quality" facilities that are physically separated from vehicular traffic or provide an increased dedicated right-of-way, such as buffered bicycle lanes and cycle tracks.



Cycleway in Long Beach

Transitways

Transitways identify segments where public transit takes priority over other modes either through transit dedicated corridors, such as the Green Line corridor; a wider dedicated right-of-way, such as C Street west of Park Boulevard or Park Boulevard south of Broadway; or transit prioritized signalization, such as Broadway. Vehicular traffic, bicycles and pedestrians may also be accommodated on these roadways. Additionally, the pedestrian environment requires increased attention along Transitways, especially near transit stops, to improve user safety and encourage ridership.



Downtown Transitway (Green Line)

Autoways

Autoways include roadways that primarily facilitate vehicular movement. Autoways are generally identified in pairs, or couplets, due to the one-way movements along many Downtown streets. These roadways provide connections to the regional freeway network or adjacent communities. Traffic signals are synchronized to allow for optimal vehicular movement.



Autoway on G Street in Downtown San Diego

Multi-Functional Streets

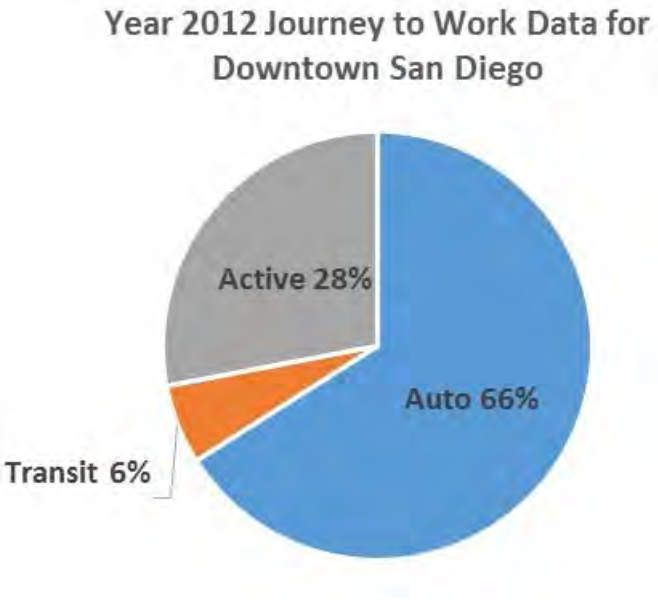
Multi-Functional Streets serve a variety of purposes and do not emphasize any single mode. These streets provide access within neighborhoods and generally experience relatively lower vehicular volumes. Like all Downtown streets, the pedestrian environment and pedestrian safety is of great significance.

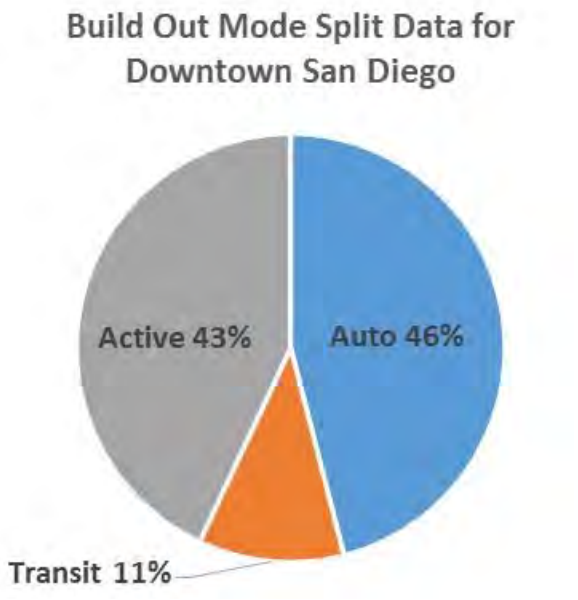


Multi-Functional Street on Third Avenue

3.4 Mode Share

Mode share is a good measure to evaluate how successful a transportation system is. SANDAG's Trip Generation for Smart Growth Tool (MXD) and a customized bicycle model developed by Cambridge Systematics were employed to estimate the mode share for the buildout of Downtown land uses on the proposed layered mobility system. The charts below indicate that a much more balanced mode share could be achieved for Downtown with significant increases in active transportation (walking and biking) percentage (from 28% to 43%) and moderate increases in transit percentage (from 6% to 11%). As a result, the auto percentage would decrease from (66% to 46%).





3.5 Goals & Policies

Complete Streets Goals

CS-G-1 A Downtown transportation network that accommodates all users including pedestrians, cyclists, drivers, and transit users of all ages and abilities, children, the elderly and the disabled, as well as trucks and vehicles.

CS-G-2 A Downtown transportation network that prioritizes specific modes for specific roadways and functions as an integrated and "complete" network where all users can travel and enjoy the public rights-of-way in safety and comfort.

Complete Streets Policies

CS-P-1 Create a layered network of priority corridors unique to walking, cycling, transit, and driving.

CS-P-2 Design, operate and maintain a transportation network that provides a connected network of facilities accommodating all modes of travel. Seek out opportunities to repurpose rights-of-way to enhance connectivity for pedestrians, bicyclists and transit users.

CS-P-3 Work with the County of San Diego, the San Diego Unified Port District, the San Diego Regional Airport Authority, MTS, and SANDAG to ensure Complete Streets principles are incorporated in a context-sensitive manner.

CS-P-4 Develop and adopt inter-departmental policies on Complete Streets, such as urban design guidelines, zoning and performance standards and other guidelines based upon best practices resources in urban design and street design, construction, operations and maintenance. These best practices resources include, but are not limited to, any and all existing planning documents pertaining to Downtown including the *AASHTO Green Book*; *AASHTO Guide for the Development of Bicycle Facilities*; *ITE Designing Walkable Urban Thoroughfares: A Context Sensitive Approach*; *NACTO Urban Bikeway Design Guide; Manual on Uniform Traffic Control Devices*; and the *US Access Board Public Right-of-Way Accessibility Guidelines*. When fulfilling this Complete Streets policy, the City of San Diego will follow the design manuals, standards and guidelines listed above, as applicable, but should not be precluded from considering innovative or non-traditional design options where a comparable level of safety for users is provided.

CS-P-5 Measure the success of Complete Streets policy implementation using performance measures such as the following:

- Total miles of quality bike facility (Class I, II, and IV);
- Linear feet of new quality pedestrian accommodation;
- Number of new curb ramps installed along city streets;
- Crosswalk and intersection improvements;
- Rate of crashes, injuries and fatalities by mode (especially around transit stops);
- Rates of pedestrian and bicycle activity at key locations that have been identified during the existing conditions process; and
- Benchmarking these performance measures will take place pending staff and funding availability and will be reported to the San Diego community at large with the intention of achieving accountability for implementation.

CS-P-6 Take steps to ensure implementation, such as the following:

- Restructure or revise related procedures, plans, regulations, and other processes to accommodate all travelers and users of the roadway on future projects;
- Develop new design policies and guides or revise existing to reflect the current state of best practices in transportation design. Communities may also elect to adopt national or state level recognized design guidance;
- Offer workshops and other training opportunities to transportation staff, community leaders, and the general public so that everyone understands the importance of the Complete Streets vision; and
- Develop and institute better ways to measure performance and collect data on how well the streets are serving all users.

3.6 Complete Streets Recommendations

Figure 3-2 presents the planned Downtown Mobility Network, identifying the four street typologies presented in this Chapter. As shown, each network is intended to provide movement within the community, allowing community members and visitors to traverse Downtown north-south or east-west by any mode. The networks were largely developed parallel and in close proximity to one another, generally offering an emphasized roadway for each mode within each Downtown neighborhood.

This approach is intended to provide multimodal choices throughout the community. Additionally, the network allows for extensive multimodal travel through intersecting networks, for example, a pedestrian in Cortez Hill may walk southerly along the Eighth Avenue Greenway to arrive at the C Street Transitway to access the Blue Line or Orange Line.

One overarching approach to ensure the design of a feasible transportation system is to repurpose and reconfigure the current roadway pavement and right-of-way by converting the excess auto capacity to accommodate the other travel modes and on-street parking. A system-wide traffic operational analysis was conducted to determine which Downtown streets have excess capacity and where an auto travel lane may be removed to accommodate a Greenway, a separated bicycle facility, or angled (from parallel) on-street parking to off-set the potential parking losses associated with the implementation of cycle tracks and Greenways.

Figure 3-3 displays the Mobility Plan Complete Streets recommendations, including the Cycleways network, Greenways network, and locations where increased on-street parking can be achieved.

Figure 3-4 illustrates road diets and potential vehicular road closures within Downtown to accommodate Complete Streets implementation. The road diets and road closures are described in greater detail in Chapter 7.

Greenways serve to enhance the pedestrian environment along key corridors that connect to public park spaces. Greenways supplement the existing network of sidewalks present along nearly every Downtown street, with an improved pedestrian experience supported by landscaping, lighting, and other location specific features. Greenways will connect to existing and planned public open spaces such as Balboa Park, Waterfront Park, and the Fault Line Park.

The Cycleway network was developed to improve bicycle access to and from the community, as well as improved internal mobility. Upon full network buildout, Cycleways will provide access to key Downtown destinations such as the Civic Center, Convention Center, major public transit stations, Petco Park, the waterfront, and all Downtown neighborhoods.

Figure 3-2 Planned Downtown Mobility Network

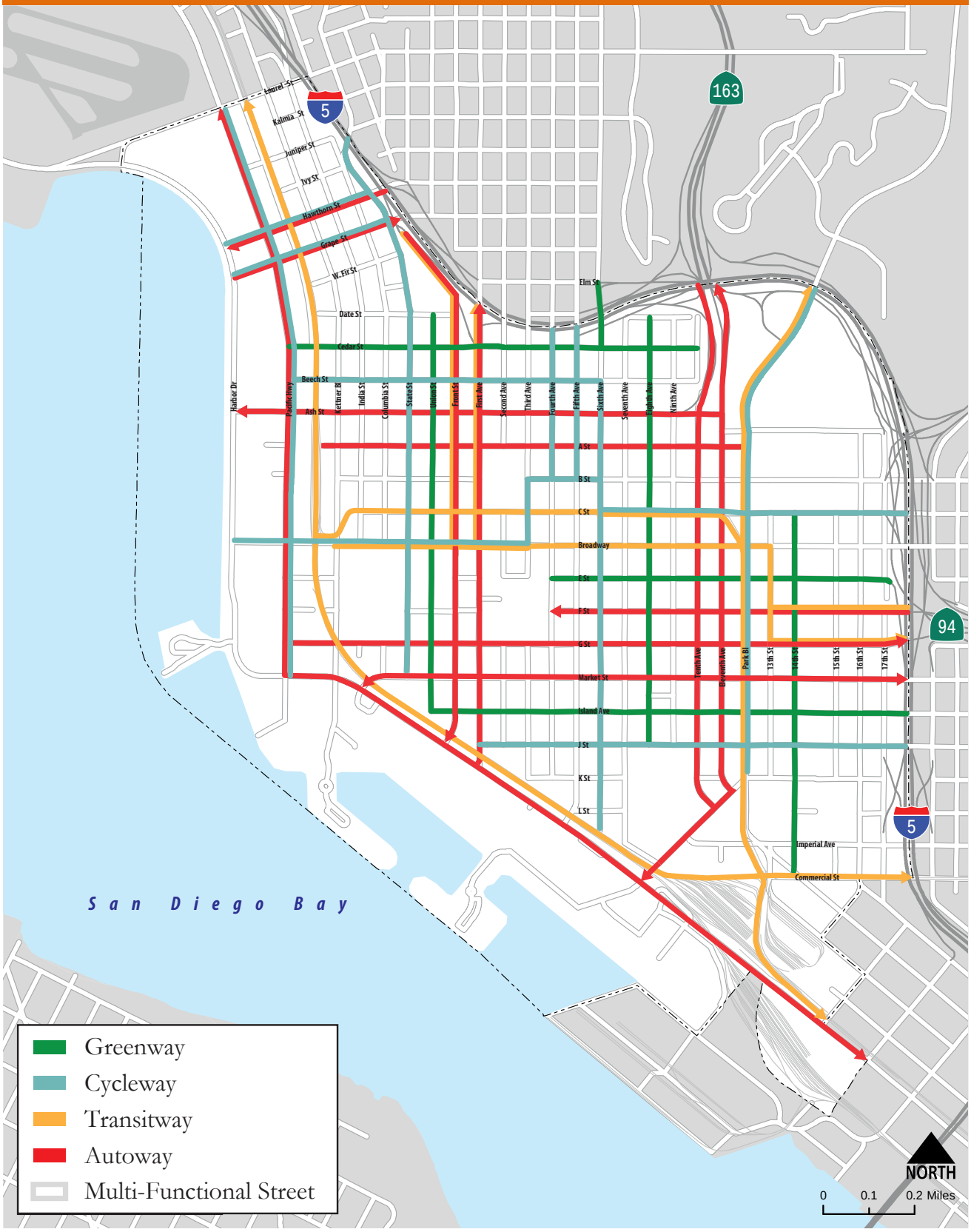


Figure 3-3 Complete Streets Recommendations

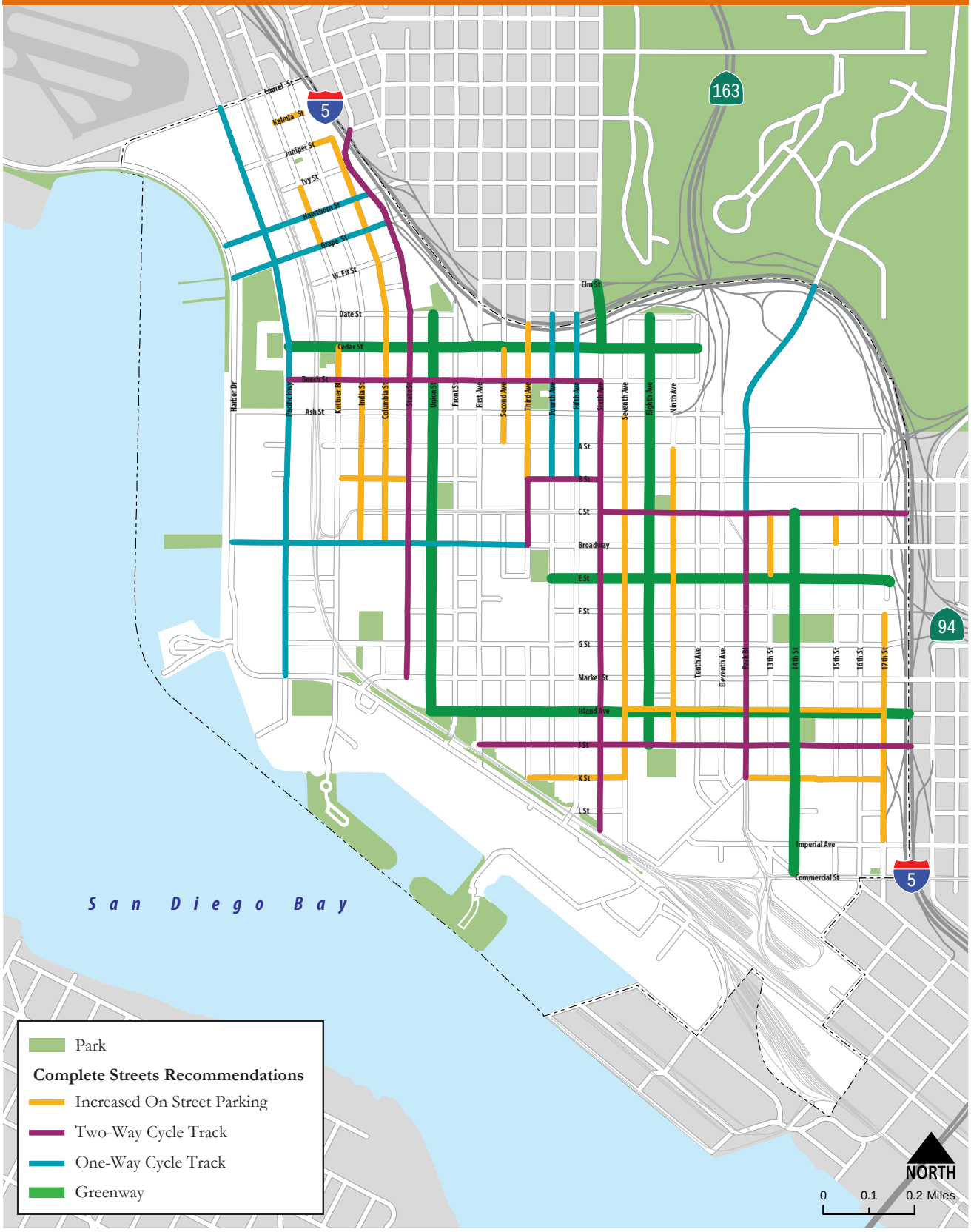
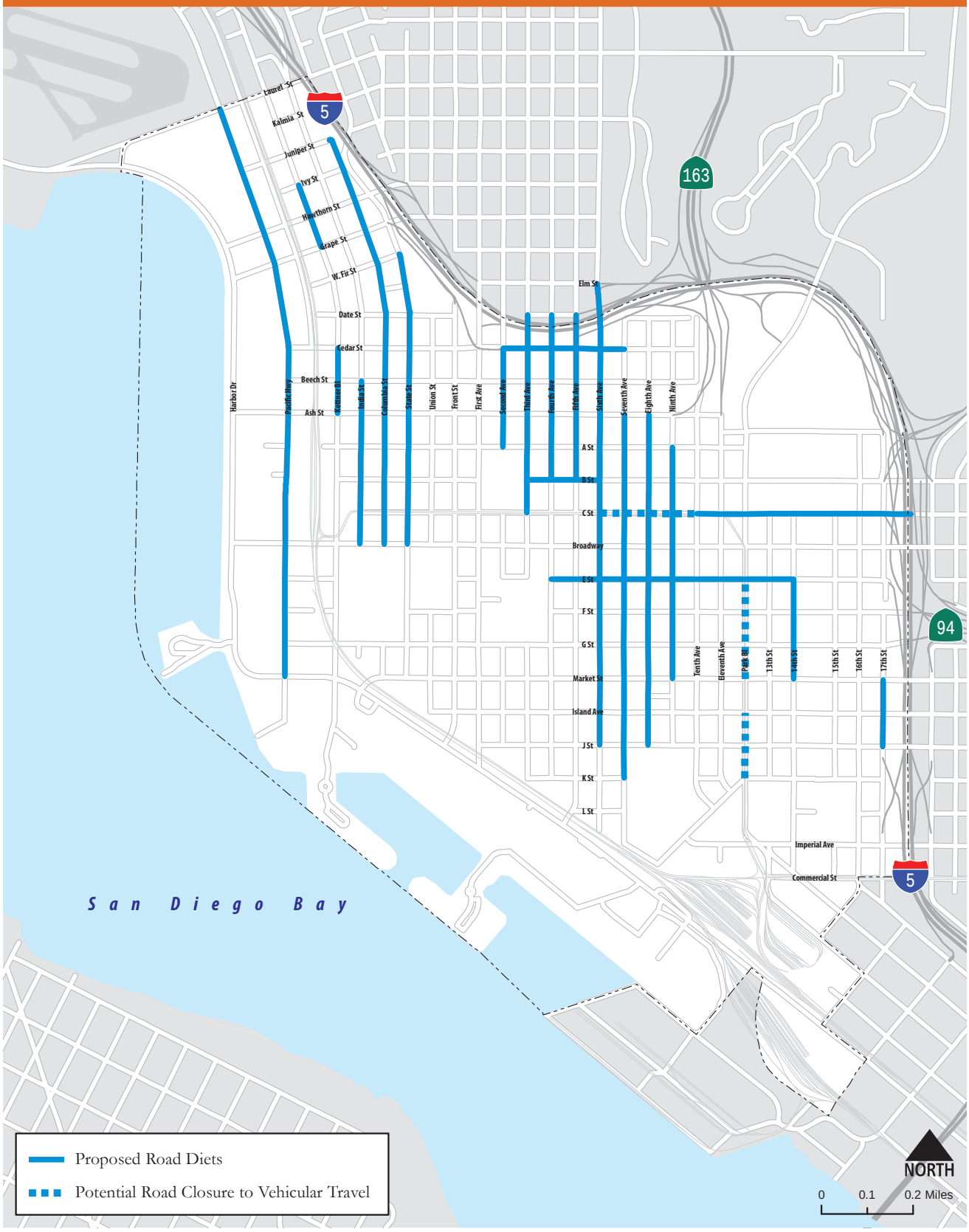


Figure 3-4 Road Diets Accommodating Complete Streets



Cycleways will also provide connections to the surrounding Uptown, Southeastern San Diego, and Golden Hill communities.

The Transitways network portrays corridors with multiple public transit routes, as well as high quality transit offerings such as the trolley network and Express bus lines. Transitways display connections to important mobility locations such as the Santa Fe Depot, the 12th and Imperial Transit Center, and the City College Trolley Station. Both the Greenways and Cycleways networks intersect with Transitways in multiple locations, providing emphasized non-motorized transportation connections to the public transit system.

Autoways include roadways that connect to the regional freeway network. Other modes, such as pedestrians, bicyclists, and transit, use autoways, however, these roadways include some of the highest vehicular volumes in the community and are intended to maximize vehicular efficiency.

Table 3-1 displays the network miles for each street typology. As shown, the street typologies range from approximately 9% to 23% of total network miles, with the exception of the multi-functional or non-designated streets.

Table 3-1 Network Miles by Street Typology

Street Typology[1]	Network Miles	% of Total Network Miles
Greenways	5.5	9.8%
Cycleways	9.3	16.5%
Transitways	6.8	12.1%
Autoways	12.9	23.0%
Multi-Functional Streets	21.7	38.6%

Notes:
1. Some roadway segments have multiple typology designations.

4 Pedestrian Movement

Every trip begins and ends with walking. To reach a transit stop, a bike, or a car, one must walk. Pedestrian comfort and safety is critical to achieving a balanced, multimodal transportation system. Improving pedestrian mobility indirectly improves the environment for bicyclists, transit riders, as well as vehicle driver's safety. Walking as a means of transportation is prevalent in Downtown – nearly 1 in 6 of the community's residents walk to work.

The City of San Diego General Plan includes the City of Villages strategy which aims to focus growth into mixed-use activity centers that are pedestrian-friendly districts linked to an improved regional transit system. General Plan policies ME-A.1 through ME-A.9, and Table ME-1 (Pedestrian Improvement Toolbox), and Table ME-2 (Traffic Calming Toolbox), as well as the goals and policies presented in this Chapter should be considered when evaluating and implementing pedestrian mobility improvements.

4.1 Existing Conditions

The pedestrian environment in Downtown benefits greatly from the strong grid network and diverse mix of concentrated land uses. Walking for inter-neighborhood travel within Downtown is a viable mode of transportation, often faster than public transit. However, pedestrian safety and comfort is problematic in several locations, especially near freeway on/off ramps. Furthermore, walking is a means to reach transit services, underscoring the importance of strengthening the pedestrian environment near major transit stops and along transit corridors.

Figure 4-1 displays identified pedestrian needs within Downtown, as discussed in the 2014

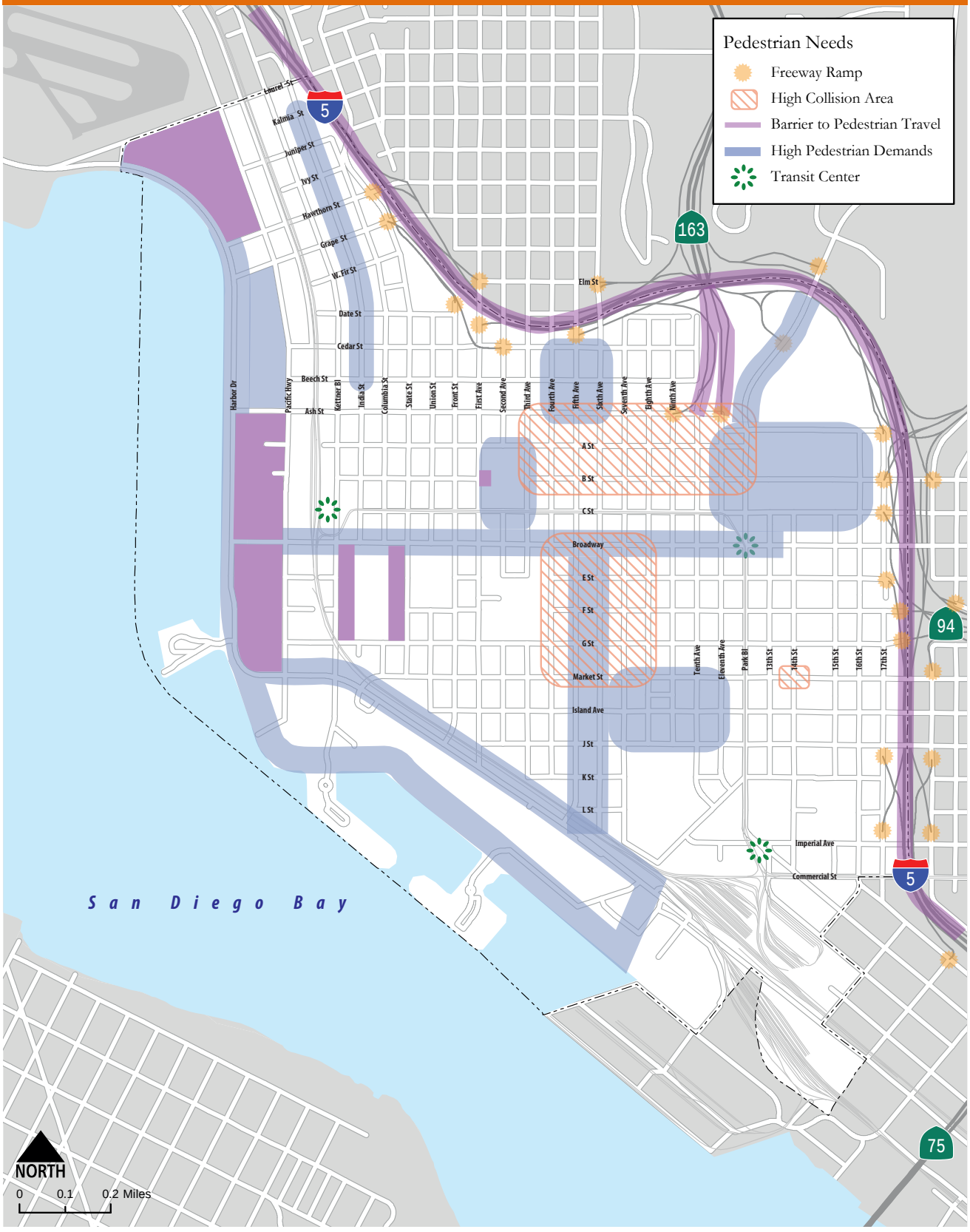


Downtown Mobility Existing Conditions Report and the Technical Report. High pedestrian need areas were identified through an assessment of walking demands, pedestrian collisions, and network characteristics. Pedestrian plan proposals were developed in part by assessing and addressing these areas.

Existing pedestrian activity in Downtown is influenced by the time of day. During the morning peak period, relatively higher pedestrian volumes were observed in the Civic/Core neighborhood and surrounding area, reflecting the high concentration of employment opportunities. In the evening, higher pedestrian activity was found in the Gaslamp Quarter and adjacent East Village neighborhoods, and along Harbor Drive, where there are concentrated recreational, entertainment, retail and dinning opportunities.

The three highest combined AM and PM peak period pedestrian volume study intersections were found along Market Street at the intersections of Fourth, Fifth and Sixth Avenues.

Figure 4-1 Pedestrian Needs



Pedestrian safety is of great concern in the Horton/Gaslamp and Civic/Core neighborhoods, where high concentrations of pedestrian collisions were recorded (2008 – 2013) combined with relatively high observed pedestrian volumes. Additionally, the upper East Village area near San Diego High School and San Diego City College experienced a disproportionate share of pedestrian collisions.

The Interstate 5, SR-163, and SR-94 freeway on/off-ramps pose barriers and safety concerns related to pedestrian mobility. Ramps are often uncontrolled, creating a scenario where unrestricted vehicles may be accelerating or decelerating when pedestrians are attempting to cross. Interstate 5 also divides Downtown from the adjacent communities of Uptown, Greater Golden Hill, and Southeastern San Diego. Pedestrian connections to these neighboring communities are reached by traversing a combination of generally uninviting over- and underpasses and freeway ramps.

In terms of existing pedestrian facility deficiencies, there are several incidences of non-ADA compliant existing intersection curb ramps, missing curb ramps and missing sidewalk segments. Missing sidewalk segments within the study area are found along the rail corridor through Little Italy, the southern end of Park Boulevard, and portions of 17th Street.

4.2 Goals & Policies

Pedestrian Goals

PM-G-1 A cohesive and attractive walking and bicycle system within Downtown that provides linkages within the area and to surrounding neighborhoods and public transit services.

PM-G-2 Mixed-use neighborhoods, with open spaces, services, and retail businesses within convenient walking distance of residents, to maximize opportunities for walking.

PM-G-3 Safe, walkable neighborhoods with improved street crossings, sidewalks and pedestrian amenities, with additional consideration placed on identified high collision areas.

PM-G-4 A network of Greenways that provides a natural respite for Downtown residents, employees and visitors, and allows for calm travel along greened corridors.

PM-G-5 Eliminate traffic deaths and serious injuries in Downtown San Diego by 2025, consistent with the Vision Zero resolution adopted by City Council in October 2015.

Pedestrian Policies

PM-P-1 Throughout the entire Downtown San Diego community:

- Undertake strategic streetscape improvements (such as sidewalk widening, bulb-outs, enhanced lighting and signage);
- Lengthen traffic signal walk times for pedestrians, and explore the feasibility of “all walk” signalization at intersections with heavy pedestrian demands, where needed; and
- Accept lower levels of automobile traffic level of service at intersection locations across Downtown along Greenways and Cycleways.
- Prioritize safety improvements in high collision areas.

PM-P-2 Designate specific enhanced pedestrian improvements on certain “pedestrian prioritized” streets, including but not limited to, widened sidewalks, corner bulb-outs that reduce pedestrian crossing distances, and linear park promenades.

PM-P-3 Install missing sidewalks and improve all curb ramps to be ADA compliant.

PM-P-4 Provide marked crosswalks and pedestrian countdown signals at all signalized intersections.

PM-P-5 Take necessary funding and regulatory steps to build Greenways identified in the planned Downtown Mobility Network.

PM-P-6 Collaborate with Caltrans to enhance safety and aesthetics at freeway ramps.

4.3 Pedestrian Recommendations

Every street is intended to provide for comfortable and safe pedestrian travel. To further improve the pedestrian environment this Mobility Plan proposes a system of Greenways along select corridors, linking to existing and planned parks and improving connections to adjacent communities, as well as the waterfront.

Greenways are sidewalks that can serve as linear parks, providing needed open space. Greenways will be designed individually within the available public right-of-way, but all will help create streets that are more pedestrian oriented with prominent landscaping and expanded sidewalk widths. A uniform set of street furnishing (benches, trash cans, street lighting, tree grates, and signage) should be present along these pedestrian corridors to differentiate them from other streets.

Every street is intended to provide for comfortable and safe pedestrian travel.

Curb bulb-outs should be present at intersections to help calm traffic and shorten crossing distances. Additional features may include dog parks, picnic areas, unique mini-parks, public plazas or other areas for relaxing and socializing.

Figure 4-2 displays the planned Greenways along with existing and planned park space.

Figure 4-3 displays a conceptual cross-section of a Greenway together with the plan view and photo simulation of the implementation of a Greenway along 14th Street. Greenways will include defining features such as expanded pedestrian areas and increased landscaping.



High visibility crosswalks emphasize pedestrian crossing areas throughout Downtown San Diego.



Wayfinding signs can benefit pedestrians, transit users, cyclists, and drivers.

Figure 4-2 Proposed Greenways

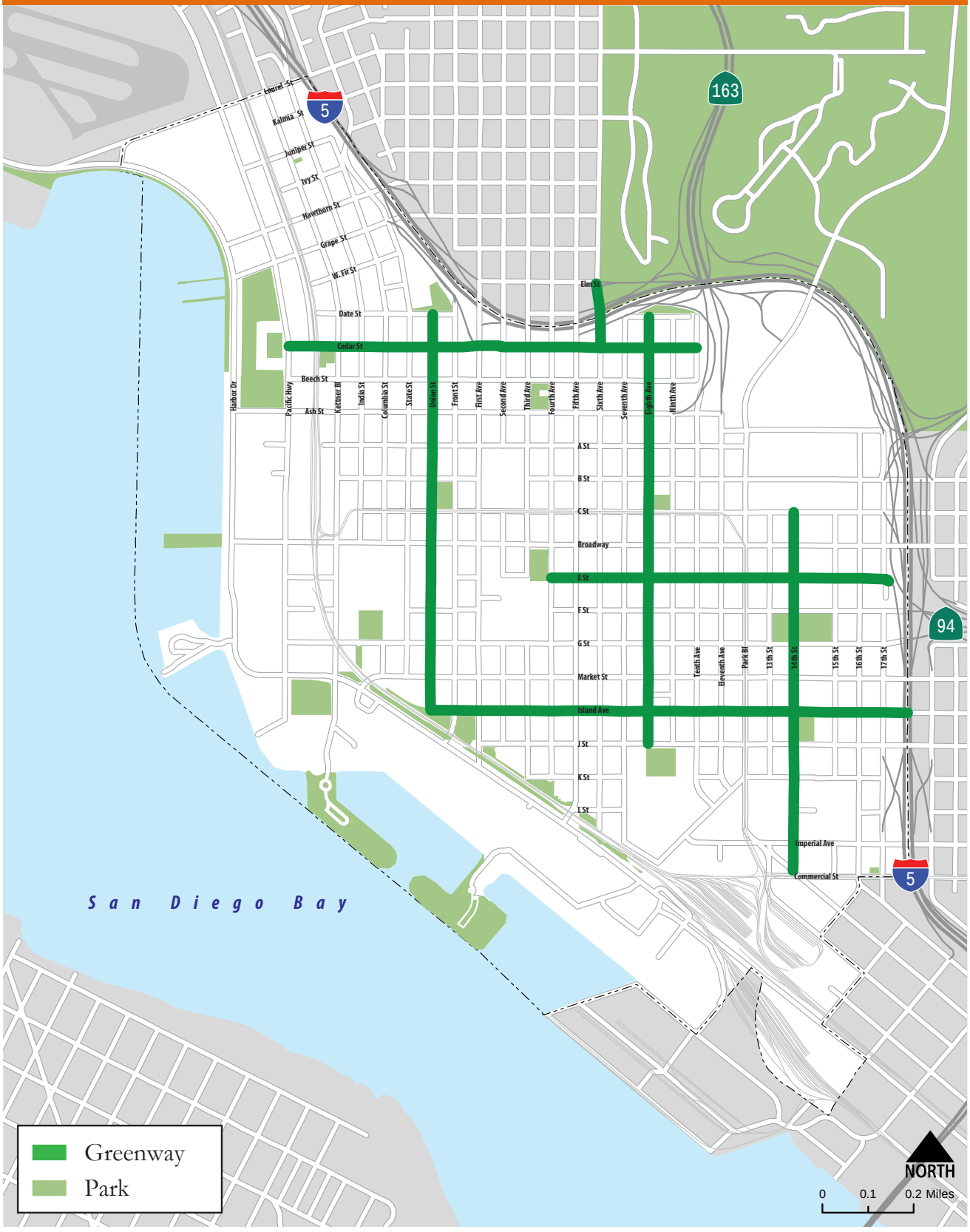
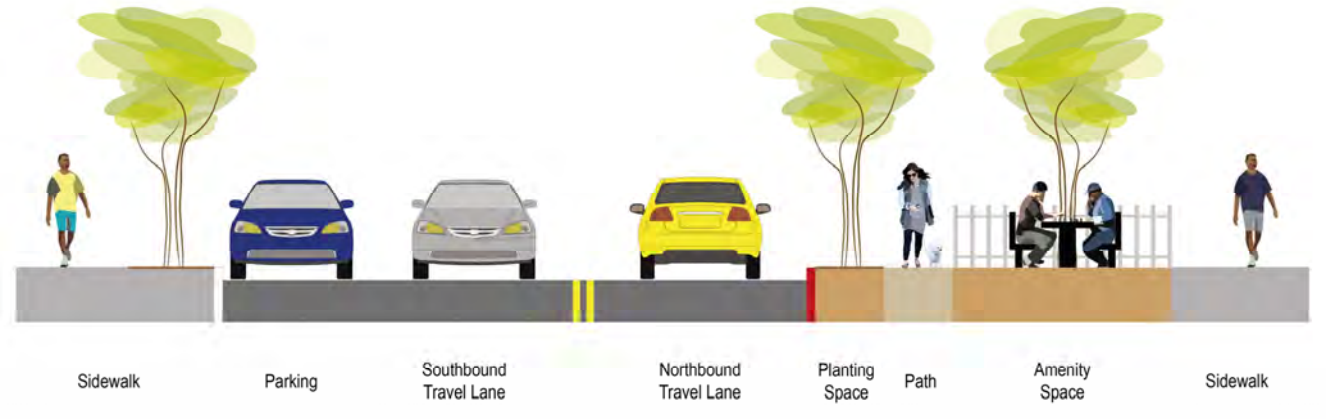


Figure 4-3 Typical Greenway Concept



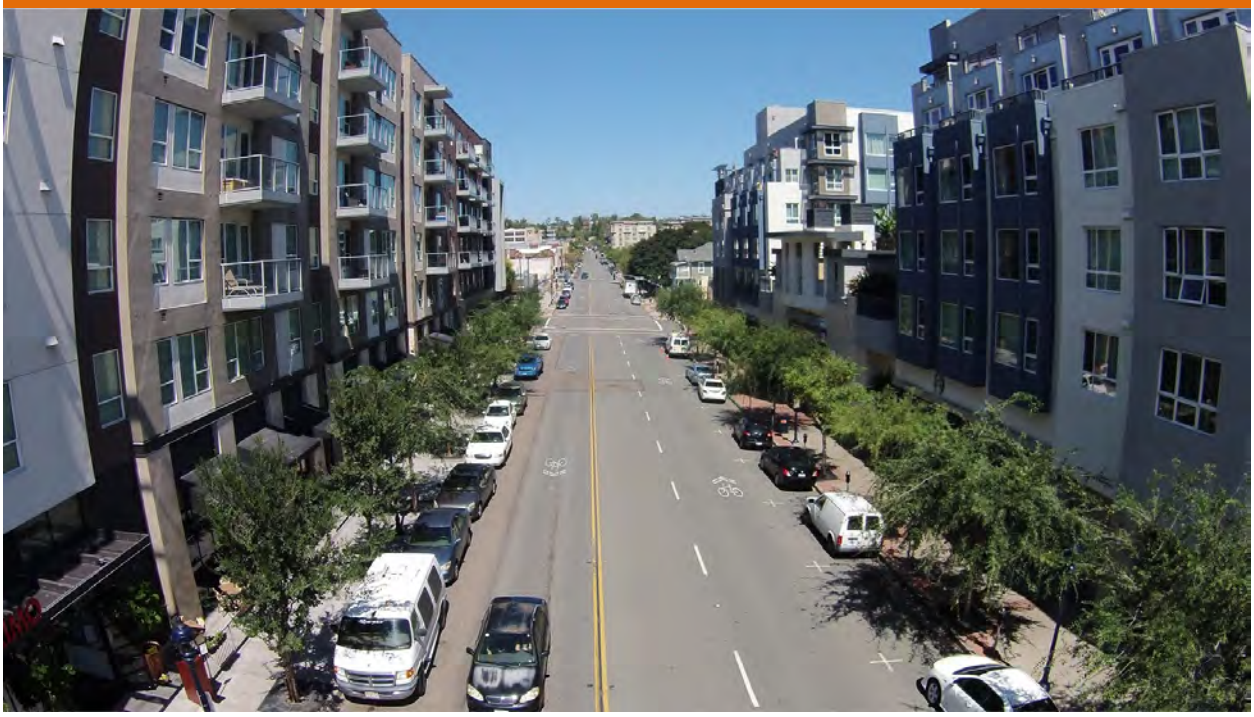
Typical Greenway Cross-Section



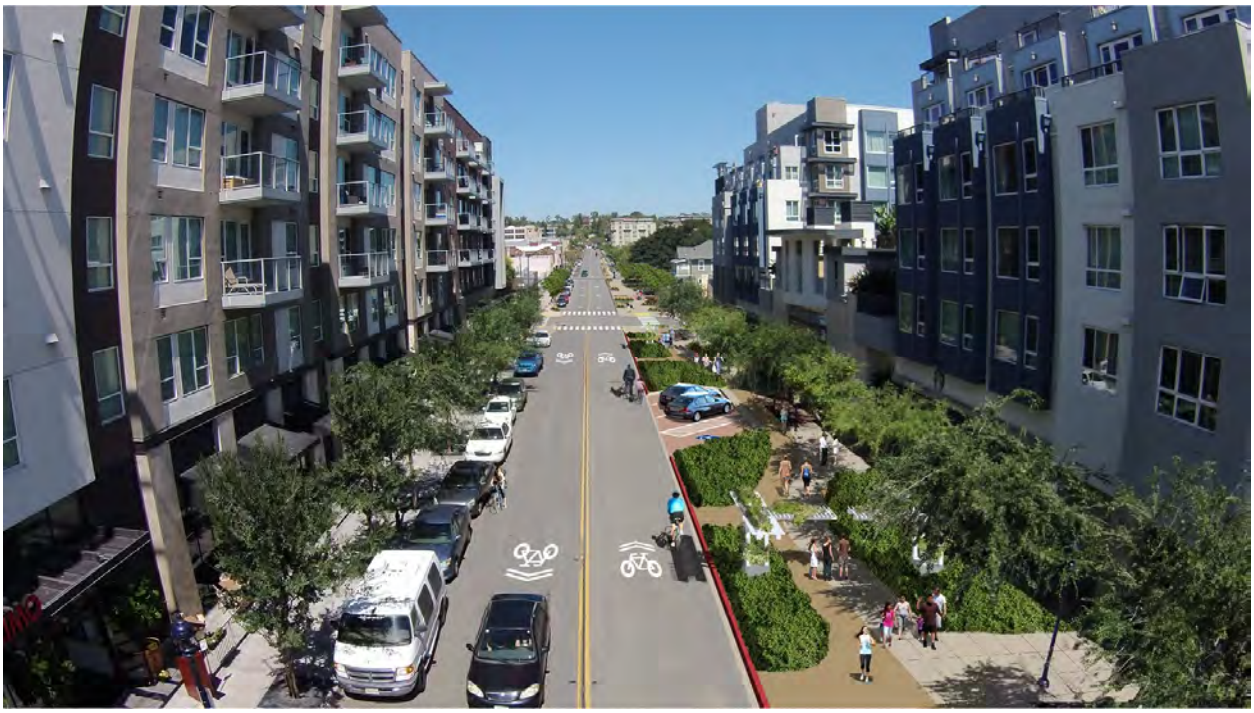
Sample Greenway Plan View Layout
(14th Street between Market Street and G Street)

Note that cross-section and conceptual plan illustrations are provided to demonstrate general feasibility of the subject proposal only. Actual improvements will require additional engineering studies and design work and shall be to the satisfaction of the City Engineer.

Figure 4-3 Typical Greenway Concept (cont.)



Existing Streetscape – 14th Street between Market Street and G Street (Looking North)



Proposed Streetscape – 14th Street between Market Street and G Street (Looking North)

Note that cross-section and conceptual plan illustrations are provided to demonstrate general feasibility of the subject proposal only. Actual improvements will require additional engineering studies and design work and shall be to the satisfaction of the City Engineer.

As shown, the Greenways will provide a network of linear parks and pedestrian promenades traversing the community from north to south and east to west, connecting to Downtown's existing and planned open spaces such as Amici Park, Children's Park, Children's Museum Park, Civic Square, Cortez Hill Park, County Administration Waterfront Park, East Village Green, Fault Line Park, Horton Plaza park, North central Square, and Outfield Park at Petco Park. All of these streets were identified in the Downtown Community Plan as "green streets".

Greenways will provide a network of linear parks and pedestrian promenades traversing the community from north to south and east west.

The seven Greenways, and a summary of the individual opportunities and challenges for implementing, include the following:

Eighth Avenue

This Greenway will connect the Cortez Hill neighborhood and park at its northern end to Petco Park to the south, traversing through the eastern end of the historic financial district and the northwest quadrant of the East Village neighborhood. The creation of this Greenway will connect these two key neighborhoods and open spaces, as well as the two future open spaces of the North Central Square at C Street and the Post Office Square at F Street. The existing roadway configuration provides one-way southbound vehicular travel between Ash and G streets, with two-way traffic at its southern end. Existing and future vehicular volumes permit the removal of one travel lane and converting the entire roadway to allow two-way travel. The road diet will provide some of the required right-of-way to implement the proposed Greenway; however, parking removal on the east side of the street will be required.

14th Street

This Greenway will connect City College at its northern end with Barrio Logan to the south, as it traverses through the future East Village Green park and adjacent to the recently completed Fault Line Park. The northern and southern ends of the street currently pass through largely underdeveloped sections of East Village, providing the opportunity for the construction of the Greenway in phases with adjacent public and private developments. The public and major property owners along this corridor have expressed major interest in the development of this Greenway as a prime example for the re-purposing of excess public rights-of-way. The removal of the third travel lane, where it exists, and the parking lane along the east side of the street will be required.

Cedar Street

This Greenway will connect Cortez Hill with Little Italy and the County of San Diego Waterfront Park and San Diego Bay. The main impediment is the Interstate 5 SB-Off Ramp at Second Avenue, which the Downtown Community Plan recommends for removal to allow this street to once again connect these neighborhoods. As this street currently traverses the Little Italy neighborhood, there are building setbacks west of India Street to provide enhanced views of the County Administration Center and San Diego Bay. Long envisioned as a landmark pedestrian corridor connecting to the waterfront, there are opportunities for the creation of plazas and piazzas consistent with recent improvements within the Little Italy neighborhood.

E Street

This Greenway connects the new Horton Plaza Park and Gaslamp Quarter with the northeast quadrant of the East Village and will provide a respite between the auto and transit corridors of Broadway and F and G streets. Similar to 14th Street, there are opportunities for phased construction with new development through the northeast East Village. Currently a mix of one-way and two-way configurations, the street will be converted to one travel lane in each direction with the removal of the parking lane along the north side to maximize sun exposure along a landscaped corridor.

Island Avenue

Over the past 15 years, sidewalk widening projects have created a pedestrian oriented street with enhanced brick and exposed aggregate paving and bulb-outs at most intersections. This traffic-calmed street is a respite between the more commercialized Market and J Street corridors and can be further enhanced through additional plantings, including potted plants and hanging plants.

Union Street

This Greenway can be a major pedestrian corridor between the Marina and Little Italy neighborhoods along the west side of Downtown, connecting Children's Museum Park and the Martin Luther King Promenade at its southern end to Amici Park at its northern end. While it currently traverses the government-use oriented Civic Core neighborhood that exhibits little activity in the evenings, enhanced landscaping and traffic-calming are envisioned in order to provide more pedestrian interest through this neighborhood and along the future Civic Square Park.

Sixth Avenue

A Greenway should be designed and constructed along Sixth Avenue between Cedar and Elm streets to connect Downtown to Balboa Park. This can be accomplished by eliminating the free left-turn movement from the I-5 off-ramp onto southbound Sixth Avenue (requires further study and reconfiguration of the Sixth Avenue/Elm Street intersection) and converting a travel lane and the parking on the east side of the bridge into an enhanced, landscaped pedestrian walkway. Civic San Diego was awarded a TransNet Smart Growth Incentive Program Grant to complete a Feasibility Study and Conceptual Design for this Greenway, also referred to as the Sixth Avenue Bridge Promenade. This project is supported by a variety of community groups from the Downtown and Uptown communities.



Greenways provide room for landscaping and other pedestrian amenities such as seating.

Pedestrian Amenities

A pedestrian's perception of the roadway environment is influenced not only by the presence and quality of the facility, such as a sidewalk or street crossing, but also by pedestrian amenities, lighting, traffic calming features, traffic speeds and volumes, and adjacent buildings. Where feasible and appropriate, widened sidewalks and landscape features can serve as a buffer between pedestrians and vehicular traffic. Adequate pedestrian lighting should be provided throughout the community to increase pedestrian safety and comfort.

High Pedestrian Volume Crossing Locations

In areas of relatively higher pedestrian demand, consideration should be given to increasing the pedestrian crossing phase and exploring the potential of "all walk" signalization (pedestrian scrambles), like the intersection of Fifth Avenue and Market Street.

Wayfinding Sign Program

Wayfinding signage in Downtown has recently been updated to improve visibility and guidance in a way that enhances the visitor's experience navigating through Downtown, addressing walking, cycling, efficient vehicle use and parking. The wayfinding signage program serves to help connect visitors to popular destinations, including waterfront parks and marinas, cruise ship terminals, the Gaslamp Quarter, Little Italy, Petco Park, East Village, Horton Plaza and Balboa Park.



Wayfinding Sign on First Avenue directs users towards Horton Plaza, Gaslamp Quarter, Petco Park, and other Downtown destinations.

5 Bicycling

Bicycling in Downtown is more accessible than ever. In the fall of 2014 the City of San Diego launched the Deco Bike bicycle sharing program to make 180 stations and 1,800 bikes available to the public. Over 40 of these stations are located in Downtown, making bicycles available to all residents, workers, and visitors.

Downtown's growing residential and employment populations will create more inter-neighborhood travel, leading to more pedestrians and cyclists. Expansion of the bicycle network and bicycle parking will help encourage use and ensure a safe and convenient cycling environment for cyclists of all ages and skill levels.

General Plan policies ME-F.1 through ME-F.6, as well as the goals and policies presented in this Chapter, should be considered when evaluating bicycle mobility and future improvement projects.

5.1 Existing Conditions

Existing bicycle facilities in Downtown are currently located along the community boundaries. However, no facility, east-west or north-south, traverses the center of Downtown. The network is predominantly characterized by Class III bicycle routes, with additional separated facilities running along the western- and southern-most boundaries. The weak grid of bicycle network highlights the need to improve Downtown bicycle connections.

Like walking, bicycling benefits from Downtown's gridded street pattern, and is a very convenient means of transportation for trips up to 3 miles in length. A person travelling in Downtown by bicycle can cover a greater distance in a shorter period of time than by walking or taking transit.

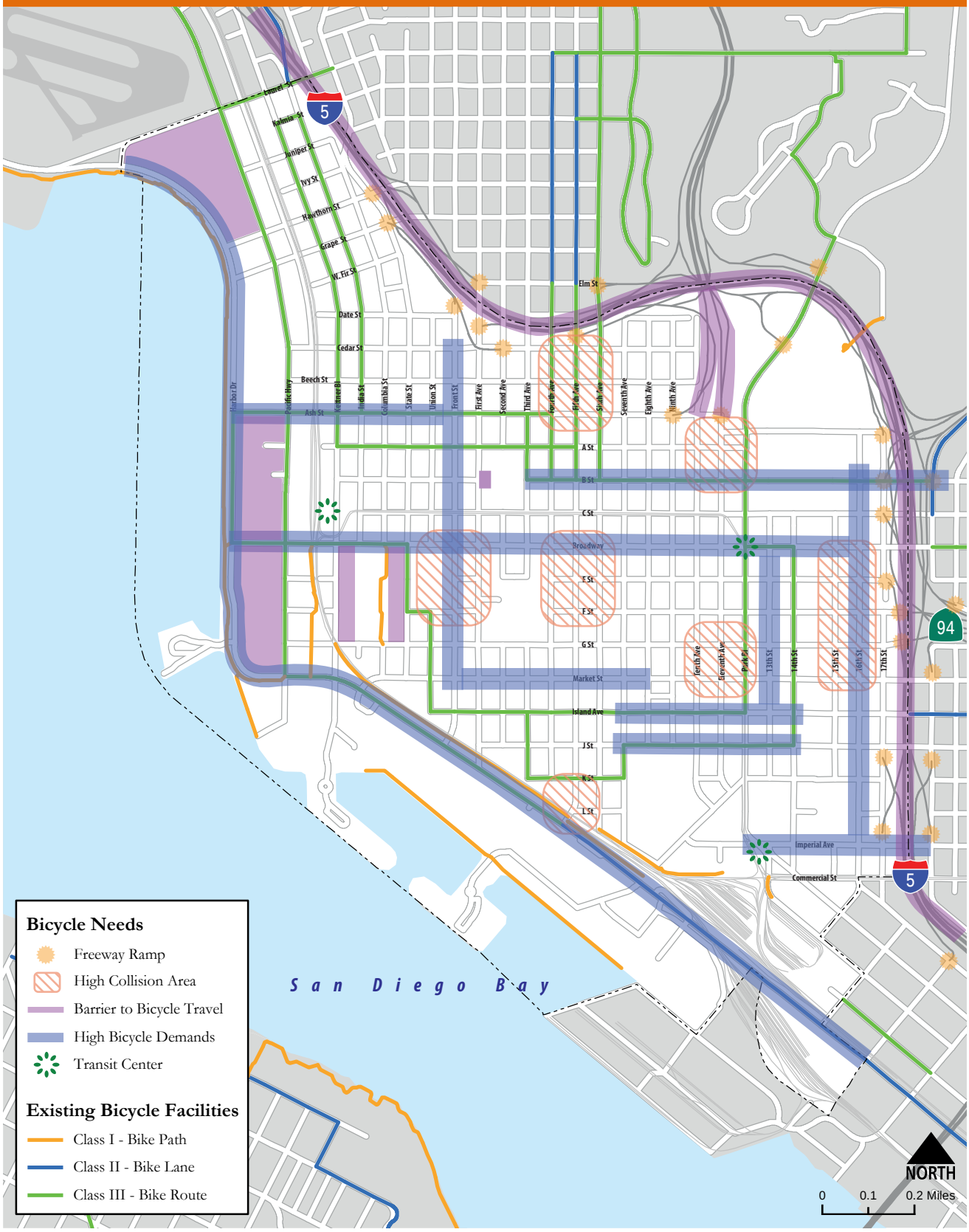


A bicyclist passes San Diego High School on the Park Boulevard bike lane.

This plan proposes significant improvements to the cycling environment Downtown as a way to unleash the latent demand for non-motorized trip-making, especially for short trips.

Figure 5-1 displays identified cycling needs in Downtown, highlighting areas of relatively high demand and high deficiency. High demand is evaluated through observed bicycle volumes, collected in support of this project, as well as through the Bicycling Propensity Model developed for the San Diego Regional Bike Plan. High deficiency is evaluated through bicycle network gaps and bicycle-involved collision locations. Relatively higher cycling demands are present along Market Street and Broadway, specifically through the center of Downtown where there is currently no existing facility, as well as at intersections along 16th Street, Harbor Drive, and the lower East Village Area.

Figure 5-1 Bicycle Needs





One-Way Cycle Track in Long Beach, CA.

Similar to pedestrian mobility, the Interstate 5 poses a barrier to cyclists, as do the on-/off-ramps at SR-94 and SR-163. Intersections with historically higher frequency of bicycle involved collisions include Park Boulevard and Russ Boulevard, 16th Street and Broadway, 16th Street and Market Street, and Fourth Avenue and Cedar Street.

Similar to the pedestrian collision patterns, several bicycle collisions were recorded near San Diego High School and San Diego City College. This area also shows relatively high total transit boardings (passengers getting on the bus) and alightings (passengers getting off the bus) indicating that improvements to cycling and walking environments here can also benefit transit users.

5.2 Goals & Policies

Bicycling Goals

B-G-1 A cohesive and well connected bicycle system within Downtown that provides linkages within the area and to surrounding neighborhoods, including the waterfront and Port District tidelands.

B-G-2 A community where bicycling is a viable and appealing travel choice for people of all ages and skill levels.

B-G-3 Increased bicycle commute mode share for Downtown residents.

Bicycling Policies

B-P-1 Create a well-connected network of Cycleways, as shown in Figure 6-2, and encourage linkages to regional bicycle corridors, including the Bayshore Bikeway, Central Coast Corridor, Centre City-La Mesa Corridor, Clairemont-Centre City Corridor, Coastal Rail Trail, North Park-Centre City Corridor, and the Park Boulevard Connector, as designated in the San Diego Regional Bike Plan.

B-P-2 Require bike racks and/or lockers in all residential projects, multi-tenant retail and office projects, and government and institutional uses.

B-P-3 Provide a range of alternative bicycle improvements throughout Downtown.

B-P-4 Connect Downtown's Cycleways with surrounding communities, the waterfront and Port District tidelands, and transit facilities to encourage everyday commute and recreational bicycle trips within the region.

B-P-5 Support future exploration of cycle track implementation along the length of Market Street and Broadway within the Downtown community to provide a direct east-west bicycle connection.

B-P-6 Encourage on-going monitoring of real-time ridership levels along the Cycleway network.



Bike parking is an important, yet often overlooked, bicycle network component.

5.3 Bicycle Recommendations

The proposed bicycle network addresses the current lack of connectivity through the center of Downtown, as well as the lack of safe facilities traversing the community.

Figure 5-2 presents the proposed bicycle network. As shown, the network is comprised of all four bicycle facility classifications standardized by Caltrans, including Bike Path, Bike Lane, Bike Route, and Cycle Track. Figure 5-3 displays typical Cycleway cross-sections of one-way and two-way cycle tracks.

Figure 5-4 presents plan view and photo simulation of the implementation of the two-way cycle track along J Street. A plan-view and photo simulation of cycle-track crossing another cycle-track (the intersection of State Street and Beech Street) is displayed in Figure 5-5.

Table 5-1 provides a description and image for each classification.

Recognizing the relatively high volume of vehicles that circulate in Downtown, the proposed bicycle network relies heavily on protected bicycle facilities such as cycle tracks and multi-use paths which provide physical separation between vehicular traffic and cyclists. The protected bicycle facilities will provide an increased level of safety and comfort for cyclists, which may increase overall cycling levels, decrease the amount of cyclists riding on the sidewalk, and decrease conflicts with vehicles. One year following the installation of a cycle track on 3rd Street in Long Beach, CA the following results were drawn:

- 33% increase in bicycle volume
- 85th percentile traffic speeds dropped from 36 to 27 MPH
- 50% decrease in bicycle-related accidents
- 23% decrease in all vehicle accidents

The protected bicycle facilities will provide an increased level of safety and comfort for cyclists.

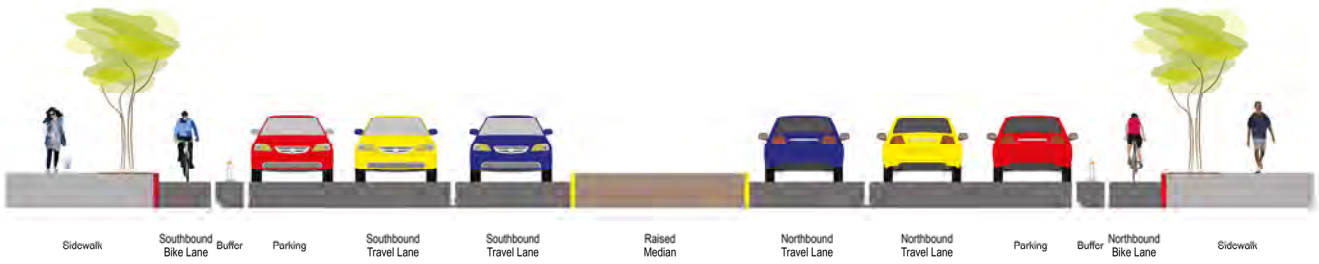


Two-Way Cycle Track in Washington D.C. (Top). One-Way Cycle Track in Washington D.C. (Bottom).

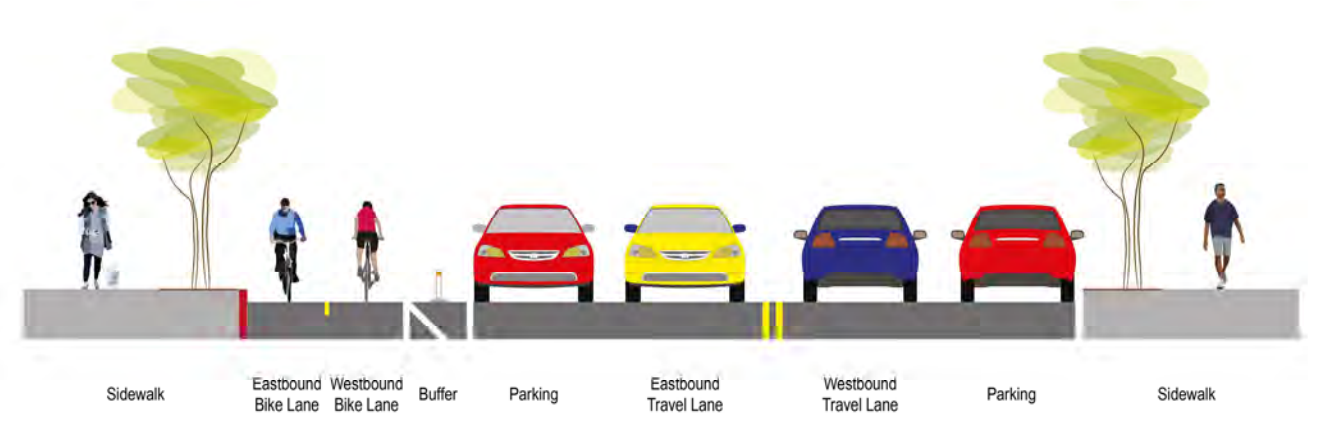
Figure 5-2 Proposed Bicycle Network



Figure 5-3 Typical Cycleway Concepts



Typical Cross-Section for Pacific Highway with One-Way Cycle Track



Typical Cross-Section for J Street with Two-Way Cycle Track

Note that cross-section and conceptual plan illustrations are provided to demonstrate general feasibility of the subject proposal only. Actual improvements will require additional engineering studies and design work and shall be to the satisfaction of the City Engineer.

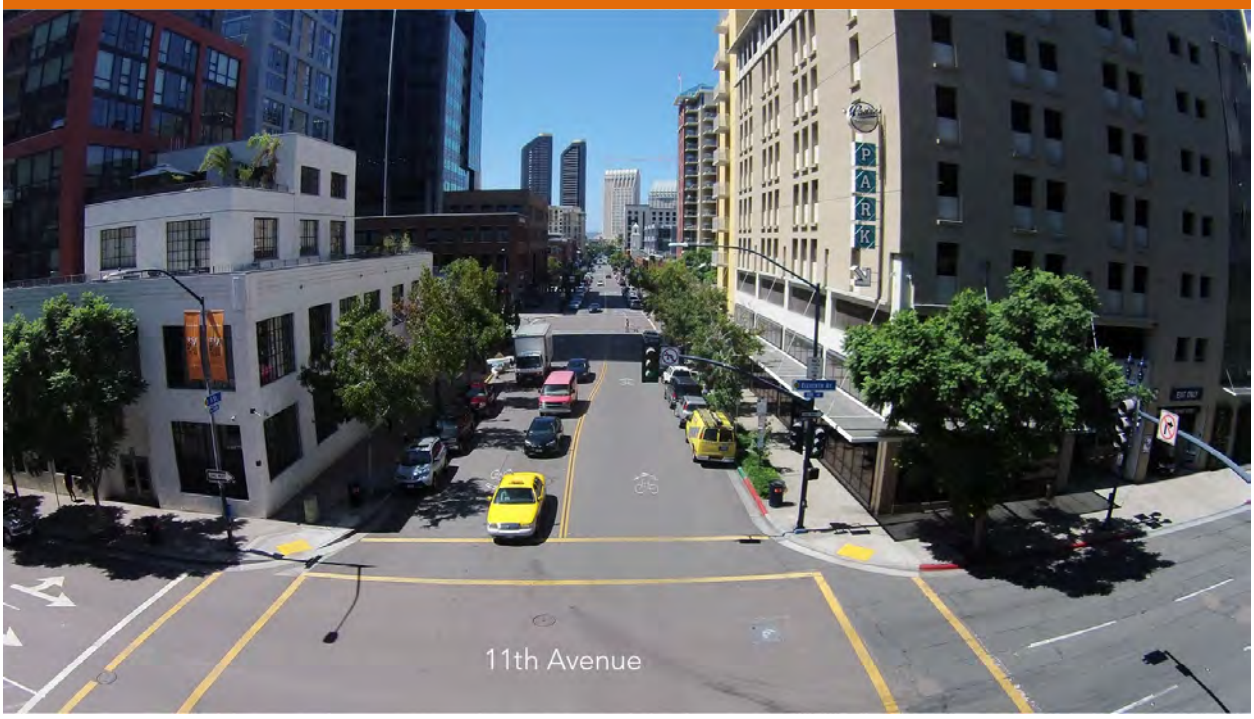
Figure 5-3 Typical Cycleway Concepts (cont.)



Plan View Layout for J Street / Tenth Avenue Intersection

Note that cross-section and conceptual plan illustrations are provided to demonstrate general feasibility of the subject proposal only. Actual improvements will require additional engineering studies and design work and shall be to the satisfaction of the City Engineer.

Figure 5-4 J Street Two-Way Cycle Track Photo Simulation



Existing Streetscape – J Street between Tenth Avenue and Eleventh Avenue (Looking West)



Proposed Streetscape – J Street between Tenth Avenue and Eleventh Avenue (Looking West)

Note that cross-section and conceptual plan illustrations are provided to demonstrate general feasibility of the subject proposal only. Actual improvements will require additional engineering studies and design work and shall be to the satisfaction of the City Engineer.

Figure 5-5 Cycle Track Crossing Cycle Track Plan View and Photo Simulation



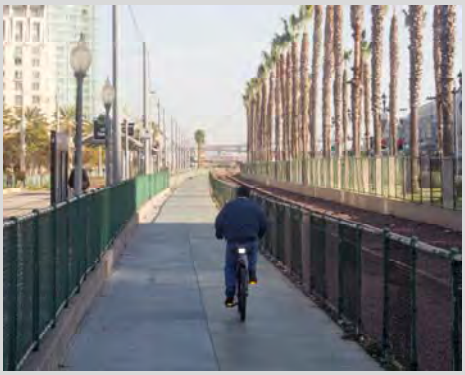
Plan View Layout for State Street / Beech Street Intersection



Proposed Streetscape – State Street / Beech Street Intersection (Looking North)

Note that cross-section and conceptual plan illustrations are provided to demonstrate general feasibility of the subject proposal only. Actual improvements will require additional engineering studies and design work and shall be to the satisfaction of the City Engineer.

Table 5-1 California Bicycle Facility Classifications

Class Description	Example
Class I Bikeway (Bike Path) – Also referred to as shared-use paths or multi-use paths, Class I facilities provide a completely separated right-of-way designated for the exclusive use of bicycles and pedestrians with crossflows by motorists minimized. Bike paths can provide connections where roadways are non-existent or unable to support bicycle travel. The minimum paved width for a two-way bike path is 8 feet and 5 feet for a one-way bike path, with a minimum 2 foot wide graded area adjacent to the pavement.	
Class II Bikeway (Bike Lane) – Provides a striped lane designated for the exclusive or semi-exclusive use of bicycles with through travel by motor vehicles or pedestrians prohibited, but with pedestrian and motorist crossflows permitted. The minimum bike lane width where parking stalls are marked is 5 feet. The minimum width for a shared bike lane and parking lane is 11 feet.	
Class III Bikeway (Bike Route) – Provides shared use of traffic lanes with cyclists and motor vehicles, identified by signage and street markings such as “sharrows”. Bike routes are best suited for low-speed, low-volume roadways with an outside lane width of 14 feet.	
Class IV Bikeway (Cycle Track) – Also referred to as separated or protected bikeways, cycle tracks provide a right-of-way designated exclusively for bicycle travel within the roadway and physically protected from vehicular traffic. Types of separation include, but are not limited to, grade separation, flexible posts, or on-street parking.	

Protected bike facilities also have the added benefit of improving the pedestrian experience by providing an additional buffer between pedestrians and vehicles, as well as decreasing the crossing distance across vehicle travel lanes.

The growth in bicycle ridership following cycle track implementation is not unique to Long Beach. The 2014 report *Lessons from the Green Lanes* prepared by the National Institute for Transportation and Communities examined the responses to the installation of nine protected bicycle lanes in five cities.

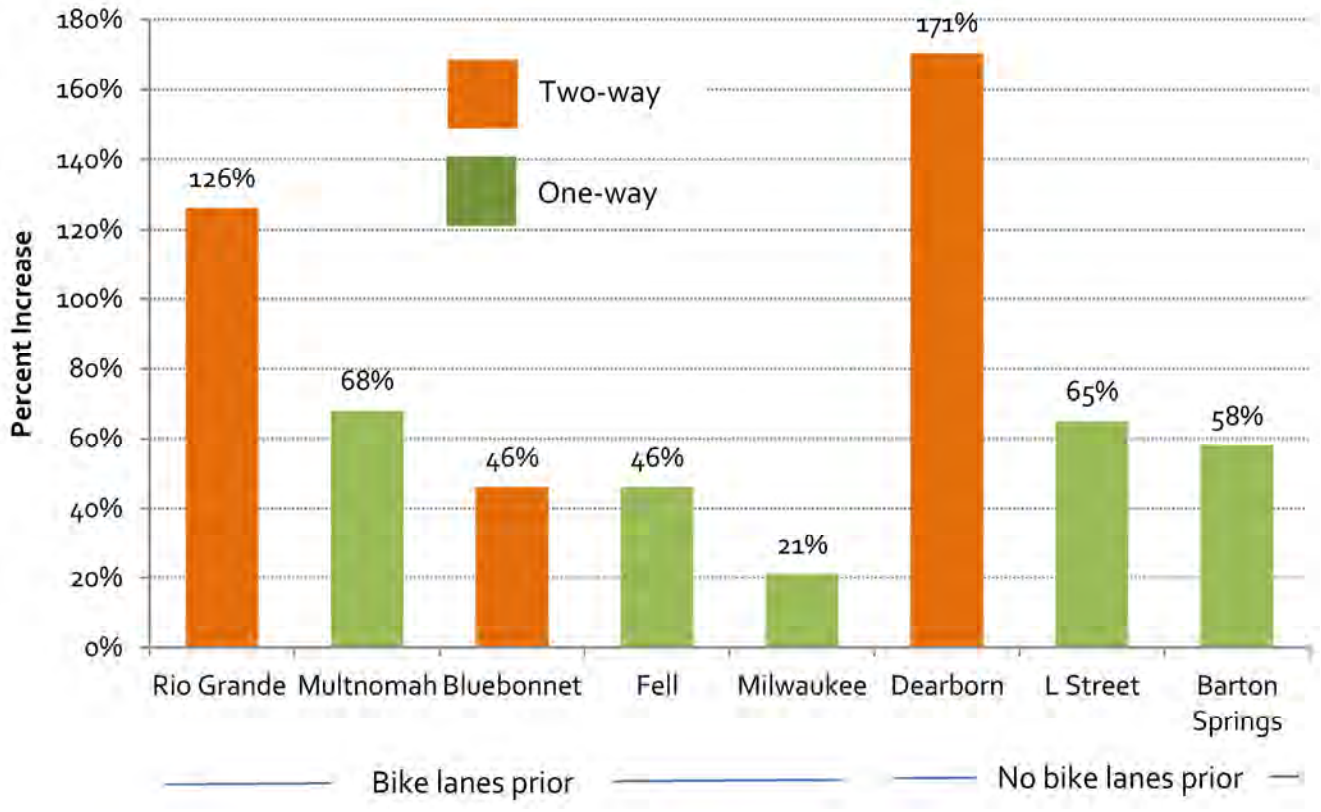
Figure 5-6 presents the change in observed bicycle volumes prior to and after implementation of the nine cycle tracks, distinguishing between one- and two-way cycle tracks.

As shown, increases ranging from 21% to 68% were observed on one-way cycle tracks, while 46% to 171% bicycle volume increases were observed along two-way cycle-tracks.

Figure 5-7 displays the proposed cycle tracks, differentiating between one- and two-way cycle tracks and identifying directionality for streets that will include facilities in one direction.

Figure 5-8 displays a conceptual plan view and photo simulation of a two-way cycle track driveway treatment along Sixth Avenue. The colored pavement is used to alert cyclists and drivers of the conflict area and to emphasize cyclist priority over entering and exiting traffic. Similar treatments are proposed at all driveway locations intersecting cycle tracks.

Figure 5-6 Change in Observed Bicycle Volume after Implementing Cycle Tracks



Source: Lessons from the Green Lanes, National Institute for Transportation and Communities (2014)

Figure 5-7 Proposed Cycle Track Network

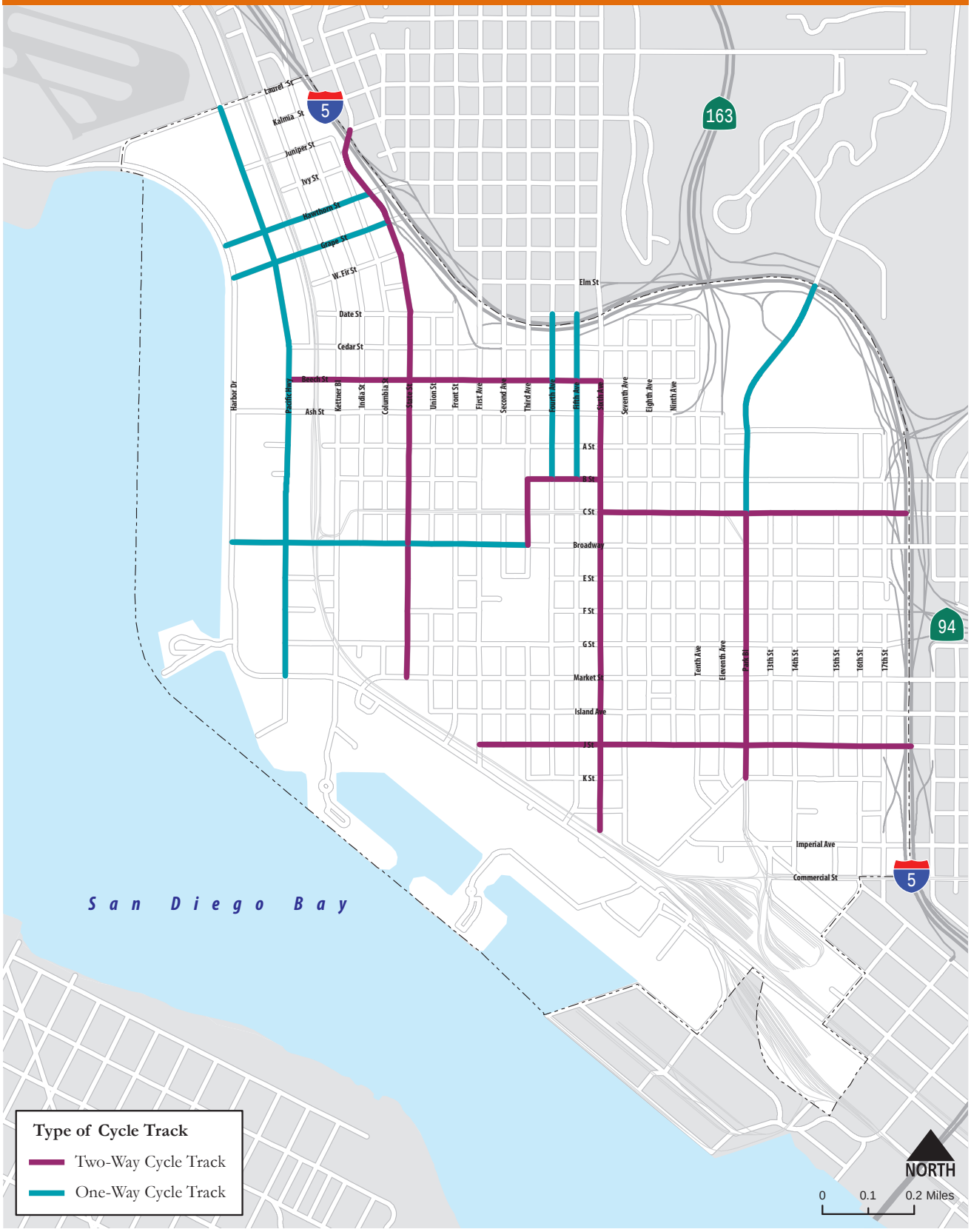


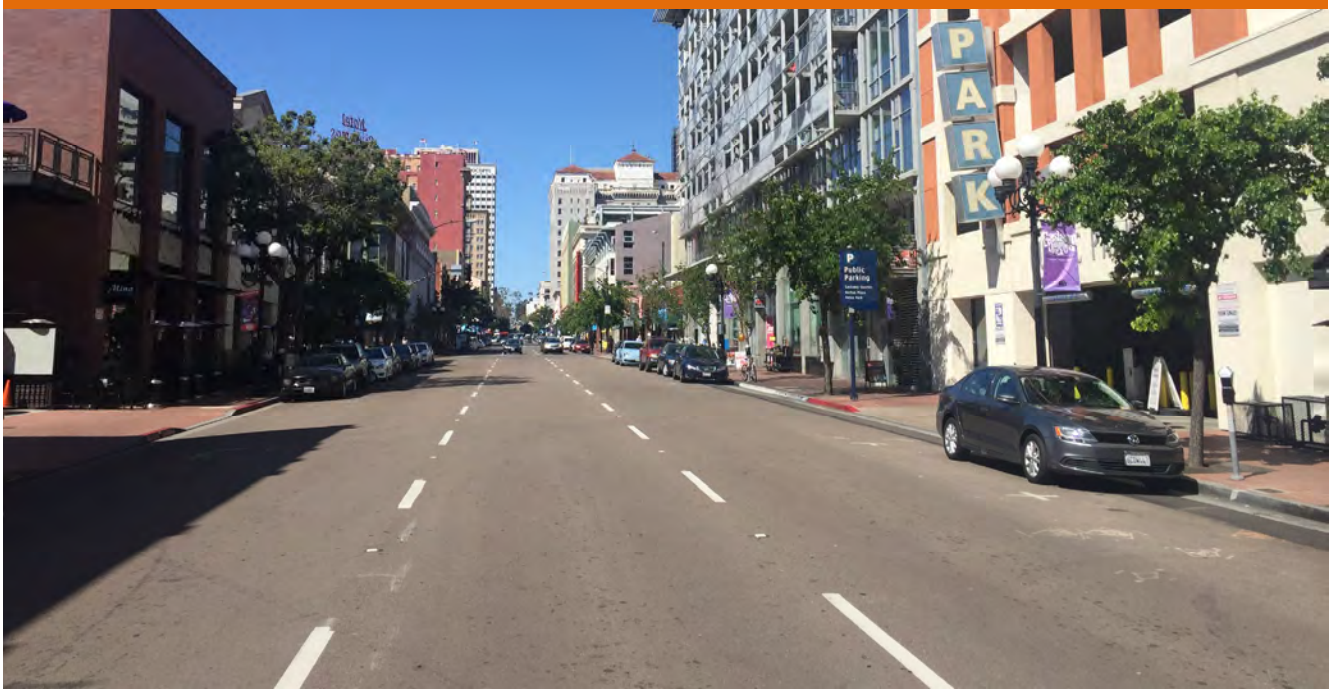
Figure 5-8 Typical Cycle Track Driveway Treatment Concept



Plan View Layout for Sixth Avenue, between G Street and Market Street

Note that cross-section and conceptual plan illustrations are provided to demonstrate general feasibility of the subject proposal only. Actual improvements will require additional engineering studies and design work and shall be to the satisfaction of the City Engineer.

Figure 5-8 Typical Cycle Track Driveway Treatment Concept (cont.)



Existing Streetscape – Sixth Avenue between G Street and Market Street (Looking North)



Proposed Streetscape – Sixth Avenue between G Street and Market Street (Looking North)

Note that cross-section and conceptual plan illustrations are provided to demonstrate general feasibility of the subject proposal only. Actual improvements will require additional engineering studies and design work and shall be to the satisfaction of the City Engineer.

Cycle tracks are proposed along the following segments:

North-South Cycle Tracks

Pacific Highway

One-way cycle tracks will span the length of Pacific Highway through Downtown, extending from Laurel Street to the roadway's southern terminus at Harbor Drive. This will connect the Midway/Pacific Highway Corridor Community and Little Italy to the Waterfront Park, Santa Fe Depot, San Diego Bay, Seaport Village and the Headquarters. Pacific Highway is currently a six-lane roadway with a raised median and intermittent on-street parking. To accommodate cycle tracks, one travel lane will be removed in each direction. The existing median will remain and intermittent on-street parking will be preserved in most instances. The cycle track will intersect with east-west cycle tracks at Hawthorn Street, Grape Street, Beech Street, and Broadway.

State Street

A two-way cycle track will run along the west side of State Street from Interstate 5 to the roadway's southern terminus at Market Street. This will connect the Uptown community to Downtown, and will provide a protected north-south bicycle facility for the Little Italy, Columbia and Marina neighborhoods. Between West Fir Street and Broadway, State Street currently has three northbound vehicular travel lanes, which will require a road diet resulting in two northbound lanes to accommodate the cycle track. South of Broadway, State Street currently has one vehicular travel lane in each direction. The wide southbound lane along this segment will be reduced to implement the cycle track and angled parking at the south end, where it exists, will be converted to parallel parking. The cycle track will intersect with east-west cycle tracks at Hawthorn Street, Grape Street, Beech Street, and Broadway. **Appendix G** includes a conceptual plan view depicting a potential alignment of the State Street cycle track, between Date Street and Cedar Street, with parking located curbside and the buffer located between the parking lane and the counter flow (southbound) Cycleway.

Third Avenue

A two-way cycle track will run along the west side of Third Avenue from B Street to Broadway. Third Avenue currently has a single vehicular travel lane in each direction along this segment. A lane diet will be implemented from B Street to C Street to accommodate on-street parking and the cycle track. Additionally, the lane widths will be reduced from C Street to Broadway. This segment serves to provide a connection to east-west facilities at Broadway and B Street.

Fourth Avenue

A southbound one-way cycle track will run along the east side of Fourth Avenue from Date Street to B Street. A parallel northbound one-way cycle track will run along the west side of Fifth Avenue from Date Street to B Street. This cycle track will connect the Uptown community north of Interstate 5 to Downtown and intersect with east-west cycle tracks at Beech Street and B Street. Fourth Avenue currently has three southbound vehicular travel lanes along this segment. One lane will be removed to accommodate the cycle track.



Green paint can be used to emphasize conflict zones as shown in this image of Broadway in Seattle.

Fifth Avenue

A northbound one-way cycle track will run along the west side of Fifth Avenue from Date Street to B Street. A parallel southbound one-way cycle track will run along Fourth Avenue from Date Street to B Street. This cycle track will connect the Uptown community north of Interstate 5 to Downtown and intersect with east-west cycle tracks at Beech Street and B Street. Fifth Avenue currently has three northbound vehicular travel lanes along this segment. One lane will be removed to accommodate the cycle track. The cycle track will intersect with east-west cycle tracks at Beech Street and B Street.

Sixth Avenue

A two-way cycle track will run along the east side of Sixth Avenue from Beech Street to its southern terminus at L Street. This will provide a north-south connection through Downtown's central neighborhoods and access to the Blue and Orange Lines at C Street, as well as the Green Line's Gaslamp Quarter Station. Sixth Avenue currently has three southbound vehicular travel lanes. One lane will be removed to accommodate the cycle track. The cycle track will intersect with east-west cycle tracks at Beech Street, B Street, C Street, and J Street.

Park Boulevard

One-way cycle tracks will run along each side of Park Boulevard from Interstate 5 to C Street. North of C Street, the intermittent on-street parking will be removed to accommodate the cycle-tracks. South of C Street it will be a two-way cycle track on the east side of Park Boulevard on the widened sidewalk to E Street. At the E Street intersection the cycle track will transition to the west side of Park Boulevard and will convert the single southbound lane into two-way bicycle travel only through the prohibition of vehicular travel, with the exception of the segment between Market Street and Island Avenue where Park Boulevard will remain open to vehicular traffic. As shown in Appendix G, along the Park Boulevard segment between Market Street and Island Avenue northbound bicycle travel will be accommodated by a contraflow cycle track, while a Class III bicycle route marked by sharrows will provide for southbound bicycle travel. The existing on-street parking will be maintained along this segment. In addition to providing north-south connections for the East Village neighborhood this cycle track will also serve to improve safety conditions for cyclists near San Diego High School and San Diego City College where, historically, relatively higher bicycle collisions were recorded. The cycle track will run parallel to portions of the Blue and Orange Lines, and provide access to stations at Smart Corner and Market Street. The cycle track will intersect with east-west cycle tracks at C Street and J Street.

East-West Cycle Tracks

Hawthorn Street

A westbound one-way cycle track will run along the south side of Hawthorn Street from Harbor Drive to State Street. A parallel eastbound one-way cycle track will run along Grape Street from Harbor Drive to State Street. The cycle track will connect Little Italy and the Uptown community to the San Diego Bay. On-street parking along the south side will be removed to accommodate the cycle track, however, the three vehicle travel lanes will remain. The cycle track will intersect with north-south cycle tracks at State Street and Pacific Highway, and the existing multi-use path adjacent to Harbor Drive.

Grape Street

An eastbound one-way cycle track will run along the north side of Grape Street from Harbor Drive to State Street. A parallel westbound one-way cycle track will run along Hawthorn Street from Harbor Drive to State Street. The cycle track will connect Little Italy and the Uptown community to the San Diego Bay. On-street parking will be removed on both sides of Grape Street to accommodate the cycle track and an additional vehicular travel lane. The cycle track will intersect with north-south cycle tracks at State Street and Pacific Highway, and the existing multi-use path adjacent to Harbor Drive.

Beech Street

A two-way cycle track will run along the south side of Beech Street from Pacific Highway to Sixth

Avenue. The cycle track will provide an east-west connection for the Little Italy and Cortez Hill neighborhoods and access to the Green Line Trolley between Pacific Highway and Kettner Boulevard. Both vehicular travel lanes will be maintained. In some instances angled parking will be converted to parallel parking to accommodate the cycle track. The cycle track will intersect with north-south cycle tracks at Pacific Highway, State Street, Fourth Avenue, Fifth Avenue, and Sixth Avenue.

B Street

A two-way cycle track will run along the south side of B Street from Third Avenue to Sixth Avenue. This segment serves to continue the east-west connection through the center of Downtown with Broadway serving the western side of the community and C Street serving the east. B Street currently has three westbound vehicular travel lanes. One lane will be removed to accommodate the cycle track. The cycle track will intersect with north-south cycle tracks at Third Avenue, Fourth Avenue, Fifth Avenue, and Sixth Avenue.

C Street

A two-way cycle track will run along the north side of C Street from Sixth Avenue to Interstate 5. This segment serves to continue the east-west connection through the center of Downtown with Broadway and B Street providing connections west of Sixth Avenue. Similar to Park Boulevard, the C Street cycle track will also serve to improve safety conditions for cyclists near San Diego High School and San Diego City College where, historically, relatively higher bicycle collisions were recorded. C Street, from 6th Avenue to 10th Avenue, will be closed to vehicular traffic to accommodate the cycle track. Additionally, between 10th Avenue and Interstate 5 one of the three eastbound vehicular travel lanes will be removed. The cycle track will intersect with north-south cycle tracks at Sixth Avenue and Park Boulevard. On the block between Seventh Avenue and Eighth Avenue, explore an alternative alignment to place a one-way or two-way cycle track along the south side of the Trolley tracks as shown in Appendix G.

Broadway (west of Third Avenue)

One-way cycle tracks will run along each side of Broadway from Harbor Drive to Third Avenue. This segment serves to continue the east-west connection through the center of Downtown, with B Street and C Street providing connections east of Third Avenue. This bicycle facility will improve cyclist safety along a main transit corridor with high vehicular volumes. Lane diets will be required the length of the segment to accommodate the cycle track. The cycle track will intersect with north-south cycle tracks at Pacific Highway, State Street and Third Avenue. On-going evaluation will consider the feasibility to continue this bicycle facility east to Sixth Avenue.

J Street

A two-way cycle track will run along the south side of J Street from First Avenue to Interstate 5. The cycle track will provide an east-west connection in the southern part of Downtown through the East Village, Horton Plaza/Gaslamp Quarter, and Marina neighborhoods. Additionally, the J Street cycle track will provide access to the San Diego Central Library, Petco Park, San Diego Convention Center, and the Green Line. Both vehicular travel lanes will be maintained. In some instances angled parking will be converted to parallel parking to accommodate the cycle track and parking will be eliminated on the south side of J Street, between Seventh and Tenth avenues. The cycle track will intersect with north-south cycle tracks at Sixth Avenue and Park Boulevard.

Future Considerations

Market Street and the entire length of Broadway were also considered for cycle tracks, however, after discussing the roadway modifications required to implement cycle tracks on these roadways with community members and other stakeholders, these facilities were ultimately left out of the recommended network. Potential cycle tracks along Market Street and Broadway were analyzed in the Downtown Mobility Plan Technical Report. These analyses provide flexibility for future implementation should community attitudes shift regarding mobility along these corridors.

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6 Transit

Providing an efficient, high quality transit system, especially in high intensity communities such as Downtown, is vital to maintaining acceptable levels of mobility for all travelers. It is important to consider that transit riders are also typically pedestrians at the beginning and end of their trips. For a truly complete and holistic mobility network, providing connections between modes, especially walk-to-transit and bike-to-transit, is of critical concern.

General Plan Policies ME-B.1 through ME-B.10, as well as the goals and policies proposed in this Chapter should be consulted for guidance.

6.1 Existing Conditions

Transit opportunities in Downtown are more plentiful than anywhere in the County. Local bus, Rapid Bus, light rail (Trolley), commuter rail (Coaster), and rail (Amtrak) can all be accessed Downtown. These varying services connect Downtown to neighboring communities, cities, and regions. SANDAG plans, engineers, and builds public transportation infrastructure throughout the region. MTS operates local bus and Rapid Bus services and the Trolley. The Coaster is operated by the North County Transit District (NCTD), while Amtrak operates rail services.

Transit needs are identified in terms of high demand and high deficiencies. Areas of high demand are defined by relatively high transit boardings and alightings, while high deficiency is characterized by network gaps, or underserved corridors, and transit stop locations with relatively high pedestrian- and/or bicycle-involved collisions within 500 feet.



For a truly complete and holistic mobility network, providing connections between modes, especially walk-to-transit and bike-to-transit, is of critical concern.

Figure 6-1 displays existing transit needs in Downtown. There is generally strong coverage throughout Downtown in terms of transit stops/stations. The highest transit boardings and alightings are found near the Downtown center (near Civic/Core neighborhoods) and in the northwest corner of the East Village. Additional locations or nodes of transit importance include the Santa Fe Depot, 12th and Imperial Transit Center, and the City College Transit Station.

Figure 6-1 Transit Needs



Bicycle and pedestrian collisions within 500-feet of transit stops were most prevalent along the Broadway and Market Street corridors, and clustered around the blocks near the intersection of 11th Avenue and C Street. The high collision volumes in these areas potentially indicates unsafe or inadequate pedestrian and cycling environments, which could hinder growth in transit ridership.

Improving pedestrian and bicycle safety near transit locations is important for connecting the first and last mile between transit stops and user origins and destinations. This connection is vital to sustaining and increasing the transit mode share in Downtown.

The adopted regional transportation plan (RTP), San Diego Forward: The Regional Plan, serves as the blueprint for a regional transportation system with a Horizon Year of 2050. **Figure 6-2** displays the 2050 Revenue Constrained Transit Network as identified in the RTP. **Appendix C** identifies the planned public transit improvements impacting Downtown as reflected in the Revenue Constrained Network.



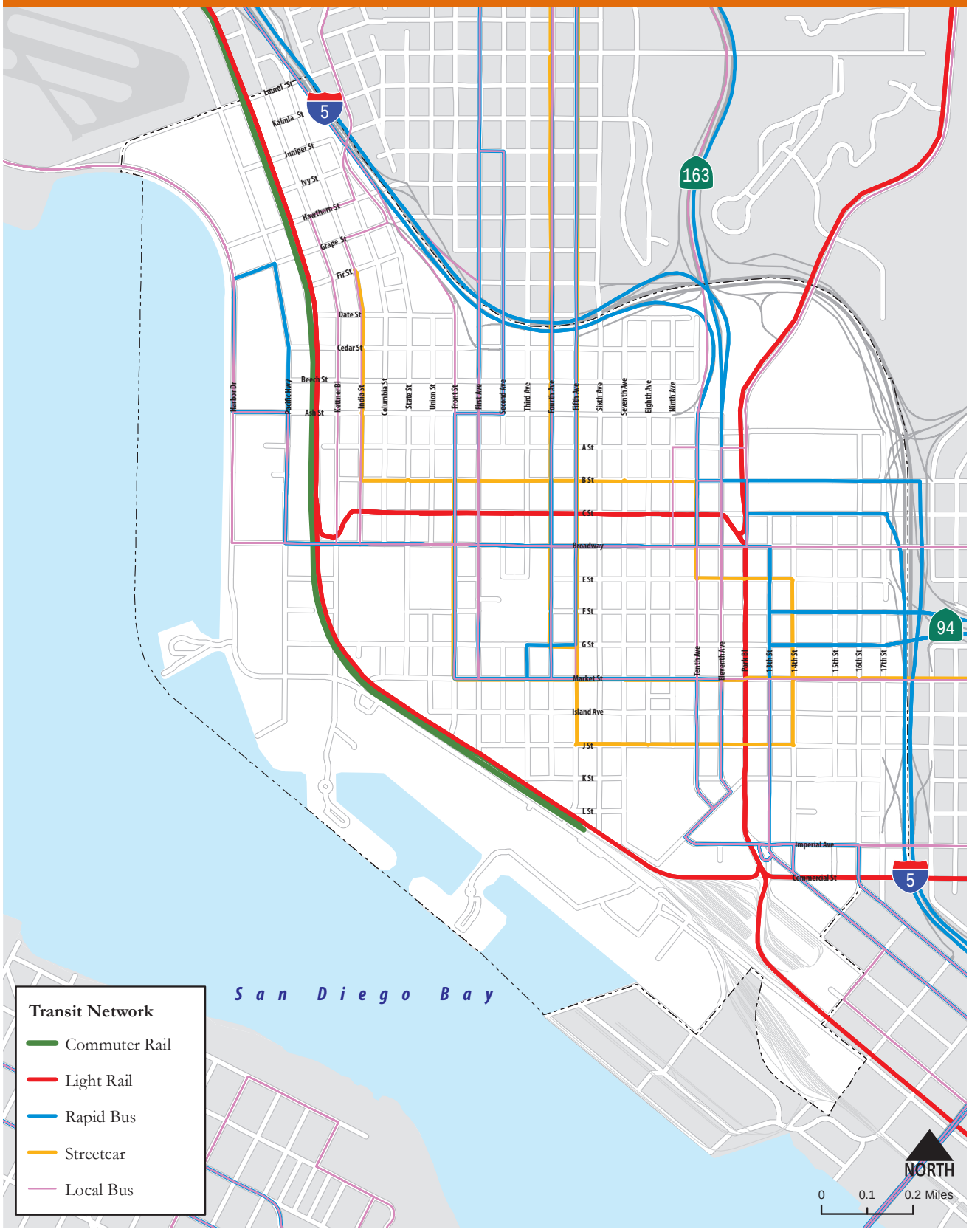
A general overview of the planned improvements identified in the RTP includes the following:

- 20-minute peak hour and 60-minute off-peak hour Coaster headways
- 10-minute peak hour Rapid Bus headways to Escondido via the Interstate 15 corridor; San Diego State University via the Park Boulevard/El Cajon Boulevard corridor; Otay Border crossing via the State Route 94/Interstate 805 corridor; North Park via Golden Hill; and Coronado via Barrio Logan
- 15-minute peak hour Rapid Bus headways to Santee and El Cajon Transit Centers; San Ysidro, and Kearney Mesa via Hillcrest and Mission Valley
- Streetcar with 10-minute all day headways from Downtown to Hillcrest; Little Italy to East Village; and 30th Street to Downtown via North Park and Golden Hill
- 10-minute all day headways on most local bus routes
- 7.5-minute Trolley all day headways
- Downtown San Diego Street Car between Little Italy and East Village with 10-minute headways
- Mid-Coast Trolley from Downtown to University City via Old Town and the University of California, San Diego
- Rapid Bus service to North Park and Golden Hill, Kearny Mesa, Coronado, Spring Valley and SDSU

General Plan Policies ME-B.1 through ME-B.10, as well as the goals and policies presented in this Chapter should be considered when evaluating transit mobility and planning future improvement projects.

Pedestrian and bicycle safety near transit locations is important for connecting the first and last mile between transit stops and user origins and destinations.

Figure 6-2 2050 Revenue Constrained Transit Network



6.2 Goals & Policies

Transit Goals

T-G-1 A land use pattern that supports a flexible, fast, frequent, and safe transit system, providing connections within Downtown and beyond.

T-G-2 An attractive and convenient transit system that is the first choice of travel for many trips made within, to, and from Downtown.

T-G-3 Increased transit use among Downtown residents, workers, and visitors.

Transit Policies

T-P-1 Locate the highest intensity developments in or near trolley corridors to maximize the level of activity with strong transit accessibility.



T-P-2 Work with other agencies to support planned street improvements to accommodate transit.

T-P-3 Coordinate with agencies responsible for planning, implementing, building, and operating public transportation infrastructure and services, such as SANDAG, MTS, NCTD, and Amtrak to provide:

- Rapid Bus service, improving the commuter and long-distance transit network with state-of-the-art technology to provide more frequent and faster trips in and out of Downtown.
- Bus service modifications to improve service, and to increase transit accessibility when the internal shuttle and Rapid Bus services begin.

T-P-4 Work with relevant agencies to eliminate or mitigate adverse impacts of freight train traffic on adjacent pedestrians, land uses, and residents. Impacts include blocked intersections and horn noise. If impact mitigation strategies fail, reconsider the feasibility of undergrounding freight lines through all strategic portions of Downtown.

T-P-5 Enhance streetscapes within Transitways to increase attractiveness for all users and promote shared transit, pedestrian and cyclist use.

T-P-6 Encourage SANDAG to develop real time information and signage systems for all Downtown transit facilities.

T-P-7 Coordinate transit station design with the transit agency to ensure inviting, enjoyable places, with shade, public art, landscaping, and memorable design features reflective of the surrounding environment.

T-P-8 Cooperate with the transit agency on public programs and campaigns to increase transit use for various types of trips, especially work, shopping, and entertainment.

T-P-9 Coordinate with regional rail and transit planners to monitor intra-city passenger and freight concepts and potential impacts on Downtown.

T-P-10 The City of San Diego, in conjunction with Civic San Diego, should pursue implementation of a demand response shuttle system within the Downtown area. The shuttle system should provide a point-to-point experience which could be requested from a mobile device. The shuttle system will maintain and enhance public access to and along the waterfront for residents, workers and visitors of Downtown. The shuttle system should include linkages to the airport, MTS transportation hubs, and key Downtown destination points.

T-P-11 Work with SANDAG and MTS to ensure transit routes maximize efficiency through the avoidance of angled parking along main transit routes.

T-P-12 Work with SANDAG and MTS to ensure bus routes, bus stops and bus turning radii are evaluated in the design of street and sidewalk improvements.

T-P-13 Ensure future installation and replacement of traffic signals in Downtown incorporate multi-ring controller units with advance traffic controller logic for complex intersection and network operations that promote efficient transit mobility.

T-P-14 Encourage increased transit capacity into Downtown.

6.3 Transit Recommendations

Increasing transit ridership to, from, and within Downtown is an important component of future mobility. In addition to providing an efficient, well connected transit network, transit amenities and transit stop environments play a role in encouraging transit ridership. The planned public transit network identified in the 2050 RTP is comprised of local bus, rapid bus, light rail (Trolley), commuter rail (Coaster), and rail (Amtrak).

Figure 6-3 displays the proposed Transitways, identifying corridors where transit and transit users are prioritized. **Figure 6-4** presents a cross-section of the Park Boulevard Transitway.

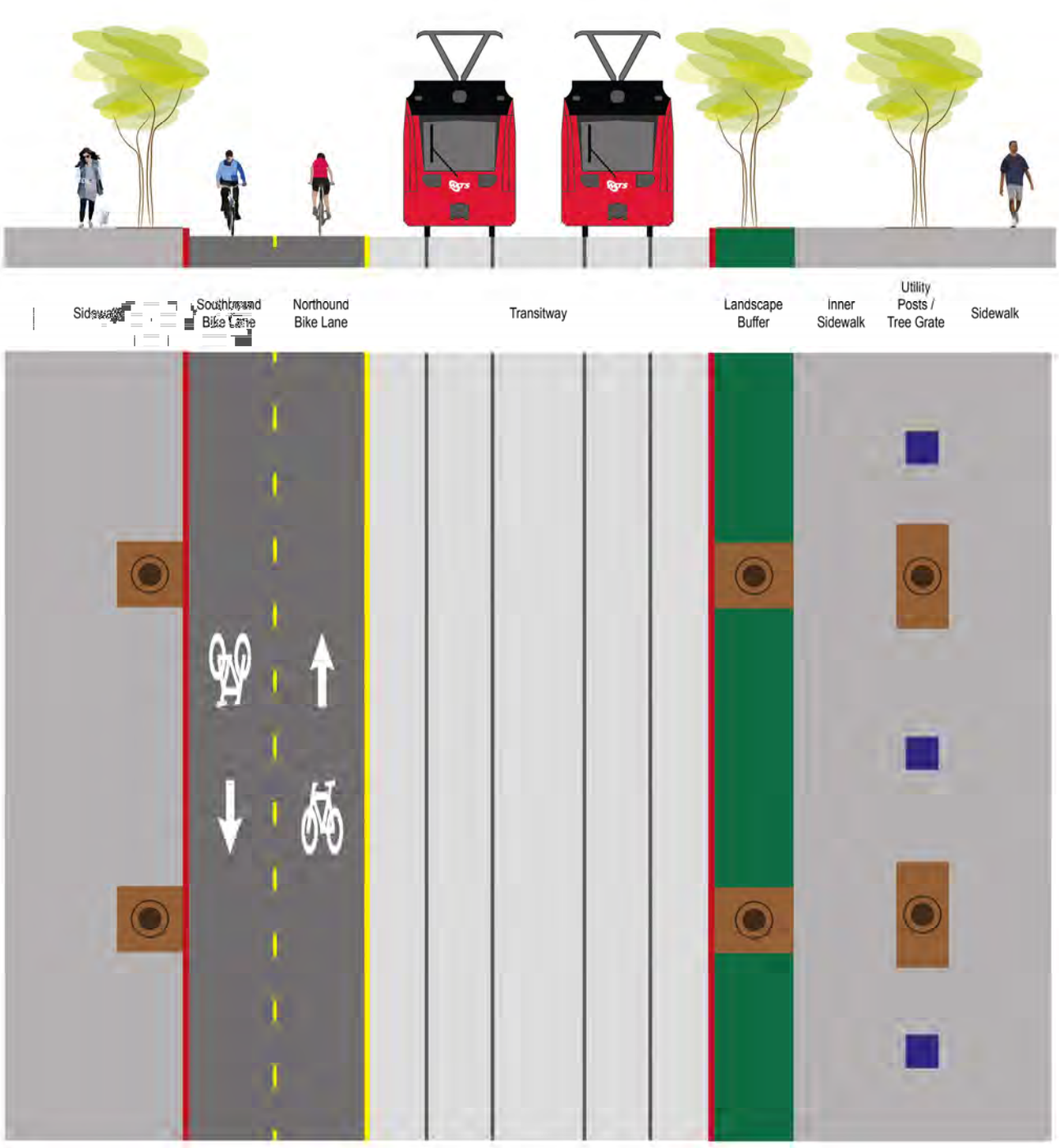
These corridors were selected based upon their existing and planned transit services and high transit demand. Transit is a priority along these corridors. Special consideration should be paid to transit stops along the identified Transitways. High quality transit shelters, bike racks, bike share stations, information kiosks, and other amenities that serve to promote transit and improve the environment and experience for transit users should be considered. Additionally, future analysis of the F Street and G Street couplet may consider a peak period transit/High Occupancy Vehicle Lane in the parking lane.



Figure 6-3 Proposed Transitways



Figure 6-4 Park Boulevard Transitway Cross-Section



Note that cross-section and conceptual plan illustrations are provided to demonstrate general feasibility of the subject proposal only. Actual improvements will require additional engineering studies and design work and shall be to the satisfaction of the City Engineer.

7 Vehicular Traffic

Despite the relatively high levels of residential and employment density, mix of land uses, and plentiful transit opportunities, the vast majority of Downtown residents report driving as the primary mode used for the work commute. Additionally, Downtown is an important cultural and entertainment hub for the region, attracting thousands of visitors that frequently drive to the community. The existing street network in Downtown provides a high degree of connectivity, allowing for shorter travel distances between trip origins and destinations. Downtown's street system also provides multiple regional access points by three freeways, including I-5, SR-163, and SR-94. Maintaining a convenient, efficient street system for inter- and intra-community travel is critical to preserving Downtown's status as a key regional destination.

This Chapter describes existing conditions related to vehicular mobility and proposes a set of goals and policies to support the street system in Downtown. The proposed street system plan is also presented, including the identification of segment specific modifications.

General Plan Policies ME-C.1 through ME-C.7, Table ME-2 (Traffic Calming Toolbox), as well as the goals and policies proposed in this Chapter provide guidance for future street and intersection modifications and improvements.

7.1 Existing Conditions

A comprehensive data collection and analysis effort was undertaken to report the existing traffic demands and deficiencies in Downtown. **Figure 7-1** displays roadway needs, addressing safety issues, operational deficiencies, and capacity deficiencies.



Similar to pedestrian and bicycle involved collisions, intersections with relatively high collision occurrences are located near freeway access points, including the following intersections:

- Fourth Avenue and Ash Street
- Fifth Avenue and Ash Street
- Fifth Avenue and A Street
- Tenth Avenue and A Street
- Eleventh Avenue and A Street
- 16th Avenue and F Street
- 16th Avenue and G Street

Peak period intersection Level of Service (LOS) was generally found to be acceptable, with the following exceptions:

- Second Avenue and Cedar Street (AM - LOS F)
- B Street and 17th Street (AM – LOS F)
- Broadway and Front Street (PM – LOS F)
- E Street and 16th Street (AM – LOS F)
- F Street and 15th Street (PM – LOS F)
- G Street and 17th Street (PM – LOS F)

Figure 7-1 Street and Freeway Needs



7.2 Goals & Policies

Street System Goals

SS-G-1 A street typology based on functional and urban design considerations, emphasizing connections and linkages, pedestrian and cyclist comfort, transit movement, and compatibility with adjacent land uses.

SS-G-2 An enhanced street grid that promotes flexibility of movement, preserves and/or opens view corridors, and retains the historic scale of the streets.

Street System Policies

SS-P-1 Implement the street typology shown in Figure 4-1 when carrying out streetscape improvements.

SS-P-2 Prohibit and discourage any interruption of the street grid.

SS-P-3 Forge new connections and view corridors as larger sites are redeveloped, opening rights-of-way at the waterfront, through the Civic Center and along Cedar Street, among others. Require full vehicle and pedestrian access in new connections except where precluded by existing plans and projects.

SS-P-4 Work with appropriate transportation agencies on freeway improvements in and near the Downtown area.

SS-P-5 Implement the proposed improvements within this Mobility Plan, with specific reductions in vehicular travel lanes on certain streets, which can then facilitate enhanced bicycle and pedestrian facilities.

SS-P-6 Evaluate and provide specific vehicular travel lane configurations for all streets (number of travel lanes, one-way vs. two-way circulation).

SS-P-7 Provide for sustainable street designs including storm water infiltration and reduction in storm water runoff as well as flooding.

SS-P-8 Encourage street designs that allow for temporary street closures for public and community events.

7.3 Street Recommendations

The street system should provide for the efficient movement of vehicles along specific corridors with enhancements to pedestrian, cycling, and parking facilities. Autoways identify Downtown streets where driving is prioritized. These roadways typically provide for high volume automobile and transit flows into, out of, and through Downtown. Autoways are intended to support these high volumes by providing maximum efficiency while also considering safety.

Figure 7-2 presents the proposed Autoways, while **Figure 7-3** displays a typical Autoway cross-section.



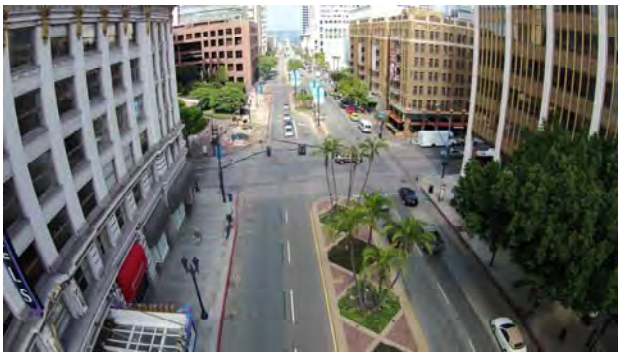


Figure 7-2 Proposed Autoways

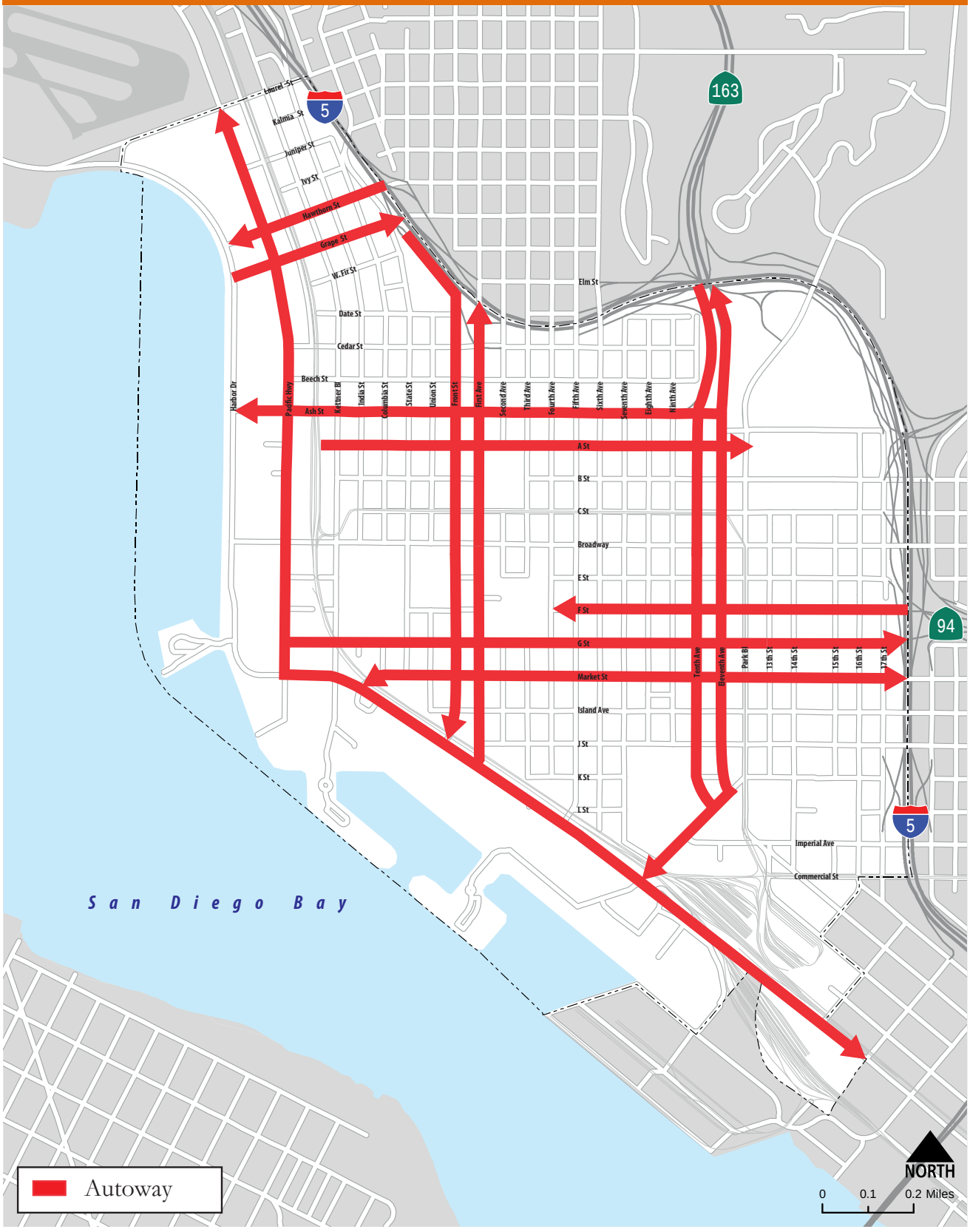
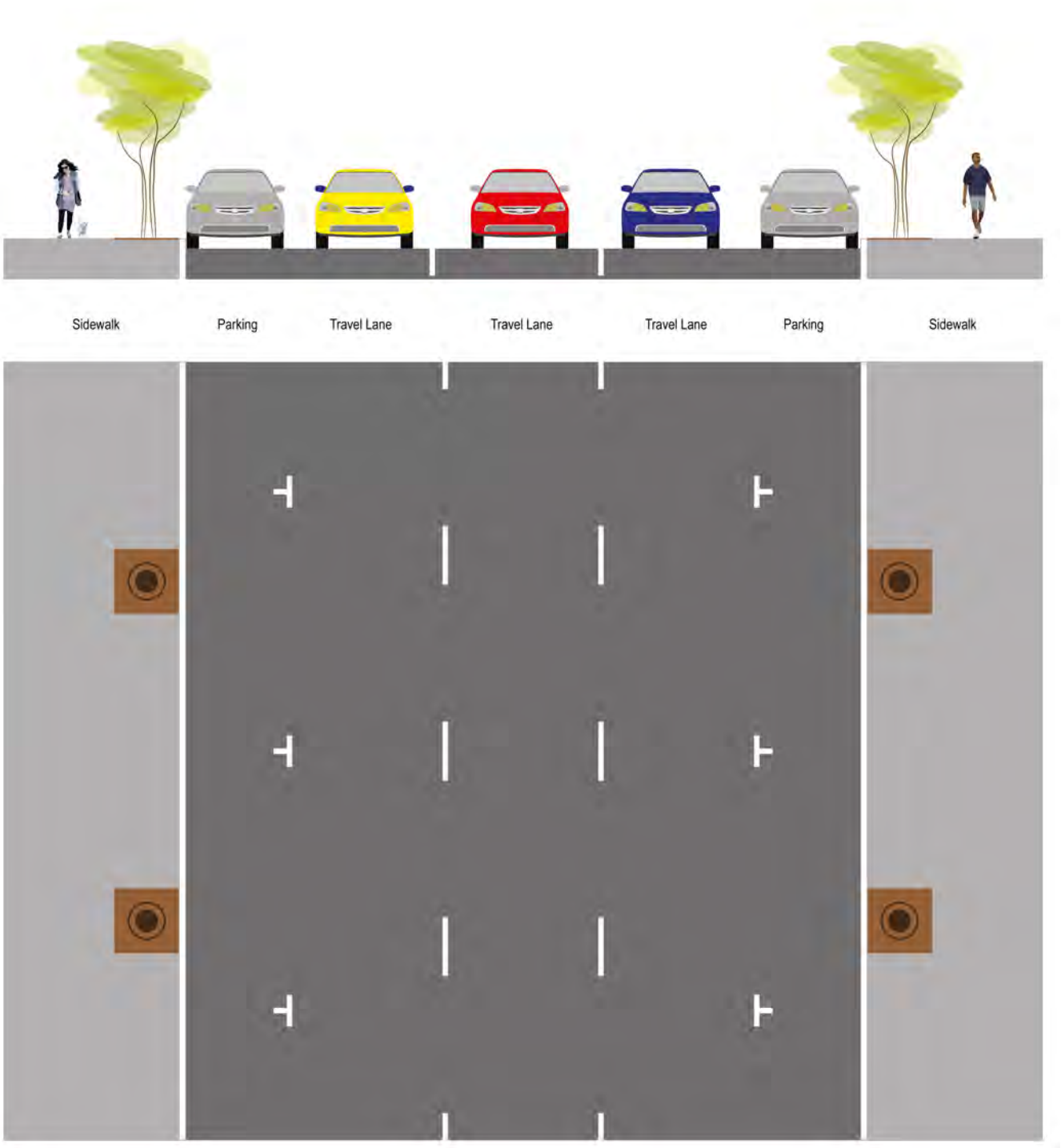


Figure 7-3 Typical Autoway Cross-Section



Note that cross-section and conceptual plan illustrations are provided to demonstrate general feasibility of the subject proposal only. Actual improvements will require additional engineering studies and design work and shall be to the satisfaction of the City Engineer.

The Downtown street system currently consists of both one- and two-way streets, with some streets alternating the permitted directions of travel. Figure 7-4 identifies one-way street segments proposed for conversion to two-way streets to provide for increased vehicular mobility.

Each of the street segments proposed for conversion are identified below, including the rational for the modification:

Third Avenue (Date Street to A Street)

This segment will be modified to better align with Third Avenue south of A Street and north of Fir Street. Converting the three-lane northbound segment to two-lanes with bidirectional travel will also provide additional right-of-way needed to accommodate angled parking which will increase overall supply along this segment.

Eighth Avenue (Ash Street to G Street)

This segment of Eighth Avenue will be altered to be consistent with Eighth Avenue south of G Street. The three-lane southbound segment will be modified to provide a single lane in each direction, which will provide additional right-of-way to implement enhanced Greenway features, such as expanded sidewalk widths and increased landscaping.

Ninth Avenue (Ash Street to Market Street)

The three northbound travel lanes along this segment of Ninth Avenue will be modified to a single lane in each direction, to be consistent with the alignment south of Market Street. The modification will allow for the implementation of angled parking which will increase street parking capacity.

E Street (Fourth Avenue to 13th Street)

The three eastbound travel lanes along this segment of E Street will be modified to a single lane in each direction, to be consistent with the alignment east of 13th Street. The modification will provide additional right-of-way to implement enhanced Greenway features, such as expanded sidewalk widths and increased landscaping.

The street system should provide for the efficient movement of vehicles along specific corridors with enhancements to pedestrian, cycling, and parking facilities.

Road Diets

As described in Chapter 3 one of the key drivers of the mobility network development was to create a feasible system that can be implemented by repurposing and reconfiguring the existing public right-of-way to better accommodate all modes of travel. A system wide traffic operational analysis was conducted to determine which Downtown streets have excess capacity and where an auto travel lane may be removed to accommodate a Greenway, a separated bicycle facility, or angled (from parallel) on-street parking to off-set the potential parking losses associated with the implementation of cycle tracks and Greenways. The proposed road diets are displayed in Figure 3-3 and summarized in Table 7-1.



Figure 7-4 Proposed One-Way to Two-Way Street Conversions

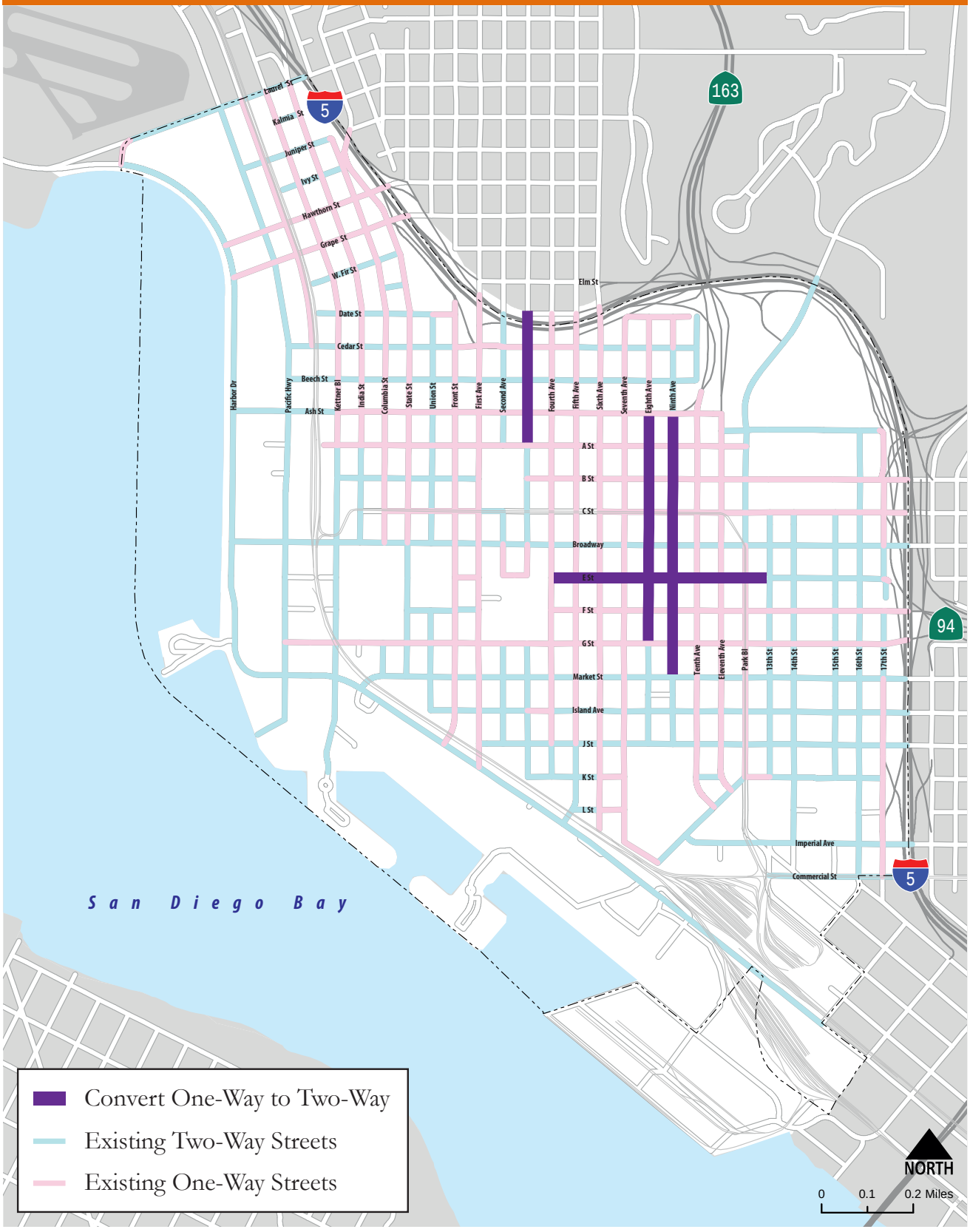


Table 7-1 Proposed Road Diets		
Segment	From	To
North-South Road Diets		
Pacific Highway	Laurel Street	Harbor Drive
Kettner Boulevard	Ivy Street	Grape Street
Kettner Boulevard	Cedar Street	Ash Street
India Street	Beech Street	Broadway
Columbia Street	Juniper Street	Broadway
State Street	West Fir Street	Broadway
Second Avenue	Cedar Street	A Street
Third Avenue	Date Street	C Street
Fourth Avenue	Date Street	B Street
Fifth Avenue	Date Street	B Street
Sixth Avenue	Elm Street	J Street
Seventh Avenue	Ash Street	K Street
Eighth Avenue	Ash Street	J Street
Ninth Avenue	A Street	Market Street
14th Street	E Street	Market Street
17th Street	Market Street	J Street
East-West Road Diets		
Cedar Street	Second Avenue	Seventh Avenue
B Street	Third Avenue	Sixth Avenue
C Street	Tenth Avenue	Interstate 5
E Street	Fourth Avenue	14th Street

Road Closures

In addition to above road diets, a couple of roadway closures to vehicular traffic are also proposed to accommodate the implementation of continuous separated bicycle facilities along C Street and Park Boulevard.

- Sections of C Street, from Sixth Avenue to Tenth Avenue, will be closed to vehicular traffic. This segment currently provides a single eastbound lane. Vehicular traffic is currently prohibited west of this segment, on C Street from Second Avenue to Sixth Avenue.
- Sections of Park Boulevard, from E Street to Market Street, and Island Avenue to K Street, will be closed to vehicular traffic. These segments currently provide a single southbound lane. Park Boulevard, from Market Street to Island Avenue, will remain open to vehicular traffic to facilitate commercial deliveries and maintain on-street parking. Appendix G includes a plan view graphic of this segment demonstrating the proposed alignment.

Lane Diets

In some instances repurposing an entire vehicular travel lane is not necessary, rather a lane diet or narrowing the lanes will provide sufficient width to accommodate the recommended improvement. The proposed lane diets are listed in Table 7-2.

Table 7-2 Proposed Lane Diets		
Segment	From	To
North-South Lane Diets		
Union Street	Date Street	Island Avenue
Third Avenue	C Street	Broadway
Eighth Avenue	Date Street	Ash Street
Ninth Avenue	Market Street	J Street
Park Boulevard	Interstate 5	C Street
Park Boulevard	Market Street	Island Avenue
13th Street	C Street	E Street
14th Street	C Street	E Street
14th Street	Market Street	Commercial Street
15th Street	C Street	Broadway
17th Street	F Street	Market Street
17th Street	J Street	Imperial Avenue
East-West Lane Diets		
Cedar Street	Pacific Highway	First Avenue
Cedar Street	Seventh Avenue	Tenth Avenue
Beech Street	Pacific Highway	Sixth Avenue
B Street	Kettner Boulevard	State Street
Broadway	Harbor Drive	Third Avenue
E Street	14th Street	17th Street
Island Avenue	Union Street	Interstate 5
J Street	First Avenue	Interstate 5
K Street	Third Avenue	Seventh Avenue
K Street	Park Boulevard	17th Street

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8 Transportation Demand Management

Transportation Demand Management (TDM) can be defined as a broad set of strategies that strive to reduce or reallocate automobile travel to achieve regional benefits such as reduced congestion, improved air quality, reduced energy use and greenhouse gas emissions, improved public health for those biking or walking, and reduced commuting and travel costs. Throughout the San Diego region SANDAG currently coordinates a range of programs aimed at reducing traffic congestions and increasing the number of commuters who rideshare through carpooling or vanpooling, ride transit, bike, walk, and telecommute.

The remainder of this Chapter explores existing TDM practices, recommended goals and policies and recommended strategies to implement. This Chapter generally divides TDM strategies into Active Transportation (strategies to increase bicycling and walking) and conventional TDM strategies.



8.1 Existing Conditions

Table 8-1 presents TDM strategies employed in Downtown and throughout the region.

A brief description of each strategy is provided below. More detailed TDM strategy descriptions are provided in **Appendix D**.

Table 8-1 TDM Strategies

Active Transportation Strategies	Conventional Strategies
Wayfinding	Public Transit
Bike Parking	Ridesharing
Bike Share	Carsharing
Ciclovias / Open Streets / Sunday Parkways	Parking Management
Education and Enforcement	Flexible Work Arrangements
Outreach and Marketing	

Wayfinding

Wayfinding tools, including signs, pavement markings, and maps are an invaluable resource for pedestrians and bicyclists. They are especially needed by those who are not familiar existing routes, such as beginning cyclists or tourists.

Civic San Diego is currently in the process of updating wayfinding signage in Downtown. The Wayfinding Design Signage Upgrade includes pedestrian circulation signs and kiosks as well as signage to direct pedestrians and bicyclists to nearby trails, but does not comprehensively address bicycle wayfinding needs in Downtown.

Bike Parking

Convenient and secure bike parking is a necessary component of a comprehensive bicycle accommodation strategy. Bike racks should be located in close proximity to building entrances and should be easily visible to a passerby.

The San Diego Municipal Code ensures that bike racks will be implemented in new developments and through redevelopment. Businesses can request a bike rack by sending an email to a designated recipient at the City (trafficops@sandiego.gov). All costs associated with rack installation and maintenance are borne by the City. Requests for racks in Downtown are handled by Civic San Diego.

Bike Sharing

The bike sharing program in San Diego is operated in partnership between the City of San Diego and DecoBike. Upon buildout completion, the network will provide approximately 1,800 bikes, dispersed across over 180 stations in San Diego, with the greatest concentration located in Downtown. Bikes can be rented by the half-hour, or via unlimited ride memberships. DecoBike offers a map of bike-sharing stations, including real-time bike inventories and free docks (http://www.decobike.com/sandiego/map-location).



Wayfinding Sign on Third Avenue.

Open Streets / Ciclovias / Sunday Parkways

The term "Ciclovia" refers to a public street that has been closed to vehicular traffic, but remains open to bicyclists and pedestrians. San Diego's version of the Ciclovia, termed CicloSDias, began in 2011 and was held for the third time in November 2014. The event is organized by the San Diego County Bicycle Coalition with assistance from the City of San Diego and San Diego County, as well as various non-profit and private companies.

Education and Enforcement

The San Diego County Bicycle Coalition holds classes on a regular basis, including Bicycle Traffic Skills 101, bicycle repair classes, bike rodeos, and classes geared towards women and family riding. Along with their classes, the San Diego County Bike Coalition website has several educational resources addressing topics such as sharrows, bike lanes, roundabouts, and how to pass bikes safely, among others. The SANDAG Bike Map also includes information on bicycle laws and safe riding practices, bike parking, and taking bikes on transit vehicles.



A variety of TDM programs are available through SANDAG's iCommute program.

In 2011, the San Diego Police Department issued a memo to its Patrol and Traffic Officers clarifying the application of traffic safety laws to bicyclists on San Diego roadways. More recently, the Department has participated in a multi-agency bike safety campaign to promote the passage of a 3-foot passing law in California. To address distracted driving and walking, the San Diego Police Department recently conducted targeted enforcement of pedestrian and motorist violations that affect pedestrian safety.

Outreach and Marketing

Outreach and marketing related to bicycling and walking builds interest, enthusiasm, and support for non-motorized transportation. Outreach can occur through a wide variety of events and programs, including bike-to-work day and bike-to-work month, employer-based competitions, Safe Routes to School events, helmet fittings, and equipment giveaways, among others.

Public Transit

Transit programs are essential to a successful TDM program, as they offer an alternative to single-occupancy vehicle (SOV) travel that is accessible to a large percentage of the population. While transit agencies provide a public service by offering mobility to transit dependent populations, transit providers also help meet the goals of TDM programs to the extent they are utilized by "choice riders". Choice riders are individuals who choose transit over driving even though they can afford to drive.

Ridesharing

Carpooling and vanpooling (known collectively as ridesharing) have the goal of increasing average vehicle occupancy rates on the roadway system. These strategies are among the most cost-effective alternate transportation choices, especially in areas underserved by transit. In addition to lower commute costs, rideshare participants benefit from the use of high-occupancy vehicle (HOV) and high-occupancy toll lanes, which reduce commute times. However, ridesharing remains an unattractive option for some commuters due to inconvenient access, inflexibility, and unreliability. There are various TDM strategies to address the limitations of ridesharing, including financial support, rideshare matching, and guaranteed ride home.

Carsharing

Carsharing programs allow registered users to reserve and rent cars at hourly or daily rates. Carshare programs include private companies, non-profit or government run programs, private vehicle fleets, and peer-to-peer services. Carsharing, in combination with transit and other alternative modes, allow individuals on-demand access to cars without the added costs of vehicle ownership. Private carsharing companies have operated in San Diego since 2002, when Flexcar (purchased by Zipcar in 2007) began offering services. San Diego selected Flexcar in 2004 for their Station Car Pilot Program to address first/last mile connections. In 2009, SANDAG studied the viability of on-street parking for a carshare system and in 2011, Car2Go service launched and has a current all-electric fleet of 400 vehicles. The peer-to-peer service, RelayRides, also operates in San Diego.


Parking is reserved for car share vehicles at Horton Plaza.

Parking Management

Free parking reduces the overall cost of vehicle ownership and usage, which results in higher levels of SOV usage. Charging for parking in central business districts and other office locations, along with other innovative parking management practices can reduce or eliminate this subsidy and improve overall system efficiency.

The Comprehensive Parking Plan for Downtown includes a variety of recommendations to improve the management of existing parking capacity. The recommendations include a number of best practices outlined in this report such as shared parking agreements and variable parking pricing.

Flexible Work Arrangements

Flexible work arrangements, including teleworking and discretionary arrival/departure times allow employees to forego work trips or modify their timing to avoid travel during peak times. SANDAG's iCommute program has a Telework pilot program (*TeleworkSD*) that offers free consulting services for employers who want to effectively implement telecommuting strategies in their work place.

General Plan Policies ME-E.1 through ME-E.8, as well as the following goals and policies should be considered when evaluating TDM improvements.

8.2 Goals & Policies

TDM Goals

TDM-G-1 A Downtown transportation demand management program that minimizes energy consumption, vehicle miles traveled, and vehicular traffic contributions from new and existing development.

TDM-G-2 A viable set of joint use parking arrangements for evenings, weekends, and holidays that is coordinated with regional transportation planning and demand management programs.



TDM Policies

TDM-P-1 Implement TDM approaches and participation in existing TDM programs, including but not limited to those overseen by SANDAG and MTS, in order to:

- Encourage rideshare and carpool in all levels of government with offices and facilities Downtown as well as other major Downtown employers
- Designate preferential, conveniently located car/vanpool parking areas
- Provide transit reimbursement and other benefits to users of non-motorized travel
- Establish a car/van-pool matching service that could use mechanisms such as sign-ups at individual buildings, or via electronic mail or an Internet website.
- Continue SANDAG's guaranteed ride home for workers who carpool
- Work with public and private entities to encourage car share programs in Downtown
- Provide flextime and telecommuting opportunities to employees
- Provide designated shuttle stops for the publicly accessible shuttle serving the Downtown area, with routing to include key destination points, such as the airport, hotels, and visitor-serving facilities.

TDM-P-2 Provide incentives for developers to incorporate additional Transportation Demand Management practices in new residential and commercial developments, including facilities for bicyclists.

8.3 TDM Recommendations

Active TDM Recommendations

Wayfinding

- Develop and implement a bicycle wayfinding signage plan, using the Civic San Diego Wayfinding Design Signage Upgrade as a guide.

Bike Parking

- Implement a comprehensive bicycle parking program as recommended in the City of San Diego Bicycle Master Plan.
- Develop and publicize guidelines for the implementation of bike corrals.

Bike Sharing

- Closely monitor and evaluate the bike sharing system to develop a strategic approach to future network expansion.

Open Streets / Ciclovias / Sunday Parkways

- Depending on attendance levels, consider holding CicloSDias events on a more frequent basis.
- Explore optimal institutional and management arrangements to maximize the effectiveness of CicloSDias.

Education

- Explore the feasibility of developing a bicycle ambassadors program for San Diego.
- Develop a comprehensive set of educational materials with a consistent design and marketing approach.
- As new bicycle and pedestrian infrastructure is installed, such as protected bike lanes or pedestrian hybrid beacons, develop and distribute educational materials to ensure the public understands how they are intended to be used.

Conventional TDM Recommendations

Public Transit

- Evaluate bike capacity on transit buses and trains and address gaps as needed.
- Develop a plan to address first/last mile transit access.

Ridesharing

- Continue to encourage use of SANDAG's RideMatch Tool (www.icommutesd.com/commuters/tripplanner).

Carsharing

- Continue to encourage and evaluate carshare use within Downtown.

Parking

- Continue to implement recommendations in the Comprehensive Parking Plan for Downtown.

Flexible Work

- Continue to implement the TeleworkSD program and evaluate its success over time.



Priority parking is reserved for car share vehicles on B Street in Downtown.

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9 Parking

Parking is a vital component of any transportation system, and even more so in the Downtown community due to the high levels of residential and employment density. Downtown's position as a key regional destination for dining, cultural, and entertainment activities further emphasize the need for adequate and convenient parking options.

General Plan Policies ME-G.1 through ME-G.5, and Table ME-3 (Parking Strategy Toolbox), as well as the following goals and policies should be referenced when evaluating parking conditions and considering new parking facilities or modifications.

9.1 Goals & Policies

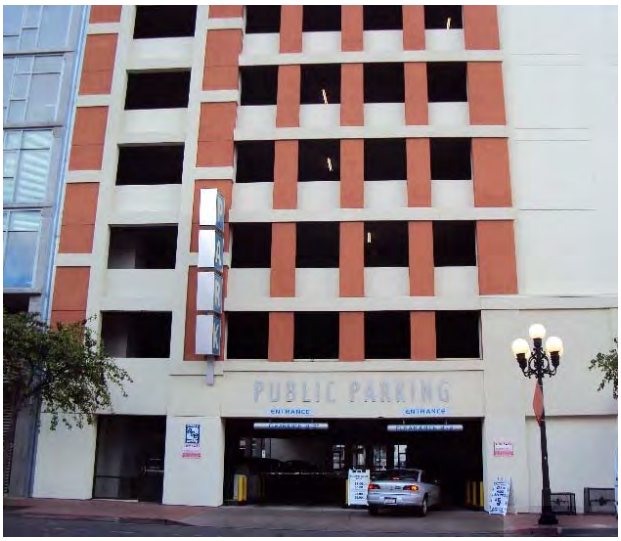
Parking Goals

P-G-1 Parking accommodations that serve growing needs by improving the management of parking demand through the promotion and use of several alternative forms of travel, such as transit, carshare, bikeshare, carpool, and other ridesourcing options.

P-G-2 New parking structures that accommodate parking needs from multiple land uses to the extent possible and allow shared parking where possible.

P-G-3 New public garages throughout Downtown, in locations contributing to efficient circulation, and convenient and proximate to eventual destinations.

P-G-4 Public parking resource(s) near each Neighborhood Center that provide short-term parking for merchants and businesses.



Parking Policies

P-P-1 Require a certain portion of on-site motorcycle and bicycle parking in addition to automobile spaces.

P-P-2 Emphasize shared parking approaches, including:

- Development of parking facilities that serve multiple uses, to enable efficient use of space over the course of the day;
- Parking under new parks that are full-block or larger in size, where not limited by geological or other constraints; and
- Enhance on-street parking through restriping streets where appropriate.

P-P-3 Allow off-site and/or shared parking arrangements where appropriate to maximize efficient use of parking resources.

P-P-4 Work with developers of high-density developments unable to accommodate parking on site to allow development/use of parking under public parks, where appropriate and feasible.

P-P-5 Work with the Port to provide public parking in the Waterfront/Marine area, and with the City, County and other agencies in the Civic/Core area.

P-P-6 Ensure that all public parking structures maximize the potential for subterranean parking and incorporate other uses at higher, visible building floors where feasible. Explore the use of technological advancements (robotic parking, parking lifts, etc.) to improve cost/parking efficiencies in the public garages.

P-P-7 Maximize the efficiency of on-street parking by managing metered time limits and pricing to correspond with daily activity patterns.

P-P-8 Provide for parking designs and solutions that maximize public on-street parking and also enhances pedestrian and bicycle environments.

P-P-9 Strive to maintain on-street parking availabilities by converting parallel parking to angled parking where possible.

P-P-10 Evaluate curb space allocations with management of metered time limits to assist with achieving an efficient balance between loading/passenger drop-off, valet parking needs, and short- and long-term parking.

P-P-11 Maintain a comprehensive marketing and communications strategy to inform residents, business owners, employees, and visitors of all parking policy updates.

P-P-12 Consider additional guidance on implementation of parking management strategies that are included in the SANDAG Regional Parking Management Toolbox. (http://www.sandag.org/uploads/publicationid/publicationid_1910_18614.pdf)

P-P-13 Promote the provision of adequate commercial loading zones to discourage double-parking of delivery vehicles.

9.2 Parking Management

The implementation of parking management programs and policies can provide many benefits in regards to parking utilization and capacity within the Downtown area. In dense urban areas, such as Downtown, targeted parking supplies can be managed to maintain a higher utilization rate throughout the day, resulting in a focused parking demand in key areas, instead of a sprawling demand throughout the entire community. Focused parking demands are much easier to maintain, manage and direct the general public to, resulting in lower costs, demand for fewer overall parking spaces and less patrons driving around city streets searching for parking spaces.



Dynamic signs can be used to display the location and quantity of available parking spaces.

Civic San Diego is currently in the process of implementing the following parking management programs within the Downtown community:

Reconfiguration of Existing On-Street Parking to Increase Parking Capacity

Civic San Diego is planning to conduct a Downtown-wide project to reconfigure and convert existing on-street parking. The objective is to reconfigure or convert vacated driveways, obsolete curb zones (red zones, white passenger loading zones, etc.) in order to maximize on-street parking availability. Civic San Diego will utilize a study conducted on the current inventory of parking conditions throughout Downtown to determine which locations will need to be reconfigured or converted. Additionally, as proposed in this plan, Civic San Diego will look for opportunities to increase on-street parking supply by converting parallel parking spaces to angled parking spaces on roadways which are not classified as Autoways, Cycleways or Greenways.

Downtown Circulator Shuttle

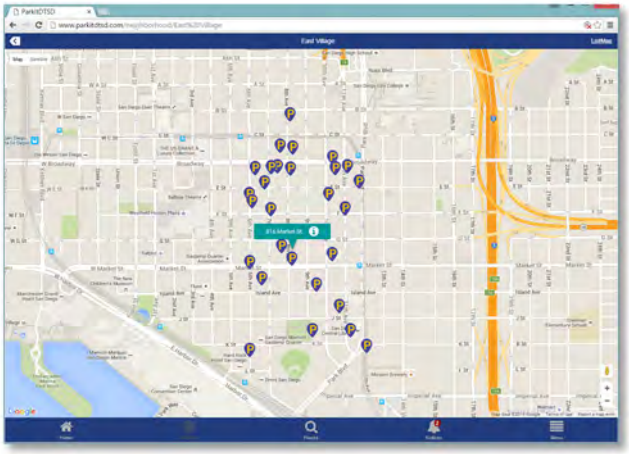
Civic San Diego is currently in the process of implementing a Downtown Circulator shuttle that would reduce the demand for parking on interior streets and surface lots. The proposed Downtown Circulator Shuttle will provide a free on-demand shuttle service (similar to rideshare programs like UBER) to and from any location within the Downtown area. The service will provide visitors convenient and accessible mobility throughout Downtown thereby encouraging them to park in the peripheries of the parking district or to use public transportation to travel Downtown.

New Public Parking Facilities

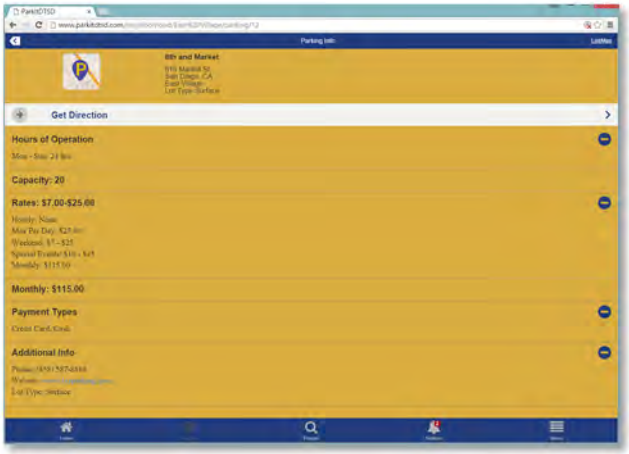
Civic San Diego is currently planning to implement a new 200 parking space underground public parking structure beneath the East Village Green Park project, to be located on the block between F Street to the north, G Street to the south, 13th Street to the west and 14ths Street to the east. This structure will serve the quickly growing East Village Neighborhood.

Website and Smart Phone Applications

With the recent implementation of smart meter technology throughout the Downtown area, as well as the development of websites, such as http://www.ParkitDTSD.com, allow the opportunity for the development of smart phone applications that display real-time information as to where both public off-street and on-street parking vacancies. This information is already available for both City operated public parking structures (Parking it on Market and 6th and K) and is currently being expanded to include other public parking facilities. Additionally, consider the feasibility of pay-by-phone options.



www.ParkitDTSD.com *displays parking lots by neighborhood or near the users' location using smart phone GPS.*



www.ParkitDTSD.com *provides information about each parking facility, such as hours of operation, capacity, rates, and payment types.*

Civic San Diego should investigate the feasibility of the following parking management programs within the Downtown community:

Shared Public Parking Facilities

Development of additional shared public off-street parking facilities serving high parking demand areas such as little Italy, Central Core, the Ball Park District and the Gaslamp Quarter. Shared public parking facilities should be well spaced from one another to avoid an overlap of parking demand.

Advertising

Public parking facilities should be clearly branded to separate themselves from private parking facilities. This lets potential consumers know that they are allowed to park within the facility. The cost of parking should be in clear sight to passing motorists to allow them to quickly choose from the street if they are willing to pay to park within the facility or not.

Enhanced Bicycle and Pedestrian Facilities

Providing clearly defined pedestrian and bicycle paths between parking facilities and popular destinations within the Downtown area can increase the range in which patrons are willing to park away from their desired destination, meaning that more facilities become available to them.

Shared Parking Agreements

Shared private parking agreements can provide additional supply to the public by allowing consumers to park in unused private parking facilities during non-peak periods (i.e. during the day for facilities serving residential use and at night for facilities serving office uses).

Dynamic Message Signs

Implement dynamic message signs at freeway off ramps entering into the Downtown area that display the various public lots and the number of spaces that are currently available within them. This informs motorists as to where parking is available as they enter the Downtown area, so they quickly travel to their desired parking facility and avoid driving from facility to facility in hopes to find available spaces. This treatment is particularly effective when larger events occur within the Downtown area such as ball games, concerts and major conventions when parking facilities near the event tend to fill up quickly.

Dynamic Pricing

Dynamic pricing allows the per hour cost at parking meters to change from day to day or even hour to hour based on the historical demand of a group of parking meters within a specific zone or neighborhood. The dynamic pricing technology looks at the historic use at the meters and adjusts the per hour prices up during times in which the meters have been historically in demand and adjusts prices down during historic times in which the meters have not been used. Dynamic pricing can also be linked to smart phone applications to let consumers decide whether they would like to pay a premium for in-demand spaces or pay less to park further away.

Enhanced Enforcement

The implementation of Smart Meter technology also allows for technological enhancements for parking enforcement. With the implementation of censor technology at the parking meters, alerts can be sent to parking enforcement officers about where vehicles are parked at an expired meter and where cars have been parked in a space beyond the authorized time limit. These technologies can significantly reduce parking enforcement costs and allow for better enforcement creating higher parking turn over.



Parking Considerations

Some of the pedestrian, bicycle and green street improvements included in the Mobility Plan may require the removal of on-street parking spaces due to right-of-way constraints. The majority of these losses can be made up by converting parallel on-street parking spaces to angled parking spaces on the streets in which improvements are not proposed. To understand the magnitude of change in the on-street parking supply with the full implementation of the Mobility Plan, a planning level assessment was conducted assuming worst case scenario conditions (i.e. the highest potential for lost spaces). It should be noted that this assessment was strictly done at a planning level and is based on a series of general assumptions, as outlined below. The actual number of parking spaces gained and/or lost will not truly be known until actual civil engineering design plans are fully developed for each specific improvement.

General Assumptions

The following general assumptions were used to determine the change in on-street parking within the Downtown area, with the implementation of the Mobility Plan:

Cycleways – Based on initial conceptual designs, the implementation of a cycle track, in either direction (i.e. north/south or east/west), will require the removal of two parking spaces per block. The removal of these spaces is based on the general assumption that there will be at least one driveway per block, on the same side of the roadway as the cycle track. One parking space on either side of the driveway (2 total spaces) will need be removed in order to provide adequate site distances for motorists. This is assumed to be a worst case scenario since there are several block faces along the roadway corridors in which cycle tracks are proposed where driveways are not present. However, one driveway per block is assumed as a worst case scenario, since the driveway configuration of future development is unknown.

Pedestrian Improvements – Bulb-outs (stripped or raised) are assumed at all corners of every intersection along the Cycleways. Each bulb-out is assumed to take up half of a parking space; therefore, two parking spaces per block (0.5 spaces x 4 corners) were assumed to be removed to accommodate these improvements.

Greenways– Based on the initial concept designs, on-street parking will be removed on one side of the roadway to accommodate the proposed green street improvements. As a worst case scenario, it was assumed that the maximum number of parking spaces would be removed on every block (i.e. no driveways, turn pockets, loading-zones or red-zones are currently present). This results in 12 spaces being removed on north/south blocks and 8 spaces being removed on east/west blocks.

Angled Parking Conversion – To make up for some of the on-street parking spaces lost with implementation of the bicycle and pedestrian improvements, the preferred plan proposes to convert parallel parking spaces to angled parking, along roadways where feasible. Based on a review of the existing blocks within the Downtown area where parking has been converted from parallel to angled, north/south blocks typically gain about 8 spaces per block while east/west blocks typically gain about 3 spaces per block. These numbers include the assumption of one driveway per block.

In addition to the parking changes identified above, Civic San Diego is also looking at the following improvements to help off-set any parking losses:

East Village Green Parking Structure – Civic San Diego is currently in the process of developing the East Village Green parking structure, which is a 200-space public parking structure located in the East Village. The structure will be constructed under the western portion of the East Village Green Park, located on the block bound by F Street, G Street, 13th Street and 14th Street. This structure is planned to be constructed around the same time as the short-range improvements (over the next 10 years).

Update to the Comprehensive Parking Plan for Downtown San Diego – Civic San Diego is currently

preparing to update their Comprehensive Parking Plan for Downtown. As part of the plan update, Civic San Diego will re-evaluate the existing on-street parking inventory to look for opportunities to convert red-zones, loading-zones and commercial-zones to standard pubic parking spaces. This effort is intended to significantly increase the number of available on-street parking spaces within the Downtown area, and help to replenish some of the parking spaces lost to accommodate the Mobility Plan Improvements.

Short-Range Implementation

Chapter 13 categorizes each recommendation as short- or long-range, considering the feasibility of the planned improvements. Short-range projects include all Cycleways, with the exception of Hawthorn Street and Grape Street, and also include the 14th Street and E Street Greenways. Angled parking shall be implemented on all feasible corridors within Downtown prior to, or concurrently with, short-range projects to avoid any parking impacts that may result from implementing Cycleways and Greenways.

Table 9-1 displays the projected net change in parking within the Downtown area, with the assumed short-range projects implemented.

Table 9-1
Short-Range Parking Changes

Improvement	Spaces Lost/Gained[1]
Cycleways	-331
14th St. & E St. Greenways	-242
Angled Parking Conversion	+600
East Village Green Garage	+200
Net Change	+227

Note:
1. The total number of parking spaces lost or gained are based on estimations and a +/- 10% parking loss/gain should be considered.

As shown, implementation of the short-range projects will result in a net gain of approximately 227 public parking spaces within the Downtown area.

Long-Range Implementation

The improvements in Chapter 13 categorized as long-range require more aggressive roadway modifications, and include two Cycleways, four Greenways, and the conversion of two one-way streets to two-way streets. Table 9-2 displays the projected net change in parking within the Downtown area with the assumed short-range and long-range projects implemented.

Table 9-2
Long-Range Parking Changes

Improvement	Spaces Lost/Gained[1]
Cycleways	-419
Pedestrian Improvements	-196
Greenways	-662
East Village Green Garage	+200
Angled Parking Conversion	+600
Net Change	-477

Note:
1. The total number of parking spaces lost or gained are based on estimations and a +/- 10% parking loss/gain should be considered.

As shown, the implementation of both the short-range and long-range projects could result in a net loss of approximately 477 parking spaces within the Downtown area.

10 Intelligent Transportation Systems

Intelligent Transportation Systems (ITS) utilize technology to maximize the efficiency and effectiveness of multimodal transportation systems. ITS may increase vehicle throughput, reduce congestions, and provide real-time data to the commuting public.

General Plan Policies ME-D.1 through ME-D.6, as well as the following goals and policies should be considered when evaluating ITS improvements.



Synchronized traffic signals keep cars moving to Interstate 5 along Grape Street.



10.1 Goals & Policies

ITS Goals

ITS-G-1 Improved mobility and safety through the application of state of the art transportation technologies.

ITS-G-2 Real time mobility information displayed or made available to commuters.

ITS Policies

ITS-P-1 Support implementation of ITS to improve safety, efficiency and service, and congestion, including but not limited to traffic signal coordination, traffic and transit information, smart parking technology, and transit priority measures.

ITS-P-2 Encourage use of and accommodation for emerging technologies such as car charging stations as part of future infrastructure and development projects.

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11 Airports, Passenger Rail, & Goods Movement

Airports

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

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



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

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

Passenger Rail

Union Station, commonly referred to as the Santa Fe Depot, provides passenger rail opportunities within Downtown and is operated by Amtrak. This intercity connection offers many visitors and commuters an alternative transportation mode to a personal vehicle, with Amtrak's *Pacific Surfliner* serving communities along the California coastline from San Diego in the south to San Luis Obispo in the north. Amtrak reported 700,107 rail boardings and alightings at Union Station in FY 2014, making it the 12th busiest station in the national Amtrak System and 3rd busiest in California.

Goods Movement

The efficient movement of goods is essential for meeting basic consumer demands and requires interaction among multiple transportation modes. The San Diego region is supported by intermodal goods movement infrastructure consisting of roadways, railways, maritime facilities, and airport facilities. Downtown is located in close proximity to several regionally significant goods movement facilities, including the San Diego International Airport, the Port of San Diego, coastal and inland freight railways, and multiple regional freeways. Additionally, the San Ysidro Port of Entry to the south provides international access for goods to and from Mexico. A brief description of the truck, air, rail and maritime goods movement modes is provided.





Truck Freight

Most goods in the San Diego region are transported via truck through regional and local roadways. While the City of San Diego does not have a system of designated truck routes, regional truck access to Downtown is provided by I-5, SR-163, and SR-94. Within Downtown, industrial and commercial destinations are generally concentrated along Commercial Street, however truck access is required throughout Downtown.

Rail Freight

Rail freight is operated by the Burlington Northern Santa Fe Railway Company (BNSF) and the San Diego and Imperial Valley railroad (SD&IV). BNSF operates freight rail service along the same right-of-way as Amtrak and the Coaster passenger services. BNSF transports freight to points north and east of San Diego County, such as Los Angeles and Arizona. According to the *LOSSAN Corridor Strategic Assessment* (January 2010) freight rail frequencies within this corridor are expected to double (from 4 trains a day to 8) over the next 20 years.

The SD&IV uses the Downtown railyard to store or interchange railcars and operates occasional short-haul freight services i along the Orange Line trolley corridor and more regular services on the Blue Line Trolley Corridor moving south to San Ysidro (freight rail services in San Diego County operate in off-peak hours). This service provides an important freight connection between the US and Mexico.



Air Freight
In addition to the transport of freight on roadways, cargo also moves in and out of Downtown via air freight transportation companies such as FedEx, DHL Express and UPS. The San Diego International Airport serves as the primary regional airport for air freight.

Maritime
Maritime cargo is shipped and received at the 10th Avenue Marine Terminal located in the southeast portion of Downtown. Landside transportation connectivity to both regional highways and the jointly-used rail system is extremely important to this marine terminal.

11.1 Goals & Policies

Airports, Passenger Rail, and Goods Movement Goals

ARG-G-1 A comprehensive mobility network to move goods safely and efficiently through multiple transportation modes.

Airports, Passenger Rail, and Goods Movement Policies

ARG-P-1 Coordinate with and support the San Diego County Regional Airport Authority with implementation of the Airport Master Plan to ensure convenient and safe access to the airport.

ARG-P-2 Work with responsible and affected agencies, including Caltrans, SANDAG, MTS, the San Diego Unified Port District, and the San Diego Regional Airport Authority, to enhance infrastructure and facilitate the timely movement of goods.

ARG-P-3 Coordinate with Amtrak to identify and implement measures to improve transit user access, safety, and convenience.

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12 Storm Water

Storm water infrastructure is designed to catch and direct water flow, however, heavy rains can result in flooding and storm water runoff. When rain water hits roadway or sidewalk surfaces it may become contaminated by a variety of transportation and industrial related pollutants. Storm water pollution adversely affects the environment, however, there are measures that can be taken to reduce or mitigate storm water impacts.

General Plan Policies CE-E.1 through CE-E.7, PF-F.6, PF-G.2, PF-H.3, and PF-I.1, as well as the following goals and policies should be considered when evaluating storm water improvements.



This landscaped median on Broadway is used to catch storm water runoff.

12.1 Goals & Policies

Storm Water Goals

S-G-1 A long term construction and maintenance plan to manage storm water that serve the existing and future needs of the community and region.

S-G-2 A comprehensive, sustainable urban greening program to mitigate urban runoff, while minimizing potable water use.

S-G-3 Cleaner storm water discharges into the San Diego Bay.

Storm Water Policies

S-P-1 Coordinate with the City of San Diego to manage and reduce storm water runoff.

S-P-2 Utilize permeable paving, bio swales and/or other storm water design features that will manage rain water and irrigation runoff while supporting heavy load vehicles.

S-P-3 Implement water improvement programs so there are systematic improvements and gradual replacement of water facilities throughout the community.

S-P-4 Support capital improvements to the system where replacement lines are needed.

S-P-5 Collaborate with neighborhood organizations and other entities to coordinate timing and replacement of infrastructure.

S-P-6 Install infrastructure that includes components to capture, minimize, and prevent pollutants in urban runoff from reaching the San Diego Bay.

S-P-7 Encourage private property owners to retrofit landscaped or impervious areas to better capture storm water runoff.

S-P-8 Encourage neighborhood practices for preventing and removing buildup of trash and pet waste.

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13 Implementation

This Chapter is intended to support implementation of the recommendations presented in the Mobility Plan by providing the following information:

- A discussion of strategies to assist with implementing the mobility recommendations
- Identification of short- and long-range projects
- Intersection design concepts
- An overview of potential funding sources to consider pursuing
- Monitoring program



13.1 Implementation Strategies

The recommendations presented in the Mobility Plan were developed as feasible, cost-effective measures to improve existing and future mobility. Each of the recommendations can be implemented within the existing curb-to-curb width, which reduces construction costs by avoiding the reconstruction of relatively new public improvements made by development projects over the past 20 years. Roadway improvements are proposed to be achieved through two primary strategies, lane diets and road diets, which repurpose vehicular right-of-way for use by other modes.

A lane diet acquires right-of-way by narrowing the width of a vehicular lane of travel. For example, narrowing the vehicular travel lanes along Broadway, west of Third Avenue, to 12 feet provides sufficient space to accommodate a one-way cycle track on each side of the street with the removal of on-street parking. Lane diets do not impact roadway capacity.

Alternatively, road diets reduce the total number of vehicle travel lanes along a roadway, which generally provides 10-12 feet of right-of-way to accommodate improvements for other modes. For example, a road diet is proposed to remove one southbound travel lane on Fourth Avenue, from Date Street to B Street, in order to provide sufficient right-of-way to accommodate a one-way cycle track. Traffic analyses were conducted in support of the Mobility Plan, considering all planned roadway modifications including the removal of travel lanes. The results indicate neither existing, nor future, vehicular level of service will be significantly impacted by the planned road diets.

The City of San Diego and SANDAG will be responsible for implementation of this plan. Three of the methods that may be used to implement the recommendations include roadway resurfacing and restriping, allocation of the City's Capital Improvement Program funds, and the SANDAG Regional Bike Plan Early Action Program.

Implementation with Planned Maintenance and Resurfacing Projects

The planned Mobility Plan improvements can be achieved through lane and road diets, which can be accomplished in conjunction with other planned improvements such as roadway resurfacing and restriping projects. This is not only a cost effective strategy, but can also limit the impacts resulting from temporary roadway closures.

City of San Diego Capital Improvement Program

The City of San Diego's Capital Improvement Program (CIP) is a long-range plan for all individual capital improvement projects and funding sources. The City of San Diego's Budget includes a CIP Budget outlining which projects are approved for funding. The City Council approves a CIP Budget each June, in time for the new fiscal year beginning in July. Due to the high costs of many infrastructure projects, the CIP Budget is a rolling budget, including five years of funding. This provides a potential source of funds to explore implementing the recommendations set forth in the Mobility Plan.

Downtown San Diego Public Facilities Financing Plan

The Public Facilities Financing Plan provides a funding source toward implementation of public facilities identified in the Downtown Community Plan. Transportation facility projects identified in the current FY2015 Downtown community financing plan include street, transit, bicycle and pedestrian improvements, promenades, and below grade parking structures.

SANDAG Regional Bike Plan Early Action Program

In September 2013, the SANDAG Board of Directors approved the Regional Bike Plan Early Action Program, securing $200 million in funding for the implementation of the Regional Bicycle Network High Priority Projects. Four of the corridors classified as Cycleways in this Mobility Plan are consistent with those identified in the Early Action Program, including Pacific Highway, Fourth Avenue, Fifth Avenue, and Park Boulevard. The funds secured for these corridors will expedite the implementation process.

Downtown Parking District

The Downtown Community Parking District collects revenue from parking meters and public parking structures to help fund projects that increase parking supply or reduce demand on parking within Downtown. Funds collected from the Parking District are prioritized by the Civic San Diego Board of Directors, with the final budget approved by the City Council.

13.2 Short- and Long-Range Projects

Projects were categorized as short- or long-range, considering the feasibility of the planned improvements. In this context, feasibility is largely defined by the availability of secured funding and ease of low cost construction. Other important considerations include consistency with adopted planning documents and community receptiveness to the changes. Table 13-1 identifies project extents for short-range projects, while Table 13-2 identifies long-range projects. As shown, all road/lane diets, one-way to two-way street conversions, are included as short-range projects due mainly to the ease of low cost construction and the fact that these projects can be achieved with restriping/resurfacing. Considering cycle tracks are complementary to one another and will best serve community members as a well-connected network, all but two recommended cycle tracks are identified as short-range projects. Implementing the network as a whole, rather than individual segments, will establish a well-connected grid of north-south and east-west protected bicycle facilities that can improve the safety and comfort for cyclists in Downtown. Angled parking conversion is proposed to occur prior to, or concurrently with, Cycleway implementation to ensure no short-term net parking decrease.

Table 13-1 Short-Range Projects

Segment	From	To
Cycleways		
Pacific Highway One-Way Cycle Tracks	Laurel Street	Harbor Drive
State Street Two-Way Cycle Track	Interstate 5	Market Street
Third Avenue Two-Way Cycle Track	B Street	Broadway
Fourth Avenue One-Way Cycle Track	Date Street	B Street
Fifth Avenue One-Way Cycle Track	Date Street	B Street
Sixth Avenue Two-Way Cycle Track	Beech Street	Southern Terminus
Park Boulevard One-Way Cycle Tracks	Interstate 5	C Street
Park Boulevard Two-Way Cycle Track	C Street	K Street
Beech Street Two-Way Cycle Track	Pacific Highway	Sixth Avenue
B Street Two-Way Cycle Track	Third Avenue	Sixth Avenue
C Street Two-Way Cycle Track	Sixth Avenue	Interstate 5
Broadway One-Way Cycle Tracks	Harbor Drive	Third Avenue
J Street Two-Way Cycle Track	First Avenue	Interstate 5
Greenways		
14th Street Greenway	C Street	Commercial Street
6th Avenue Greenway	Elm Street	Cedar Street
E Street Greenway	Fourth Avenue	17th Street
One-Way to Two-Way Street Conversions		
Third Avenue	Interstate 5	A Street
E Street	Fourth Avenue	13th Street
Road Diets		
Pacific Highway	Laurel Street	Harbor Drive
Kettner Boulevard	Ivy Street	Grape Street
Kettner Boulevard	Cedar Street	Ash Street
India Street	Beech Street	Broadway
Columbia Street	Juniper Street	Broadway
State Street	W. Fir Street	Broadway
Second Avenue	Cedar Street	A Street
Third Avenue	Date Street	C Street
Fourth Avenue	Date Street	B Street
Fifth Avenue	Date Street	B Street
Sixth Avenue	Elm Street	J Street
Seventh Avenue	Ash Street	K Street
Eighth Avenue	Ash Street	J Street
Ninth Avenue	A Street	Market Street
14th Street	E Street	Market Street
17th Street	Market Street	J Street
Cedar Street	Second Avenue	Seventh Avenue
B Street	Third Avenue	Sixth Avenue

Table 13-1 Short-Range Projects		
Segment	From	To
C Street	Tenth Avenue	Interstate-5
E Street	Fourth Avenue	14th Street
Lane Diets		
State Street	Broadway	Market Street
Union Street	Date Street	Broadway
Union Street	W. F Street	Island Avenue
Third Avenue	C Street	Broadway
Eighth Avenue	Date Street	Ash Street
Ninth Avenue	Market Street	J Street
Park Boulevard	Interstate-5	C Street
13th Street	C Street	E Street
14th Street	C Street	E Street
14th Street	Market Street	Commercial Street
15th Street	C Street	Broadway
17th Street	F Street	Market Street
17th Street	J Street	Imperial Avenue
Kalmia Street	Kettner Boulevard	India Street
Juniper Street	India Street	Columbia Street
Cedar Street	Pacific Highway	First Avenue
Cedar Street	Seventh Avenue	Tenth Avenue
Beech Street	Pacific Highway	Sixth Avenue
B Street	Kettner Boulevard	State Street
Broadway	Harbor Drive	Third Avenue
E Street	14th Street	17th Street
Island Avenue	Union Street	Interstate 5
J Street	First Avenue	Interstate 5
K Street	Third Avenue	Seventh Avenue
K Street	Park Boulevard	17th Street
Road Closures to Vehicular Traffic		
C Street	Sixth Avenue	Tenth Avenue
Park Boulevard	E Street	K Street

Table 13-2 Long-Range Projects		
Segment	From	To
Cycleways		
Hawthorn Street One-Way Cycle Track	Harbor Drive	State Street
Grape Street One-Way Cycle Track	Harbor Drive	State Street
Greenways		
Union Street	Date Street	Island Avenue
Cedar Street	Pacific Highway	Tenth Avenue
Island Avenue	Union Street	Interstate 5
Eighth Avenue	Date Street	J Street
One-Way to Two-Way Street Conversions		
Eighth Avenue	Ash Street	G Street
Ninth Avenue	Ash Street	Market Street

13.3 Design Concepts

This section serves to demonstrate how the planned improvements will be accommodated along each roadway. Additional emphasis is placed on intersection operations along Cycleways to help ensure safety for roadway users where a cycle track crosses through an intersection.

Cycleway Conceptual Designs

Intersections require additional consideration when evaluating and designing bicycle facilities. Intersection designs along Cycleways should serve to reduce conflicts between bicyclists and vehicles by providing for improved visibility, a clearly defined right-of-way for each mode, and by facilitating predictable movements.

A variety of intersection treatments can be used to help facilitate safe operations at intersections, including bicycle signalization, lead bicycle intervals at signalized intersections, bike boxes, intersection crossing markings, and two-stage turn queue boxes.

Acknowledging the varying characteristics related to intersections and intersection approaches within Downtown, an in depth inventory analysis and intersection design guide was created to facilitate Cycleway implementation. Each intersection with a cycle track was grouped into one of twenty categories, identified based on the type of cycle track (one-way or two-way), roadway and intersecting roadway vehicle direction of travel (one-way or two-way), presence of a cycle track on the intersecting roadway, and the traffic control.

Table 13-3 presents each of the intersection types along with the frequency of its occurrence Downtown. The intersection IDs presented in Figure 13-1 correspond with Table 13-3, categorizing each intersection where a cycle track is found.

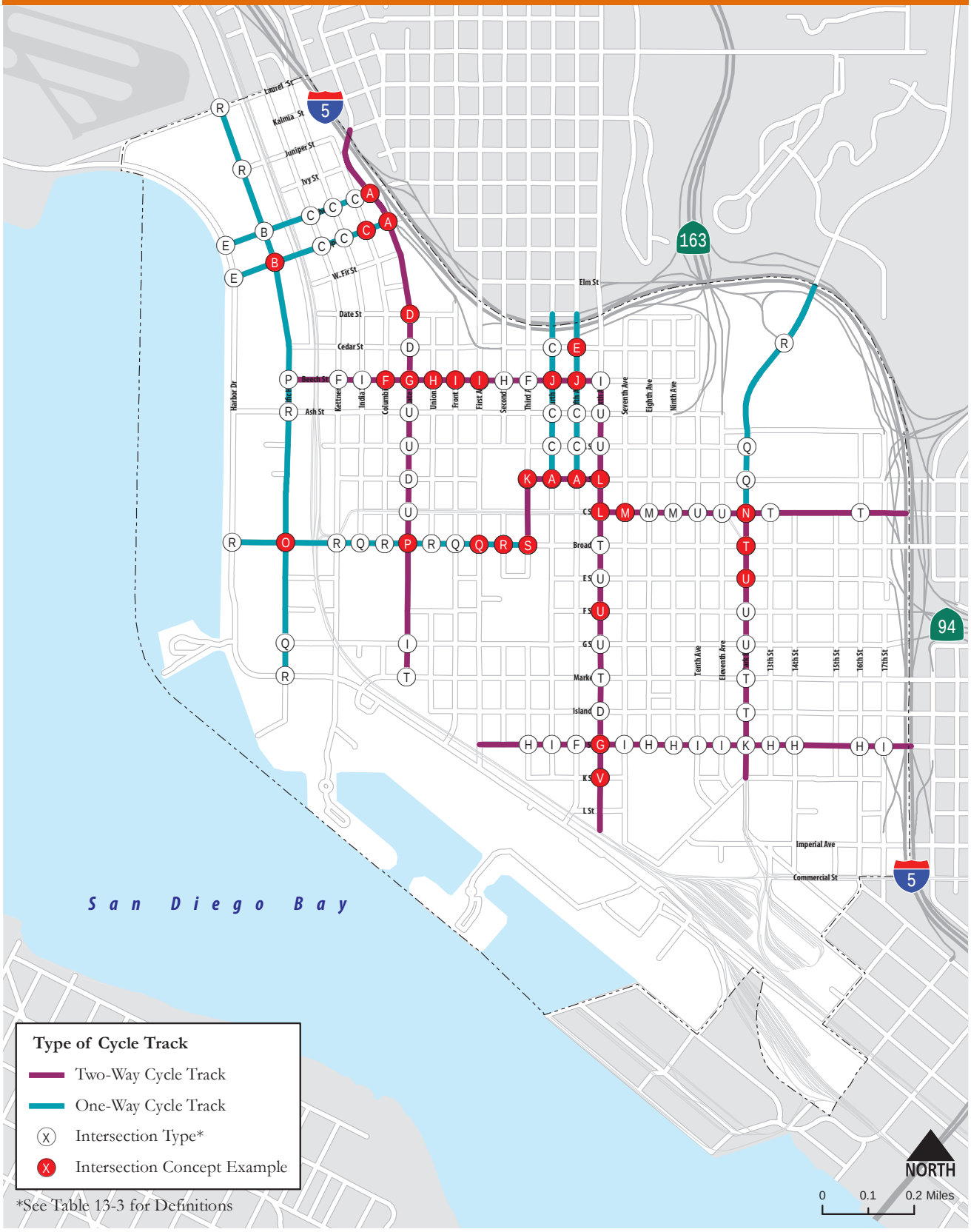
Additionally, Figure 13-1 identifies intersections, denoted in red, that provide conceptual designs, which are provided in Appendix F. Typical roadway cross-sections are also included in the Downtown San Diego Mobility Plan Technical Report.

Intersection designs along Cycleways should serve to reduce conflicts between bicyclists and vehicles by providing for improved visibility, a clearly defined right-of-way for each mode, and by facilitating predictable movements.

Table 13-3 Cycle Track Intersection Types

ID	Type of Cycle Track	Primary Roadway	Intersecting Roadway	Cycle Track on Intersecting Roadway	Cycle Track Traffic Control	Frequency
A	One-Way / One-Direction	One-Way	One-Way	Two-Way	Signalized	4
B	One-Way / Two-Directions	Two-Way	One-Way	One-Way / One Direction	Signalized	2
C	One-Way / One-Direction	One-Way	One-Way	None	Signalized	11
D	Two-Way	One-Way	Two-Way	None	All-Way Stop	4
E	One-Way / One-Direction	One-Way	Two-Way	None	Signalized	5
F	Two-Way	Two-Way	One-Way	None	All-Way Stop	7
G	Two-Way	One-Way	Two-Way	Two-Way	All-Way Stop	2
H	Two-Way	Two-Way	Two-Way	None	All-Way Stop	8
I	Two-Way	Two-Way	One-Way	None	Signalized	7
J	One-Way / One-Direction	One-Way	Two-Way	Two-Way	Signalized	2
K	Two-Way	One-Way	Two-Way	Two-Way	Signalized	2
L	Two-Way	One-Way	One-Way	Two-Way	Signalized	2
M	Two-Way	Transit-Only	One-Way	None	Signalized	3
N	Two-Way	One-Way	One-Way / Two-Way	One-Way / Two-Directions & Two-Way	Signalized	1
O	One-Way / Two Directions	Two-Way	Two-Way	One-Way / Two – Directions	Signalized	1
P	One-Way / Two-Directions	Two-Way	One-Way / Two-Way	Two-Way	Signalized	1
Q	One-Way / Two-Directions	Two-Way	One-Way	None	Signalized	5
R	One-Way / Two-Directions	Two-Way	Two-Way	None	Signalized	7
S	One-Way / Two-Directions	Two-Way	Two-Way	Two-Way	Signalized	1
T	Two-Way	One-Way	Two-Way	None	Signalized	6
U	Two-Way	One-Way	One-Way	None	Signalized	11
V	Two-Way	One-Way	One-Way	None	All-Way Stop	2

Figure 13-1 Cycle Track Intersection Types



13.4 Cost Estimation

The opinion of construction cost was based on an approximation of construction quantities needed for each type of improvement. Reasonable unit costs were applied to each approximate quantity to arrive at a probable cost for major construction items. A 50 percent construction contingency factor was then applied to account for minor construction item costs, and the uncertainty of the major item quantities given the level of conceptual detail at this stage in the process.

The cost estimations were broken into the following four improvement type categories: Greenways, pedestrian improvements, bicycle improvements, and roadway network improvements. The general elements assumed in the cost estimations for each of the four improvement categories include the following:

Greenways

- Landscape earthwork
- Sidewalk paving
- Landscape planting
- Furnishings/signage

Pedestrian Improvements

- Pavement Removal
- Curb and Gutter
- Bulbout/sidewalk surfacing/ramps
- Drainage

Bicycle Improvements

- Signal modifications
- Slurry seal
- Striping

Roadway Improvements

- Angled parking
- Roadway directional conversions
- Traffic signals
- Peak hour flex lane
- Turn pocket

Table 13-4 displays the planning-level cost estimation associated with the implementation of the Mobility Plan, including a 50 percent contingency. Detailed cost estimates are included in **Appendix E**.

Table 13-4
Planning Level Cost Estimation

Improvement Type	Cost (in Millions)
Greenways	$25.75
Pedestrian Improvements	$7.22
Bicycle Improvements	$10.50
Roadway Improvements	$19.32
Total Cost	$62.79

13.5 Funding Sources

Potential sources to help fund the implementation of the recommendations set forth in the Mobility Plan can be found at all levels of government. Many funding sources are highly competitive grants, making it necessary for local governments to stay informed about available funds and associated requirements so they are prepared to pursue when applications are open.

More traditional funding sources, such as Parking District funds, Development Impact Fees, and General Fund monies may be allocated through the City budget for specific programs.

Table 13-5 provides an overview of currently available sources to consider. This is not intended to be a fully comprehensive list, but rather a summary of potential funding sources to explore.

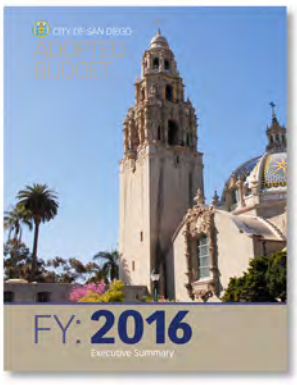




Table 13-5 Funding Sources

Funding Sources & Agency	Funding Requirements	Relevant Eligible Activities
Transportation Alternatives Program USDOT FHWA Administered by Caltrans	20% local match required.	Construction, planning, and design of on-road and off-road trail facilities for non-motorized users, including sidewalks, bicycle infrastructure, pedestrian and bicycle signals, traffic calming techniques, lighting, ADA projects, and other safety-related infrastructure.
Active Transportation Program Caltrans	Local match not required.	Capital improvements, including the environmental, design, right-of-way, and construction phases of a capital project.
TransNet Active Transportation Program SANDAG	All applications must include a Resolution passed by the local city council or governing board. The resolution must detail the source(s) of matching funds.	Bicycle facilities and connectivity improvements, pedestrian and walkable community projects, bicycle and pedestrian safety projects and programs, and traffic calming projects.
TransNet Smart Growth Incentive Program SANDAG	All applications must include a Resolution passed by the local city council or governing board. The resolution must detail the source(s) of matching funds.	Local agency salaries, professional services, preliminary engineering, right-of-way acquisition, construction, project management costs, and other direct expenses incurred on behalf of the project.
Storm Water Grant Program (SWGP) California Environmental Protection Agency – State Water Resources Control Board	Water Code section 10563 requires public agencies to develop a Storm Water Resource Plan as a condition of receiving grant funds for storm water and dry weather runoff capture projects.	Implementation – Multi-benefit storm water management projects such as green infrastructure, rainwater and storm water capture projects. Planning – Develop Storm Water Resource Plans.
Downtown Parking District City of San Diego / Civic San Diego	Council Policy 100-18 provides direction on Community Parking Districts and the allocation of collected revenues.	Parking District revenues may be used to implement parking lots and structures, related landscaping, and mobility enhancements facilitating the use of alternative forms of transportation to reduce parking demand including, but not limited to, bike parking, bike facilities, pedestrian ramps, crossings, pop-outs, sidewalks, countdown indicators, signage, and shuttle stops.
General Fund City of San Diego / Civic San Diego	The City of San Diego adopts a budget each June including allocations for General Fund expenditures.	The FY 2016 Adopted General Fund expenditures budget includes allocations to repairing streets and investing in infrastructure such as parks, sidewalks, street lights, bicycle facilities, roads, ADA access, traffic signals, and storm water.
Development Impact Fees City of San Diego / Civic San Diego	Improvement must be identified in the Public Facilities Financing Plan.	Development Impact Fees (DIF) are collected to mitigate development impacts through financing provisions for public facilities, such as street, transit, bicycle and pedestrian improvements, promenades, and below grade parking structures.
Developer Obligations City of San Diego / Civic San Diego	Project must be the result of a direct impact or a frontage improvement imposed by a development project.	Facilities directly impacted by, or fronting, a development project.

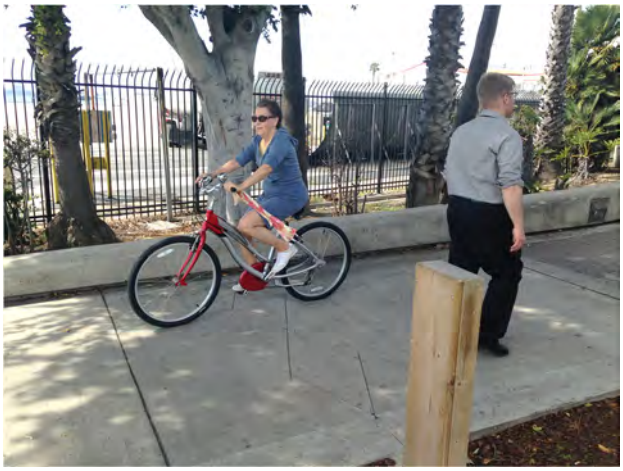
13.6 Monitoring

On-going monitoring can be useful in gauging the effectiveness and related responses to investments in infrastructure projects and changes to the transportation network. The transportation planning field currently suffers from a lack of data related to bicycle and pedestrian activity. As new bicycle and pedestrian facilities are implemented it is important to understand community responses to these infrastructural investments.

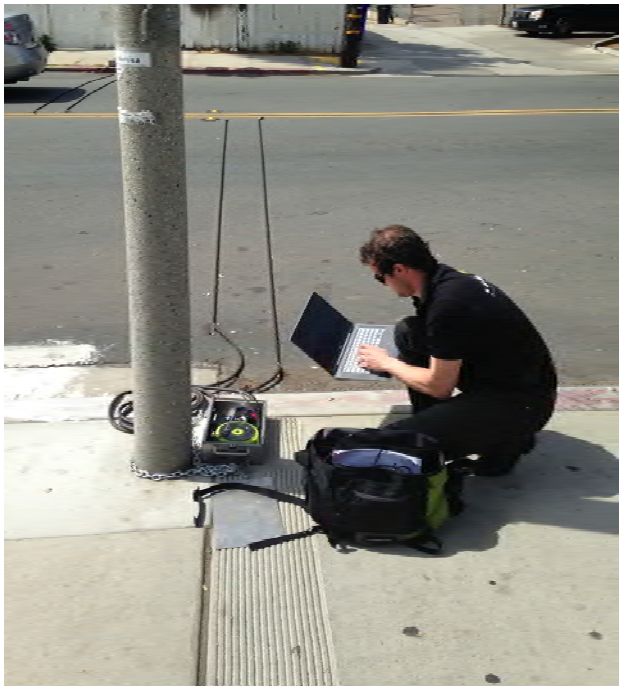
Regular annual or bi-annual monitoring at set locations can inform changes in activity levels to better gauge changes in safety. The data can be used to justify future infrastructure investments and help pursue grant funding by providing the information necessary to estimate potential impacts of implementing future active transportation related projects. For example, the following indicators can be used to inform the completion of the Caltrans Active Transportation Program grant application:

- Current and projected numbers/rates of users
- Collision history
- Data collected prior to and after project implementation may be used to estimate benefits of implementing future facilities

Additionally, monitoring roadways can inform the level of impact that roadway modifications, such as road diets and lane diets, have on roadway and intersection level of service. This information can be used to evaluate feasibility of similar future projects or may necessitate additional responses.



A pedestrian and a bicyclist pass over a permanent bicycle and pedestrian counter installed on the Harbor Drive multi-use path.



A technician installs a temporary tube counter used to measure bicycle volumes on roadways with vehicular traffic.

Downtown San Diego Mobility Plan Appendices







June 2016

The City of SAN DIEGO

CIVIC san diego

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Appendices

Appendix A	Relevant Citywide, Adjacent Community, and Regional Planning Efforts
Appendix B	On-the-Street Survey Forms & Results
Appendix C	San Diego Forward: The Regional Plan Revenue Constrained Transit Network Changes
Appendix D	TDM Strategies
Appendix E	Planning Level Cost Estimates
Appendix F	Intersection Design Concepts
Appendix G	Additional Design Concepts

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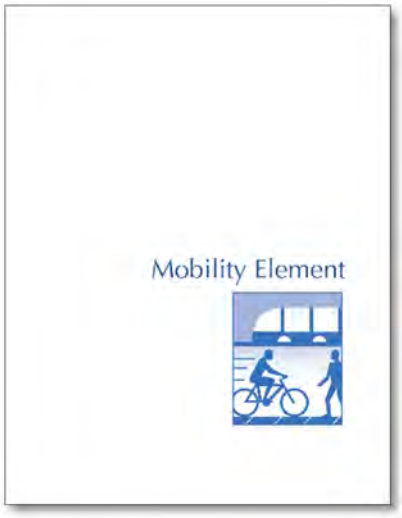
Appendix A

Relevant Citywide, Adjacent Community, and Regional Planning Efforts

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City of San Diego Plans

City of San Diego General Plan – Mobility Element (2008)



This element from the City of San Diego's General Plan proposes transportation planning goals and policies related to pedestrian, transit, street and freeway systems, Intelligent Transportation Systems, Transportation Demand Management, bicycling, parking management, airports, passenger rail, goods movement/freight, and regional coordination and financing. The element discusses several key topics related to pedestrian-oriented planning, traffic calming techniques, bicycle facility network improvements, and transit priorities.

The Mobility Element sets forth several goals that are relevant to the current Downtown San Diego Mobility Plan, such as:

Walkable Communities

- A City where walking is a viable travel choice, particularly for trips of less than one-half mile.
- A safe and comfortable pedestrian environment.
- A complete, functional, and interconnected pedestrian network that is accessible to pedestrians of all abilities.
- Greater walkability achieved through pedestrian-friendly street, site and building design.

Bicycling

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

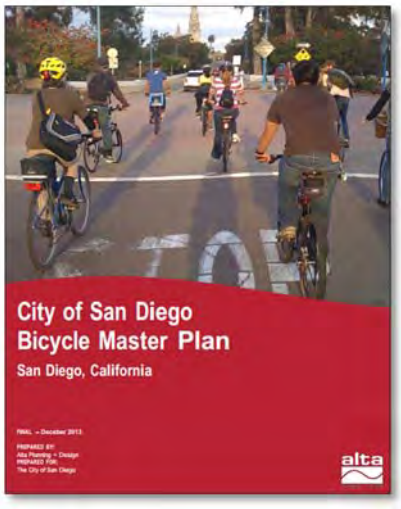
Transit

- An attractive and convenient transit system that is the first choice of travel for many of the trips made in the City.
- Increased transit ridership.

Streets and Freeway Systems

- A street and freeway system that balances the needs of multiple users of the public right away.
- An interconnected street system that provides multiple linkages within and between communities.
- Vehicle congestion relief.
- Safe and efficient street design that minimizes environmental and neighborhood impacts.
- Well maintained streets

City of San Diego Bicycle Master Plan (2013)

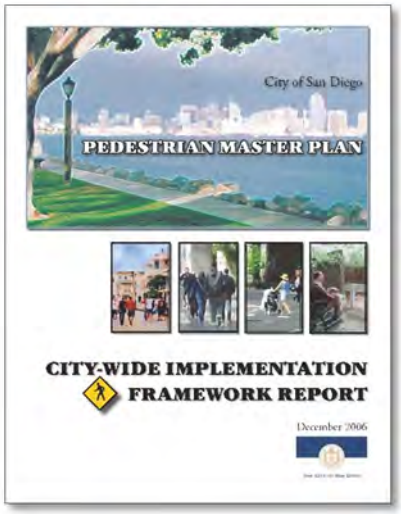


The City of San Diego Bicycle Master Plan Update provides a framework for making cycling a more practical and convenient transportation option for a wider variety of San Diegans with varying riding purposes and skill-levels. The plan update evaluates and builds on the 2002 Bicycle Master Plan so that it reflects changes in bicycle user needs and changes to the City's bicycle network and overall infrastructure. The Plan proposes a dense network of Class III bicycle routes in Downtown San Diego, including in the north-south direction, along Kettner Boulevard, India Street, State Street, Columbia Street, 1st Avenue, 4th Avenue, 5th Avenue, 6th Avenue, Park Boulevard, and 14th Street. Class III bicycle route is also proposed, in the east-west direction, along A Street, Broadway, Market Street and Island Avenue. Class II bike lane is proposed, in the north-south direction, along portions of State Street, 3rd Avenue, 8th Avenue, Park Boulevard, and 14th Street; while in the east-west direction, bike lane is proposed along Cedar Street, B Street, and C Street.

As part of this planning process, forty high priority project were identified through a systematic prioritization effort. Conceptual designs and cost estimates were prepared for the forty high priority projects. Eight of the forty high priority project corridors are located within Downtown San Diego, including the following:

#2 – Broadway, between Park Boulevard and 19th Street (Class III)
#3 – Ash Street and A Street couplet (Class III)
#6 – Island Avenue/Market Street connection to Harbor Drive (Class III)
#7 – Park Boulevard (Class II)
#9 – 14th Street (Class II)
#12 – 4th/5th Avenue couplet (Class III)
#18 – State Street (Class III)
#26 – 8th Avenue (Class II)

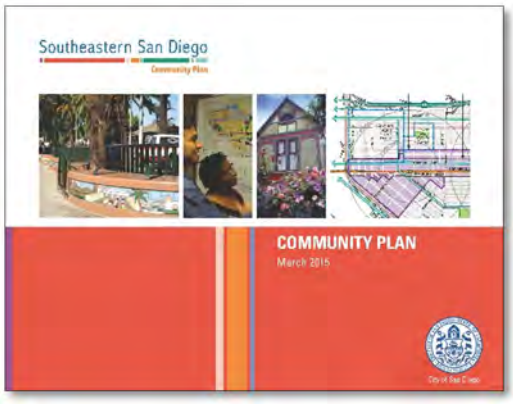
City of San Diego Pedestrian Master Plan (2006)



The Pedestrian Master Plan serves guidance for the implementation of pedestrian projects. The document also created a prioritization process used to identify high priority pedestrian routes within community planning areas and a methodology to determine potential pedestrian improvement projects along identified high priority routes. The Pedestrian Master Plan concludes with "Phase Two Guidance" which serves to provide direction for community-level Pedestrian Master Plans (CPMP). The guidance aims to achieve a level of consistency among the plans and analysis methodologies utilized.

Southeastern San Diego Community Plan Update (Draft)

This document proposes mobility improvements to corridors that connect with the southeastern portion of Downtown San Diego. There are planned Urban Street corridors along Market Street and Imperial Avenue connecting to downtown. There is a planned One-Way Cycle Tracks with and without on-street parking along Market Street and a Class II Bike Lane along Island Avenue that continues into Downtown San Diego. Consistent with the SANDAG 2050 RTP, the Orange Line Trolley shows increased frequencies and the planned Orange Line Express provides service between El Cajon and Downtown San Diego.



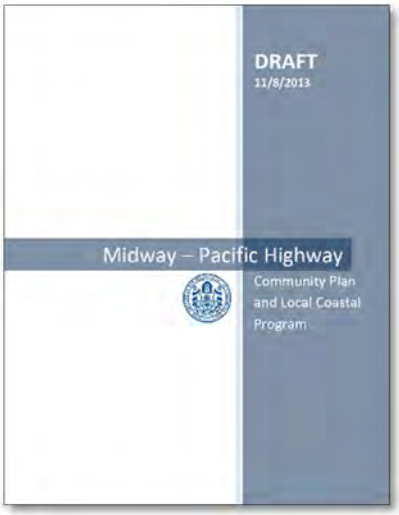


Barrio Logan Community Plan Update (2014)

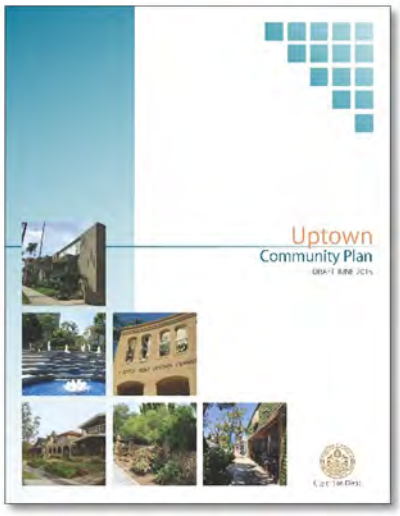
This document proposes mobility improvements connecting with the southern portion of Downtown San Diego. The MTS Blue Line and its stations at Cesar E Chavez Parkway, 28th Street, and 32nd Street connects with the southeastern boundary of Downtown San Diego. A key proposed mobility improvement is to connect Barrio Logan with Downtown San Diego via the Bayshore Bikeway.

Midway – Pacific Highway Corridor Community Plan Update (Draft)

This document proposes mobility improvements to corridors that connect with the northwestern portion of Downtown San Diego. Pacific Highway has historically served as a regional conduit for vehicular traffic to Downtown and its intersection with Laurel Street serves as a gateway to Downtown. The planned improvements designate Pacific Highway as a Boulevard street type. Retrofits to Pacific Highway include reducing travel lanes, incorporating bicycle lanes, removing frontage roads, reducing curb cuts, replacing bridges and ramps with signalized intersections, widening sidewalks that can include a double row of street trees, and the incorporation of landscaped medians. The planned Pacific Highway pedestrian route type is Corridor sidewalk and the planned bicycle facility type is Class I Bike Path. Another planned Class II or III bike facility along Kettner Boulevard also connects to the northwestern portion of Downtown San Diego.



Uptown Community Plan Update (Draft)



This document proposes mobility improvements to corridors that connect with the northern portion of Downtown San Diego. Recommendations along Park Boulevard include reduction of travel lane widths, removal of travel lanes, incorporation of a landscaped median, and neckdowned (sidewalk bulb-outs) intersections. The Plan proposes that First, Fourth, and Fifth Avenues focus on creating more pedestrian scale streets, enhancing pedestrian and bicycle facilities, and calming traffic with enhancements.

Regional Planning Documents

2050 Regional Transportation Plan (2011)

This document proposes a vision for a regional transportation system that further enhances quality of life, promotes sustainability, and offers more mobility options for people and goods. The Plan includes an integrated, multi-modal transportation system proposing transit investments in specific areas. These include creating a system of high-frequency services on many of the existing local bus routes in the urban core. The Plan also proposes constructing Bus Rapid Transit (BRT) routes and stations to provide access to Downtown San Diego from Escondido, Otay Mesa, Mid-City (San Diego State University), and Coronado.



There are planned improvements to the Trolley service including an Orange Line Express from El Cajon to Downtown San Diego and the Blue Line Express from UTC to San Ysidro via Downtown San Diego. The planned trolley system includes a tunnel in Downtown San Diego between the 12th Avenue and Imperial Transit Center to the County Center/Little Italy Trolley Station. The Plan also proposes including a streetcar and/or shuttle circulation services to improve mobility within Downtown. The planned streetcar includes a San Diego Loop in Hillcrest, Balboa Park, and Downtown and also from Little Italy to East Village. Improvements to the passenger rail service include plans extending the COASTER to the Convention Center and Petco Park. Other planned improvements consist of double tracking the LOSSAN coastal rail corridor to enable more frequent and reliable service on the COASTER and Amtrak.

San Diego Regional Bike Plan (2010)

This document proposes a vision for a diverse regional bicycle system of interconnected bicycle corridors, support facilities, and programs to make cycling more practicable and desirable to a broader range of people in the region. The document includes recommendations and goals that seek to increase the number of people who bike and the frequency of bicycle trips for all purposes. It also encourages the development of Complete Streets, to improve safety for bicyclists, and to increase public awareness and support for bicycling in the region.

There are seven “high priority” planned regional corridor alignments reaching into or through Downtown San Diego including:

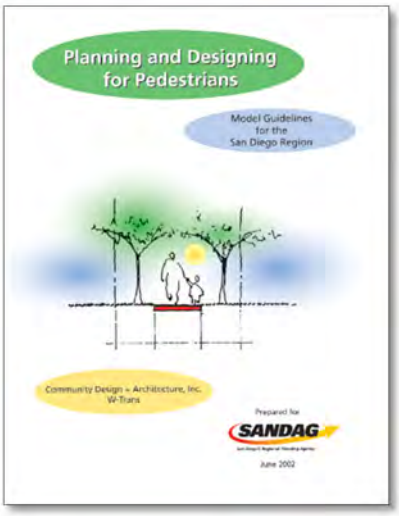
- *Central Coast Corridor* (runs along Harbor Drive, north of the Coronado Ferry Landing, into Point Loma and northerly via Nimitz Boulevard)
- *Costal Rail Trail* (runs along Pacific Highway into Downtown, ultimately connecting the City of Oceanside to Downtown San Diego)
- *Clairemont – Centre City Corridor* (runs south along Ulric Street into Mission Valley, up Bachman Place and connects into Downtown San Diego along 4th/5th Avenues and terminates at C Street)
- *North Park – Centre City Corridor* (connects from the City Heights – Old Town Corridor in North Park, through Balboa Park along Park Boulevard, then connects to C Street and runs westerly to the waterfront)
- *Park Boulevard Connector* (provides a connection between the North Park – Centre City Corridor along C Street to Island Avenue in Downtown San DIego, where the Centre City – La Mesa Corridor runs)
- *Centre City – La Mesa Corridor* (runs east-west from La Mesa into Downtown San Diego via Ocean View Boulevard, then Island Avenue, terminating at the Bayshore Bikeway near Harbor Drive and Market Street)
- *Bayshore Bikeway* (runs along Harbor Drive and the waterfront south of the Coronado Ferry Landing and provides a loop around the San Diego Bay)



A number of these corridors have segments near Downtown San Diego that were identified in SANDAG's Early Action Plan (2011) with an estimated schedule for completion around the year 2021.

Planning and Designing for Pedestrians

This document proposes guidelines to assist local governments and other interested entities in the creation and redevelopment of pedestrian areas and corridors. The guidelines suggest that a municipality or property owner can start at the site design level to incorporate a pedestrian-oriented community structure. A municipality can also require or provide incentives to property owners so they provide amenities such as plazas, pedestrian pass-throughs, or a public bench on their property. Incorporating these amenities supports the vision of the neighborhood, as seen in the pedestrian-friendly design of Little Italy. In addition, sidewalk bulb-outs can reduce street widths and calm traffic, as seen in downtown areas with revitalization efforts and streetscape improvements. In an effort to develop a pedestrian district, the municipality can encourage the development of a pedestrian district by making changes to the public right-of-way that support the eventual transformation of land uses in the area such as widening sidewalks, installing traffic calming measures, and planting street trees.



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Appendix B

On-the-Street Survey Forms & Results

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Downtown San Diego Mobility Plan Survey

"Excuse me, may I ask you a few questions? I'm with the project team working on the Downtown San Diego Mobility Plan and we're trying to learn about people's travel behaviors and preferences to help improve mobility in Downtown San Diego. This will only take a couple of minutes and the information will be kept confidential."

Site 3: Broadway

General Questions

1. Do you live in...

   a) Downtown SD b) in an immediately adjacent neighborhood c) farther away?

2. Do you work in...

   a) Downtown SD b) in an immediately adjacent neighborhood c) farther away?

3. What is the main way you travel to Downtown SD?

   a) Car b) Walk c) Bike d) Trolley/Bus

4. What is the main way you travel within Downtown SD?

   a) Car b) Walk c) Bike d) Trolley/Bus

Site Specific Questions

5. If **Broadway** was redesigned to look more like this, would you use it more often than you do today?





   a) Yes b) No c) Maybe

6. If it was redesigned, which one of these design options/routes (see back) would you prefer?

   Broadway: a) Do nothing b) Design Option #1

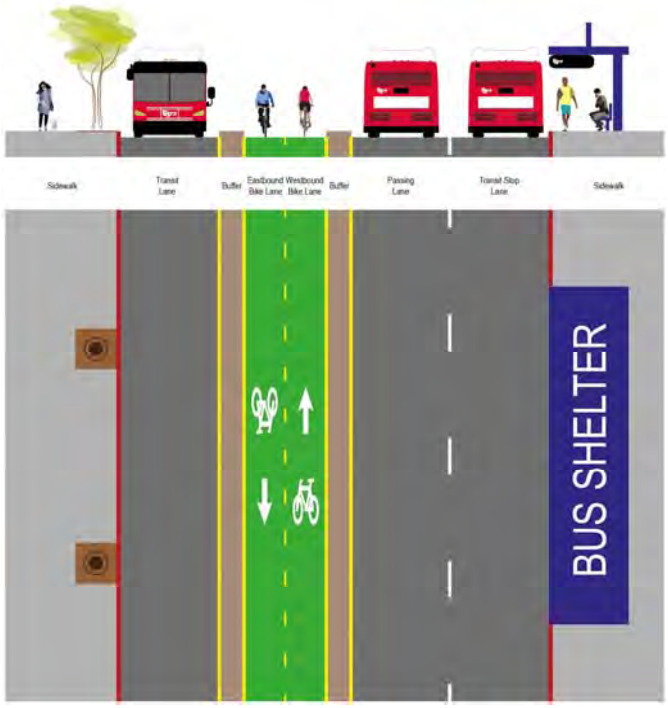
   B Street Route: a) through Concourse b) via 3rd Avenue

6a. Why did you choose that option/route?

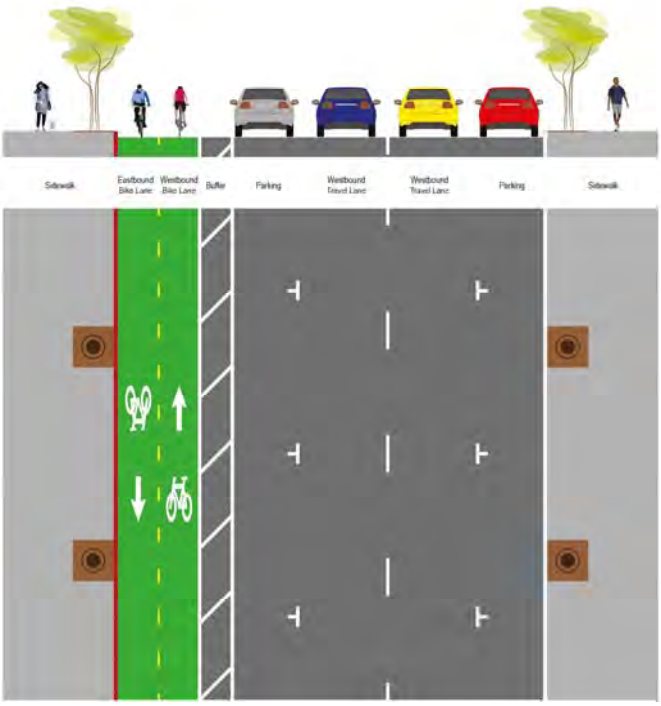
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Downtown San Diego Mobility Plan Survey

Broadway Design Option #1



B Street Design Concept



7. To make this design work, the City of San Diego may have to remove a travel lane or on-street parking spaces on one-side. Is this trade-off acceptable to you?

   a) Yes b) No c) Maybe

8. What age range do you fall into:

   a) <18 years old b) 18-44 c) 45-60 d) 65+

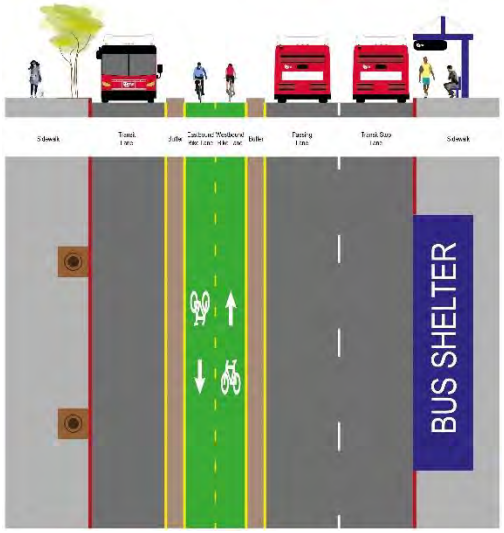
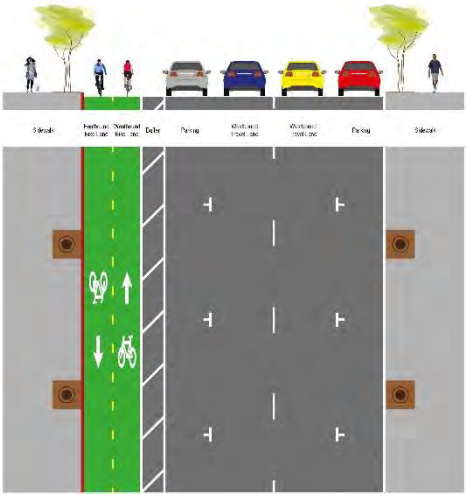
9. Is your combined household income more or less than $45,000 per year?

   a) More than $45,000 b) Less than $45, 000

If you would like to learn more about this project, please visit the project website (www.downtownsdmobility.com), and/or join us at the next community workshop (6pm, Tuesday 10/7 at Civic San Diego).

Surveyor Name_____ **Date**_____

Broadway Street - 11:30 am to 1:30 pm and 4:30 pm to 6:30	
# of people who took the survey	46
Male	31
Female	15
Live in Downtown SD	7
Live in an immediately adjacent neighborhood	19
Live farther away	20
Work in Downtown SD	30
Work in an immediately adjacent neighborhood	4
Work farther away	6
Unemployed/Retired/No Answer	6
# of people who drive to Downtown SD	12
# of people who walk to Downtown SD	3
# of people who ride a bike to Downtown SD	3
# of people who ride the trolley/bus to Downtown SD	28
No Answer	0
# of people who drive *within* Downtown SD	1
# of people who walk *within* Downtown SD	39
# of people who ride a bike *within* to Downtown SD	2
# of people who ride the trolley/bus *within* Downtown SD	6
No Answer	0
# of people who agreed to use Broadway more if it was redesigned to look like this:  	27

# of people who would not use Broadway more if it was redesigned to look like the previous image.	7
# of people indecisive about using Broadway more if it was redesigned to look like the previous image.	12
# of people who preferred Option 1: 	23
# of people who preferred redesigning B Street like this: 	5
# of people against Option 1 on Broadway	15
# of people indecisive about either option	3
Reasons for preferring Option 1	Looks neat, faster for buses, safer for pedestrians
Reasons for preferring the redesign of B Street	Safer for pedestrians and cyclists

# of people who agreed to remove car lanes or parking space to redesign E Street	29
# of people against removing car lanes or parking space to redesign E Street	12
# of people who indecisive about removing car lanes or parking space to redesign E Street	5
# of people in the age range of <18	0
# of people in the age range of 18-45	29
# of people in the age range of 45-60	15
# of people in the age range of 65+	2
Combined Household Income More than 45K	23
Combined Household Income Less than 45K	23

Downtown San Diego Mobility Plan Survey

"Excuse me, may I ask you a few questions? I'm with the project team working on the Downtown San Diego Mobility Plan and we're trying to learn about people's travel behaviors and preferences to help improve mobility in Downtown San Diego. This will only take a couple of minutes and the information will be kept confidential."

Site 1: E Street

General Questions

1. Do you live in...

   a) Downtown SD b) in an immediately adjacent neighborhood c) farther away?

2. Do you work in...

   a) Downtown SD b) in an immediately adjacent neighborhood c) farther away?

3. What is the main way you travel to Downtown SD?

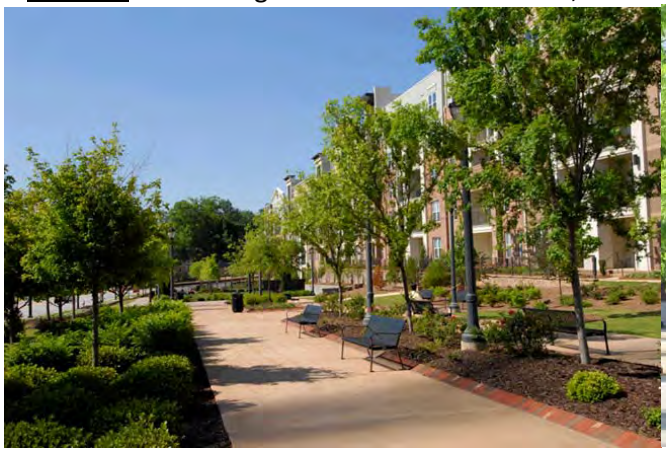
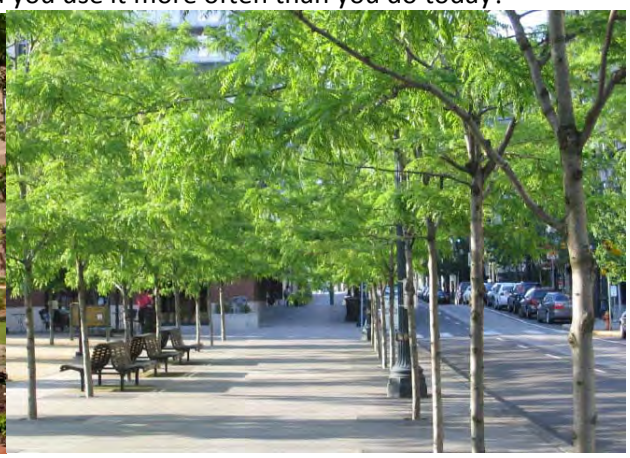
   a) Car b) Walk c) Bike d) Trolley/Bus

4. What is the main way you travel within Downtown SD?

   a) Car b) Walk c) Bike d) Trolley/Bus

Site Specific Questions

5. If **E Street** was redesigned to look more like this, would you use it more often than you do today?

   a) Yes b) No c) Maybe

6. If it was redesigned, which one of these design options (see back) would you prefer?

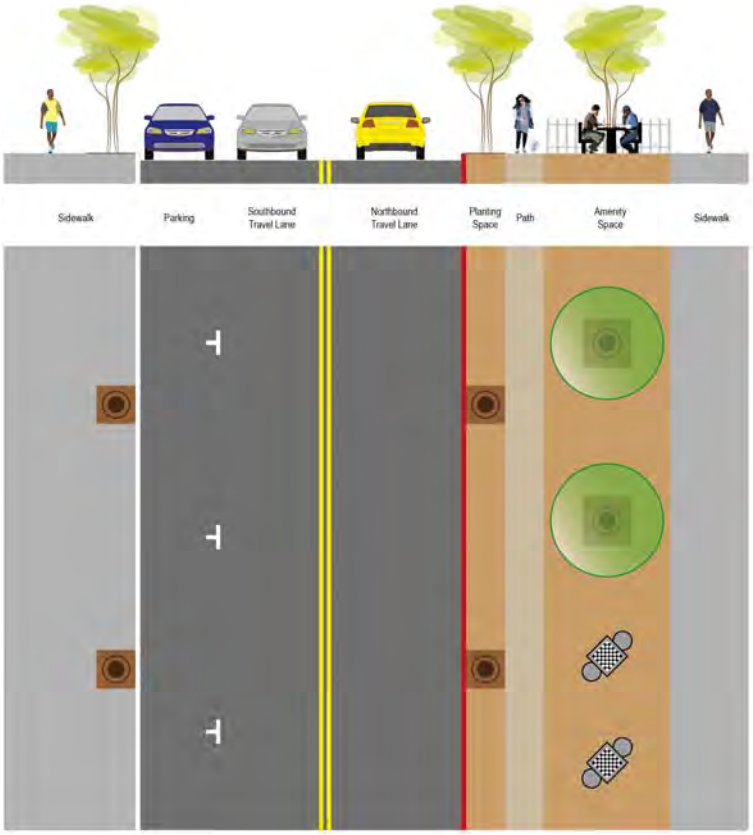
   a) Design Option #1 b) Design Option #2

6a. Why did you choose that option?

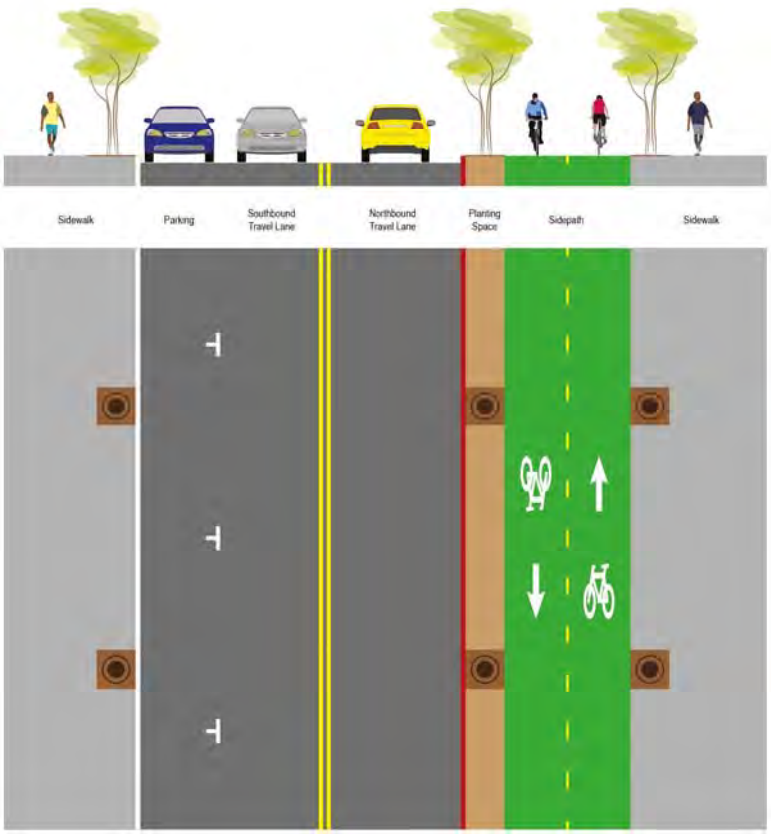
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Downtown San Diego Mobility Plan Survey

Green Street Design Option #1



Green Street Design Option #2



7. To make this design work, the City of San Diego may have to remove a travel lane or on-street parking spaces on one-side. Is this trade-off acceptable to you?

   a) Yes b) No c) Maybe

8. What age range do you fall into:

   a) <18 years old b) 18-44 c) 45-60 d) 65+

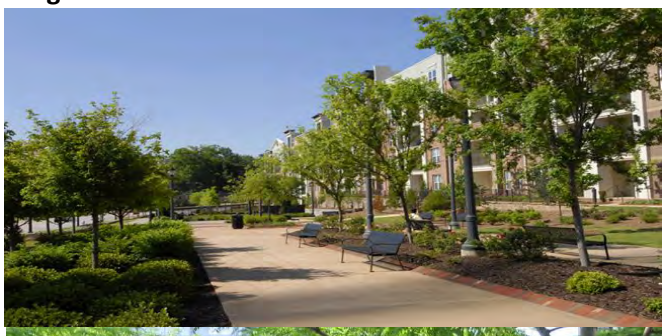
9. Is your combined household income more or less than $45,000 per year?

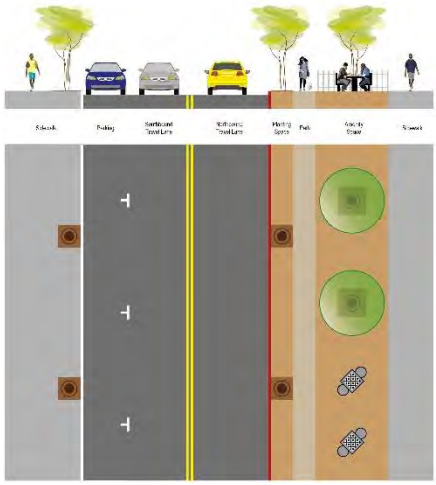
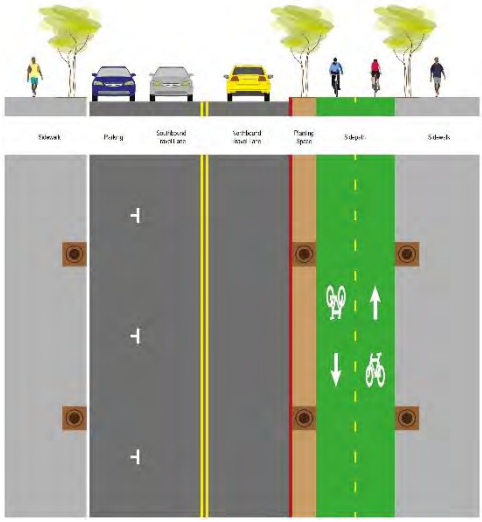
   a) More than $45,000 b) Less than $45, 000

If you would like to learn more about this project, please visit the project website (www.downtownsdmobility.com), and/or join us at the next community workshop (6pm, Tuesday 10/7 at Civic San Diego).

Surveyor Name_____ **Date**_____

RESULTS

E Street - 11:30 am to 1:30 pm and 4:30 pm to 6:30	
# of people who took the survey	46
Male	31
Female	15
Live in Downtown SD	11
Live in an immediately adjacent neighborhood	16
Live farther away	19
Work in Downtown SD	27
Work in an immediately adjacent neighborhood	5
Work farther away	12
Unemployed/Retired	2
# of people who drive to Downtown SD	19
# of people who walk to Downtown SD	5
# of people who ride a bike to Downtown SD	5
# of people who ride the trolley/bus to Downtown SD	16
# of people who drive *within* Downtown SD	7
# of people who walk *within* Downtown SD	26
# of people who ride a bike *within* to Downtown SD	4
# of people who ride the trolley/bus *within* Downtown SD	7
# of people who agreed to use E Street more if it was redesigned to look like this:  	35

# of people who would not use E Street more if it was redesigned to look like the previous image.	6
# of people indecisive about using E Street more if it was redesigned to look like the previous image.	5
# of people who preferred Option 1: 	27
# of people who preferred Option 2: 	17
# of people indecisive about either option	2

Reasons for preferring Option 1	Safe pedestrian environment, nice place to sit and eat, more exposure to businesses in the area
Reasons for preferring Option 2	Get bikes off sidewalk, safer for pedestrians as well as cyclists, less cars on the road
# of people who agreed to remove car lanes or parking space to redesign E Street	36
# of people in the age range of <18	0
# of people in the age range of 18-45	27
# of people in the age range of 45-60	16
# of people in the age range of 65+	3
Combined Household Income More than 45K	21
Combined Household Income Less than 45K	25

Downtown San Diego Mobility Plan Survey

"Excuse me, may I ask you a few questions? I'm with the project team working on the Downtown San Diego Mobility Plan and we're trying to learn about people's travel behaviors and preferences to help improve mobility in Downtown San Diego. This will only take a couple of minutes and the information will be kept confidential."

Site 2: Market Street

General Questions

1. Do you live in...

   a) Downtown SD b) in an immediately adjacent neighborhood c) farther away?

2. Do you work in...

   a) Downtown SD b) in an immediately adjacent neighborhood c) farther away?

3. What is the main way you travel to Downtown SD?

   a) Car b) Walk c) Bike d) Trolley/Bus

4. What is the main way you travel within Downtown SD?

   a) Car b) Walk c) Bike d) Trolley/Bus

Site Specific Questions

5. If **Market Street** was redesigned to look more like this, would you use it more often than you do today?





   a) Yes b) No c) Maybe

6. If it was redesigned, which one of these design options (see back) would you prefer?

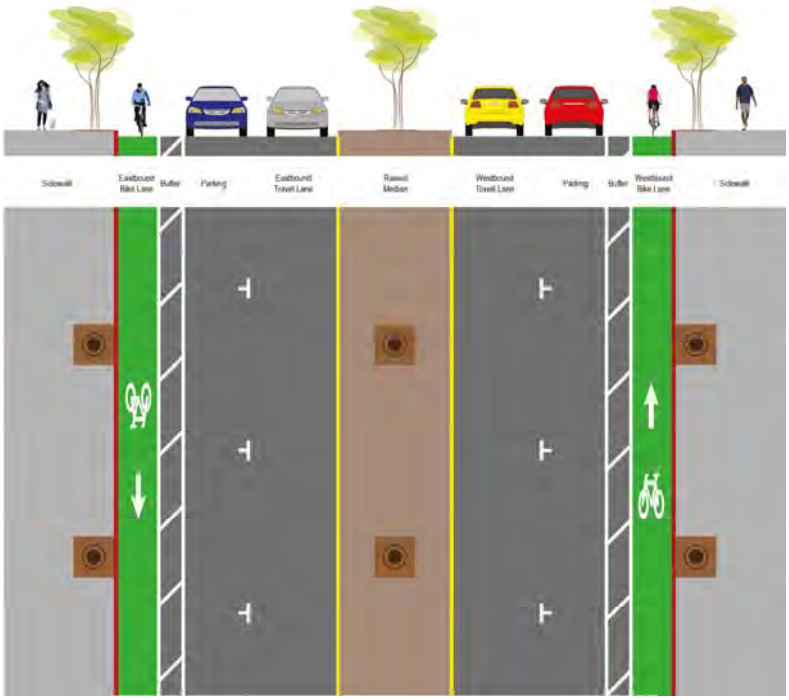
   a) Design Option #1 b) Design Option #2

6a. Why did you choose that option?

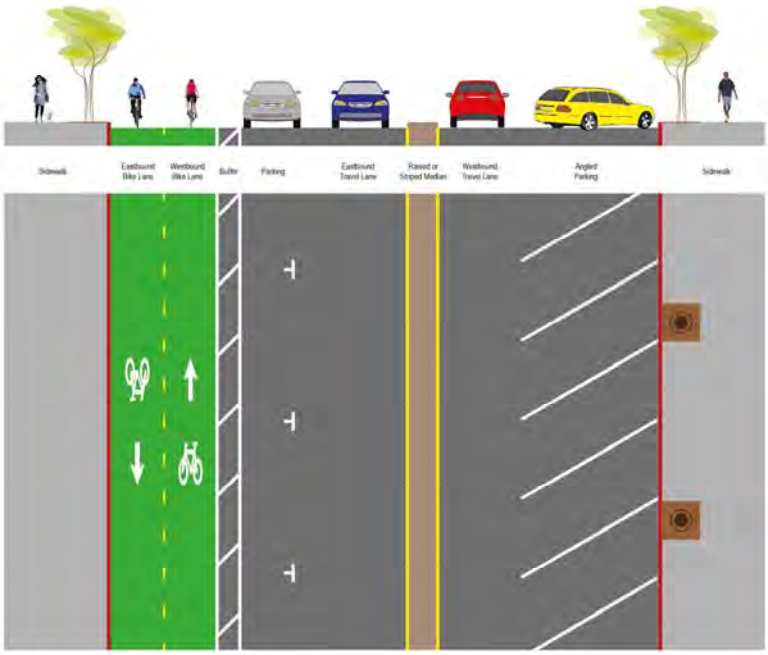
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Downtown San Diego Mobility Plan Survey

Market Street Design Option #1



Market Street Design Option #2



7. To make this design work, the City of San Diego may have to remove a travel lane or on-street parking spaces on one-side. Is this trade-off acceptable to you?

   a) Yes b) No c) Maybe

8. What age range do you fall into:

   a) <18 years old b) 18-44 c) 45-60 d) 65+

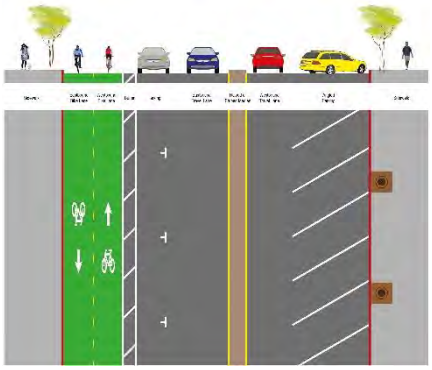
9. Is your combined household income more or less than $45,000 per year?

   a) More than $45,000 b) Less than $45, 000

If you would like to learn more about this project, please visit the project website (www.downtownsdmobility.com), and/or join us at the next community workshop (6pm, Tuesday 10/7 at Civic San Diego).

Surveyor Name_____ **Date**_____

Market Street - 11:30 am to 1:30 pm and 4:30 pm to 6:30	
# of people who took the survey	45
Male	33
Female	12
Live in Downtown SD	26
Live in an immediately adjacent neighborhood	7
Live farther away	13
Work in Downtown SD	24
Work in an immediately adjacent neighborhood	7
Work farther away	9
Unemployed/Retired/No Answer	6
# of people who drive to Downtown SD	22
# of people who walk to Downtown SD	5
# of people who ride a bike to Downtown SD	2
# of people who ride the trolley/bus to Downtown SD	12
No Answer	5
# of people who drive *within* Downtown SD	4
# of people who walk *within* Downtown SD	38
# of people who ride a bike *within* to Downtown SD	4
# of people who ride the trolley/bus *within* Downtown SD	8
No Answer	0
# of people who agreed to use Market Street more if it was redesigned to look like this:  	31

# of people who would not use Market Street more if it was redesigned to look like the previous image.	8
# of people indecisive about using Market Street more if it was redesigned to look like the previous image.	6
# of people who preferred Option 1: 	26
# of people who preferred Option 2: 	15
# of people indecisive about either option	4
Reasons for preferring Option 1	Safe pedestrian environment as well as for cyclists, it makes sense.
Reasons for preferring Option 2	More space to bike, less work as construction would only be taking place on one side of the street

# of people who agreed to remove car lanes or parking space to redesign Market Street	29
# of people against removing car lanes or parking space to redesign Market Street	8
# of people who indecisive about removing car lanes or parking space to redesign Market Street	9
# of people in the age range of <18	0
# of people in the age range of 18-45	27
# of people in the age range of 45-60	12
# of people in the age range of 65+	7
Combined Household Income More than 45K	21
Combined Household Income Less than 45K	26

Downtown San Diego Mobility Plan Survey

"Excuse me, may I ask you a few questions? I'm with the project team working on the Downtown San Diego Mobility Plan and we're trying to learn about people's travel behaviors and preferences to help improve mobility in Downtown San Diego. This will only take a couple of minutes and the information will be kept confidential."

Site 4: State Street

General Questions

1. Do you live in...

   a) Downtown SD b) in an immediately adjacent neighborhood c) farther away?

2. Do you work in...

   a) Downtown SD b) in an immediately adjacent neighborhood c) farther away?

3. What is the main way you travel to Downtown SD?

   a) Car b) Walk c) Bike d) Trolley/Bus

4. What is the main way you travel within Downtown SD?

   a) Car b) Walk c) Bike d) Trolley/Bus

Site Specific Questions

5. If **State Street** was redesigned to look more like this, would you use it more often than you do today?





   a) Yes b) No c) Maybe

6. If it was redesigned, which one of these design options (see back) would you prefer?

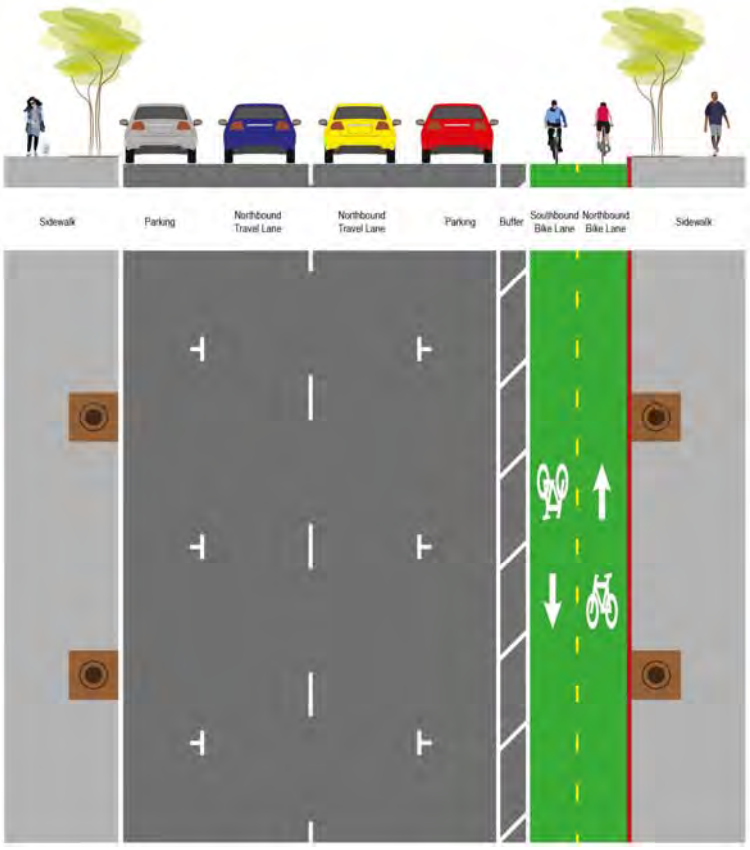
   a) Design Option #1 b) Do nothing

6a. Why did you choose that option?

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Downtown San Diego Mobility Plan Survey

State Street Design Concept



7. To make this design work, the City of San Diego may have to remove a travel lane or on-street parking spaces on one-side. Is this trade-off acceptable to you?

   a) Yes b) No c) Maybe

8. What age range do you fall into:

   a) <18 years old b) 18-44 c) 45-60 d) 65+

9. Is your combined household income more or less than $45,000 per year?

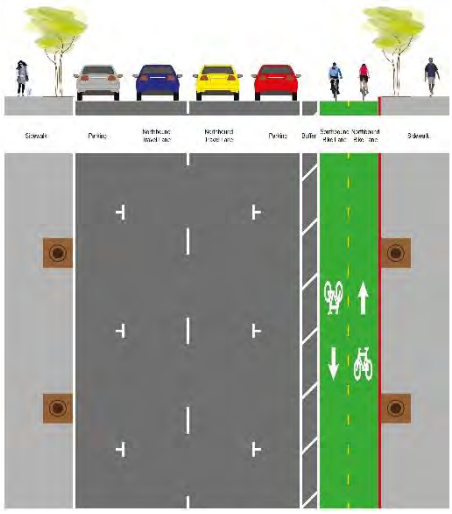
   a) More than $45,000 b) Less than $45, 000

If you would like to learn more about this project, please visit the project website (www.downtownsdmobility.com), and/or join us at the next community workshop (6pm, Tuesday 10/7 at Civic San Diego).

Surveyor Name_____ **Date**_____

State Street - 11:30 am to 1:30 pm and 4:30 pm to 6:30	
# of people who took the survey	32
Male	19
Female	13
Live in Downtown SD	9
Live in an immediately adjacent neighborhood	10
Live farther away	13
Work in Downtown SD	24
Work in an immediately adjacent neighborhood	1
Work farther away	5
Unemployed/Retired/No Answer	2
# of people who drive to Downtown SD	17
# of people who walk to Downtown SD	5
# of people who ride a bike to Downtown SD	1
# of people who ride the trolley/bus to Downtown SD	5
No Answer	4
# of people who drive *within* Downtown SD	2
# of people who walk *within* Downtown SD	28
# of people who ride a bike *within* to Downtown SD	1
# of people who ride the trolley/bus *within* Downtown SD	3
No Answer	0

# of people who agreed to use State Street more if it was redesigned to look like this:  	22
# of people who would not use State Street more if it was redesigned to look like the previous image.	5
# of people indecisive about using State Street more if it was redesigned to look like the previous image.	5

# of people who liked the design concept: 	24
# of people who preferred to keep existing conditions	8
Reasons for preferring design concept	Safe pedestrian environment as well as for cyclists, simple design.
Reasons for preferring to keep existing conditions	Don't ride a bike, traffic would get worse
# of people who agreed to remove car lanes or parking space to redesign State Street	23
# of people against removing car lanes or parking space to redesign State Street	9
# of people who indecisive about removing car lanes or parking space to redesign STate Street	0
# of people in the age range of <18	0
# of people in the age range of 18-45	26
# of people in the age range of 45-60	6
# of people in the age range of 65+	0
Combined Household Income More than 45K	15
Combined Household Income Less than 45K	17

Appendix C

San Diego Forward: The Regional Plan Revenue Constrained Transit Network Changes

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SANDAG San Diego Forward Regional Plan Revenue Constrained Scenario:

In the San Diego Forward Regional Plan, the I-5 is slated to be improved from an 8F classification to an 8F+Operational by 2050, at the cost of $2,919 Million.

SANDAG's *San Diego Forward: The Regional Plan* Revenue Constrained scenario identifies several public transit service improvements within Downtown San Diego. Each of the service improvements are summarized below, including frequency changes, new routes, and anticipated implementation years.

- Coaster, Route 398 – Additional double tracking and increased frequency between Oceanside and Downtown and an extension to the Convention Center/Petco Park. Coaster headways will operate with 20-minute headways during peak periods and 60-minute headways during off-peak periods. The San Diego Forward Regional Plan indicates this will be implemented by 2020.
- Trolley, Route 510 – The Mid-Coast Corridor Transit Project will extend Trolley service from the Santa Fe Depot in Downtown San Diego to the University City community; with peak frequencies of 7.5-minutes. The San Diego Forward Regional Plan estimates completion by 2020.
- BRT, Route 640 – San Ysidro to Downtown San Diego and Kearny Mesa via I-5 shoulder lanes and HOV lanes; via Hillcrest, and Mission Valley. This route will run at 15-minute headways during peak and off-peak hours. According to the San Diego Forward Regional Plan the route will be implemented by 2020.
- Local Buses – According to the San Diego Forward Regional Plan, local buses in key corridors will operate with 15-minute headways during peak and off-peak periods. The San Diego Forward Regional Plan indicates the increased service will begin by 2020.
- Coaster, Route 398 – Double tracking/increased frequency between Oceanside and Downtown San Diego, with an extension to the Convention Center. Peak period service will operate with 20-minute headways and off-peak headways will remain the same as current conditions. The San Diego Forward Regional Plan indicates this route will be implemented by 2035.
- Trolley, Route 520 Orange Line – The San Diego Forward Regional Plan indicates the Orange Line will increase service frequencies to 7.5-minutes during peak periods and off-peak by the year 2035. An extended linkage to the Airport Intermodal Transit Center is also planned by the year 2035.
- Street Car, Route 553 – The Downtown San Diego Street Car will run between Little Italy and the East Village with headways of 10-minutes during both the peak and off-peak periods. According to the San Diego Forward Regional Plan, this route will be implemented by 2035.
- Streetcar, Route 554 – The San Diego Loop will circulate between Downtown San Diego, Hillcrest, and Balboa Park. The route will operate at 10-minute headways during peak and off-peak hours. According to the San Diego Forward Regional Plan, this route will be implemented by 2035.

- Street Car, Route 555 – This circulator will run from 30th Street to Downtown San Diego via North Park and Golden Hill. The route will operate with 10-minute headways during peak and off-peak periods. According to the San Diego Forward Regional Plan, the route will begin by 2035.
- Rapid Bus, Route 2 –North Park to Downtown San Diego, via North Park and Golden Hill. This route will run at 10-minute headways during both the peak and off-peak periods. According to the San Diego Forward Regional Plan, this project will be implemented by 2035.
- Rapid Bus, Route 11 –Spring Valley to SDSU via Southeastern San Diego, Downtown San Diego, Hillcrest, and Mid-City. This route will operate with 10-minute headways during peak and off-peak periods. The San Diego Forward Regional Plan indicates this route will be implemented by the year 2035.
- BRT, Route 90 – Santee and El Cajon Transit Centers to Downtown San Diego via SR-94. This route will only run during peak periods, with 105-minute headways. According to the San Diego Forward Regional Plan, this route will be implemented by the year 2035.
- Rapid Bus, Route 120 –Kearny Mesa to Downtown San Diego, via Mission Valley. This route will operate at 10-minute headways during both the peak and off-peak periods. According to the San Diego Forward Regional Plan, the route will be implemented by 2035.
- Rapid Bus, Route 910 –Coronado to Downtown San Diego, via the San Diego-Coronado Bay Bridge. This route will operate with 10-minute headways during peak and off-peak periods. According to the San Diego Forward Regional Plan, the route will be implemented by 2035.
- Local Buses – According to the San Diego Forward Regional Plan, local bus routes in key corridors will operate with 10-minute headways during peak and off-peak periods, by the year 2035.
- Trolley, Route 520 – The Orange Line Express will run between El Cajon and Downtown San Diego with 10-minute headways during peak and off-peak periods. The San Diego Forward Regional Plan indicates this route will be implemented by the year 2050.
- Trolley, Route 530 – The Green Line will operate with 7.5 minutes headways during peak and off-peak periods. The San Diego Forward Regional Plan indicates this service will be operate by the year 2050.
- Trolley, Route 560– This route will run from SDSU to Downtown San Diego via Mid-City, El Cajon Boulevard and Park Boulevard. The route will operate with 7.5-minute headways during peak and off-peak periods. According to the San Diego Forward Regional Plan, this route will be implemented by 2050.

Appendix D

TDM Strategies

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Active Transportation Demand Management Strategies

Wayfinding

Wayfinding tools, including signs, pavement markings, and maps are an invaluable resource for pedestrians and bicyclists. They are especially needed by those who are not familiar existing routes, such as beginning cyclists or tourists.

Some wayfinding tools are oriented to specific destinations, activity centers or landmarks, whereas others simply help the user navigate through an area regardless of their destination. Successful wayfinding tools are easily understood and allow the pedestrian or bicyclist to quickly orient themselves and determine the most direct, lowest stress, or safest path. Additionally, wayfinding tools serve a marketing purpose and should be attractive and unique, encouraging greater use of bicycle and walking facilities.

Civic San Diego is currently in the process of updating downtown wayfinding signage. The Wayfinding Design Signage Upgrade includes pedestrian circulation signs and kiosks as well as signage to direct pedestrians and bicyclists to nearby trails, but does not comprehensively address bicycle wayfinding needs in Downtown San Diego.

SANDAG publishes a free regional bike map, available online or at local bicycle shops. SANDAG has also developed an online interactive bike map and is incorporated into SANDAG's multi-modal trip planning website *iCommute*.

In addition to these regional resources, the City of San Diego Bicycle Program created a map of the seven mile San Diego Bike Loop in and around Downtown San Diego. The route follows low-stress streets and includes route markers and sharrows to guide cyclists.

Bike Parking

Convenient and secure bike parking is a necessary component of a comprehensive bicycle accommodation strategy. Bike racks should be located in close proximity to building entrances and should be easily visible to passerby.

The San Diego Municipal Code ensures that bike racks will be implemented in new developments and through redevelopment. Businesses can request a bike rack by sending an email to a designated recipient at the City (trafficops@sandiego.gov). All costs associated with rack installation and maintenance are borne by the City. Requests for racks in downtown are handled by CivicSD.

Bike Sharing

Over the past five to ten years, bike sharing has emerged as an important component of urban transportation systems. Bike sharing systems allow individuals to borrow or rent a bike for a short period of time, such as an hour or less. Stations tend to be located within close proximity to major destinations and are often very prominent.

The bike sharing program in San Diego is operated in partnership between the City of San Diego and DecoBike. Upon buildout completion, the network will provide approximately 1,800 bikes, dispersed across over 180 stations in San Diego, with the greatest concentration located in downtown. Bike can be rented by the half-hour, or via unlimited ride memberships. DecoBike offers a map of bike-shareing stations, including real-time bike inventories and free docks (http://www.decobike.com/sandiego/map-location).

Open Streets / Ciclovias / Sunday Parkways

The term "Ciclovia" refers to a public street that has been closed to vehicular traffic, but remains open to bicyclists and pedestrians. Over the past several years, many cities have created events based on this concept, which originated in Bogota, Columbia. Ciclovias and other car-free events offer an encouraging environment for families and individuals of all skill levels to experience and envision local streets in a new light. They are also seen as having a community-building effect as they bring together a wide range of people and interest to enjoy the public space.

San Diego's version of the Ciclovia, termed CicloSDias, began in 2011 and was held for the third time in November 2014. The event is organized by the San Diego County Bicycle Coalition with assistance from the City of San Diego and San Diego County, as well as various non-profit and private companies.

In addition to CicloSDias, other community bike rides are held throughout the year. Although they are not necessarily on routes closed to vehicular traffic, these community-oriented rides offer some of the same benefits as an open streets event.

Education and Enforcement

Education of bicyclists and pedestrians is essential to the safe operation of the transportation system. On the part of bicyclists, unsafe behaviors such as wrong-way riding, riding on sidewalks, and running stop signs and red lights not only pose a safety risk, but also generate hostility towards bicyclists. Pedestrian behaviors such as crossing in unexpected locations and disobeying signals have a similar effect. Education of motorists is no less important. Drivers must understand and be able to anticipate bicycle and pedestrian movements, such as where to look for bicyclists and how to safely pass them, and when to yield or stop for pedestrians.

The San Diego County Bicycle Coalition holds classes on a regular basis, including Bicycle Traffic Skills 101, bicycle repair classes, bike rodeos, and classes geared towards women and family riding. Along with their classes, the San Diego County Bike Coalition website has several educational resources addressing topics such as sharrows, bike lanes, roundabouts, and how to pass bikes safely, among others. The SANDAG Bike Map also includes information on bicycle laws and safe riding practices, bike parking, and taking bikes on transit vehicles.

Circulate San Diego provides education and outreach regarding pedestrian safety, Safe Routes to School, and walking routes. Educational materials are incorporated into their advocacy activities, reports, and other resources.

In 2011, the San Diego Police Department issued a memo to its Patrol and Traffic Officers clarifying the application of traffic safety laws to bicyclists on San Diego roadways. More recently, the Department has participated in a multi-agency bike safety campaign to promote the passage of a 3-foot passing law in California. To address distracted driving and walking, the San Diego Police Department recently conducted targeted enforcement of pedestrian and motorist violations that affect pedestrian safety.

Outreach and Marketing

Outreach and marketing related to bicycling and walking builds interest, enthusiasm, and support for non-motorized transportation. Outreach can occur through a wide variety of events and programs, including

bike-to-work day and bike-to-work month, employer-based competitions, Safe Routes to School events, helmet fittings, and equipment giveaways, among others.

In recent years, individualized marketing approaches designed to encourage bicycling, walking, and transit have gained traction. Such programs, which usually go by the name of *Smart Trips*, provide detailed neighborhood-specific information to residents, including relevant bus and bike routes, available incentives and upcoming encouragement events. In limited studies, Smart Trips programs have been shown to be successful at reducing driving alone trips.

The San Diego County Bicycle Coalition offers regular opportunities for beginning bicyclists to practice their skills in a supportive, low-stress environment. More broadly, the Coalition serves as a centralized source of information regarding bike outreach events in the San Diego region. Bike San Diego also promotes bicycling events throughout San Diego.

Other organizations also participate and promote bicycle-related outreach. For example, the East Village Bike Committee hosts a free East Village Bike Affair event, which connects current and potential cyclists with bicycle advocacy organizations and bicycle-related local businesses. It is a family-friendly event that includes bicycle tune-ups, training, live music, and other incentives.

Circulate San Diego also hosts a number of outreach events to promote walking and bicycling. Many of these are targeted toward students, including walking school buses and bicycle trains, walk to school day, a walking pledge program (Mileage Club), and Walkshops.

Through the iCommute program, SANDAG provides mini-grants for bike month activities, including bike rodeos, bike checks, bike map printing, bike-related giveaways, and other education and outreach events. The website also offers a number of resources to promote bicycle commuting, including access to bicycle safety educational materials, wayfinding tools, a ridematcher service, bicycle parking information, and information about integrating bikes with transit. Additionally, a TripTracker tool allows participants to monitor their bicycling activity and to become eligible for incentives. Registered participants in the iCommute program (including pedestrians and bicyclists) are eligible for the Guaranteed Ride Home program.

Conventional TDM Strategies

Public Transit

Transit programs are essential to a successful TDM program, as they offer an alternative to single-occupancy vehicle (SOV) travel that is accessible to a large percentage of the population. While transit agencies provide a public service by offering mobility to transit dependent populations, transit providers also help meet the goals of TDM programs to the extent they are utilized by “choice riders”. Choice riders are individuals who choose transit over driving even though they can afford to drive.

The choice to commute via transit is influenced by a number of factors, including ease of access to transit stops, scheduling, travel time, reliability, personal preference, and cost, among others. Transit TDM programs seek to encourage more commuters to choose transit over driving through enhanced amenities, financial incentives, and first/last mile improvements.

The San Diego region is served by the Metropolitan Transit System (MTS) and the North County Transit District (NCTD). Both systems use the Compass Card fare payment system, which results in a seamless experience for transit riders. Discount cards are offered for seniors, youth, and disabled passengers.

SANDAG has identified a need to look into supporting commuters on the first and/or last mile of their commute. They have found that the primary barrier to using transit, carpooling or vanpooling is the distance commuters would have to travel to get to the pick-up location or transit station. SANDAG funded a study in 2011 which recommended treatments to improve access at specific transit stations.

Ridesharing

Carpooling and vanpooling (known collectively as ridesharing) have the goal of increasing average vehicle occupancy rates on the roadway system. These strategies are among the most cost-effective alternate transportation choices, especially in areas underserved by transit. In addition to lower commute costs, rideshare participants benefit from the use of high-occupancy vehicle (HOV) and high-occupancy toll (HOT) lanes, which reduce commute times. However, ridesharing remains an unattractive option for some commuters due to inconvenient access, inflexibility, and unreliability. There are various TDM strategies to address the limitations of ridesharing, including financial support, rideshare matching, and guaranteed ride home.

Ridesharing in the San Diego region is coordinated by SANDAG through the iCommute program. Services offered include: ridematching, vanpools, and guaranteed ride home, among others.

- *Ridematching /carpooling* – iCommute offers RideMatcher, an online service to help commuters find potential carpooling partners. SANDAG does not subsidize carpooling; however, individuals who carpool are eligible for monthly $100 giftcard drawings. Registered users of iCommute log trips online in the TripTracker and are automatically entered to win. Carpools are also eligible to use HOV lanes and ExpressLanes at no cost. Additionally, iCommute offers a SchoolPool program to help parents with children in public schools find carpool and walking/biking buddy matches. In FY 2012, there were 68 schools participating in the SchoolPool program and more than 5,500 students participated in the Walk and Bike to School Day.
- *Vanpooling* – SANDAG manages its vanpool program using leased vans owned by vRide or Enterprise Rideshare. They maintain a month-to-month lease which allows them flexibility as demand changes. Vanpools are required to meet an 80 percent occupancy rate, which is tracked through iCommute. Eligible vanpools receive a $400 monthly subsidy to offset costs. Vanpools are also eligible to use HOV lanes and ExpressLanes at no cost. In FY 2012, there were 726 vanpools with 5,676 daily passengers.
- *Guaranteed Ride Home* – For registered users who walk, bike, take transit, vanpool, or carpool to work, SANDAG's Guaranteed Ride Home program allows for three free taxi rides per year in the event of a family emergency, if the vanpool/carpool fails to pick them up, or in the event of unscheduled overtime.

Carsharing

Carsharing programs allow registered users to reserve and rent cars at hourly or daily rates. Carshare programs include private companies, non-profit or government run programs, private vehicle fleets, and peer-to-peer services. These companies differentiate their services based on the types of cars they offer, the parking locations, and their pricing schemes; some offer higher hourly rates with free mileage or paid

mileage and lower hourly rates. Private (ZipCar and Car2Go) and non-profit carsharing services (City CarShare) locate their vehicle fleet at convenient locations throughout metropolitan areas. Peer-to-peer carsharing services (RelayRides and Getaround) allow private owners to rent their cars to registered users. Carsharing, in combination with transit and other alternative modes, allow individuals on-demand access to cars without the added costs of vehicle ownership.

Private carsharing companies have operated in San Diego since 2002, when Flexcar (purchased by Zipcar in 2007) began offering services. San Diego selected Flexcar in 2004 for their Station Car Pilot Program to address first/last mile connections. In 2009, SANDAG studied the viability of on-street parking for a carshare system and in 2011, Car2Go service launched and has a current all-electric fleet of 400 vehicles. The peer-to-peer service, RelayRides, also operates in San Diego.

Parking Management

Free parking reduces the overall cost of vehicle ownership and usage, which results in higher levels of SOV usage. Charging for parking in central business districts and other office locations, along with other innovative parking management practices can reduce or eliminate this subsidy and improve overall system efficiency.

The Comprehensive Parking Plan for Downtown San Diego includes a variety of recommendations to improve the management of existing parking capacity. The recommendations include a number of best practices outlined in this report such as unbundled parking and variable parking pricing.

Flexible Work Arrangements

Flexible work arrangements, including teleworking and discretionary arrival/departure times allow employees to forego work trips or modify their timing to avoid travel during peak times. According to the 2009 National Household Travel Survey, around 11 percent of all workers have the option of working from home and almost nine percent work from home exclusively. Around 35 percent of all workers have flexibility with respect to their work arrival time. Among professional, managerial, and technical workers, close to half are afforded this privilege.

SANDAG's iCommute program has a Telework pilot program (*TeleworkSD*) that offers free consulting services for employers who want to effectively implement telecommuting strategies in their work place. The program walks employers through the steps needed to implement a telework program from start to finish. The services are valued at $20,000.

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Appendix E

Planning Level Cost Estimates

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Downtown Mobility Plan Improvement Project Cost Summary

Improvement Type	Cost ($ in Million)
Greenways	$25.75
Pedestrian Improvements	$7.22
Bicycle Improvements	$10.50
Roadway Improvements	$19.32
Total	$62.79

Downtown Mobility Plan Greenway Improvement Projects

Corridor: **Cedar Street, Pacific Highway to Tenth Avenue: 3,600 lf sidewalk**

Improvement Element Description	Unit Cost	Quantity (lin feet)	Cost
Landscape earthwork	$ 180.00	3,600	$ 648,000
Sidewalk paving	$ 242.00	3,600	$ 871,200
Landscape planting	$ 260.00	3,600	$ 936,000
Furnishings/signage	$ 190.00	3,600	$ 684,000
Subtotal			$ 3,139,200
50% Contingency			$ 1,569,600
			$ -
			$ -
		Total Cost:	$ 4,708,800

Corridor: **E Street, Fourth Avenue to I-5: 2,900 lf sidewalk**

Improvement Element Description	Unit Cost	Quantity	Cost
Landscape earthwork	$ 180.00	2,990	$ 538,200
Sidewalk paving	$ 242.00	2,990	$ 723,580
Landscape planting	$ 260.00	2,990	$ 777,400
Furnishings/signage	$ 190.00	2,990	$ 568,100
Subtotal			$ 2,607,280
50% Contingency			$ 1,303,640
			$ -
			$ -
		Total Cost:	$ 3,910,920

Corridor: **Island Avenue, Union Street to I-5: 4,260 lf sidewalk**
(no sidewalk widening; only new planting areas)

Improvement Element Description	Unit Cost	Quantity	Cost
Landscape earthwork	$ 180.00	1,000	$ 180,000
Sidewalk paving	$ 242.00	1,000	$ 242,000
Landscape planting	$ 260.00	1,000	$ 260,000
Furnishings/signage	$ 190.00	1,000	$ 190,000
Subtotal			$ 872,000
50% Contingency			$ 436,000
			$ -
			$ -
		Total Cost:	$ 1,308,000

Corridor: **Union Street, Date Street to Island Avenue: 3,750 lf sidewalk**

Improvement Element Description	Unit Cost	Quantity	Cost
Landscape earthwork	$ 180.00	3,750	$ 675,000
Sidewalk paving	$ 242.00	3,750	$ 907,500
Landscape planting	$ 260.00	3,750	$ 975,000
Furnishings/signage	$ 190.00	3,750	$ 712,500
Subtotal			$ 3,270,000
50% Contingency			$ 1,635,000
			$ -
			$ -
		Total Cost:	$ 4,905,000

Downtown Mobility Plan Greenway Improvement Projects

Corridor: **Sixth Avenue, Cedar Street to Elm Street: 800 lf sidewalk**

Improvement Element Description	Unit Cost	Quantity	Cost
Landscape earthwork	$ 180.00	800	$ 144,000
Sidewalk paving	$ 242.00	800	$ 193,600
Landscape planting	$ 260.00	800	$ 208,000
Furnishings/signage	$ 190.00	800	$ 152,000
Subtotal			$ 697,600
50% Contingency			$ 348,800
			$ -
			$ -
		Total Cost:	$ 1,046,400

Corridor: **Eighth Avenue, Date Street to J Street: 4,120 lf sidewalk**

Improvement Element Description	Unit Cost	Quantity	Cost
Landscape earthwork	$ 180.00	4,125	$ 742,500
Sidewalk paving	$ 242.00	4,125	$ 998,250
Landscape planting	$ 260.00	4,125	$ 1,072,500
Furnishings/signage	$ 190.00	4,125	$ 783,750
Subtotal			$ 3,597,000
50% Contingency			$ 1,798,500
			$ -
			$ -
		Total Cost:	$ 5,395,500

Corridor: **14th Street, C Street to Commercial Street: 3,420 lf sidewalk**

Improvement Element Description	Unit Cost	Quantity	Cost
Landscape earthwork	$ 180.00	3,420	$ 615,600
Sidewalk paving	$ 242.00	3,420	$ 827,640
Landscape planting	$ 260.00	3,420	$ 889,200
Furnishings/signage	$ 190.00	3,420	$ 649,800
Subtotal			$ 2,982,240
50% Contingency			$ 1,491,120
			$ -
			$ -
		Total Cost:	$ 4,473,360

Downtown Mobility Plan Pedestrian Improvement Projects

Corridor: Hawthorne Street, Harbor Drive to State Street

Improvement Element Description	Unit Cost	Unit	Quantity	Cost
Pavement Removal	$ 5.00	SF	8,800	$ 44,000
Curb and Gutter	$ 30.00	LF	650	$ 19,500
Bulbout/sidewalk surfacing/ramps	$ 10.00	SF	6,740	$ 67,400
Drainage	$ 5,000.00	LS	1	$ 5,000
				$ -
Subtotal Cost:				$ 135,900
50% Contingency				$ 67,950
			Total Cost:	**$ 203,850**

Corridor: Grape Street, Harbor Drive to State Street

Improvement Element Description	Unit Cost	Unit	Quantity	Cost
Pavement Removal	$ 5.00	SF	8,800	$ 44,000
Curb and Gutter	$ 30.00	LF	650	$ 19,500
Bulbout/sidewalk surfacing/ramps	$ 10.00	SF	6,740	$ 67,400
Drainage	$ 5,000.00	LS	1	$ 5,000
				$ -
Subtotal Cost:				$ 135,900
50% Contingency				$ 67,950
			Total Cost:	**$ 203,850**

Corridor: Beech Street, Pacific Highway to Sixth Avenue

Improvement Element Description	Unit Cost	Unit	Quantity	Cost
Pavement Removal	$ 5.00	SF	36,050	$ 180,250
Curb and Gutter	$ 30.00	LF	2,220	$ 66,600
Bulbout/sidewalk surfacing/ramps	$ 10.00	SF	24,900	$ 249,000
Drainage	$ 5,000.00	LS	28	$ 140,000
				$ -
Subtotal Cost:				$ 635,850
50% Contingency				$ 317,925
			Total Cost:	**$ 953,775**

Corridor: B Street, Third Avenue to Sixth Avenue

Improvement Element Description	Unit Cost	Unit	Quantity	Cost
Pavement Removal	$ 5.00	SF	3,150	$ 15,750
Curb and Gutter	$ 30.00	LF	210	$ 6,300
Bulbout/sidewalk surfacing/ramps	$ 10.00	SF	2,280	$ 22,800
Drainage	$ 5,000.00	LS	4	$ 20,000
				$ -
Subtotal Cost:				$ 64,850
50% Contingency				$ 32,425
			Total Cost:	**$ 97,275**

Downtown Mobility Plan Pedestrian Improvement Projects

Corridor: C Street, Sixth Avenue to I-5

Improvement Element Description	Unit Cost	Unit	Quantity	Cost
Pavement Removal	$ 5.00	SF	30,200	$ 151,000
Curb and Gutter	$ 30.00	LF	1,610	$ 48,300
Bulbout/sidewalk surfacing/ramps	$ 10.00	SF	26,900	$ 269,000
Drainage	$ 5,000.00	LS	5	$ 25,000
				$ -
Subtotal Cost:				$ 493,300
50% Contingency				$ 246,650
			Total Cost:	**$ 739,950**

Corridor: Broadway, Harbor Drive to Third Avenue

Improvement Element Description	Unit Cost	Unit	Quantity	Cost
Pavement Removal	$ 5.00	SF	27,450	$ 137,250
Curb and Gutter	$ 30.00	LF	1,975	$ 59,250
Bulbout/sidewalk surfacing/ramps	$ 10.00	SF	17,360	$ 173,600
Drainage	$ 5,000.00	LS	2	$ 10,000
Pavers	$ 12.00	SF	3,720	$ 44,640
Concrete Pavement	$ 15.00	SF	3,840	$ 57,600
Relocate Art	$ 10,000.00	EA	6	$ 60,000
Subtotal Cost:				$ 542,340
50% Contingency				$ 271,170
			Total Cost:	**$ 813,510**

Corridor: J Street, Harbor Drive to I-5

Improvement Element Description	Unit Cost	Unit	Quantity	Cost
Pavement Removal	$ 5.00	SF	35,200	$ 176,000
Curb and Gutter	$ 30.00	LF	2,720	$ 81,600
Bulbout/sidewalk surfacing/ramps	$ 10.00	SF	27,400	$ 274,000
Drainage	$ 5,000.00	LS	32	$ 160,000
				$ -
Subtotal Cost:				$ 691,600
50% Contingency				$ 345,800
			Total Cost:	**$ 1,037,400**

Corridor: Pacific Highway, Harbor Drive to Laurel Street

Improvement Element Description	Unit Cost	Unit	Quantity	Cost
Pavement Removal	$ 5.00	SF		$ -
Curb and Gutter	$ 30.00	LF		$ -
Bulbout/sidewalk surfacing/ramps	$ 10.00	SF		$ -
Drainage	$ 5,000.00	LS		$ -
				$ -
Subtotal Cost:				$ -
50% Contingency				$ -
			Total Cost:	**$ -**

Downtown Mobility Plan Pedestrian Improvement Projects

Corridor: State Street, Market Street to I-5

Improvement Element Description	Unit Cost	Unit	Quantity	Cost
Pavement Removal	$ 5.00	SF	20,350	$ 101,750
Curb and Gutter	$ 30.00	LF	1,710	$ 51,300
Bulbout/sidewalk surfacing/ramps	$ 10.00	SF	17,200	$ 172,000
Drainage	$ 5,000.00	LS	18	$ 90,000
				$ -
Subtotal Cost:				$ 415,050
50% Contingency				$ 207,525
			Total Cost:	**$ 622,575**

Corridor: Fourth Avenue, B Street to I-5

Improvement Element Description	Unit Cost	Unit	Quantity	Cost
Pavement Removal	$ 5.00	SF	14,300	$ 71,500
Curb and Gutter	$ 30.00	LF	740	$ 22,200
Bulbout/sidewalk surfacing/ramps	$ 10.00	SF	9,040	$ 90,400
Drainage	$ 5,000.00	LS	3	$ 15,000
				$ -
Subtotal Cost:				$ 199,100
50% Contingency				$ 99,550
			Total Cost:	**$ 298,650**

Corridor: Fifth Avenue, B Street to I-5

Improvement Element Description	Unit Cost	Unit	Quantity	Cost
Pavement Removal	$ 5.00	SF	11,100	$ 55,500
Curb and Gutter	$ 30.00	LF	540	$ 16,200
Bulbout/sidewalk surfacing/ramps	$ 10.00	SF	6,940	$ 69,400
Drainage	$ 5,000.00	LS	3	$ 15,000
				$ -
Subtotal Cost:				$ 156,100
50% Contingency				$ 78,050
			Total Cost:	**$ 234,150**

Corridor: Sixth Avenue, Rail Line (Green Line) to Beech Street

Improvement Element Description	Unit Cost	Unit	Quantity	Cost
Pavement Removal	$ 5.00	SF	25,850	$ 129,250
Curb and Gutter	$ 30.00	LF	2,940	$ 88,200
Bulbout/sidewalk surfacing/ramps	$ 10.00	SF	43,850	$ 438,500
Drainage	$ 5,000.00	LS	17	$ 85,000
				$ -
Subtotal Cost:				$ 740,950
50% Contingency				$ 370,475
			Total Cost:	**$ 1,111,425**

Downtown Mobility Plan Pedestrian Improvement Projects

Corridor: Park Boulevard, K Street to C Street

Improvement Element Description	Unit Cost	Unit	Quantity	Cost
Pavement Removal	$ 5.00	SF	49,650	$ 248,250
Curb and Gutter	$ 30.00	LF	2,560	$ 76,800
Bulbout/sidewalk surfacing/ramps	$ 10.00	SF	4,750	$ 47,500
Drainage	$ 5,000.00	LS	7	$ 35,000
				$ -
Subtotal Cost:				$ 407,550
50% Contingency				$ 203,775
			Total Cost:	**$ 611,325**

Corridor: Park Boulevard, C Street to I-5

Improvement Element Description	Unit Cost	Unit	Quantity	Cost
Pavement Removal	$ 5.00	SF	12,000	$ 60,000
Curb and Gutter	$ 30.00	LF	710	$ 21,300
Bulbout/sidewalk surfacing/ramps	$ 10.00	SF	10,800	$ 108,000
Drainage	$ 5,000.00	LS	1	$ 5,000
				$ -
Subtotal Cost:				$ 194,300
50% Contingency				$ 97,150
			Total Cost:	**$ 291,450**

Downtown Mobility Plan Cycleway Improvement Projects

Corridor: **Hawthorne Street, Harbor Drive to State Street**

Improvement Element Description	Unit Cost	Unit	Quantity	Cost
Signal Modifications	$ 50,000.00	LS	6	$ 300,000
Slurry Seal	$ 0.50	SF	185,500	$ 92,750
Striping	$ 4.00	SF	15,400	$ 61,600
				$ -
Subtotal Cost:				$ 454,350
50% Contingency				$ 227,175
			Total Cost:	**$ 681,525**

Corridor: **Grape Street, Harbor Drive to State Street**

Improvement Element Description	Unit Cost	Unit	Quantity	Cost
Signal Modifications	$ 50,000.00	LS	6	$ 300,000
Slurry Seal	$ 0.50	SF	185,500	$ 92,750
Striping	$ 4.00	SF	15,400	$ 61,600
				$ -
Subtotal Cost:				$ 454,350
50% Contingency				$ 227,175
			Total Cost:	**$ 681,525**

Corridor: **Beech Street, Pacific Highway to Sixth Avenue**

Improvement Element Description	Unit Cost	Unit	Quantity	Cost
Signal Modifications	$ 50,000.00	LS	5	$ 250,000
Slurry Seal	$ 0.50	SF	416,000	$ 208,000
Striping	$ 4.00	SF	35,600	$ 142,400
				$ -
Subtotal Cost:				$ 600,400
50% Contingency				$ 300,200
			Total Cost:	**$ 900,600**

Corridor: **B Street, Third Avenue to Sixth Avenue**

Improvement Element Description	Unit Cost	Unit	Quantity	Cost
Signal Modifications	$ 50,000.00	LS	4	$ 200,000
Slurry Seal	$ 0.50	SF	101,400	$ 50,700
Striping	$ 4.00	SF	9,200	$ 36,800
				$ -
Subtotal Cost:				$ 287,500
50% Contingency				$ 143,750
			Total Cost:	**$ 431,250**

Downtown Mobility Plan Cycleway Improvement Projects

Corridor: C Street, Sixth Avenue to I-5

Improvement Element Description	Unit Cost	Unit	Quantity	Cost
Signal Modifications	$ 50,000.00	LS	7	$ 350,000
Slurry Seal	$ 0.50	SF	216,400	$ 108,200
Striping	$ 4.00	SF	21,640	$ 86,560
				$ -
Subtotal Cost:				$ 544,760
50% Contingency				$ 272,380
			Total Cost:	**$ 817,140**

Corridor: Broadway, Harbor Drive to Third Avenue

Improvement Element Description	Unit Cost	Unit	Quantity	Cost
Signal Modifications	$ 50,000.00	LS	11	$ 550,000
Slurry Seal	$ 0.50	SF	369,300	$ 184,650
Striping	$ 4.00	SF	31,200	$ 124,800
Subtotal Cost:				$ 859,450
50% Contingency				$ 429,725
			Total Cost:	**$ 1,289,175**

Corridor: J Street, Harbor Drive to I-5

Improvement Element Description	Unit Cost	Unit	Quantity	Cost
Signal Modifications	$ 50,000.00	LS	4	$ 200,000
Slurry Seal	$ 0.50	SF	470,000	$ 235,000
Striping	$ 4.00	SF	39,400	$ 157,600
				$ -
Subtotal Cost:				$ 592,600
50% Contingency				$ 296,300
			Total Cost:	**$ 888,900**

Corridor: Pacific Highway, Harbor Drive to Laurel Street

Improvement Element Description	Unit Cost	Unit	Quantity	Cost
Signal Modifications	$ 50,000.00	LS		$ -
Slurry Seal	$ 0.50	SF	572,000	$ 286,000
Striping	$ 4.00	SF	24,700	$ 98,800
				$ -
Subtotal Cost:				$ 384,800
50% Contingency				$ 192,400
			Total Cost:	**$ 577,200**

Downtown Mobility Plan Cycleway Improvement Projects

Corridor: State Street, Market Street to I-5

Improvement Element Description	Unit Cost	Unit	Quantity	Cost
Signal Modifications	$ 50,000.00	LS	7	$ 350,000
Slurry Seal	$ 0.50	SF	366,100	$ 183,050
Striping	$ 4.00	SF	34,200	$ 136,800
				$ -
Subtotal Cost:				$ 669,850
50% Contingency				$ 334,925
			Total Cost:	**$ 1,004,775**

Corridor: Fourth Avenue, B Street to I-5

Improvement Element Description	Unit Cost	Unit	Quantity	Cost
Signal Modifications	$ 50,000.00	LS	5	$ 250,000
Slurry Seal	$ 0.50	SF	161,900	$ 80,950
Striping	$ 4.00	SF	13,200	$ 52,800
				$ -
Subtotal Cost:				$ 383,750
50% Contingency				$ 191,875
			Total Cost:	**$ 575,625**

Corridor: Fifth Avenue, B Street to I-5

Improvement Element Description	Unit Cost	Unit	Quantity	Cost
Signal Modifications	$ 50,000.00	LS	5	$ 250,000
Slurry Seal	$ 0.50	SF	157,700	$ 78,850
Striping	$ 4.00	SF	13,200	$ 52,800
				$ -
Subtotal Cost:				$ 381,650
50% Contingency				$ 190,825
			Total Cost:	**$ 572,475**

Corridor: Sixth Avenue, Rail Line (Green Line) to Beech Street

Improvement Element Description	Unit Cost	Unit	Quantity	Cost
Signal Modifications	$ 50,000.00	LS	7	$ 350,000
Slurry Seal	$ 0.50	SF	378,900	$ 189,450
Striping	$ 4.00	SF	35,400	$ 141,600
				$ -
Subtotal Cost:				$ 681,050
50% Contingency				$ 340,525
			Total Cost:	**$ 1,021,575**

Downtown Mobility Plan Cycleway Improvement Projects

Corridor: Park Boulevard, K Street to C Street

Improvement Element Description	Unit Cost	Unit	Quantity	Cost
Signal Modifications	$ 50,000.00	LS	4	$ 200,000
Slurry Seal	$ 0.50	SF	207,100	$ 103,550
Striping	$ 4.00	SF	21,700	$ 86,800
				$ -
Subtotal Cost:				$ 390,350
50% Contingency				$ 195,175
			Total Cost:	**$ 585,525**

Corridor: Park Boulevard, C Street to I-5

Improvement Element Description	Unit Cost	Unit	Quantity	Cost
Signal Modifications	$ 50,000.00	LS	4	$ 200,000
Slurry Seal	$ 0.50	SF	143,500	$ 71,750
Striping	$ 4.00	SF	11,600	$ 46,400
				$ -
Subtotal Cost:				$ 318,150
50% Contingency				$ 159,075
			Total Cost:	**$ 477,225**

Downtown Mobility Plan Roadway Improvement Projects

Improvement Element Description	Unit Cost	Unit	Quantity	Cost
Add Angled Parking	$ 16.38	LF of Roadway	22400	$ 366,912
Roadway Directional Conversions	$ 23.75	LF of Roadway	7950	$ 188,813
Traffic Signals	$ 300,000.00	Signal	41	$ 12,300,000
Add Peak Hour Flex Lane	$ 5.40	LF of Roadway	3000	$ 16,200
Stripe a Turn Pocket	$ 2,000.00	1 Pocket	3	$ 6,000
50% Contingency				$ 6,438,962
Total Cost:				$ 19,316,887

Appendix F

Intersection Design Concepts

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INTERSECTION DESIGN CONCEPTS

Intersection Type A – State Street and Hawthorn Street F-3
Intersection Type A – State Street and Grape Street F-4
Intersection Type A & L – Fifth Avenue and Sixth Avenue with B Street F-5
Intersection Type B – Pacific Highway and Grape Street F-6
Intersection Type C – Columbia and Grape Street F-7
Intersection Type D – State Street and Date Street..... F-8
Intersection Type E – Fifth Avenue and Cedar Street..... F-9
Intersection Type F – Columbia Street and Beech Street..... F-10
Intersection Type G – Sixth Avenue and J Street F-11
Intersection Type G – State Street and Beech Street F-12
Intersection Type H – Union Street and Beech Street..... F-13
Intersection Type I – Front Street and First Avenue with Beech Street..... F-14
Intersection Type J – Fourth Avenue and Fifth Avenue with Beech Street..... F-15
Intersection Type K & A – Third Avenue and Fourth Avenue with B Street..... F-16
Intersection Type L – Sixth Avenue and C Street F-17
Intersection Type M – Seventh Avenue and C Street F-18
Intersection Type N – Park Boulevard and C Street..... F-19
Intersection Type O – Pacific Highway and W. Broadway F-20
Intersection Type P – State Street and Broadway F-21
Intersection Type Q – First Avenue and Broadway..... F-22
Intersection Type R – Second Avenue and Broadway F-23
Intersection Type S – Third Avenue and Broadway F-24
Intersection Type T – Park Boulevard and Broadway F-25
Intersection Type U – Sixth Avenue and F Street F-26
Intersection Type U – Park Boulevard and E Street..... F-27
Intersection Type V – Sixth Avenue and K Street..... F-28

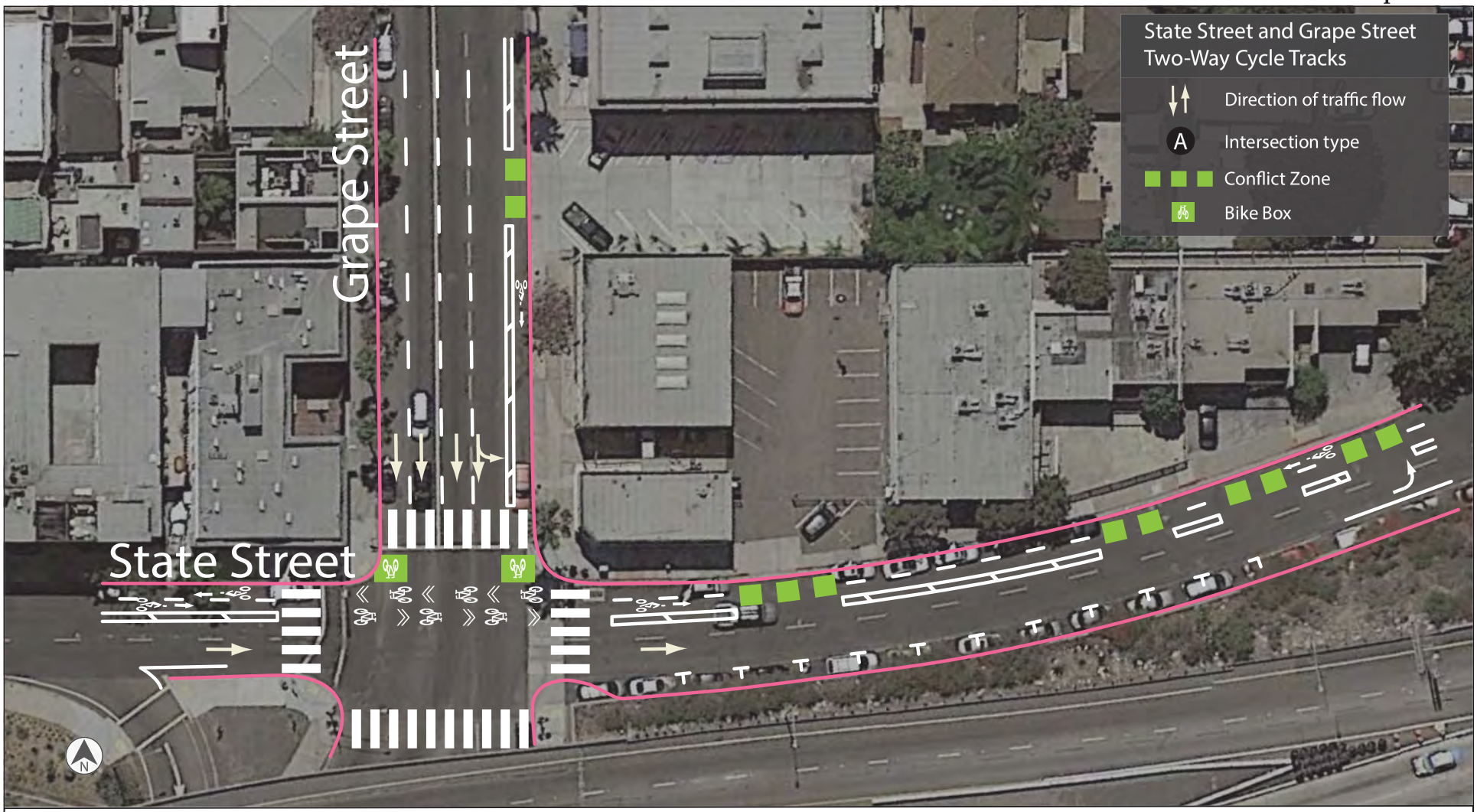
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Project Description

- Hawthorne Street: One-way cycle track on the left side of the vehicular travel lanes.
- State Street: Two-way cycle track along the westside.
- Signal modifications are proposed to accommodate cyclists.
- Curb extensions are proposed where feasible.

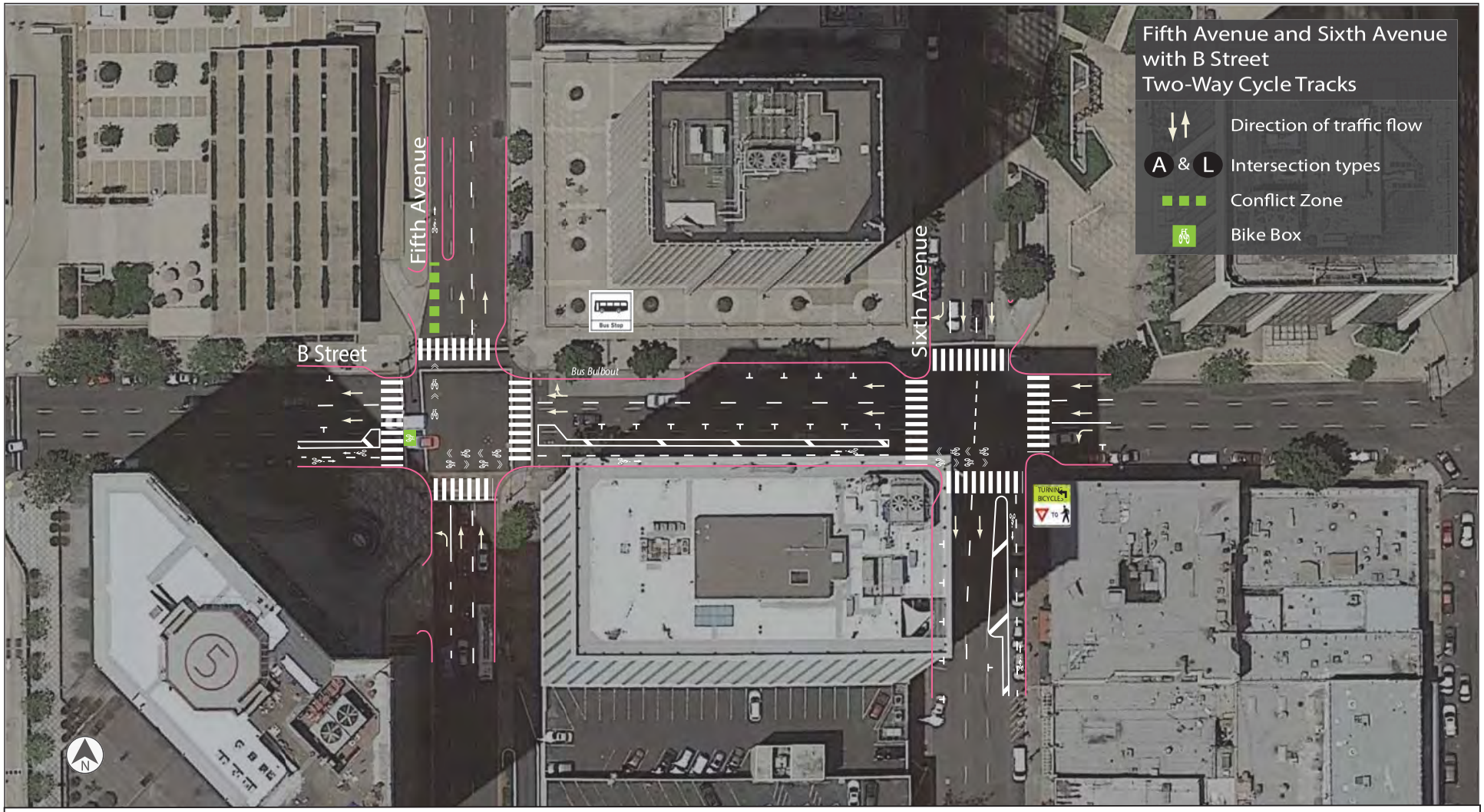
Note that conceptual plan illustrations are provided to demonstrate general feasibility of the subject proposal only. Actual improvements will require additional engineering studies and design work and shall be to the satisfaction of the City Engineer.



Project Description

- Grape Street: One-way cycle track on the left side of the vehicular travel lanes.
- State Street: Two-way cycle track along the westside of State Street.
- Signal modifications are proposed to accommodate cyclists.
- Curb extensions are proposed where feasible.

Note that conceptual plan illustrations are provided to demonstrate general feasibility of the subject proposal only. Actual improvements will require additional engineering studies and design work and shall be to the satisfaction of the City Engineer.



Project Description

- B Street: Two-way cycle track, separated by parallel parking, on the southside of B Street.
- Fifth Avenue: North of B Street, one-way cycle track to the left of the vehicular travel lanes.
- Sixth Avenue: South of B Street, two-way cycle track, separated by parallel parking, long the eastside.
- Signal modifications are proposed at both intersections to accommodate cyclists.
- Curb extensions are proposed where feasible.

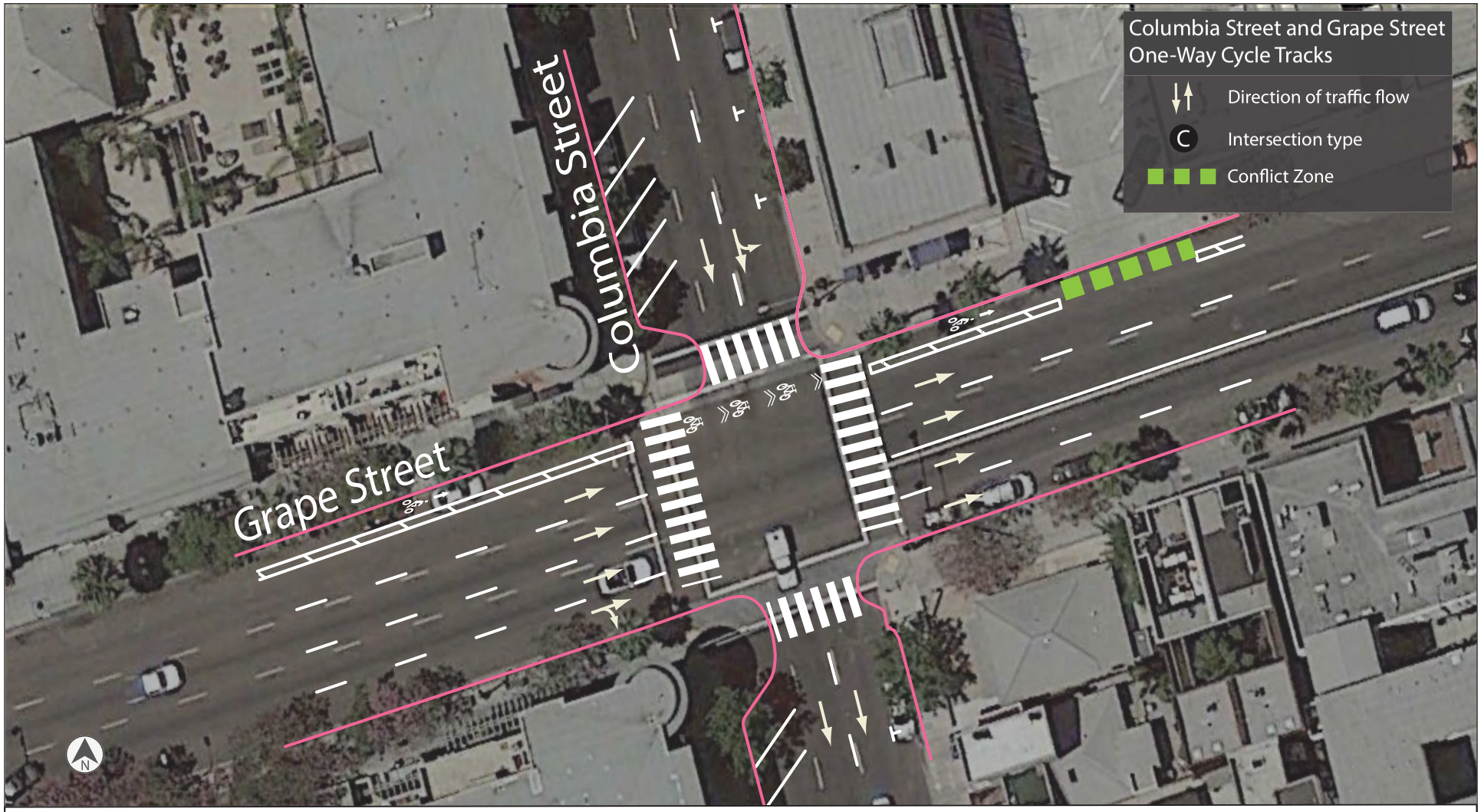
Note that conceptual plan illustrations are provided to demonstrate general feasibility of the subject proposal only. Actual improvements will require additional engineering studies and design work and shall be to the satisfaction of the City Engineer.



Project Description

- Grape Street: Eastbound one-way cycle on the north side of the roadway.
- Pacific Highway: One-way cycle tracks, separated by parallel parking in both directions.
- Signal modifications are proposed to accommodate cyclists.

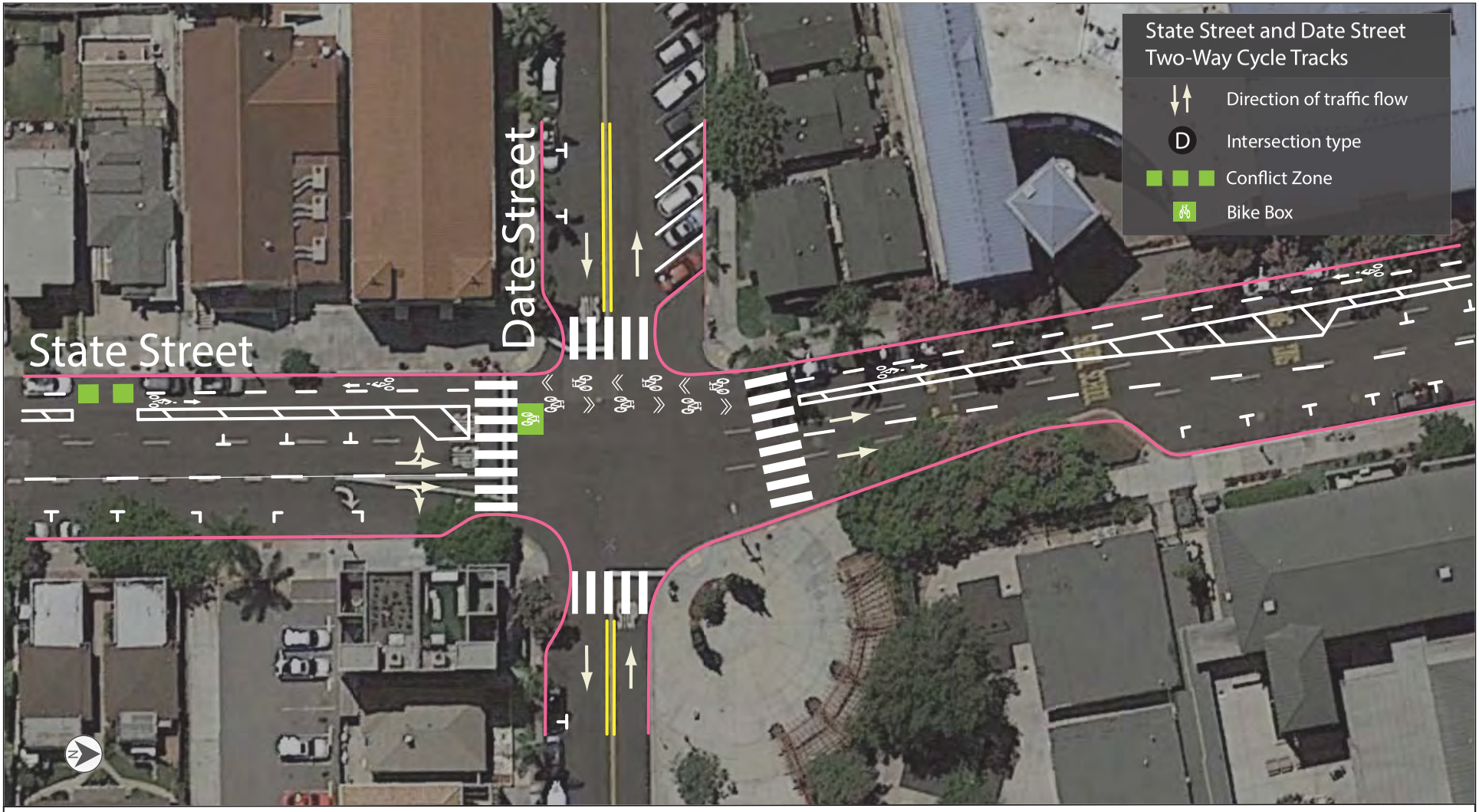
Note that conceptual plan illustrations are provided to demonstrate general feasibility of the subject proposal only. Actual improvements will require additional engineering studies and design work and shall be to the satisfaction of the City Engineer.



Project Description

- Grape Street: One-way cycle track on the left side of the vehicular travel lanes.
- Signal modifications are proposed to accommodate cyclists.
- Curb extensions are proposed where feasible.

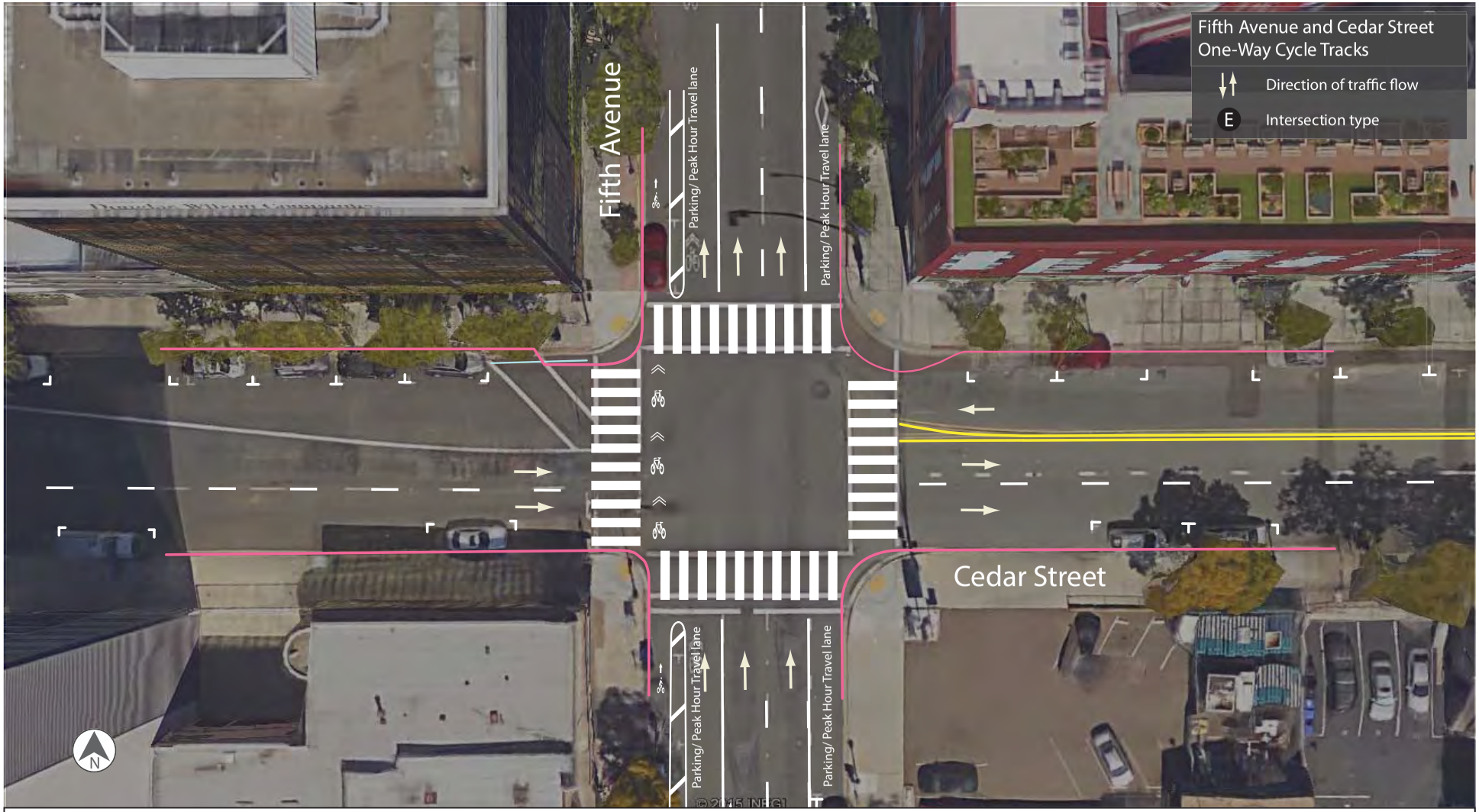
Note that conceptual plan illustrations are provided to demonstrate general feasibility of the subject proposal only. Actual improvements will require additional engineering studies and design work and shall be to the satisfaction of the City Engineer.



Project Description

- State Street: Two-way cycle track, separated by parallel parking, along the westside.
- Curb extensions are proposed where feasible.

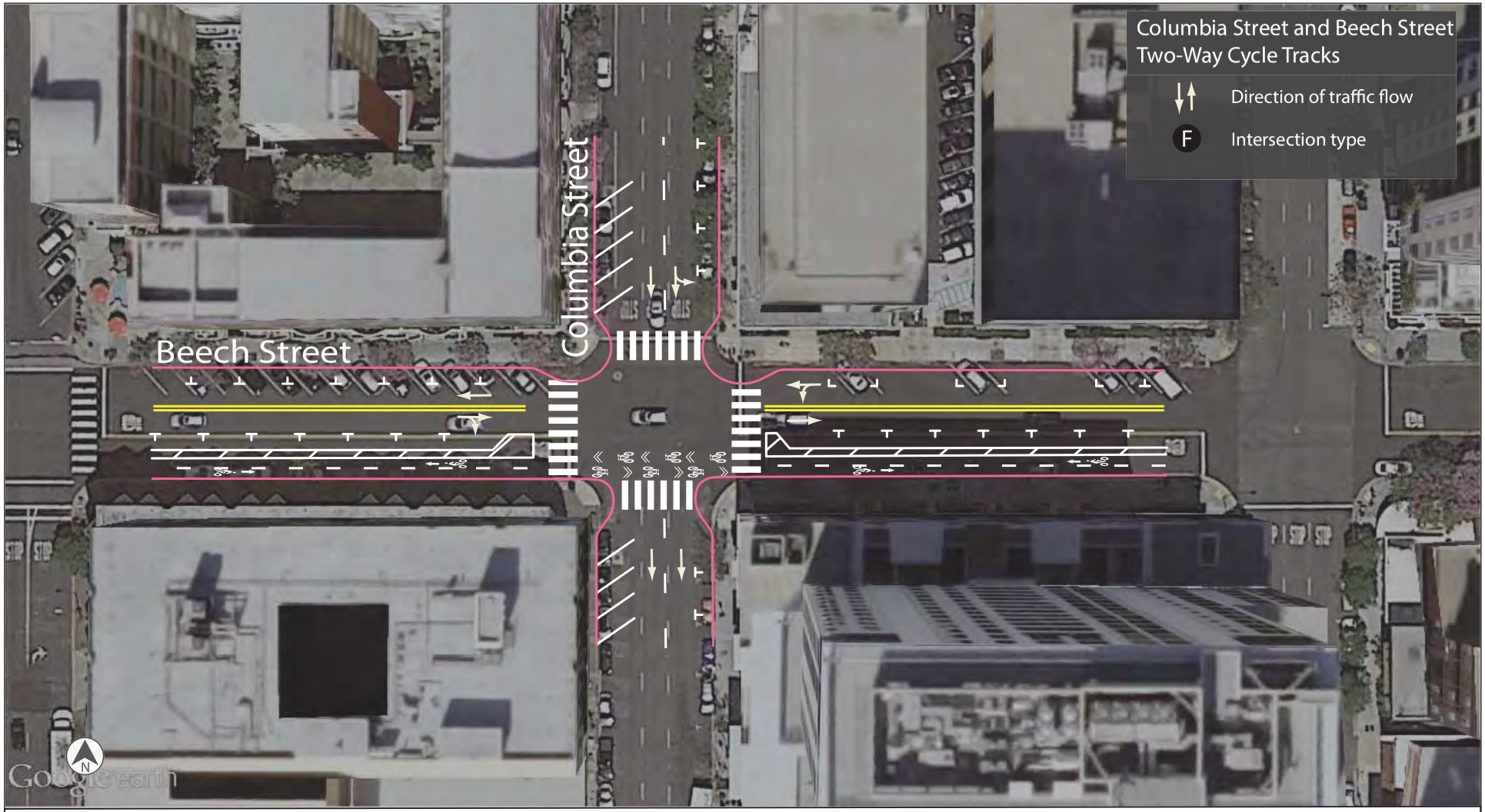
Note that conceptual plan illustrations are provided to demonstrate general feasibility of the subject proposal only. Actual improvements will require additional engineering studies and design work and shall be to the satisfaction of the City Engineer.



Project Description

- Fifth Avenue: One-way cycle track to the left of the vehicular travel lanes.
- Signal modifications are proposed to accommodate cyclists.
- Curb extensions are proposed where feasible.

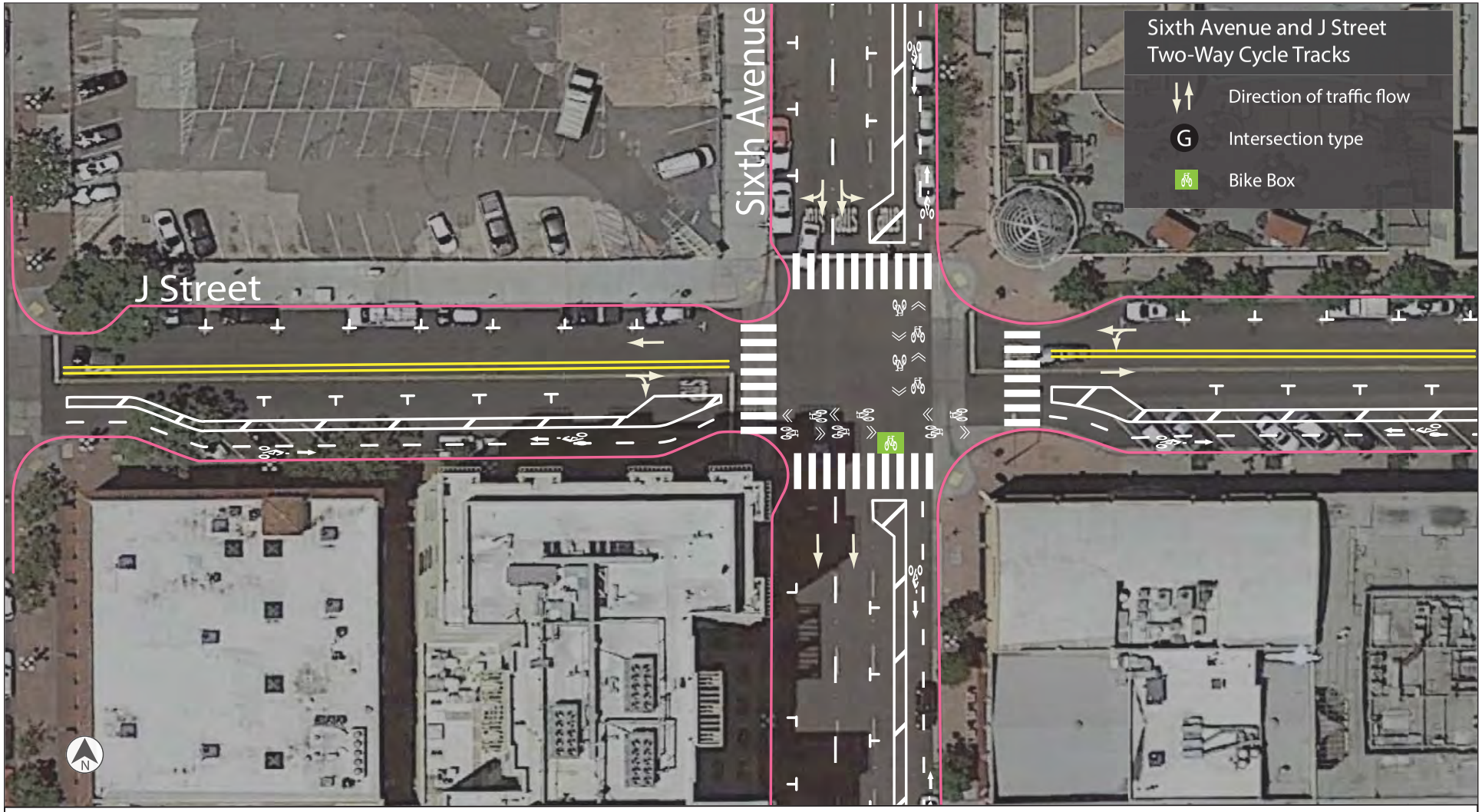
Note that conceptual plan illustrations are provided to demonstrate general feasibility of the subject proposal only. Actual improvements will require additional engineering studies and design work and shall be to the satisfaction of the City Engineer.



Project Description

- Beech Street: Two-way cycle track, separated by parallel parking along the southside.
- Curb extensions are proposed where feasible.

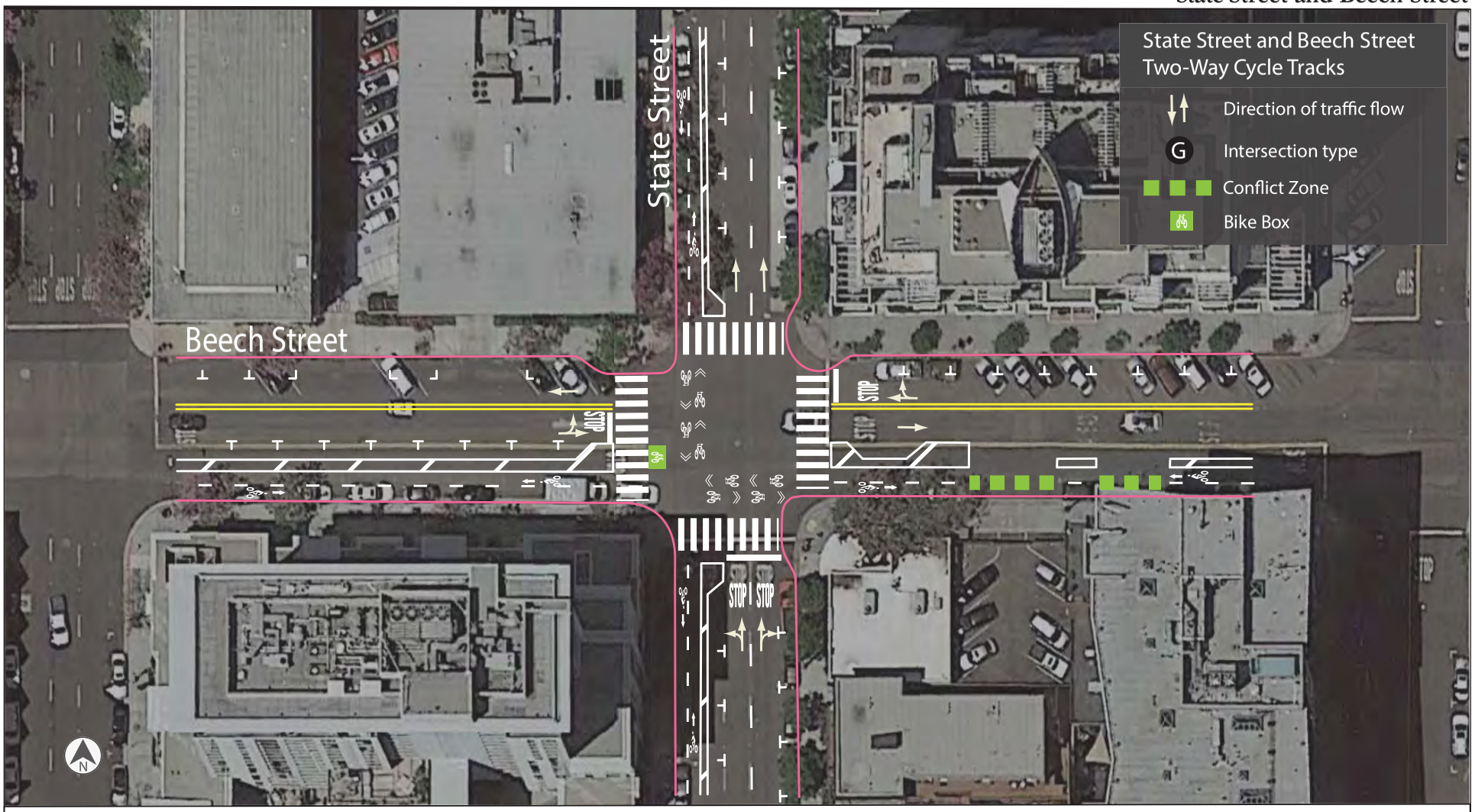
Note that conceptual plan illustrations are provided to demonstrate general feasibility of the subject proposal only. Actual improvements will require additional engineering studies and design work and shall be to the satisfaction of the City Engineer.



Project Description

- J Street: Two-way cycle track, separated by parallel parking, along the southside.
- Sixth Avenue: Two-way cycle track, separated by parallel parking, along the eastside.
- Curb extensions are proposed where feasible.

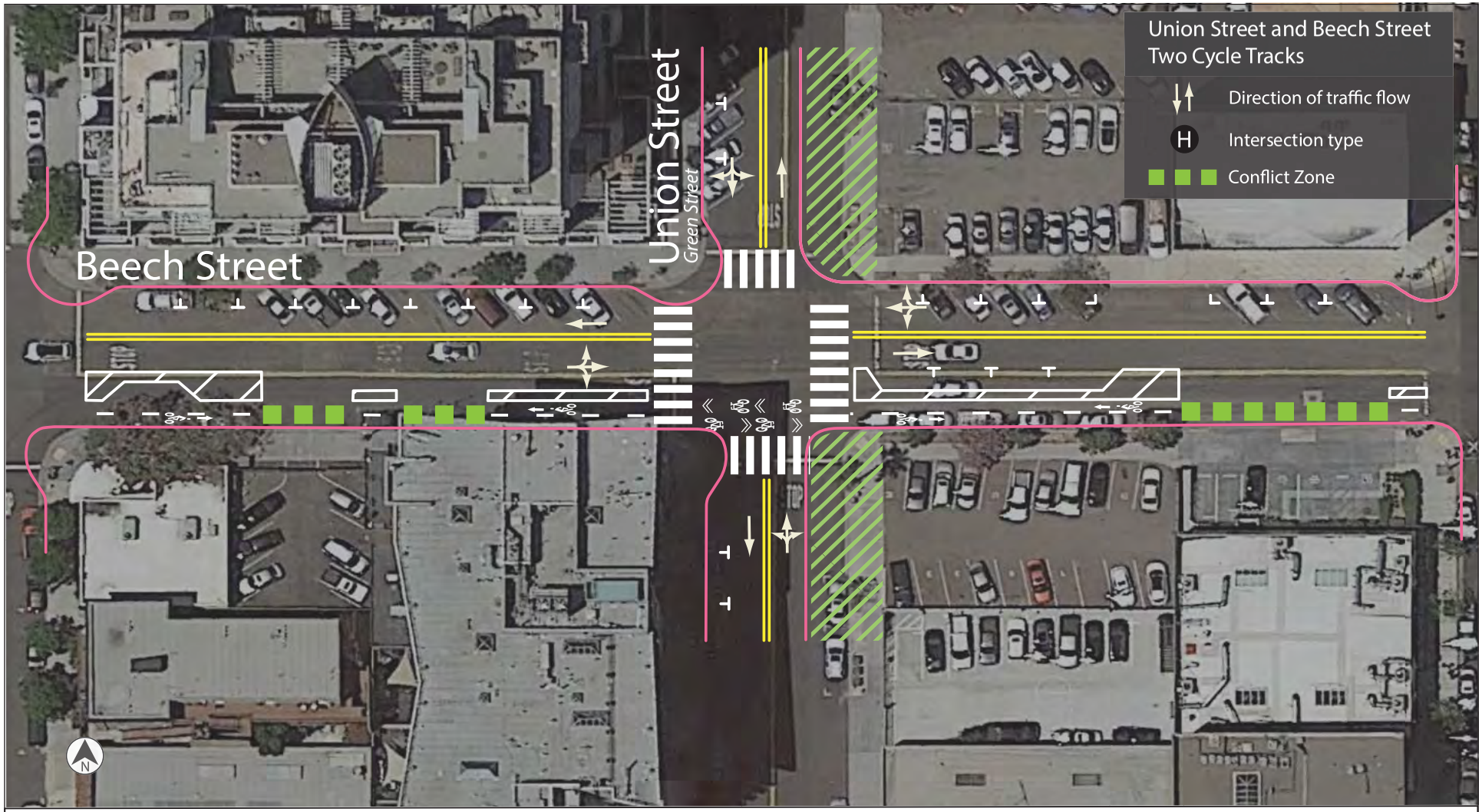
Note that conceptual plan illustrations are provided to demonstrate general feasibility of the subject proposal only. Actual improvements will require additional engineering studies and design work and shall be to the satisfaction of the City Engineer.



Project Description

- State Street: Two-way cycle track, separated by parallel parking, along the westside.
- Beech Street: Two-way cycle track, separated by parallel parking, along the southside.
- Curb extensions are proposed where feasible.

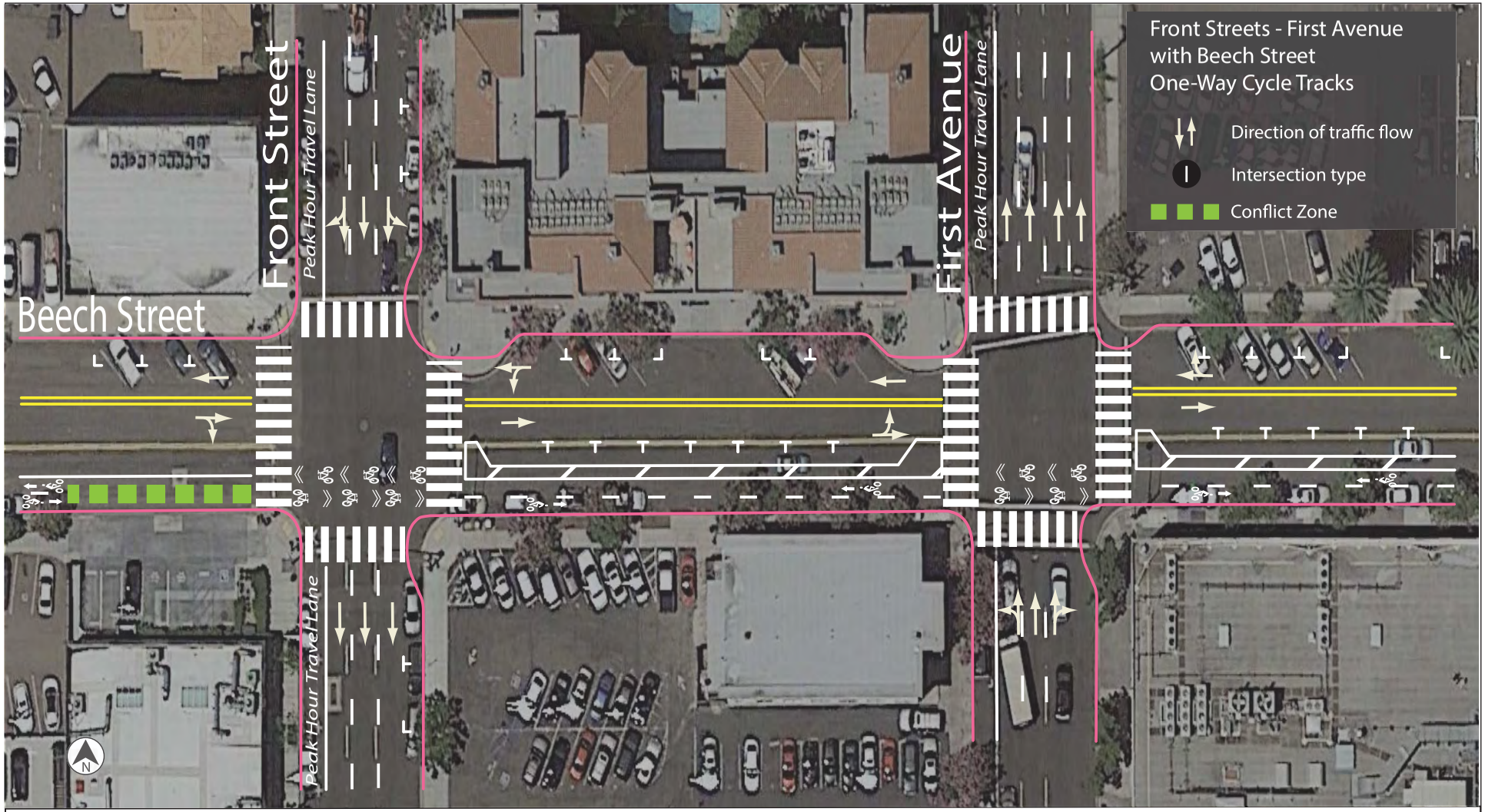
Note that conceptual plan illustrations are provided to demonstrate general feasibility of the subject proposal only. Actual improvements will require additional engineering studies and design work and shall be to the satisfaction of the City Engineer.



Project Description

- Beech Street: Two-way cycle track, separated by parallel parking, along the southside.
- Union Street: Designated Green Street.

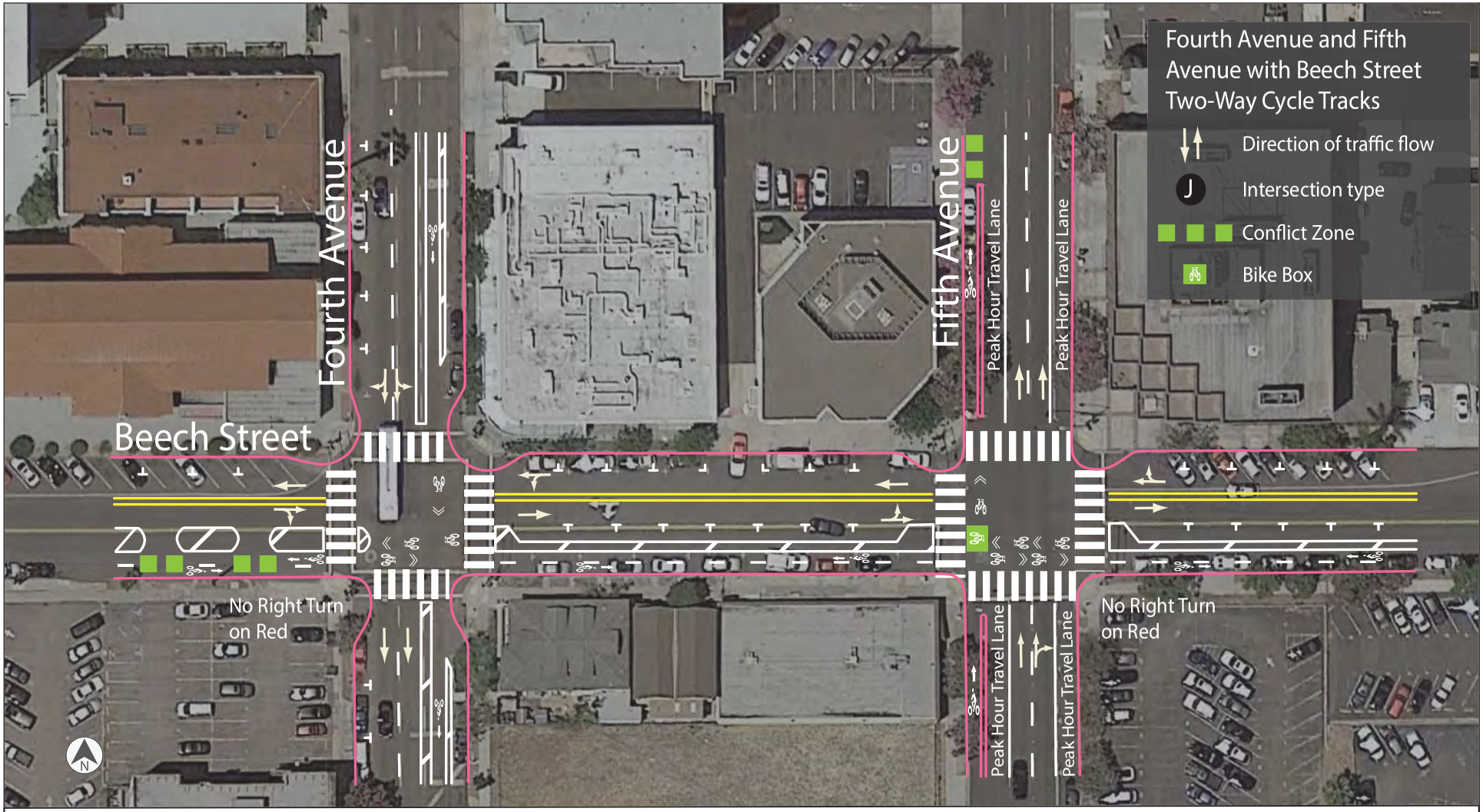
Note that conceptual plan illustrations are provided to demonstrate general feasibility of the subject proposal only. Actual improvements will require additional engineering studies and design work and shall be to the satisfaction of the City Engineer.



Project Description

- Beech Street: Two-way cycle track, separated by parallel parking, on the southside.
- Signal modifications are proposed at both intersections to accommodate cyclists.
- Curb extensions are proposed where feasible.

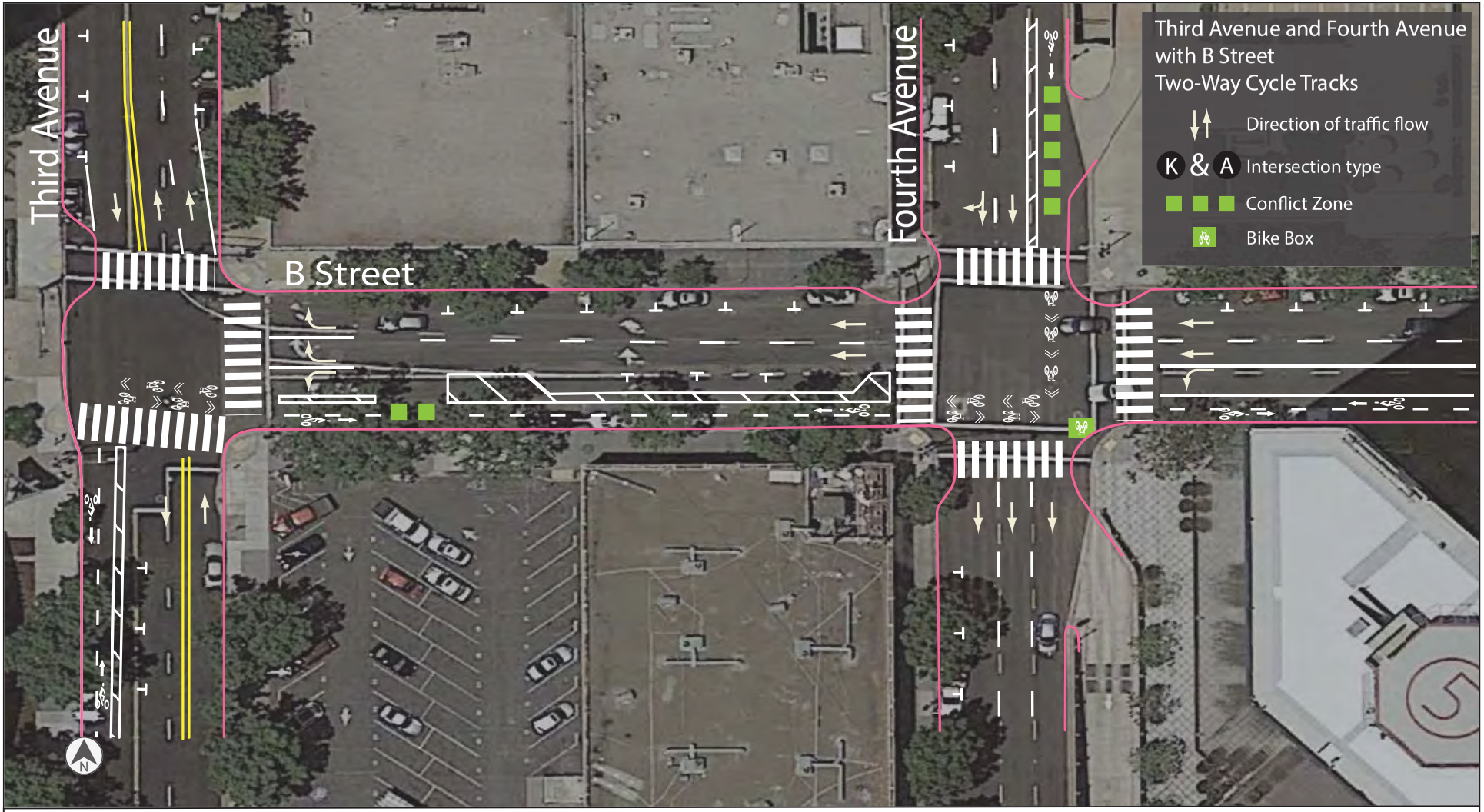
Note that conceptual plan illustrations are provided to demonstrate general feasibility of the subject proposal only. Actual improvements will require additional engineering studies and design work and shall be to the satisfaction of the City Engineer.



Project Description

- Beech Street: Two-way cycle track, separated by parallel parking, on the southside.
- Fourth & Fifth Avenue: One-way cycle tracks to the left of the vehicular travel lanes.
- Signal modifications are proposed at both intersections to accommodate cyclists.
- Curb extensions are proposed where feasible.

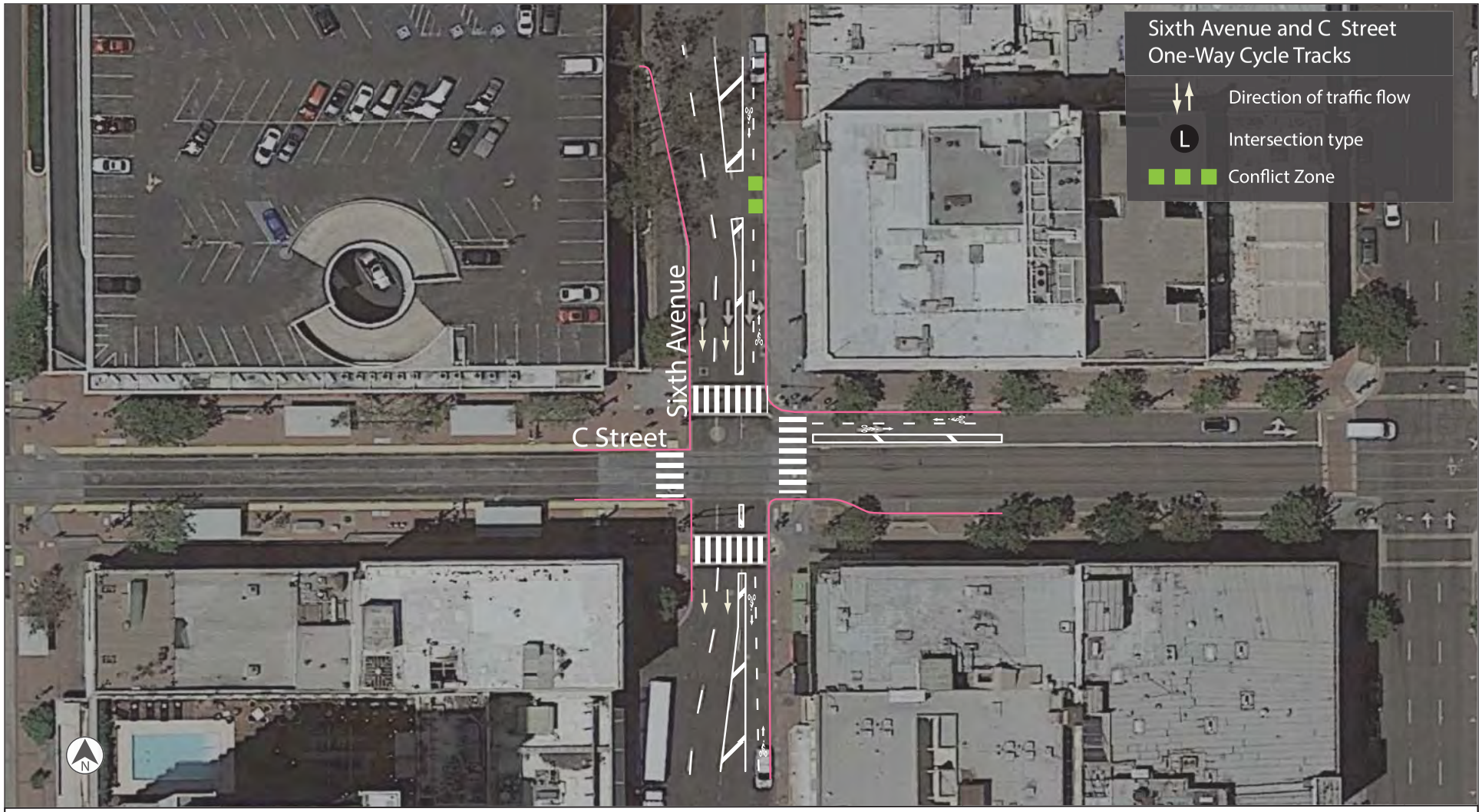
Note that conceptual plan illustrations are provided to demonstrate general feasibility of the subject proposal only. Actual improvements will require additional engineering studies and design work and shall be to the satisfaction of the City Engineer.



Project Description

- B Street: Two-way cycle track, separated by parallel parking, along the southside of B Street.
- Fourth Avenue: North of B Street, one-way cycle track terminates at the intersection.
- Third Avenue: South of B Street, two-way cycle track, separated by parallel parking along the westside. Signal modifications are proposed at both intersections to accommodate cyclists.
- Curb extensions are proposed where feasible.

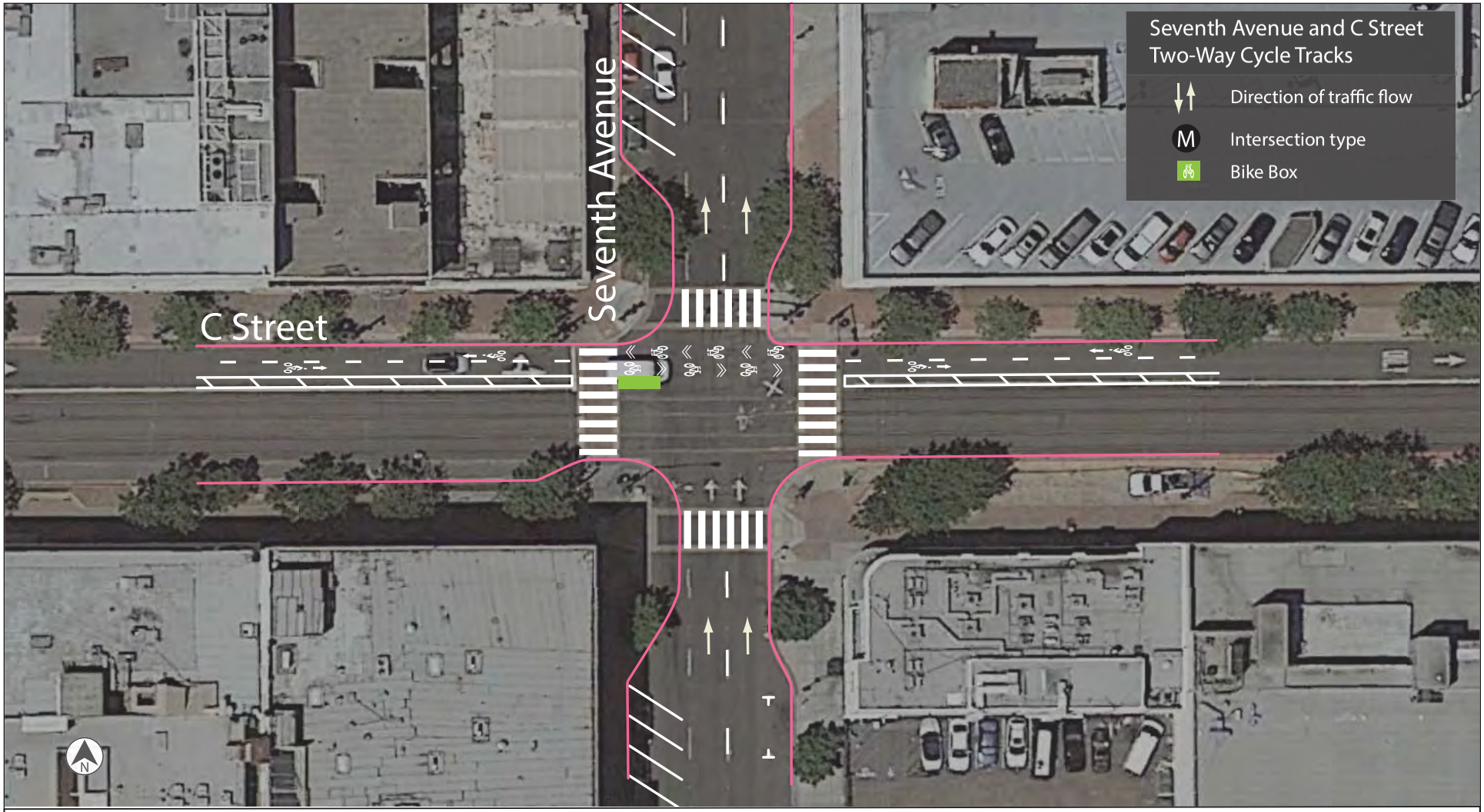
Note that conceptual plan illustrations are provided to demonstrate general feasibility of the subject proposal only. Actual improvements will require additional engineering studies and design work and shall be to the satisfaction of the City Engineer.



Project Description

- C Street: Two-way cycle track along the northside, east of Sixth Avenue, replacing a single eastbound vehicular travel lane.
- Sixth Avenue: Two-cycle cycle track along the eastside.
- Signal modifications are proposed to accommodate cyclists.

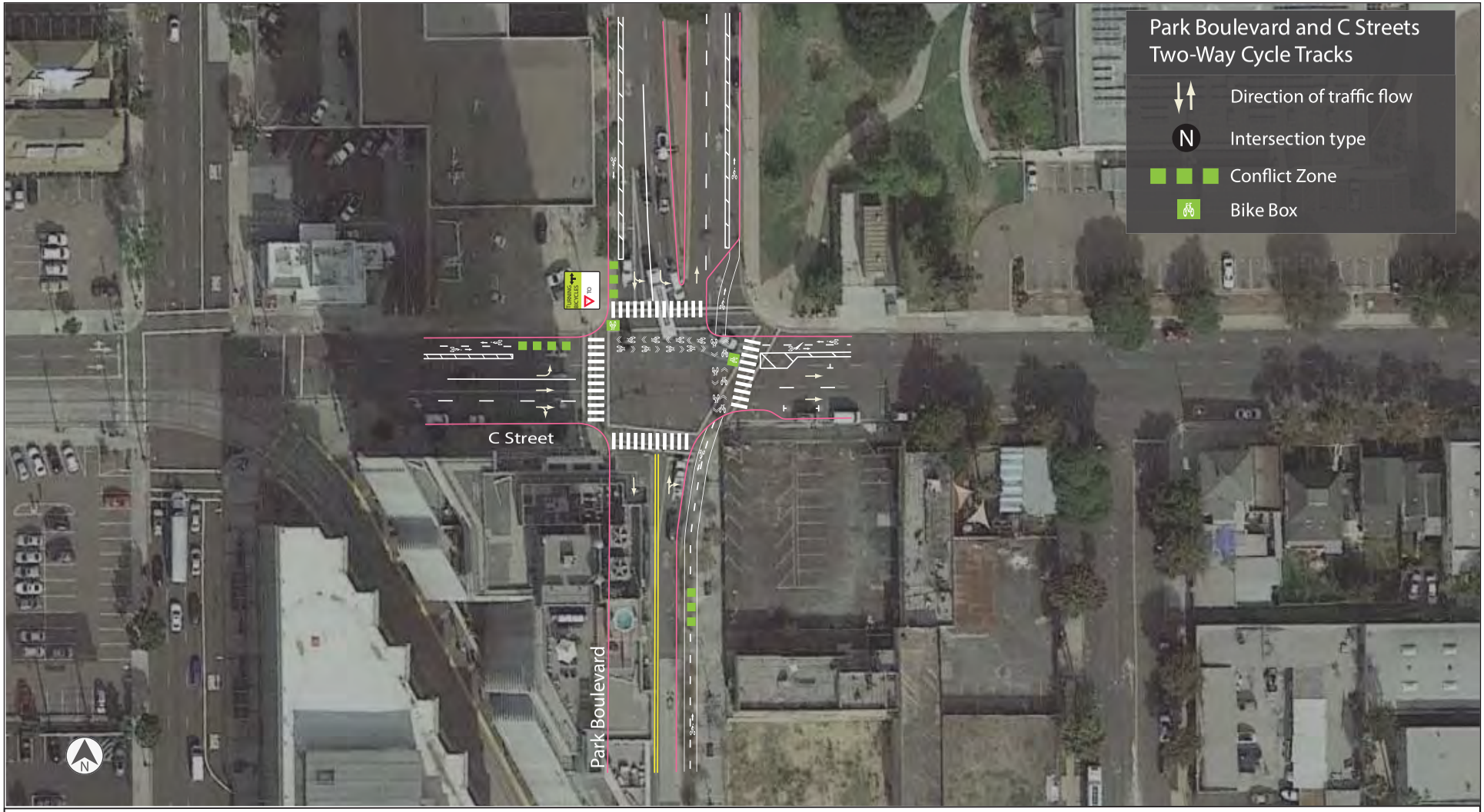
Note that conceptual plan illustrations are provided to demonstrate general feasibility of the subject proposal only. Actual improvements will require additional engineering studies and design work and shall be to the satisfaction of the City Engineer.



Project Description

- C Street: Two-way cycle track along the northside, replacing a single eastbound vehicular travel lane.
- Signal modifications are proposed to accommodate cyclists.
- Curb extensions are proposed where feasible.

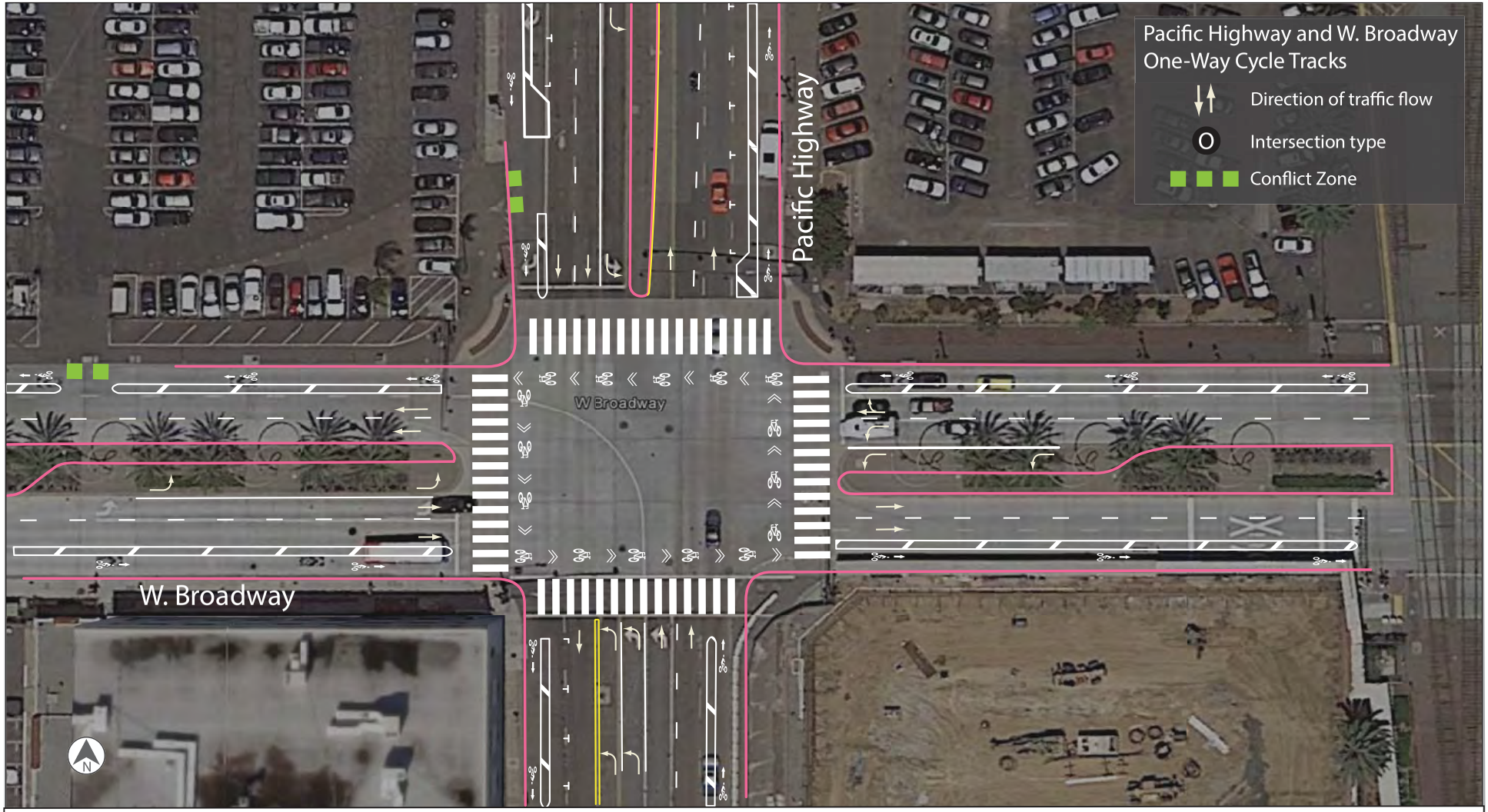
Note that conceptual plan illustrations are provided to demonstrate general feasibility of the subject proposal only. Actual improvements will require additional engineering studies and design work and shall be to the satisfaction of the City Engineer.



Project Description

- C Street: Two-way cycle track along the northside.
- Park Boulevard: North of C Street, one-way cycle tracks in both directions. South of C Street two-way side path on the eastside of the roadway.
- Signal modifications are proposed to accommodate cyclists.

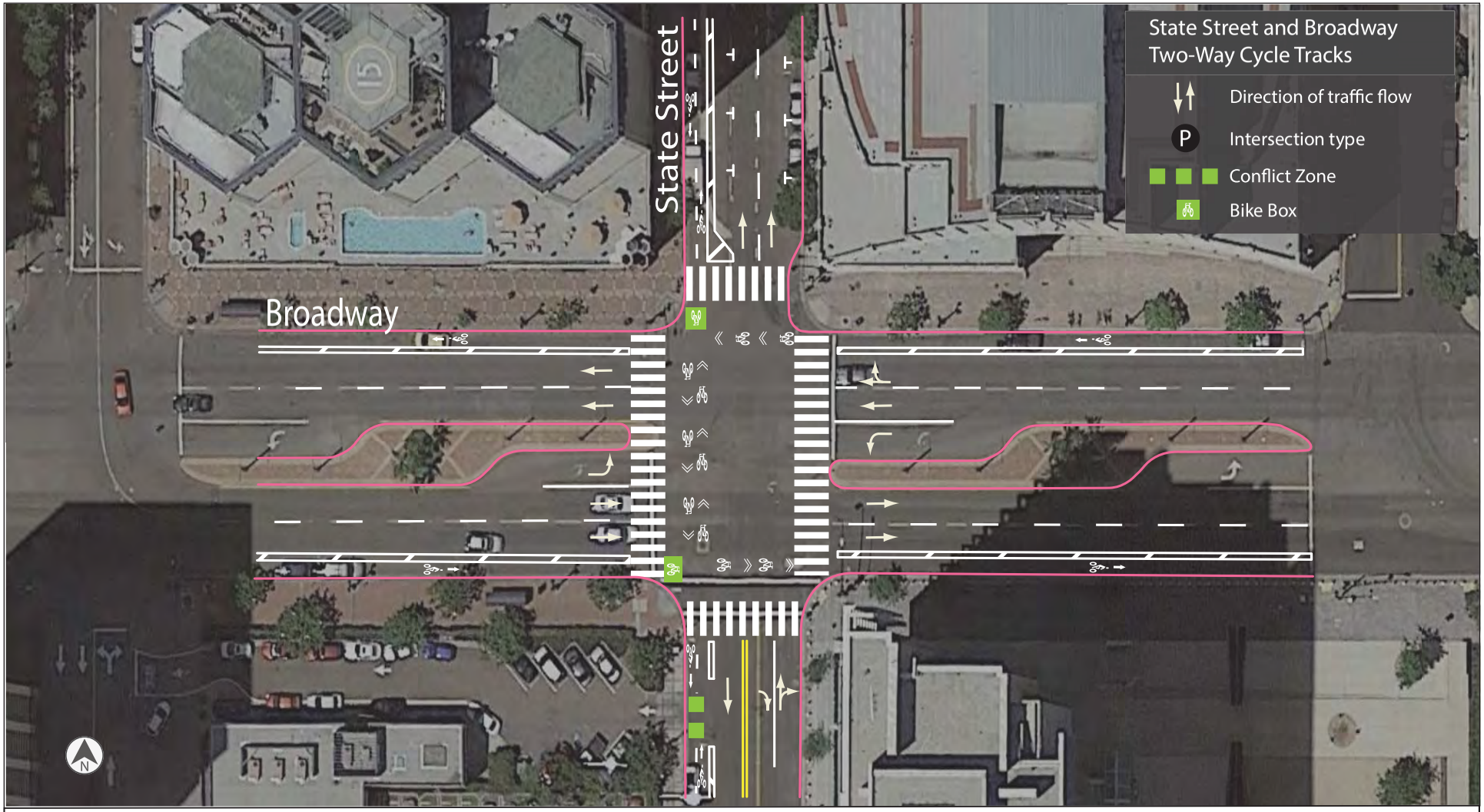
Note that conceptual plan illustrations are provided to demonstrate general feasibility of the subject proposal only. Actual improvements will require additional engineering studies and design work and shall be to the satisfaction of the City Engineer.



Project Description

- West Broadway: One-way cycle tracks in both directions.
- Pacific Highway: One-way cycle tracks in both directions.
- Signal modifications are proposed to accommodate cyclists.

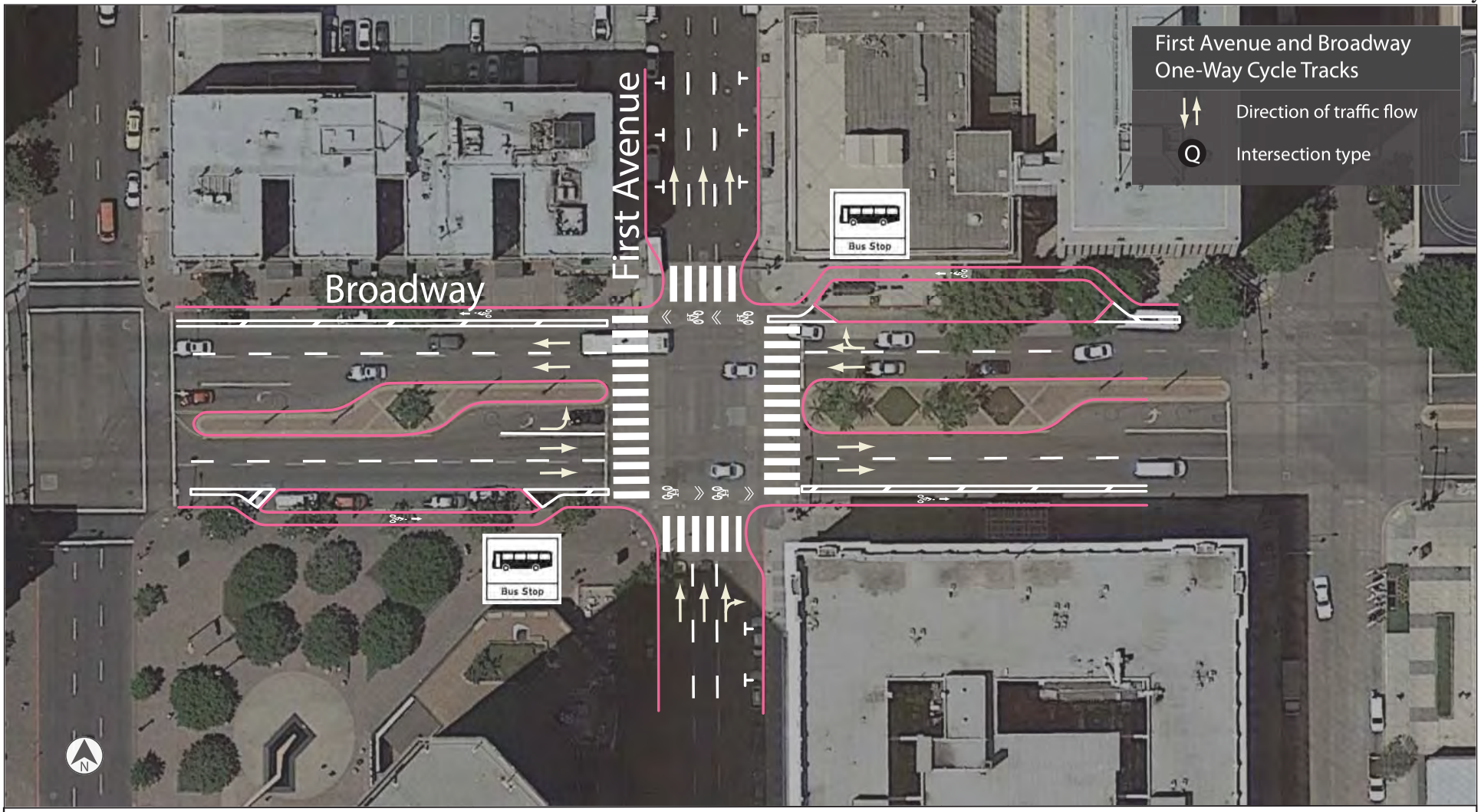
Note that conceptual plan illustrations are provided to demonstrate general feasibility of the subject proposal only. Actual improvements will require additional engineering studies and design work and shall be to the satisfaction of the City Engineer.



Project Description

- Broadway: One-way cycle tracks in both directions.
- State Street: Two-way cycle track on the westside.
- Signal modifications are proposed to accommodate cyclists.
- Curb extensions are proposed where feasible.

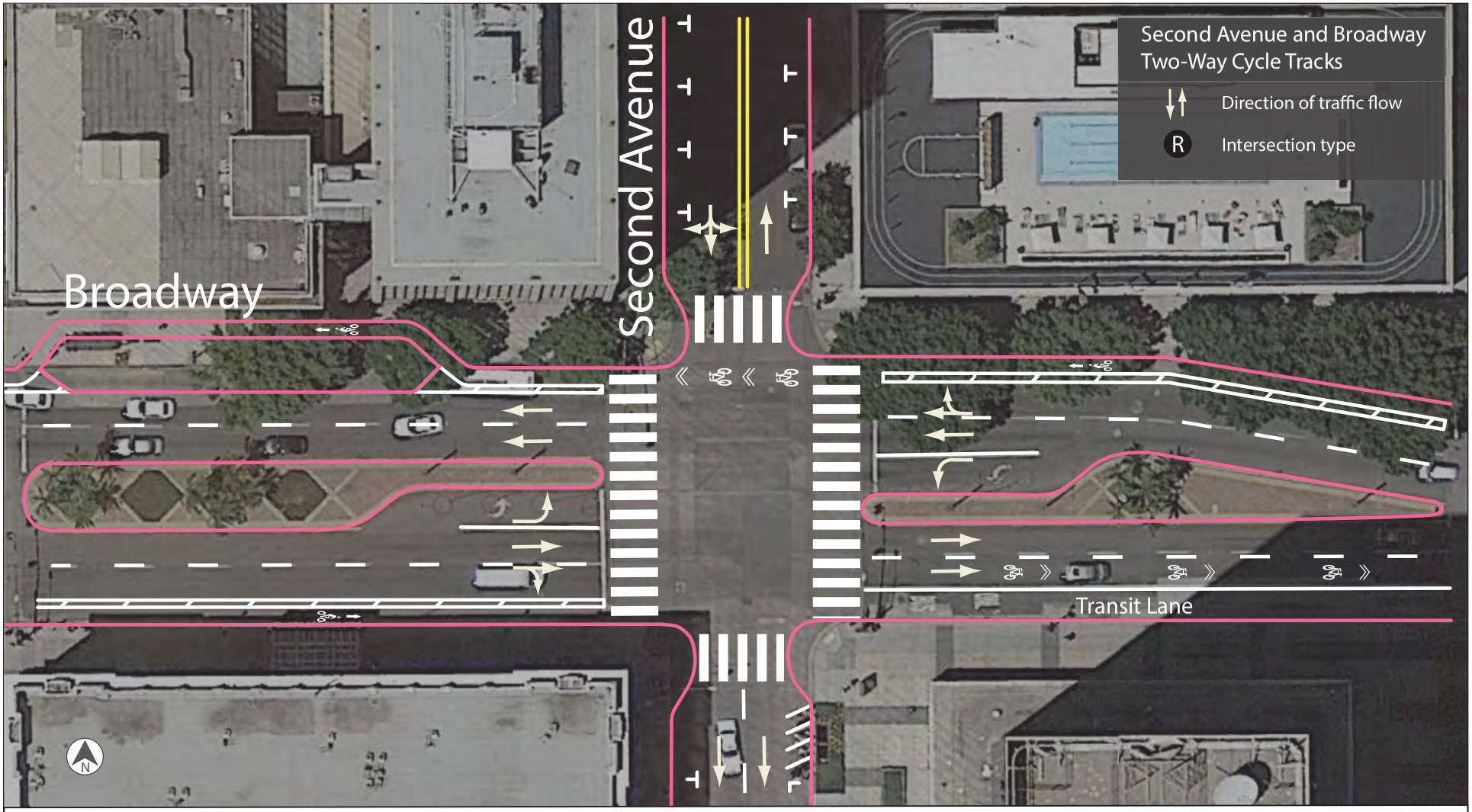
Note that conceptual plan illustrations are provided to demonstrate general feasibility of the subject proposal only. Actual improvements will require additional engineering studies and design work and shall be to the satisfaction of the City Engineer.



Project Description

- Broadway: One-way cycle tracks in both directions.
- Signal modifications are proposed to accommodate cyclists.
- Curb extensions are proposed where feasible.

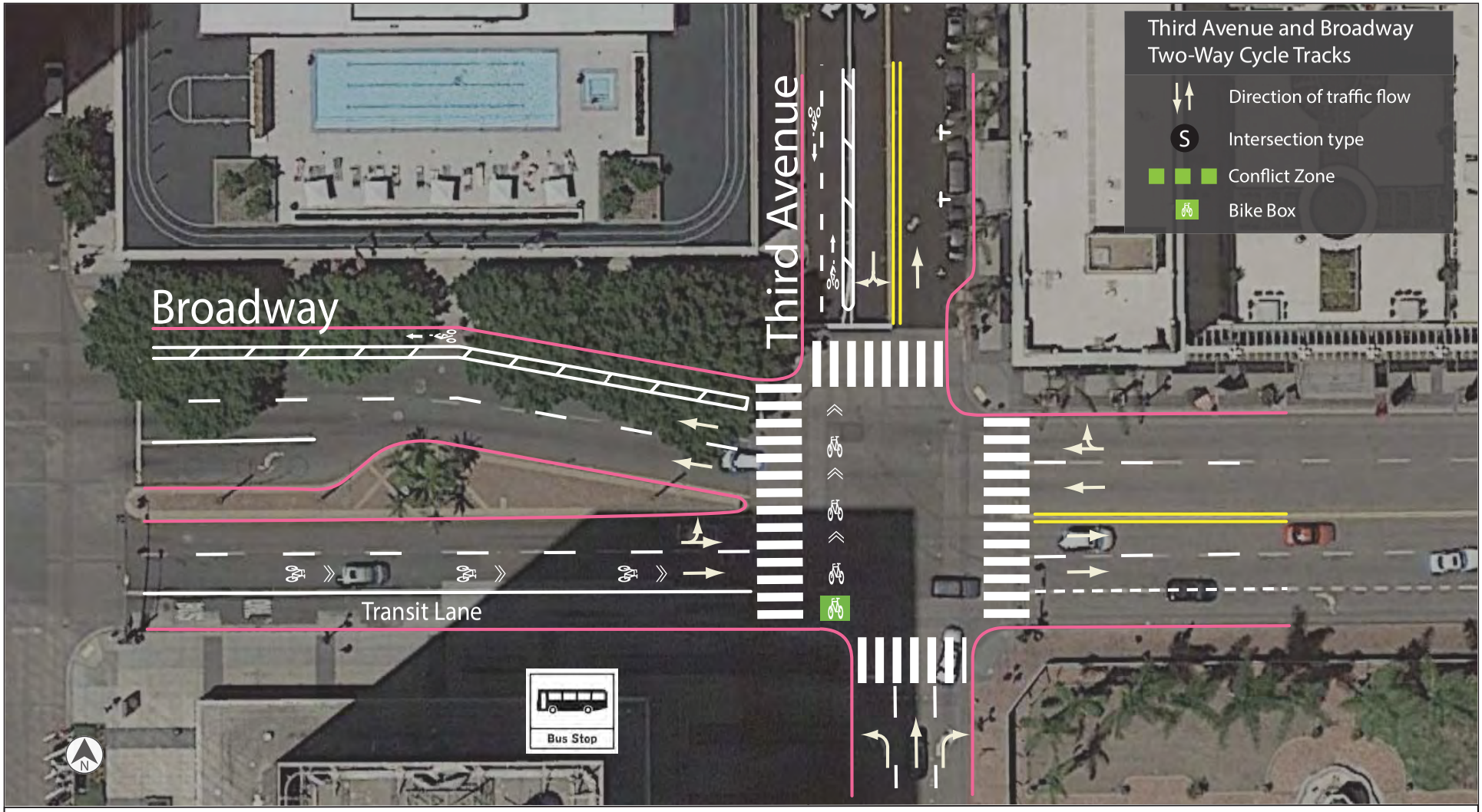
Note that conceptual plan illustrations are provided to demonstrate general feasibility of the subject proposal only. Actual improvements will require additional engineering studies and design work and shall be to the satisfaction of the City Engineer.



Project Description

- Broadway: One-way cycle tracks, in both directions. East of the intersection the cycle track transitions to shared lane markings to accommodate a brief transit only lane segment (one block).
- Signal modifications are proposed to accommodate cyclists.
- Curb extensions are proposed where feasible.

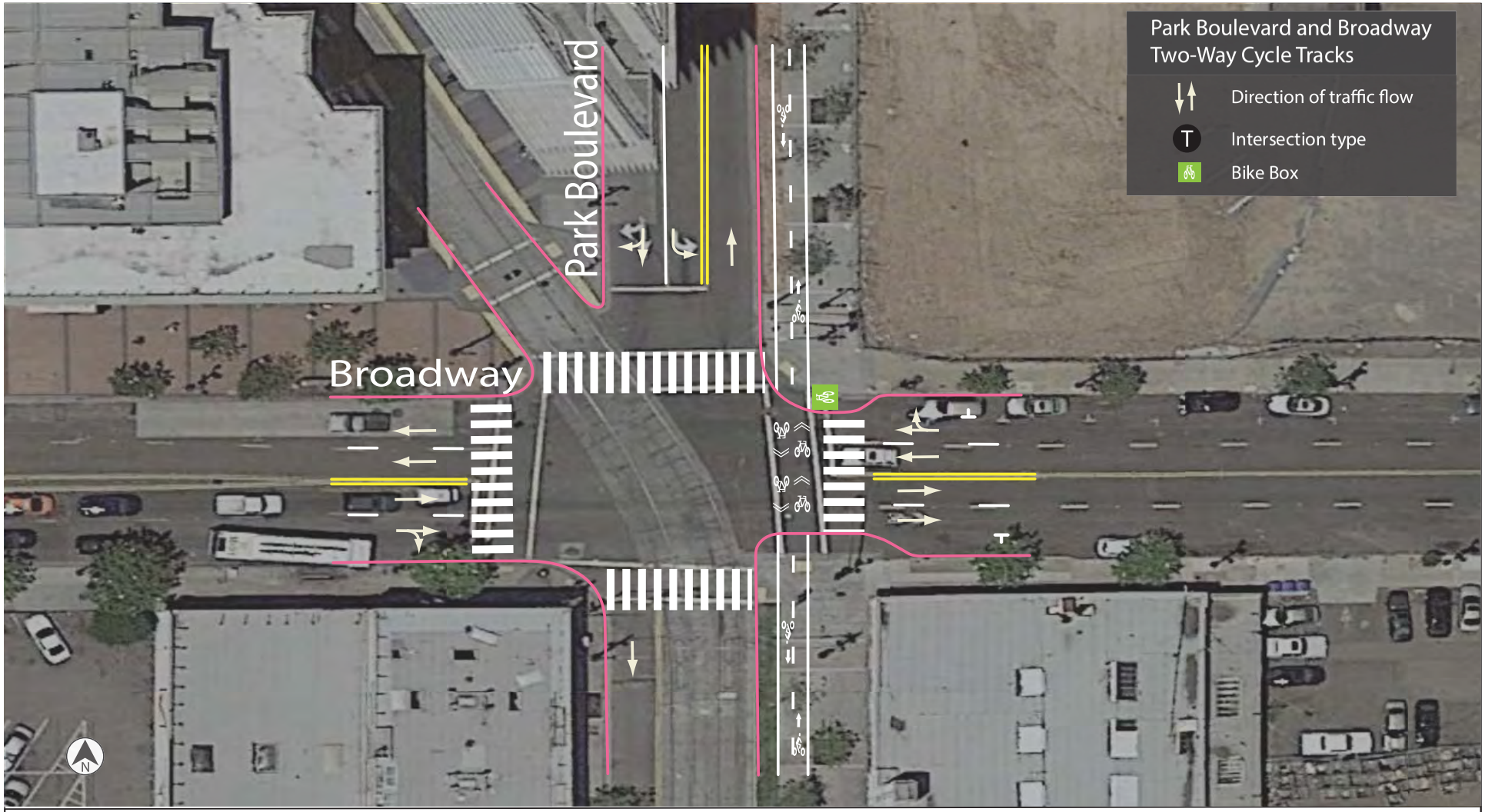
Note that conceptual plan illustrations are provided to demonstrate general feasibility of the subject proposal only. Actual improvements will require additional engineering studies and design work and shall be to the satisfaction of the City Engineer.



Project Description

- Broadway: One-way cycle tracks, are proposed along Broadway in the westbound direction. In the eastbound direction, shared lane markings are provided for bicyclists.
- Third Avenue: North of Broadway, a two-way cycle track on the westside of the roadway.
- Signal modifications are proposed to accommodate cyclists.

Note that conceptual plan illustrations are provided to demonstrate general feasibility of the subject proposal only. Actual improvements will require additional engineering studies and design work and shall be to the satisfaction of the City Engineer.



Project Description

- Park Boulevard: Two-way side path on the eastside.
- Curb extensions are proposed where feasible.
- Signal modifications are proposed to accommodate cyclists.

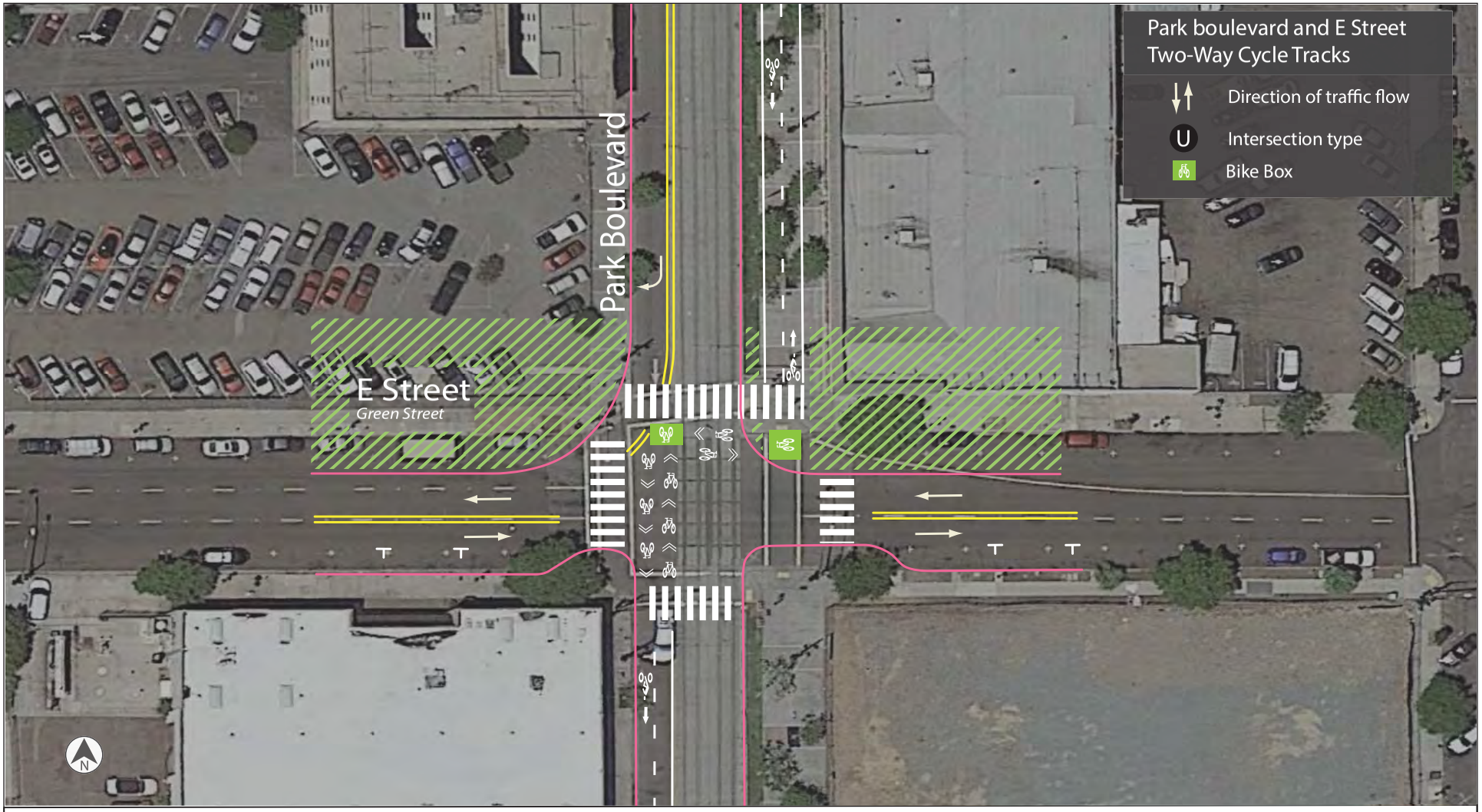
Note that conceptual plan illustrations are provided to demonstrate general feasibility of the subject proposal only. Actual improvements will require additional engineering studies and design work and shall be to the satisfaction of the City Engineer.



Project Description

- Sixth Avenue: Two-way cycle track, separated by parallel parking, along the eastside.
- Signal modifications are proposed to accommodate cyclists.
- Curb extensions are proposed where feasible.

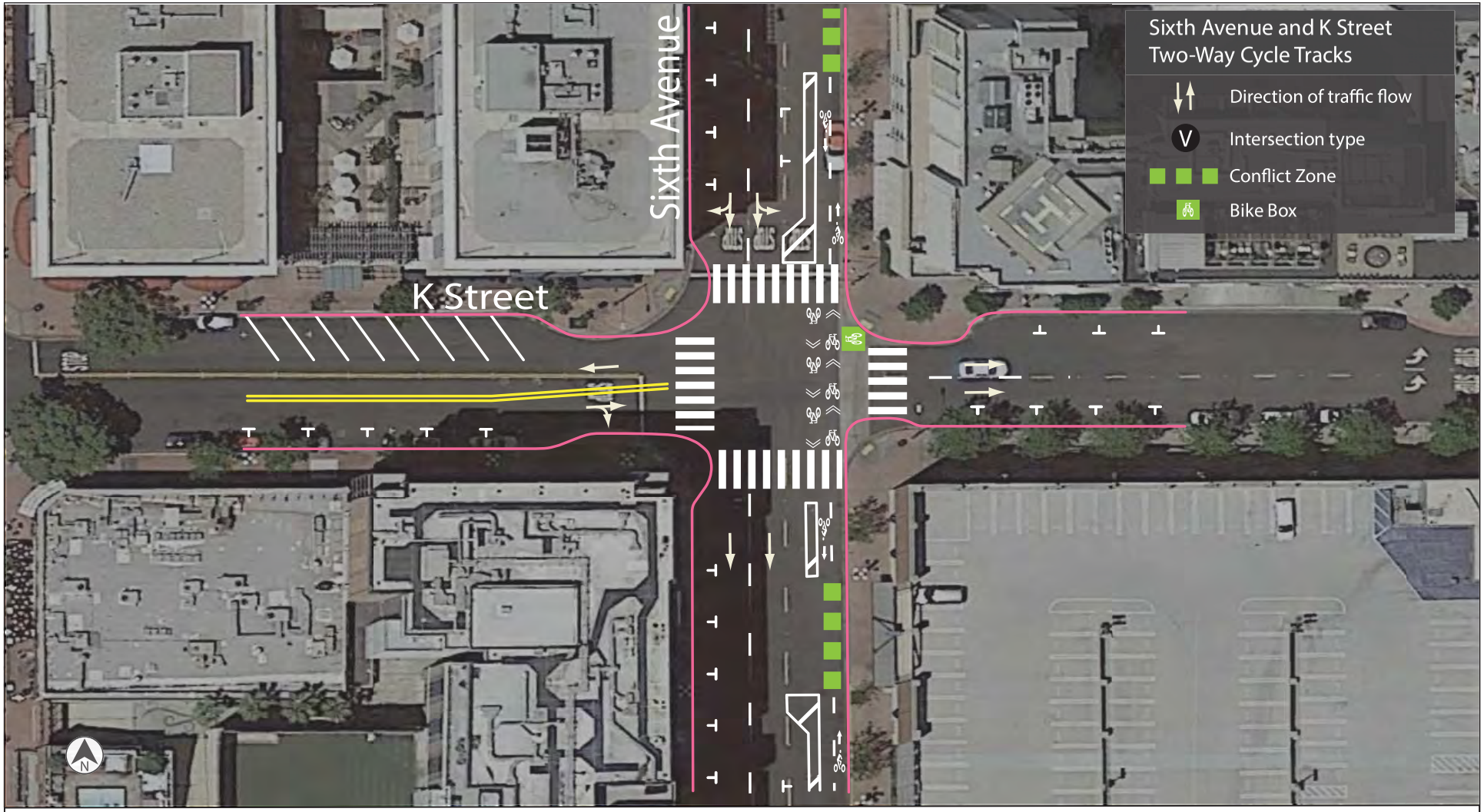
Note that conceptual plan illustrations are provided to demonstrate general feasibility of the subject proposal only. Actual improvements will require additional engineering studies and design work and shall be to the satisfaction of the City Engineer.



Project Description

- E Street: Designated Green Street, will also be converted from a one-way eastbound to a two-way roadway.
- Park Boulevard: North of E Street, two-way side path on the eastside of the roadway. South of E Street, two-way cycle track, replacing a vehicular travel lane.
- Signal modifications are proposed to accommodate cyclists.

Note that conceptual plan illustrations are provided to demonstrate general feasibility of the subject proposal only. Actual improvements will require additional engineering studies and design work and shall be to the satisfaction of the City Engineer.



Project Description

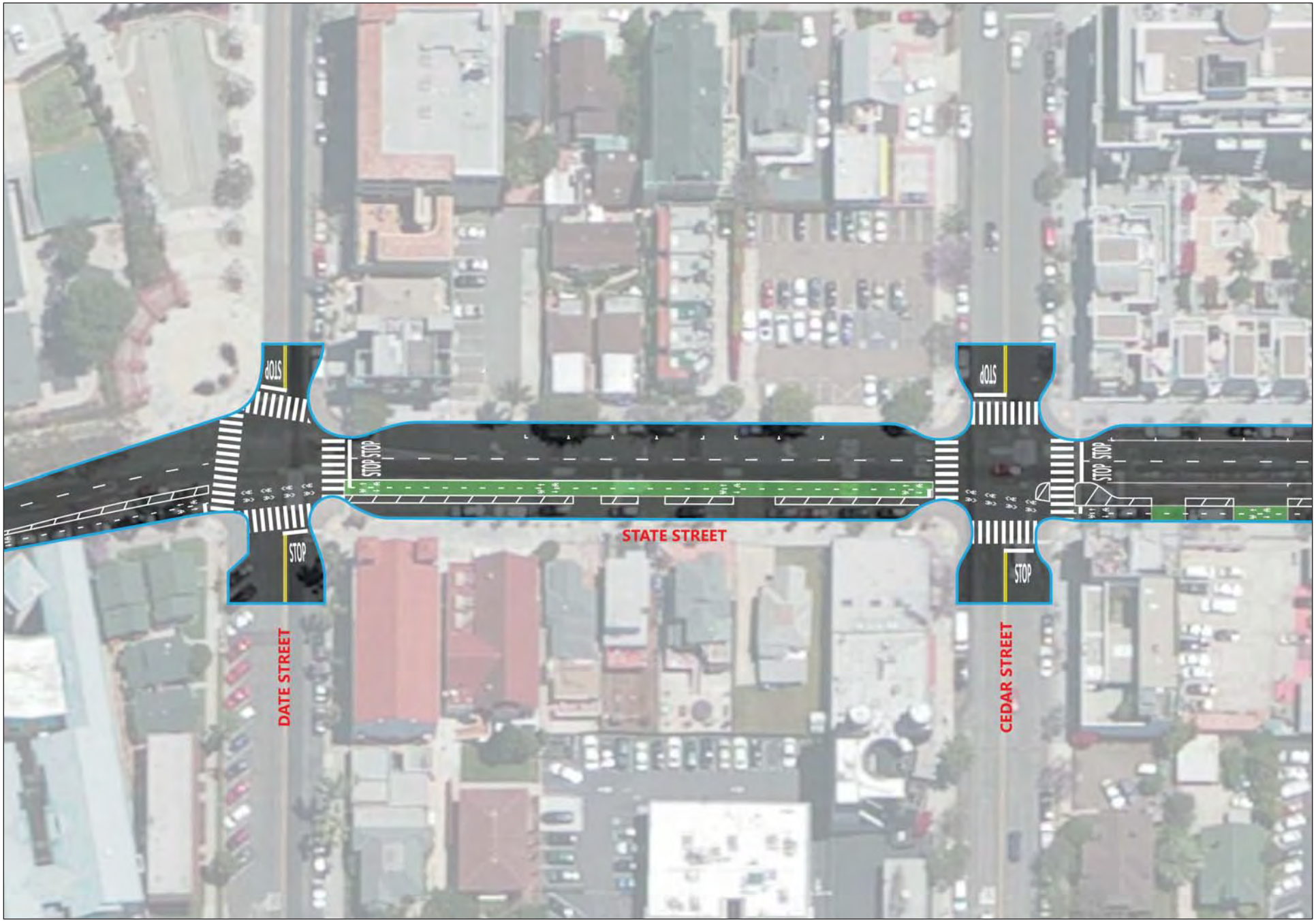
- Sixth Avenue: Two-way cycle track, separated by parallel parking, along the eastside.
- Curb extensions are proposed where feasible.

Note that conceptual plan illustrations are provided to demonstrate general feasibility of the subject proposal only. Actual improvements will require additional engineering studies and design work and shall be to the satisfaction of the City Engineer.

Appendix G

Additional Design Concepts

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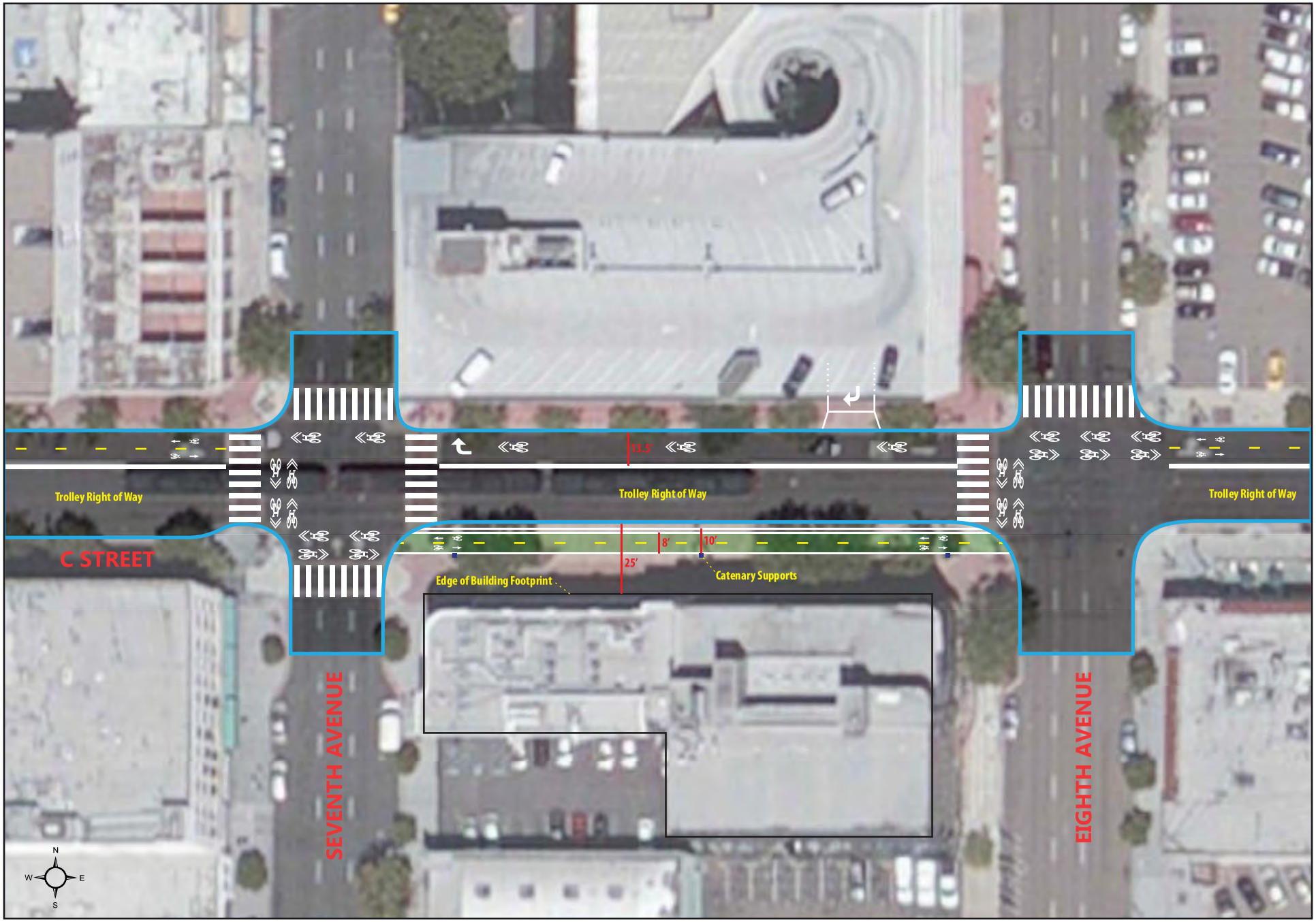
Downtown San Diego Mobility Plan

State Street between Date Street and Cedar Street



Downtown San Diego Mobility Plan

Park Boulevard between Market Street and Island Avenue



Downtown San Diego
Mobility Plan

C Street between Seventh Avneue and Eighth Avenue





