Appendix A
Existing Document Review

Riding to 2050, San Diego Regional Bike Plan

The San Diego Regional Bike Plan (Plan) was adopted in May 2010. Prepared for the San Diego Association of Governments (SANDAG), the Plan provides a comprehensive regionwide strategy to make bicycling a useful form of transportation for everyday travel. It envisions a comprehensive regional bicycle system of interconnected bicycle corridors, support facilities, and programs to enable people who live and work in the SANDAG region to bicycle with greater safety, directness, and convenience within and between major regional destinations and activity centers.

The Plan supports the implementation of the both the Regional Comprehensive Plan (RCP) and Regional Transportation Plan (RTP), thereby meeting the needs of Senate Bill 375 (Steinberg, 2008) (reduction in greenhouse gas [GHG] emissions). It also provides environmental, economic, and public health benefits by encouraging more people to adopt a physically active mode of transportation for at least some of their trips. Finally, the Plan envisions the incorporation of standard and innovative bike facilities and programs to successfully implement the 2050 Plan.

The Plan describes the overall vision, goals, objectives, and policies that serve as the foundation for Plan recommendations. It presents the regional bicycle network and supporting bicycle programs. It identifies the high-priority projects and an implementation strategy to realize these projects. The key air quality benefits as a result of increased bicycling are also discussed. Finally, the Plan provides design guidelines and best practices for bicycle facilities.

Pertinent Goals, Objectives, and Policies

Since the Plan primarily focuses on bicycle improvements, all of its goals are relevant to the Uptown Bike Project. The Uptown Bike Project is a direct result of the Plan and is comprised of several project segments identified in the Plan as priority projects.

Key goals are:

- Significantly increase levels of bicycling throughout the San Diego region,
- Improve bicycling safety,
- Encourage the development of Complete Streets,
- Support reductions in GHG emissions, and
- Increase community support for bicycling.

Key objectives with their supporting policy actions that are most relevant to the Uptown Bike Project are:

- Improve the connectivity and quality of the regional bicycle network,
- Support bicycle-transit integration to improve access to major employment and other activity centers and to encourage multimodal travel for longer trip distances, and
- Institutionalize Complete Streets principles in roadway planning, design, and maintenance policies.

Pertinent Transportation Planning Findings/Recommendations

Due to the primary bicycling planning and design focus, most of the recommendations identified in the document are pertinent to the Uptown Bike Project.

Pertinent transportation recommendations are:

- Support bicycle improvement projects that close gaps in the regional bicycle network either by implementing specific projects recommended in the Plan or through other treatments.
- Promote consistent signage that directs bicyclists to destinations and increases the visibility of the regional bicycle network.
- Update the Plan as needed and in coordination with RTP updates to provide continued direction, chart progress, and respond to changing circumstances.
- Through the SANDAG Bicycle-Pedestrian Working Group, provide continued guidance on the use of bicycle-friendly designs and innovative treatments through updates to the bicycle design guidelines published in conjunction with the Plan and through other means of communication with local jurisdictions.
- Encourage reallocation of roadway rights of way where appropriate to accommodate bicycling and bicycle facilities.
- Promote the preservation of bicycle access within all roadway rights of way, as well as the development of innovative, safety-enhanced on-street facilities such as bicycle boulevards.
- Continue the *TransNet* and Transportation Development Act (TDA) funding programs that direct funds to local governments to improve and expand bicycle facilities and programs throughout the San Diego region.
- In support of Board Policy No. 031, *TransNet* Ordinance and Expenditure Plan Rules, Rule #21: Accommodation of Bicyclists and Pedestrians, continue to mandate bicycle travel accommodations of all projects funded with *TransNet* revenue. Establish a monitoring program to measure the effectiveness and benefits of the Rule.
- Develop regional on-demand bike lockers that are accessible using a fare payment card that allows users to access a variety of transit modes administered by multiple agencies.
- Support the development of bicycle facilities that provide access to regional and local public transit services wherever possible.
- Coordinate with transit providers to ensure bicycles can be accommodated on all forms of transit vehicles and that adequate space is devoted to their storage on board whenever possible.
- Provide current and relevant information to cyclists regarding bike parking opportunities located at transit stations through a variety of formats, such as the SANDAG website and regional bike maps.
- Prepare recommended bicycle parking standards that provide context-sensitive solutions for the location and number of spaces that should be provided.
- Encourage local jurisdictions to install and support short-term, long-term, and high-capacity bicycle parking within the public right-of-way and on public property.
- Encourage local jurisdictions to adopt bicycle parking ordinances.
- Provide current and relevant information to cyclists regarding bike parking opportunities throughout the region through a variety of formats.

- Support programs that educate the bicycling and general public about bicycle operation, bicyclists' rights and responsibilities, and lawful interactions between motorists and cyclists.
- Support marketing and public awareness campaigns aimed at promoting bicycling and/or improving safety.
- Support programs aimed at increasing bicycle trips by providing incentives, recognition, or services that make bicycling a more convenient transportation mode.
- Encourage enforcement efforts that target unsafe bicyclist and motorist behaviors and enforce laws that reduce bicycle/motor vehicle collisions and conflicts.

Besides bicycle network infrastructure improvements, the Plan describes five essential categories of bicycle-related programs, namely education, marketing/public awareness programs, encouragement, enforcement, and ongoing monitoring. The Plan recommends a wide spectrum of programs for consideration. Pertinent programs include:

- Complete Streets education program,
- Safe Routes to School – Phase I education program,
- Share the Road/Street Smarts public awareness campaign,
- Share the Path Awareness, and
- Identification and Wayfinding Signage.

Pertinent Land Use, Urban Design, Landscape, and Healthy and Active Living Findings/Recommendations

The primary focus of the Plan is bicycle network infrastructure and supporting planning, rather than land use and urban and landscape design. The Plan does evaluate the environmental and public health benefits of bicycling in terms of reduction in Vehicle Miles Traveled (VMTs) in the SANDAG region by 2030 (not 2050) as a direct result of increase in bicycling as envisioned by the Plan. It predicts that implementing the Plan could increase the total number of work and school bicycle commuters from about 76K to about 280K. This increase in mode share from 4.3 percent to 7 percent could result in an estimated decrease of more than 8K pounds/year of particulate matter, 1.1M pounds/year of hydrocarbons, and more than 307M pounds/year of carbon dioxide (CO_2).

Pertinent land use and urban design recommendations are:

- Coordinate with transit agencies to install and maintain convenient and secure short-term and long-term bike parking facilities – racks, on-demand bike lockers, in-station bike storage, and staffed bicycle parking facilities – at transit stops, stations, and terminals.
- Work with local jurisdictions to facilitate bicycle-friendly development activity and support facilities, such as bicycle rental and repair, around transit stations.
- Encourage local jurisdictions to create policies or programs that incentivize building owners and employers to provide showers and clothing lockers along with secure bike parking in areas where employment density warrants.
- Consider a bike sharing program with distribution stations located in major employment and other activity centers throughout the region.

The recommendations identified in the Plan are meant to achieve the following targets that may be pertinent to the Uptown Bike Project:

- Increase in positive attitudes about biking and about bicycle facilities.
- Increase in bicycle facilities.
- Increase in the proportion of arterial streets with bicycle facilities. Suggested target of 25 percent by 2017 to spur greater bicycle commuting.
- 100 percent of elementary schools participating in Safe Routes to Schools Program by 2015.
- League of American Cyclist's Bronze Award by 2017 and Silver or Gold Award by 2027.
- Annual reduction in bicycle collision rate per capita.

City of San Diego, Bicycle Master Plan Update

The San Diego Bicycle Master Plan Update (Plan) was prepared in June 2010 and was adopted in June 2013. Commissioned by the City of San Diego, the Plan provides an overarching framework for making changes to the City's bicycle network, thereby making cycling a more practical and convenient transportation option. The Plan builds upon and refines the 2002 Bicycle Master Plan, in order to:

- Satisfy requirements of, and qualify for, various bicycle-related state and federal grant funding programs,
- Define high-priority projects,
- Reduce crash rate for bicyclists,
- Motivate bicycling for people who live and work in San Diego,
- Provide an interconnected network that provides bicycle access within and between neighborhoods that meets the needs of all levels of cyclists, and
- Enhance the quality of life.

The Plan describes the overall vision, goals, and policies. It provides an overview of relevant local, regional, and state plans and policies, as well as a qualitative and quantitative assessment of bicycle demand. It presents the existing and preferred network of bicycle facilities with an accompanying summary of prioritization of bicycle network improvements, highest priority projects, and supporting facilities. A palette of program recommendations describes ways to improve safety and encourage more people to bicycle. The key air quality benefits as a result of increased bicycling are also discussed. Finally, the Plan provides planning level cost estimates of the proposed network and a summary of funding sources for the City to pursue.

Pertinent Goals, Objectives, and Policies

The Plan's goals and policies are linked to the City's 2008 General Plan and 2009 General Plan Action Plan which, in turn, provide clear direction on decisions relating to land use, development, and mobility. Due to the primary bicycling planning and design focus, nearly all goals and policies identified in the document are pertinent to the Uptown Bike Project.

Key goals are:

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

Key policies that are most relevant to the Uptown Bike Project are:

- Implement the Bicycle Master Plan, which identifies existing and future needs, and provides specific recommendations for facilities and programs over the next 20 years.
- Identify and implement a network of bikeways that are feasible, fundable, and serve bicyclists' needs, especially for travel to employment centers, village centers, schools, commercial districts, transit stations, and institutions.
- Maintain and improve the quality, operation, and integrity of the bikeway network and roadways regularly used by bicyclists.
- Provide safe, convenient, and adequate short- and long-term bicycle parking facilities and other bicycle amenities for employment, retail, multifamily housing, schools and colleges, and transit facility uses.
- Increase the number of bicycle-to-transit trips by coordinating with transit agencies to provide safe routes to transit stops and stations, to provide secure bicycle parking facilities, and to accommodate bicycles on transit vehicles.
- Increase government enforcement of bicyclists' equal right to use public roadways.
- Design an interconnected street network within and between communities, which includes pedestrian and bicycle access, while minimizing landform and community character impacts.
- Work with SANDAG to increase the share of regional funding (over the 2030 RTP levels) allocated to pedestrian, bicycle, and transportation systems management projects.

Pertinent Transportation Planning Findings/Recommendations

Due to the primary bicycling planning and design focus, nearly all the general recommendations identified in the document are pertinent to the Uptown Bike Project. The Plan also will serve to support the regional bike plan projects in this project area, delivering more connections to more places. The Plan recommends complimenting the network improvements by incorporating programs designed to:

- Educate people about bicyclists' rights and responsibilities and safe bicycle operation,
- Connect current and future bicyclists to existing resources,
- Encourage residents to bicycle more frequently, and
- Monitor the performance of the bicycle system and programs.

Pertinent Land Use, Urban Design, Landscape, and Healthy and Active Living Findings/Recommendations

The primary focus of the Plan is bicycle planning rather than land use and urban and landscape design. The Plan discusses the environmental and public health benefits of bicycling in terms of reduction in VMTs in San Diego by 2030 as a direct result of increase in cyclists. Implementation of the Plan could increase the total number of work, transit-bicycle commuters from the current estimate of 47K to

about 112K. This increase could result in an estimated decrease of 1,714 pounds/weekday of hydrocarbons, 1,197 pounds/weekday of mono-nitrogen oxides, 1,711pounds/year of particulate matter, and more than 121M pounds/year of carbon dioxide (CO_2).

Our Region, Our Future, 2050 Regional Transportation Plan

The RTP was prepared in October 2011. Prepared by the City of San Diego Planning Department and SANDAG, the Plan is the blueprint for a regional transportation system that further enhances quality of life, promotes sustainability, and offers more mobility options for people and goods.

The Plan envisions the SANDAG region as a compact urban core where more people live while using fewer resources. It outlines a robust integrated multimodal transportation network with a variety of travel choices that include rail, buses, Express or Managed Lanes, highways, local streets, walking, and bicycling. The Plan aims to efficiently link jobs, homes, and major activity centers, thereby meeting or exceeding reduction in GHG emission targets set by Assembly Bill (Nunez, 2006) (AB 32) and State Bill 375 (Steinberg, 2009) (SB 375).

The Plan outlines the overall vision, goals, and policy objectives for mid-century; discusses a sustainable communities strategy by integrating land use, housing, and transportation planning; provides the pathway to achieve social equity; and lays out different strategies for development and management of a more efficient and desirable multimodal transportation system, as well as financial strategies to implement these improvements.

Pertinent Goals, Objectives, and Policies

The Plan primarily identifies goals with supporting policy objectives. While the goals are broad, the multimodal transportation focus of these goals makes them all relevant to the Uptown Bike Project.

Key goals are:

- **Mobility:** The transportation system should provide convenient travel options for the general public and those who move goods. The system also should operate in a way that maximizes productivity. It should reduce the time it takes to travel and the costs associated with travel.
- **Reliability:** The transportation system should be reliable. Travelers should expect relatively consistent travel times, from day to day, for the same trip and mode of transportation.
- **System Preservation and Identity:** The transportation system should be well maintained to protect the public's investments in transportation. It is also critical to ensure a safe regional transportation system.
- **Social Equity:** The transportation system should be designed to provide an equitable level of transportation services to all segments of the population.
- **Healthy Environment:** The transportation system should promote environmental sustainability and foster efficient development patterns that optimize travel, housing, and employment choices. The system should encourage growth away from rural areas and closer to existing and planned development.
- **Prosperous Economy:** The transportation system should play a significant role in raising the region's standard of living.

Pertinent policy objectives are:

- Tailor transportation improvements to better connect people with jobs and other activities.
- Provide convenient travel choices including transit, intercity and high-speed trains, driving, ridesharing, walking, and biking.
- Increase the use of transit, ridesharing, walking, and biking in major corridors and communities.
- Employ new technologies to make travel more reliable and convenient.
- Create equitable transportation opportunities for all populations regardless of age, ability, race, ethnicity, or income.
- Ensure access to jobs, services, and recreation for populations with fewer transportation choices.
- Develop transportation improvements that respect and enhance the environment.
- Reduce GHG emissions from vehicles and continue to improve air quality in the region.
- Make transportation investments that result in healthy and sustainable communities.

Pertinent Transportation Planning Findings/Recommendations

The various actions outlined in the Plan address a wide variety of fields. However, some transportation recommendations are relevant to the Uptown Bike Plan.

Potential pertinent transportation recommendations are:

- Upgrade major existing transit and roadway infrastructure to support transit operations and transit use. This includes transit priority measures, technology enhancements (e.g., improved passenger information), Safe Routes to Transit including bicycle and pedestrian access improvements, station upgrades and improvements, and rail grade separation projects.
- Prioritize and implement the Safe Routes to Transit program, including bicycle and pedestrian connections to facilitate first- and last-mile access to high-frequency transit service.
- Develop an Active Transportation Early Action Program.
- Promote consistent signage that directs bicyclists to destinations and increases the visibility of the regional bicycle network.
- Take the lead to implement the regional bike plan in cooperation with local agencies.
- Implement robust education and encouragement programs in order to encourage more people to walk and ride a bicycle.
- Consistent with SB 743 (Leno, 2008) - The Complete Streets Act, encourage the reallocation of roadway rights of way to accommodate bicycle and pedestrian facilities by providing ongoing Complete Streets educational opportunities in conjunction with project funding and incentives.
- Continue to mandate bicycle and pedestrian travel accommodations of all projects funded with *TransNet* revenue, in support of Board Policy No. 031, *TransNet* Ordinance and Expenditure Plan Rules, Rule #21: Accommodation of Bicyclists and Pedestrians.
- Develop a regional Complete Streets policy.
- Develop regional on-demand bike lockers that are accessible using a fare payment card, which allows users to access a variety of transit modes administered by multiple agencies.

- Develop a Regional Safe Routes to School Strategic Plan to articulate the Regional Safe Routes to School Strategy, as well as actions to implement the strategy.
- As part of the Safe Routes to School Strategic Plan, develop cost estimates and a funding strategy to implement the plan.
- Develop a formal incentive program for commuters to track eligible trips in iCommute.
- Study and implement bike encouragement programs and services that make bicycling a viable commute choice.
- Study and implement multimodal solutions that integrate the transportation system and make alternatives to driving alone competitive and reliable.

Pertinent Land Use, Urban Design, Landscape, and Healthy and Active Living Findings/Recommendations

The various actions outlined in the Plan address a wide variety of fields. However, some land use, urban design, and landscape design recommendations are relevant to the Uptown Bike Plan.

Potential pertinent land use, urban design, and landscape design recommendations are:

- Incorporate the concepts and recommended actions of the 2050 RTP into the next update of the RCP, including alternative land use scenarios.
- Refine indicators that are used to monitor progress toward the implementation of the RCP so they include additional measures that address sustainability, GHG reductions, and public health considerations.
- Consider health principles in the evaluation criteria for existing grant programs, such as the Smart Growth Incentive Program and the Bicycle, Pedestrian, and Neighborhood Safety Program.
- Consider GHG reductions/climate change principles in the evaluation criteria for existing grant programs, such as the Smart Growth Incentive Program.
- Continue to make enhancements to travel demand models to improve GHG and VMT estimates.
- Continue to collaborate with the region's public health professionals to enhance how SANDAG addresses public health issues in its regional planning, programming, and project development activities.
- Seek funding to develop healthy community or active design guidelines that integrate smart growth, sustainability, walking and bicycling, parking, and street design.
- Through the development review process, continue to provide comments to local jurisdictions that encourage development patterns that promote walking, bicycling, and access to public transit in existing and potential smart growth areas and in or near major public facilities such as colleges and hospitals, and that encourage reconfiguration of the public right-of-way to create complete streets.

General Plan, City of San Diego

The San Diego General Plan (Plan) was unanimously approved in 2008. Since then, the Council has approved amendments to the Plan in 2010 and 2012. In addition, a General Plan Action Plan (Action Plan) was approved in 2009 which provides a comprehensive implementation program for the Plan.

The Plan provides policy guidance for development of San Diego. It envisions a City of Villages strategy that focuses much of its future growth into pedestrian-friendly, mixed-use activity centers made up of urban village centers, community and neighborhood village centers, subregional employment areas, transit corridors, and downtown, which are interconnected by an improved regional transit system. The Plan integrates the following overarching principles to guide its development:

- An open space network formed by parks, canyons, river valleys, habitats, beaches, and ocean,
- Diverse residential communities formed by the open space network,
- Compact and walkable mixed-use villages of different scales within communities,
- Employment centers for a strong economy,
- An integrated regional transportation network of walkways, bikeways, transit, roadways, and freeways that efficiently link communities and villages to each other and to employment centers,
- High-quality, affordable, and well-maintained public facilities to serve the City's population, workers, and visitors,
- Historic districts and sites that respect San Diego's heritage,
- Balanced communities that offer opportunities for all San Diegans and share citywide responsibilities,
- A clean and sustainable environment, and
- A high aesthetic standard.

The Plan describes the overall vision and strategic framework of the City of Villages. It presents ten elements (land use and community planning; mobility; urban design; economic prosperity; public facilities, services and safety; recreation; conservation; historic preservation; noise; and housing) that overall provide a comprehensive "blueprint" for the City of San Diego's growth over the next twenty plus years. Each element lays out its own purpose, goals, and policies. The policies serve as recommendations to implement the goals and, as such, are described in the recommendations sections below. Similarly, due to the voluminous size of the document, the review of the Plan primarily focuses on the most relevant and implementation-focused policies (as identified in the Action Plan) of the following three elements: land use and community planning, mobility, and urban design.

Pertinent Goals, Objectives, and Policies

The Plan primarily identifies goals with supporting policies; no specific objectives were identified. As stated above, the policies are essentially recommendations and have been identified in the subsequent findings and recommendations sections. While the goals for most of the different elements are very broad, there are some goals that may be pertinent to the Uptown Bike Project.

Pertinent goals are:

- Mixed-use villages located throughout the City and connected by high-quality transit.
- Community plans that are clearly established as essential components of the General Plan to provide focus on community-specific issues.
- Improved mobility options and accessibility in every community.
- Promoted and ensured environmental protection that will emphasize the importance of safe and healthy communities.
- A City with distinctive districts, communities, and village centers where people gather and interact.

- Vibrant mixed-use streets that serve as neighborhood destinations, community resources, and conduits to the regional transit system.
- Increased pedestrian and transit orientation within office and industrial developments.
- Improved mobility through development of a balanced, multimodal transportation network.
- A city where walking is a viable travel choice, particularly for trips of less than one-half mile.
- A complete, functional, and interconnected pedestrian network, that is accessible to pedestrians for all abilities.
- An attractive and convenient transit system that is the first choice of travel for many of the trips made in the City.
- A street and freeway system that balances the needs of multiple users of the public right-of-way.
- An interconnected street system that provides multiple linkages within and between communities.
- Safe and efficient street design that minimizes environmental and neighborhood impacts.
- Expanded travel options and improved personal mobility.
- A city where bicycling is a viable travel choice, particularly for trips of less than five miles.
- A safe and comprehensive local and regional bikeway network.
- Environmental quality, public health, recreation, and mobility benefits through increased bicycling.
- Parking that is reasonably available when and where it is needed through management of the supply.
- Solutions to community-specific parking issues through implementation of a broad range of parking management tools and strategies.
- Effective representation of City of San Diego interests in SANDAG decisions.

Pertinent Transportation Planning Findings/Recommendations

As mentioned above, key policies described in the 2009 General Plan Action Plan serve as the primary recommendations of the 2008 General Plan. As with the 'goals' section, the review of the Plan for this section primarily, but not exclusively, focuses on three key elements of the Plan: land use and community planning, urban design, and mobility. While the recommendations for most of the different elements are very broad, there are some recommendations that may be pertinent to the Uptown Bike Project.

Potential pertinent transportation recommendations are:

- Develop multimodal Level of Service (LOS) guidelines.
- Evaluate Traffic Impact Study Guidelines and update as needed.
- Evaluate the Street Design Manual and update as needed.
- Prepare parking master plans for parking deficient areas.
- Evaluate changes to citywide on-street parking regulations.
- Develop multimodal corridor mobility concepts.
- Identify funding and implement traffic calming projects where appropriate.
- Identify funding for and implement projects identified in the Pedestrian and Bicycle Master Plans.

Pertinent Land Use, Urban Design, Landscape, and Healthy and Active Living Findings/Recommendations

As with the transportation recommendations, key policies described in the 2009 Action Plan provide guidance for the land use, urban, and landscape design recommendations for the Plan. While the recommendations for most of the different elements are very broad, there are some recommendations that may be pertinent to the Uptown Bike Project.

Potential pertinent land use, urban design, and landscape design recommendations are:

- Update community plans to achieve citywide and community goals.
- Incorporate expanded public outreach and evaluation of inequitable impacts in all transportation projects, plans, and programs. Coordinate with SANDAG to improve transportation options for all groups.

Mid-Cities Community Plan, City of San Diego

The Mid-City Communities Plan (Plan) was prepared in August 1998. Prepared by the City of San Diego Planning Department, the Plan is the second update to the 1965 Mid-City Development Plan. Mid-City is made up of the four communities around El Cajon Boulevard, namely Normal Heights, Kensington-Talmadge, City Heights, and Eastern. The Plan envisions the re-establishment of a deep-rooted community that is safe, identifiable, and family-oriented with an integrated open space system of canyons, park grounds, and urban plazas, as well as preserved environmental, cultural, and historic resources. In addition, the Plan envisions diverse housing and vital commercial, business, and employment centers that are connected with a functional transportation system of landscape streets and multiple modes of transit.

The Plan describes the overall vision with different elements that include neighborhood, natural and cultural resources, urban design, land use, economic development, public facilities and services, and transportation. Each element lays out its own vision, goals, and recommendations. Finally, the Plan describes various short- and long-term efforts needed to ensure implementation of the community plan.

Pertinent Goals, Objectives, and Policies

The Plan primarily identifies goals with supporting recommendations. No specific objectives or policies were identified. As the Plan is nearly 15 years old, a number of its goals have either been implemented or are being implemented. A number of the recommendations also may be outdated as a result of subsequent changes proposed by local and citywide planning efforts such as the 2008 San Diego General Plan. Finally, the eastern edge of the Plan project area is Interstate 805 (I-805), which is approximately the western extent of the Uptown Bike Project. However, there are some goals that may be pertinent to the Uptown Bike Project.

Potential pertinent goals are:

- Consider the use of fault areas as linear open space areas or linkages to open space resources.
- Improve air quality throughout Mid-City through local monitoring, awareness, and the promotion of non-polluting forms of transportation.
- Improve the livability of neighborhoods by reducing inappropriate neighborhood traffic and vehicle speeds.

- Concentrate new, higher density development along transportation corridors with the highest densities at nodes.
- Provide attractive and functional commercial corridors and centers.
- Maintain and strengthen the pedestrian orientation of commercial areas.
- Provide an adequate traffic circulation system that is balanced with the character and multimodal tendencies of the community.
- Provide parking that is adequate for its intended use, but that does not produce negative impacts on community character by providing an oversupply of parking.
- Provide adequate sidewalks and paths.
- University Avenue: create a pedestrian-oriented urban village accommodating commerce, cottage industry, and higher density residential uses.

Pertinent Transportation Planning Findings/Recommendations

As described in the 'goals' section of this document review, there may be some findings and recommendations that may be pertinent to the Uptown Bike Project.

Potential pertinent transportation recommendations are:

- Utilize public relations techniques and physical improvements to promote non-polluting pedestrian access and bicycling as primary intra-community modes of transportation.
- Create a system of linkages between Mid-City parks and open space.
- Give consideration to linkages between schools, other neighborhood facilities and activity centers, and natural amenities.
- Restrict public access along hillsides facing Mission Valley and within Kensington-Talmadge due to their environmental sensitivity and steepness.
- Identify and improve key streets that link open space resources and community facilities.
- To the extent possible, encourage implementation of traffic calming programs to reduce vehicle speeds through residential neighborhoods.
- Encourage patterned crosswalks at intersections to reduce vehicle speeds.
- Repair and improve sidewalks including pop-outs at selected intersections.
- Institute traffic calming improvements to establish a more efficient vehicular and pedestrian transportation system and more livable neighborhoods.
- Locate parking so as to minimize impacts on pedestrians.
- Encourage opportunities to share parking among various uses.
- Provide sidewalks along all street frontages except in steep hillside areas where there is no access to adjoining properties.
- When replacing sidewalks in commercial areas, pave to the curb with trees spaced along the curb, and extend from the curb to the property line, generally 10 feet to 14 feet wide.
- When replacing sidewalks, residential areas maintain the same location with respect to the curb.
- Do not reduce sidewalk width through street widening, encroachments, or by other means.

Pertinent Land Use, Urban Design, Landscape, and Healthy and Active Living Findings/Recommendations

As described in the 'goals' section of this document review, there may be some findings and recommendations that may be pertinent to the Uptown Bike Project.

Potential pertinent land use, urban design, and landscape design recommendations are:

- Encourage mixed-use development (retail or other commercial uses on the ground floor and residential on upper floors) along the commercial strips in transportation corridors.
- Establish recognizable gateways and districts within the Mid-City communities.
- University Avenue:
  - Design the street to reinforce a strong commercial corridor and its multi-cultural character.
  - Provide improved traffic circulation and angle parking.
  - Locate parking to the rear of buildings off the side streets to reduce curb cuts and traffic conflicts on University Avenue.
  - Preserve the street for wider pedestrian sidewalks and/or angled parking.
  - Maintain University Avenue as a three-lane major street between I-805 and Euclid Avenue.
- Provide adequate security for pedestrians with lighting and design of landscaped walkways to ensure visibility.
- Street trees should provide maximum shade and be equally spaced.
- Re-vegetate natural hillsides with native or naturalized plant material according to the performance standards found in the Landscape Technical Manual.
- Encourage the planting and maintenance of street trees and landscaped medians.

Greater North Park Community Plan, City of San Diego

The Greater North Park Community Plan (Plan) was adopted in 1986. As of December 2012, the City was going through a series of design workshops and other community engagement processes to determine the overall vision and recommendations. The update of the Greater North Park Community Plan is occurring concurrently with updates to the community plans for Golden Hill and Uptown. The update includes such topics as sustainable development, urban design, the provision of public services and facilities, mobility, and historic preservation.

Pertinent Goals, Objectives, and Policies

The area included in the existing Plan extends north and east of Balboa Park. As a result, the land use and mobility goals, objectives, and policies are relevant to the Uptown Bike Project.

- Enhance pedestrian activity in the business districts by improving the pedestrian environment.
- Provide a safe and efficient transportation system that maximizes access for residents and visitors to the community, links the community to major activity centers, and minimizes adverse environmental effects.
- Protect residential areas from through traffic by encouraging through traffic to use freeways and major streets, while discouraging through traffic on local streets in the community.

- Reduce vehicular traffic in Greater North Park by encouraging the use of alternative modes of transportation, including public transit, bicycles, and pedestrian travel.
- Maintain the pedestrian interface between Balboa Park and the community.
- Develop a system of bikeways to connect the various neighborhoods within the community and to connect major activity centers in San Diego.
- Install secure bicycle parking facilities at major activity centers, including shopping centers, employment centers, parks, and schools.
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Pertinent Transportation Planning Findings/Recommendations

Key findings and recommendations of the existing plan:

Left-Turn Pockets

- El Cajon Boulevard, between Park Boulevard and I-805. However, any new construction of left-turn pockets should be considered in conjunction with improved landscaping in the median strips and a need for safe and convenient pedestrian crossings.

Bikeways

- A bikeways system should not only provide access throughout the community, but should provide access to and from Balboa Park and adjacent communities.
- Whenever possible, bicycle lockers or areas of restricted access should be provided for employees who commute to work by bicycle.
- Bicycle racks should be provided for customers. They should be placed in visible locations, but not impede pedestrian circulation.
- Bicycle parking signs might be used to identify parking.
- Streets that should be included in a bikeway system include Howard Avenue, Adams Avenue, Landis Street, Morley Field Drive, Upas Street, Thorn Street, Juniper Street, Park Boulevard, Louisiana Street, Texas Street, 28th Street, Utah Street, Boundary Street, and Nile Street. University Avenue and Lincoln Avenue should include bike lanes as well.
- Establish, within the Capital Improvements Program and a long-range financing plan, a program for prioritizing and financing the circulation and bike systems.

Pertinent Land Use, Urban Design, Landscape, and Healthy and Active Living Findings/Recommendations

The Plan's pertinent findings include:

- The Plan states that Greater North Park, because of its generally level topography, is a community in which walking should be encouraged.
- Where pedestrian traffic is high and through traffic is light or can be moved to alternate routes or reduced by transit improvements, some street space should be converted into wider sidewalks, landscaped strips, and sitting areas.
- In high-density residential areas with little open space, wider sidewalks and small plazas should be created to provide more usable space, as well as discourage through traffic.

- Where streets are designed for high volumes or relatively fast movement of vehicles, adequate provision must be made for safe and convenient pedestrian crossings.
- Refinements and modifications to the recommended circulation system, the bikeway system, and other aspects of this element, may result from the formulation of implementing legislation. In addition, the achievement of recommended development intensities may be predicated upon the ability to adequately finance the public improvements called for in this element.

The Plan's recommendations include:

- Delineate pedestrian walkways from traffic areas; separation should include landscaping and other barriers.
- Walkways should pass through interiors of commercial blocks wherever practical.
- Mark pavement in cross streets for pedestrians.
- Keep driveways across sidewalks to a practical minimum with control maintained over the number and width of curb cuts.
- Install barriers along parking lots to avoid encroachments on sidewalks.
- Discourage truck loading in roadways or sidewalks.

Uptown Community Plan

The Uptown Community Plan, adopted in 1988, is the current planning guide with tools that outline how to design projects harmonious within the planning area. The Uptown Community Plan Update (Plan) is currently being prepared with updates to North Park and Golden Hill Community Plans. As of March 2013, the City and the Uptown Planners Community Group were going through a series of design workshops and other community engagement processes to determine the overall vision and recommendations.

The community plan update process will develop the community-specific detail, relevant policies, and implementation strategies necessary to fulfill General Plan objectives.

Pertinent Goals, Objectives, and Policies

- The overall concept of the Plan is to shift higher residential density away from the more isolated, lower-scale neighborhoods and focus development instead on the major transportation corridors.
- Mixed-use development is encouraged in selected areas with residential use over street-retail use. Pedestrian activity is fostered by intensifying residential use within commercial areas.
- Optimize personal mobility and minimize traffic congestions through the coordination of policies for the management of traffic, transit, trip demand, parking, and land use.
- Develop a comprehensive bikeway system, which would not only provide a safe connection between neighborhoods, schools, and commercial areas, but which would connect with bikeways in neighboring communities and Center City. This system also should provide access to and from Balboa Park, as well as the adjacent communities. Given Uptown's urban environment and proximity to employment centers and other activity centers, it is logical that the bicycle will continue to be an important alternative means of personal transportation.

Key goals most relevant to the Uptown Bike Project are:

- Establish a fully integrated system of vehicular, transit, bicycle, and pedestrian facilities to meet current and future needs.
- Provide public right-of-way improvements in designated areas, including street trees, street furniture, widened sidewalks, decorative paving, and pedestrian pathways.
- Minimize street widening in favor of alternative techniques to improve traffic flow, including the diversion of through traffic around neighborhoods and encouragement of alternative modes of transportation.
- Improve traffic circulation, but not at the expense of retaining and enhancing the pedestrian character of Uptown.
- Bicycle routes should be adequately identified by proper signage.
- Destination plates should be added to selected bicycle route signs for the purpose of identifying the routes to major activity centers and to secure parking facilities in these activity centers.
- Bicycle lockers or areas of restricted access should be provided for customers and employees who commute to work by bicycle. These racks should be visible, but not impede pedestrian circulation.

Pertinent Transportation Planning Findings/Recommendations

Pertinent transportation recommendations are:

- Provide for safe and efficient movement of people and goods throughout the community.
- Prevent through traffic from using local surface streets.
- Give highest priority to improving local traffic circulation and enhancing the pedestrian environment.
- Route through traffic onto freeways and onto major arterials such as Washington Street.
- Redesign specific access ramps to and from State Route 163 (SR 163) to reduce congestion and traffic hazards.
- Facilitate the use of alternative modes of transportation.
- Street widening beyond these recommendations are not desirable due to the disruptive effects on the pedestrian environment, landscaping, or community character.
- Improve pedestrian access across and along Washington Street east of SR 163.
- Encourage local programs such as employer transit pass subsidies and flexible work hours to reduce peak-hour traffic.
- Provide a focal point to coordinate transit activity on University Avenue between 5th and 6th Avenue.

Robinson Avenue

Widen the SR 163 overpass to provide greater safety for auto, bicycle, and pedestrian traffic. Close the northbound off-ramp from SR 163 to Robinson Street if an alternative off-ramp can be provided.

Pertinent Land Use, Urban Design, Landscape, and Healthy and Active Living Findings/Recommendations

- Provide opportunities for more urban-oriented plazas, parkways, mini-parks, and streetscapes to alleviate the deficiency of recreational facilities in the community.
- Establish and maintain a high level of community facilities and services to meet the needs of the community.
- Encourage the design of building and circulation systems to be sensitive to the needs of pedestrian.
- Enhance the existing pedestrian orientation of commercial areas through controls on the design of development.
- Increase the availability of off-street parking, but not at the expense of retaining and enhancing the pedestrian amenities.
- Reduce conflicts between pedestrians and auto traffic entering parking facilities.
- Provide pedestrian-oriented commercial areas.

University Avenue Mobility Plan

In 2002, the City of San Diego and community stakeholders developed a series of traffic calming concepts for University Avenue to help "enhance and rediscover the corridor as a pedestrian and transit friendly environment." The outcome of these efforts was the Preferred Concept Plan. The intention of the 2004 University Avenue Mobility Plan was to look at how traffic calming and transit-oriented concepts of the Preferred Concept Plan work together to meet community goals. The ultimate product of the University Avenue Mobility Plan – achieved through public outreach, data collection, and operational analysis of existing and future conditions – was the Refined Concept Plan.

Pertinent Goals, Objectives, and Policies

The goal of the Plan was to evaluate the operating conditions of the corridor associated with the elements of the Preferred Concept Plan. As constraints were identified through the detailed traffic modeling process, refinements and alternatives to the Preferred Plan were proposed and evaluated.

Key Goals and Actions that are most relevant to the Uptown Bike Project are:

The broad goal of the University Avenue Mobility Plan was to "strike a mobility balance along University Avenue." Such a balance was sought in order to enhance University Avenue as a place where people want to live, work, shop, and play."

Key Objectives that are most relevant to the Uptown Bike Project are:

In support of the aforementioned goals and consistent with the Uptown Bike Project, the Plan enumerated the following pertinent objectives:

- Reduce Speeding
- Create Pedestrian-Friendly Environment
- Improve Safety
- Provide for Bicyclists
- Beautify the Corridor

Pertinent Transportation Planning Findings/Recommendations

Pertinent transportation findings are (at the time of the Plan's publication, 2004):

- University Avenue is home to one of the most heavily utilized transit routes in San Diego County.
- Pedestrian access along the corridor is generally constrained to signalized intersections, with few un-signalized crossings.
- Pedestrian enhancements will "contribute to improved economic vitality of the corridor."
- Bicyclists along the University Avenue share the travel way with busses and vehicles; there are no bicycle facilities on University Avenue.
- Under a no-build scenario, University Avenue is predicted to experience significant congestion (14/30 intersections operating below LOS E).

Pertinent transportation recommendations are:

- The Refined Concept Plan calls for a total of nine enhanced pedestrian crossings on University Avenue and its side streets.
- Both the "Steering Committee" and SANDAG recommend the removal of on-street parking.
- Both the "Steering Committee" and SANDAG recommend that transit-only lanes be provided along the entire length of the corridor.
- No bicycle-specific facilities are recommended though "transit-only" lanes are suggested for possible use by cyclists.
- An increase in the number of mid-block crossings are recommended; these will serve both pedestrians and cyclists.

Pertinent Land Use, Urban Design, Landscape, and Healthy and Active Living Findings/Recommendations

Pertinent land use and urban design findings are:

- University Avenue is expected to accommodate further, mixed-use density.
- Most trips along University Avenue are destined for North Park; this is a positive sign for economic vitality of the community.

Hillcrest Corridor Mobility Strategy

The Hillcrest Corridor Mobility Strategy was born of the 2005 Traffic Calming Study and Concept. But, whereas the 2005 Study and Concept was focused solely on traffic calming and improving the pedestrian environment (along 4th, 5th, and 6th, Avenues), the Mobility Strategy aims to evaluate the balance of

transportation needs within the study area and considers all modes in concert, so that no one mode has a detrimental effect on another. It used the 2005 Concept as its starting point, but over the course of 11 months, and the exploration of several alternatives, evolved into a Refined Concept Plan.

Pertinent Goals, Objectives, and Policies

The overall goal of the project was to provide a balanced transportation system and pedestrian/bicycle-friendly environment in the study area.

Key goals are:

In order to provide a balanced transportation system and a pedestrian/bicycle-friendly environment, the Mobility Strategy identified the following sub-goals:

- Reducing speed
- Improving flow and safety
- Creating a pedestrian-friendly environment
- Beautifying the avenues
- Increasing parking

Of these, reduced speed, increased safety, the creation of a pedestrian-friendly environment and the beautification of the avenues are most pertinent.

Pertinent Transportation Planning Findings/Recommendations

Pertinent transportation findings include the fact that 4th, 5th, and 6th Avenues have excess capacity available, which is currently leading to high speeds along these corridors. Pedestrians and bicyclists will both benefit from lower speeds along the corridor. The pedestrian and bicycle environments will be improved through the reduction of vehicle speeds, achieved by several design strategies: angled or diagonal parking, curb extensions, and improved crosswalks.

Pertinent transportation recommendations are:

The Refined Concept Plan of the Hillcrest Corridor Mobility Strategy, identified several transportation design strategies pertinent to the Uptown Bike Project. The strategies, listed below, are all supportive of the goal of bringing balance to the transportation system and increasing pedestrian/bicycle friendliness, if not all directly related to bicycle infrastructure.

- Traffic Signals – Eight new traffic signals were recommended, all along 4th, 5th, and 6th Avenues, for a traffic calming effect.
- Roundabouts – Two roundabouts were identified for inclusion in the Concept Plan, also for the purpose of traffic calming.
- Raised Median – A raised median along 6th Avenue will allow for pedestrian refuges.
- Road Repaving and Restriping – Road repaving will benefit active transportation as it will allow for re-grading, particularly at the edges, which will, in turn, allow for curb extensions, drainage improvements, and Americans with Disabilities Act accessibility.

- Enhanced Pedestrian Crossings – These pedestrian crossings would improve safety by including flashing in-pavement devices and highly reflective pavement markings.
- Curb Extensions (Bulb-outs or Pop-outs) – Curb extensions, narrowing the roadway for pedestrians, will be provided at several intersections.
- Bicycle Improvements – The Concept Plan calls for the striping of 4- to 5-foot bicycle lanes along 4th and 5th Avenues.

Pertinent Land Use, Urban Design, Landscape, and Healthy and Active Living Findings/Recommendations

Pertinent recommendations are:

The Mobility Strategy is primarily concerned with mobility and transportation issues and does not provide substantial findings related to the above concerns. It does, however, tangentially point to certain realities (in existing conditions) and certain recommendations (by way of transportation recommendations).

Regarding land use, the Mobility Strategy acknowledges the mixed-use nature of the area and the fact that the area is expected to incorporate further mixed-use and residential development. At the same time, the document cites parking deficiencies (with a shortage of about 100 spaces).

Regarding urban design and landscape, the Strategy calls for beautification of the Avenues, an objective that will be provided for – in large part – by the implementation of pedestrian and bicycle enhancements. There are no overt references to the evaluation of Mobility Strategy alternatives from a public health/active living perspective.

Five Points Commercial Neighborhood Parking and Circulation Design, Uptown Partnership, City of San Diego

This report conceptualizes traffic calming, circulation, and aesthetic improvements to the Five Points area. More specifically, it focuses on creating opportunities for pedestrian enhancements, slowing vehicular speeds around the neighborhood and providing circulation alternatives, especially to minimize the flow of commercial traffic, in search of parking, through residential areas. This project entailed significant community involvement. Initial concepts were developed by the Five Points Advisory Committee and later vetted and refined through an iterative process of community input. Ultimate products of the project include three alternatives, one of which was carried forward as the preferred alternative.

The structure of this plan revolves around the development of potential alternatives and the ultimate selection of a preferred alternative. To provide context, project area, methodologies, existing conditions and growth forecasts are detailed. Alternatives and their relative merits, including elevated urban design and benefits to transit, cycling, and walking are explored, as are potential funding mechanisms. Lastly, the project makes recommendations related to the preferred alternative.

Pertinent Goals, Objectives, and Policies

Pertinent project objectives include increased pedestrian connectivity, traffic calming, and enhanced aesthetics in the Five Points Area.

Key goals are:

The creation of:

- Safe, enjoyable pathways within and approaching the Five Points area.
- A better functioning vehicular circulation pattern, in which commercial traffic is routed through arterial, not residential streets.
- Connections to nearby transit nodes.

Minimization of impacts to:

- Vehicular parking
- Automobile LOS

Key policies that are most relevant to the Uptown Bike Project are:

This is not a policy paper or a plan, but rather conforms to existing policies and plans of the City of San Diego.

Relevant existing plans include the City's General Plan, which calls for the establishment of a "fully integrated system of vehicular, transit, bicycle, and pedestrian facilities to meet current and future needs." The Five Points project also cites the General Plan's guidance to provide for the smooth flow of traffic along arterials, without forsaking a safe and comfortable pedestrian environment. The General Plan, in fact, points to the ability of transit and bicycle facilities to enhance mobility.

The plan's vision for bicycle networks is built upon three existing City Bicycle Plans:

- The Midway Community Bicycle Element
- The Uptown Community Plan Bicycle Element
- The City of San Diego Bicycle Master Plan

This project states that "Riders of all abilities should be able to use the network." Pursuant to the City of San Diego's Bicycle Master Plan, this project considers the potential implementation of Class I, II, and III bicycle facilities, though – it acknowledges – there may be spatial constraints that preclude certain facilities within certain rights of way.

Pertinent Transportation Planning Findings/Recommendations

The Five Points project makes important findings regarding both attractors for and barriers to bicycle and pedestrian trips.

Presently, bicycle and pedestrian trips are generated by a mix of land uses including residential, office, commercial, light industrial, and transit uses. They are also generated by propinquity, with residential land uses beginning approximately two blocks from the commercial area north and south of Washington Street. Pedestrian activity is attracted by the existing, relatively robust sidewalk network and a canyon stairway connecting the residential area with the adjacent commercial area. Bicycling is attracted, the report states, by some existing facilities, but would benefit greatly from facility enhancements.

Barriers to bicycle and pedestrian use include sloping topography (including canyons), nearby limited-access highways, and rail lines.

Importantly, this project states that – despite the many attractors – increased facilities are necessary to provide bicycle connections within the Five Points area and with neighboring communities. The project highlights many deficiencies of the bicycle network, including lack of signage (route marking and way finding) and the lack of bike parking, particularly in commercial centers.

This project, pursuant to the City of San Diego Bicycle Master Plan, identifies Washington Street as an important route, but also acknowledges potential spatial constraints.

Pertinent Land Use, Urban Design, Landscape, and Healthy and Active Living Findings/Recommendations

Findings relevant to the Uptown Bike Project include:

The land use mix, wherein residential and commercial uses are significantly integrated, is seen as a trip generator for those traveling by bike and foot. Current traffic circulation patterns; however, have led to the negative side effect of significant parking-seeking, through-traffic in residential areas. This project, consistent with the Uptown Regional Bike Project goal of creating an exceptional facility for those of all ages and abilities, recommends traffic calming through diversion.

Elevated urban design and landscaping, by fostering the perception of the area as more attractive and safe, is expected to lead to an increase in trips made by bike and foot.

The Five Points project area was home to a significant number of collisions involving bicyclists, pedestrians, and automobiles. Key findings related to collisions include the important role of speeding, where speeding resulted in 16 percent of all collisions and was observed throughout the study area, and the profound potential of pedestrian enhancements (e.g., bulb-outs and conspicuously paved crosswalks) to improve pedestrian safety.

Old Town Community Plan

In 1971, the City Council adopted the Old Town San Diego Planned District Ordinance to replicate, retain, and enhance the distinctive character of the Old Town San Diego historical area that existed prior to 1871. The intent is to create an exciting and viable community capitalizing on the area's proud heritage and importance as California's birthplace and first European settlement. The Old Town San Diego Planned District Design Review Board was created to provide advice in design and development in compliance with the regulations and procedures contained within the Ordinance. The current community plan for Old Town San Diego was adopted in 1987. The City of San Diego is in the process of comprehensively updating the Old Town San Diego Community Plan.

Pertinent Goals, Objectives, and Policies

Key goals are:

- To create an environment in old San Diego that is fundamentally the province of the pedestrian.
- To encourage the development of comfortable and attractively textured walkways, separated where possible, from vehicular routes. To encourage the development of a circulation system that will bring people into the area.
- To discourage through traffic.
- To encourage the creation of common automobile parking facilities and to phase out on-street parking.

Key objectives with their supporting policy actions that are most relevant to the Uptown Bike Project are:

- Development of a pedestrian walkway system to link the historic core, commercial-recreation facilities, and public recreation areas.
- Parking should be limited or prohibited on major streets.
- Use of bicycles, hand carts (street vendors), saddle horses, horse-drawn carriages, wagons, buggies, horse cars, street cars, and steam trains should be encouraged. These may be developed in conjunction with the proposed transportation system.
- Circulation routes may connect "Old San Diego" with other major centers, Mission Bay, Mission Valley, Hotel Circle, etc., as well as serving the immediate area.

Pertinent Transportation Planning Findings/Recommendations

Pertinent Transportation recommendations are:

Enhance the pedestrian environment along Taylor Street by:

- Implementing traffic-calming measures
- Separating pedestrians from the at-grade rail crossing

Bicycles

- Install a bicycle facility on Pacific Highway that enhances safety and connects to the San Diego River Pathway

Streets

- Improve traffic flow within the current right-of-way along Taylor Street and Pacific Highway.
- Seek regional, state, and federal funding for improvements that address motor vehicle congestion at the Pacific Highway/Taylor Street intersection due to the rail crossing gates.
- Seek regional, state, and federal funding for improvements at the Taylor Street rail grade crossing to address pedestrian and bicyclist safety and accessibility.

The San Diego River Park Master Plan

The San Diego River Park Master Plan, adopted in 2013, provides the vision and guidance to restore the relationship between the river and the surrounding communities. The Master Plan covers the 17.5-mile stretch of the San Diego River and provides the vision and guidance to restore a symbiotic relationship between the river and the surrounding communities.

Pertinent Goals, Objectives, and Policies

The planning area included in the Master Plan encompasses Mission Valley, and extends south into the northernmost edge of Uptown. As a result, the mobility goals, vision, and principles are relevant to the Uptown Bike Project. The primary vision for the river park is to reclaim the valley as a common, a synergy of water wildlife, and people.

The key principles that guide this vision that are most pertinent to the Uptown Bike Project are:

- Unify fragmented lands and habitats
- Create a connected continuum, with a sequence of unique places and experiences
- Re-orient development toward the river to create value and opportunities for people to embrace the river

Pertinent recommendations

For each key principle outlined in the Master Plan, a series of recommendations were proposed to meet those principles.

Pertinent recommendations are:

- Establish appropriate corridors for the river, wildlife, and people
- Separate pedestrian/wildlife and vehicular river crossings
- Create a continuous multi-use San Diego River Park pathway from the Pacific Ocean to the City of Santee
- Link the San Diego River Pathway to adjacent canyons and neighborhoods
- Acquire open space lands to expand connectivity
- Create overlooks at unique places
- Upgrade and link existing parks into the San Diego River Park System
- Encourage development to provide active uses fronting the river
- Integrate pedestrian and bicycle paths along frontage roads

Mission Valley Community Plan

The Mission Valley Community Plan is conventionally structured. It was originally written in 1985 and was amended in 2013, though its amendments are largely related to specific projects and do not signify a shift in broader planning policy and practice. The Transportation and Land Use sections of the plan are particularly relevant to the Uptown Bike Project and are detailed below.

Pertinent Goals, Objectives, and Policies

Key goals are:

The broad goal of the Mission Valley Community Plan is to allow for the valley's continued development as a "quality regional center." It aims to balance considerations of traffic, the environment, and the valley's development as a community. Upon its writing, it was intended to carry the community through its "horizon year," anticipated to be the year 2000. It also was intended to serve as a "living document," to remain relevant to community and City needs.

Key Objectives that are most relevant to the Uptown Bike Project are:

- The encouragement of high-quality urban development
- The provision of a healthy environment
- The provision of occupational and residential opportunities for all citizens
- To provide a balance between conservation and development needs
- To meet transportation needs of the community through a variety of transportation choices (walking, cycling, transit, and private automobile)
- To provide urban design guidelines that are in keeping with the natural features of the land and establish community identity, coherence, and a sense of place

Pertinent Transportation Planning Findings/Recommendations

Pertinent transportation findings are:

The Mission Valley Community is plagued by the following transportation-related problems:

- Physical separation of various community elements by freeway and transportation corridors
- The lack of development of means of transportation other than the private automobile
- The continual upgrading of the local surface street system

Pertinent transportation recommendations are:

The Plan states that transportation systems should be well-balanced between the individual and needs of the various users. The transportation system must offer residents and/or employees the maximum opportunity of choices to fulfill their individual needs and provide a dynamic system for the growth of the community. On the whole, the Plan calls for an increase in the amount and width of freeways, major arterials, and local streets, but it also calls for enhanced transit, bicycle, and pedestrian facilities. Specifically, the Plan calls for the design of internal pedestrian and bicycle circulation paths to reduce dependency on the automobile and minimize conflicts among pedestrian, bicycle, and automobile traffic.

The Plan calls out the following objectives pertinent to bicycling:

- The creation of an intra-community bikeway system which would provide access to various land use developments within the Valley and connect to the regional system

- The encouragement of bicycle use in the valley
- The creation of the San Diego River Park Pathway, intended for use by cyclists and pedestrians

The Plan identifies following development guidelines related to the bike network:

- Design bikeways to meet the minimum standards included in the current Caltrans Highway Design Manual and in the current City of San Diego Council Policy 600-4
- Provide secure bike parking in relevant locations
- Provide lockers, showers, and changing stations to promote cycling
- Install bicycle signal detectors at signalized intersections along commuter routes
- Utilize assessment districts and conditions placed on development permits to provide, among other improvements, bikeways

While all projects should be connected through "pedestrian ways," these facilities, and their integration with land use, may take many forms:

- Projects incorporating "vertical mixing" so as to reduce walking distances
- The creation of pedestrian-oriented and pedestrian-drawing features (e.g., plazas and pedestrian malls)
- Inclusion of, sometimes, elaborate pedestrian facilities (e.g., overpasses, tunnels, etc.)
- Extensive use of escalators, elevators, moving sidewalks, and other mechanical devices that complement pedestrian activity
- Permanent pedestrian linkages to public transit systems

Pertinent Land Use, Urban Design, Landscape, and Healthy and Active Living Findings/Recommendations

Pertinent findings related to land use, urban design and healthy/active living are:

At the time that the plan was published:

- Commercial and industrial land uses formed the majority of land use in the valley
- Residential and mixed-use land uses accounted for but a small portion of land use in the valley

Pertinent recommendations related to Land Use, Urban Design and Healthy/Active Living are:
The Plan calls for undeveloped land to be developed according to the recommended plan alternative of "Moderate Development – Integrated Use." The Plan recommends that future land be developed as "planned developments" to ensure an appropriate degree of mixed uses.

The Plan calls for amenities such as recreation, shopping, employment, and cultural opportunities to be placed within or adjacent to residential development. Access to these amenities should be close and easy to encourage trips by bike or on foot. Residential land uses should be located within walking distance of transit lines.

Downtown Community Plan

The Downtown Community Plan establishes the policy framework that will shape further development to ensure that intense development is complemented with livability through strategies such as the creation of new parks and neighborhood centers, and emphasis on the public realm. Downtown will contain a lively mix of uses in an array of unique neighborhoods, a refurbished waterfront, and a walkable system of streets, taking full advantage of its climate and setting.

The Downtown Community Plan is consistent with the Strategic Framework Element of the City's General Plan, accommodating in an urban environment a significant portion of the growth expected in the San Diego region over the coming years.

Pertinent Goals, Objectives, and Policies

Key goals are:

- A distinctive world-class downtown, reflecting San Diego's unique setting, a desirable place to live, work, shop, learn, and play. The Community Plan builds upon downtown's waterfront setting and its location as a transportation hub, and promotes outdoor and creative lifestyles.
- Intense yet always livable, with substantial and diverse downtown population. Increased residential population will contribute to downtown's vitality, improve economic success, and allow people to live close to work, transit, and culture.
- The creation of jobs easily accessed via transit, bicycle, or on foot will further regional mobility goals.
- The organizing concept of the Community Plan is walkable neighborhoods with a mix of uses and easy access to open space, shops, services, amenities, and cultural attractions that create opportunities for true urban living.
- Foster vital public spaces and active street-life. Building massing has been orchestrated to ensure that sunlight reaches parks and neighborhood centers. Open spaces are located to enable residents to live within an easy walk of a park, and streets are designed for pedestrian comfort, walking, and lingering.
- Connect downtown's neighborhoods to the waterfront with new streets and view corridors, re-establish Balboa Park's relationship to downtown, and integrate downtown with the surrounding neighborhoods. It also fosters better linkages within downtown.
- High intensities/density will allow centers to be closely spaced to support walking, urban lifestyles.

Key objectives with their supporting policy actions that are most relevant to the Uptown Bike Project are:

- Maximize the advantage of San Diego's climate and downtown's waterfront setting by emphasizing the public realm – streets and public spaces – more so than individual buildings.
- Foster vital and active street life, and maximize sunlight penetration into streets and open spaces.
- Ensure that development is designed with a pedestrian orientation.
- Ensure that virtually all residents will be within less than a ten-minute walk from everyday amenities.
- Downtown's street network will become a lush green system with improved sidewalk treatments, seating, distinctive lighting, public art, and bicycle facilities (paths and lanes) in appropriate locations.

- Expand wayfinding sign program geographically, placing pedestrian-oriented kiosks in key locations to provide detailed maps.
- Develop a cohesive and attractive walking and bicycle system within downtown that provides links 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.
- Create the system of bicycle facilities shown in Figure 7-1, and encourage regional links such as the San Diego Bayshore Bikeway.
- Use traffic-calming measure to control speeds on all freeway couplets – 1st/2nd, 10th/11th, F/G, 4th/5th – while optimizing traffic volumes during peak hour.
- Require bike racks and locking systems in all residential projects, multi-tenant retail and office projects, and government and institutional uses.

Pertinent Transportation Planning Findings/Recommendations

Pertinent transportation recommendations are:

The downtown street grid and frequent intersections enable easy connections within downtown and exploration on foot, and facilitate access to amenities such as parks, neighborhood centers, and cultural/entertainment facilities. As downtown evolves with an increasing residential population and emphasis on pedestrian movement, there is a need to prevent street grid interruptions. Potential sites where the street grid can be re-extended include:

- E, F, and G streets across the current Navy Broadway Complex, with G Street connecting across the railroad/trolley tracks
- A, B, and C streets through the western portion of downtown
- L and 15th Streets through existing bus yards
- L and 13th Streets through Tailgate Park

Along with encouraging and improving the existing street grid, new connections will be provided through a combination of physical links and perceptual connections that will help pedestrians and others navigate easily between downtown and its surroundings. They will include freeway lids that provide a pleasant, landscaped crossing over a formidable barrier. Priority for such lids will be between 6th and 8th Avenues, to connect Balboa Park and Uptown, and knit 6th Avenue back into downtown's fabric. Additional links will include enhanced streetscapes on important connecting surface streets and establishing gateways at key access points, giving the area improved public entryways. Residents and workers will be able to cross to surrounding areas easily and pleasantly, particularly by foot, making their presence much more tangible.

Expansion of parking in general can raise concerns about maintaining dependence on automobiles and diminishing people's motivation to use transit, carpool, bike, or walk to accomplish local trips or commuting. The Plan recommends requiring a certain portion of onsite motorcycle and bicycle parking in addition to automobile spaces.

Pertinent land use and urban design recommendations are:

- Create neighborhood centers that will be active at street level, lined with buildings that engage the pedestrian. These centers will need wide sidewalks, crosswalks, street design, and traffic signalization that gives priority to pedestrians.
- Streets will need to be designed to provide for increased on-street parking, ensure smooth transit flow, and accommodate bicycle facilities on selected areas.
- The waterfront is envisioned as an active, pedestrian-oriented zone with strong connections to downtown neighborhoods. There also must be links to the surrounding neighborhoods.

Downtown Mobility Plan/Study

Civic San Diego is a public non-profit corporation which provides planning services for the City of San Diego in the Downtown Community Plan area. In 2006, the City Council adopted the Downtown Community Plan, and in 2008 the San Diego General Plan, establishing additional goals and policies for pedestrian, bicycle, and transit mobility in its Mobility Element. In 2012, SANDAG chose the Mobility Plan as one of its grant awards under the Active Transportation Grant Program. These funds have been coupled with funds from the Downtown Parking District in order to complete the Mobility Plan. The Final Approval Process is estimated from September 2014 to December 2014.

Pertinent Goals, Objectives, and Policies

Key goals are:

The Mobility Plan will provide for the development of a cohesive network of complete streets, which will increase priority and safety for bicyclists and pedestrians and provide desirable connections for workers, residents, and visitors to public parks, main shopping areas, entertainment facilities, major attractions, the waterfront, surrounding communities, and the regional transportation network. The Mobility Plan will support reductions in GHG emissions and increase levels of bicycling, walking, and transit usage by providing supportive facilities and amenities. Some additional goals include:

- To establish a complete streets program, with specific reductions in vehicular travel lanes on certain streets, which can then encourage and facilitate enhanced bicycle and pedestrian facilities to allow for comprehensive implementation
- To evaluate and provide specific vehicular travel lane configurations for all streets (number of travel lanes, one-way vs. two-way circulation)
- To provide for parking design and solutions to maximize public on-street parking that complements pedestrian and bicycle improvements
- To engage the public through public workshops and presentations to already-established community groups in developing a consensus and broad support for innovative street designs

Key objectives with their supporting policy actions that are most relevant to the Uptown Bike Project are:

- Provide a range of alternative bicycle and pedestrian improvements for all streets and encourage street designs that allow for temporary street closures for public and community events.

- Designate specific bicycle improvements on certain streets consistent with the SANDAG San Diego Regional Bicycle Plan and the City of San Diego Master Bicycle Plan, including, but not limited to, cycle tracks, bike lanes, bike boulevards, and other bicycle facilities. It should be noted that this detailed evaluation of the downtown bicycle circulation system may result in variations to these existing plans.
- Designate distinct streets where different individual modes of travel take priority, such as walking, bicycling, or transit.
- Connect downtown's bicycle circulation with surrounding communities and transit facilities to encourage everyday commuter and recreational bicycle trips within the region.

Pertinent Transportation Planning Findings/Recommendations

Pertinent transportation recommendations are:

- Transportation mobility planning to include multimodal facilities, which emphasize pedestrian, bicycle, and transit modes in addition to traditional vehicular modes of travel

Review background material including:

- Bicycle Master Plan Draft – City of San Diego
- Regional Bicycle Plan – SANDAG
- Centre City Streetscape Manual – Civic San Diego

Monitor and coordinate with other planning efforts in the area including, but not limited to:

- Uptown Bike Corridor Project – SANDAG
- San Diego Bike Share Project – City of San Diego

Pertinent land use and urban design recommendations are:

- Designate specific enhanced pedestrian improvements on certain streets, including but not limited to, widened sidewalks, corner bulb-outs that reduce pedestrian crossing distances, and linear park promenades.
- Focus on urban planning and placemaking in dense urban environments.

Appendix B
Existing Street Designs and Bicycle Conditions Figures

Summary of Appendix Content

This appendix contains information about existing street design details within the project study area, as well as existing bicycle conditions figures.

Street Design Details

Bachman Place

Bachman Place functions as a north-south aligned 2-lane commercial between Lewis Street and West Arbor Drive and a 2-lane local between West Arbor Drive and Hotel Circle South. It is currently functioning at its ultimate classification. Bachman Place does not have sidewalks or curbs on the easterly side of the street between West Arbor Drive and Hotel Circle South. It is lined with curbs and sidewalks throughout the rest of the segment. Parking is available on the westerly side of the street between West Arbor Drive and Hotel Circle South and along both sides of the street south of West Arbor Drive. Bachman Place provides access to an above-ground parking structure at the University of California San Diego plus is a back route to lodging and accommodations on Hotel Circle South. The posted speed limit is 40 mph for approximately 800 feet south of Hotel Circle South and 25 mph for the remaining road. Bachman Place does not have any bicycle facilities.

Camino De La Reina

Camino De La Reina mainly functions as an east-west aligned 3-lane collector with a two-way left turn lane between Hotel Circle North and Camino De La Siesta and as a 4-lane urban collector between Camino De La Siesta and Mission City Parkway. It is currently functioning at its ultimate classification. Camino De La Reina is lined with curbs and sidewalks. Camino De La Reina provides access to Fashion Valley Mall and lodging and accommodation along Hotel Circle. The posted speed limit is 30 mph between Hotel Circle North and Camino De La Siesta and 35 mph between Camino De La Siesta and Mission City Parkway. Camino De La Reina is classified as a Class III bicycle route between Hotel Circle North and Camino De La Siesta and between Mission Center Road and Qualcomm Way.

Fifth Avenue

Fifth Avenue functions as a 3-lane one-way northbound collector between Washington Street and Broadway. It is currently functioning at its ultimate classification. Fifth Avenue is lined with curbs, sidewalks, driveways, and trees. Parallel parking is available on both sides of the streets. The posted speed limit is 30 mph and it is classified as a Class III bicycle route south of Laurel Street.

First Avenue

First Avenue functions as a one-way 2-3 lane northbound collector between Interstate 5 (I-5) and Grape Street and as a north-south aligned 2-lane collector between Grape Street and West Arbor Drive. The ultimate street classification for First Avenue is a 3-lane collector. First Avenue is lined with curbs, sidewalks, driveways, and trees. Parking is available on both sides of the streets. Access to the I-5 northbound is provided at the intersection of First Avenue and Elm Street. Overhead utility lines exist on the westerly side between West Lewis Street and West Arbor Drive. The posted speed limit is 30 mph between I-5 and Juniper Street and 25 mph north of Juniper Street. First Avenue does not have any bicycle facilities.

Fourth Avenue

Fourth Avenue functions as a north-south aligned 2-lane collector between Washington Street and Walnut Avenue and a 3-lane one-way southbound collector between Walnut Avenue and Market Street. It is currently functioning at its ultimate classification. Fourth Avenue is lined with curbs, sidewalks, driveways, and trees. Parallel parking is available on both sides of the streets. The posted speed limit is 30 mph. Fourth Avenue is classified as a Class III bicycle route south of Juniper Street.

Georgia Street

Georgia Street functions as a north-south aligned 2-lane collector between Robinson Avenue and Meade Street. Georgia Street is lined with sidewalks and curbs with parking available on both sides of the street. No bike lanes are provided.

Hotel Circle

Hotel Circle mainly functions as an east-west aligned 3-lane collector with a two-way left turn lane between State Route (SR 163) and I-8 Taylor Street off-ramps. It is currently functioning at its ultimate classification. Hotel Circle is split into north and south frontage roads along the I-8. Hotel Circle is lined with curbs, sidewalks, driveways, and trees, with parking available in select segments on Hotel Circle South. Hotel Circle provides lodging and accommodations for the Mission Valley area. The posted speed limit is 25 mph and it is classified as a Class II bikeway.

Lewis Street

Lewis Street functions as an east-west aligned 2-lane collector between Fort Stockton Drive and Goldfinch Street. It is currently functioning at its ultimate classification. Bike lanes are provided between Fort Stockton Drive and Ibis Street. Lewis Street is lined with sidewalks and curbs with parking available on both sides of the street between Fort Stockton Drive and Hawk Street.

Park Boulevard-North

Park Boulevard functions as a north-south aligned 3-lane commercial local street with a two-way left turn between Adams Avenue and Normal Street/El Cajon Boulevard, a 4-lane urban major between Normal Street/El Cajon Boulevard and Robinson Avenue, and a 3-lane collector with a two-way left turn lane between Robinson Avenue and Upas Street. It is currently functioning at its ultimate classification. Park Boulevard is lined with curbs, sidewalks, driveways, trees, and parallel/diagonal parking is available on both sides of the streets. The posted speed limit is 30 mph south of Adams Avenue to Normal Street/El Cajon Boulevard and 35 mph south of Normal Street/El Cajon Boulevard to Upas Street. Park Boulevard serves as the community boundary between Uptown and Greater North Park. Park Boulevard between Upas Street and B Street functions as a north-south aligned 4-lane urban collector. It is currently functioning at its ultimate classification. Park Boulevard is lined with curbs, sidewalks, driveways, raised median, and trees. Parallel parking is available south of Village Place on both sides of the streets. Park Boulevard provides access to the San Diego Zoo and Balboa Park. The posted speed limit is 40 mph. Park Boulevard is classified as a Class III bicycle facility.

Pennsylvania Avenue

Pennsylvania Avenue functions as an east-west aligned 2-lane subcollector between First Avenue and Eighth Avenue and between Vermont Street and Park Boulevard. Pennsylvania Avenue is interrupted by several canyons and SR 163. Pennsylvania Avenue is lined with sidewalks and curbs, with parking available on both sides of the street between First Avenue and Eighth Avenue. Perpendicular parking is available east of Vermont Street. No bike lanes are provided.

Robinson Avenue

Robinson Avenue functions as an east-west aligned 2-lane collector between Curlew Street and Vermont Street and a 3-lane collector with a two-way left turn lane between Vermont Street and Park Boulevard. It is currently functioning at its ultimate classification. Robinson Avenue is lined with curbs, sidewalks, driveways, and trees, with parallel parking available on both sides of the streets. Robinson Avenue provides access to and from SR 163 between Eighth Avenue and Tenth Avenue. The posted speed limit is 25 mph between Curlew Street and Tenth Avenue and 30 mph east of Tenth Avenue to Park Boulevard. Robinson Avenue is classified as a Class III bicycle route between Third Avenue and Park Boulevard.

San Diego Avenue

San Diego Avenue functions as a north-south aligned 2-lane collector between India Street and the community boundary, connecting Old Town community. It is currently functioning at its ultimate classification. San Diego Avenue is lined with curbs, sidewalks, and trees. Parking is available on both sides of the street. Overhead utility lines located adjacent to curbs exist between Pringle Street and Old Town Avenue. The posted speed limit is 30 mph between West Washington Street and Old Town Avenue and 25 mph between Old Town Avenue and Twiggs Street. San Diego Avenue is classified as a Class III bicycle facility along certain segments of the road.

Sixth Street

Sixth Street functions as a north-south aligned 4-lane major between I-5 and University Avenue. It is currently functioning at its ultimate classification. Sixth Street is lined with curbs, sidewalks, and trees, with parking on both sides of the street. Sixth Street provides access to the westerly side of Balboa Park and to SR 163 north of University Avenue. The posted speed limit is 30 mph. Sixth Street is classified as a Class III bicycle route south of Upas Street.

Third Avenue

Third Avenue functions as a north-south aligned 2-lane collector between Washington Street and Redwood Street. It is currently functioning at its ultimate classification. Third Avenue is lined with curbs, sidewalks, driveways, and trees. Parallel parking is available on both sides of the streets. The posted speed limit is 25 mph and it is classified as a Class III bicycle route south of University Avenue.

University Avenue

University Avenue functions as an east-west aligned 2-lane collector between First Avenue and Fifth Avenue and a 4-lane major between Fifth Avenue and Park Boulevard. It is currently functioning at its ultimate classification. University Avenue is lined with curbs, sidewalks, driveways, raised medians, trees, and parking. Diagonal on-street parking is available between Vermont Street and Herbert Street on both sides of the street. Curb extensions such as bulb-outs exist on the south side of University Avenue at Vermont Street and Richmond Street intersections. Bulb-outs improve the visibility of pedestrians at these locations. The posted speed limit is 25 mph between Ibis Street and Park Boulevard. University Avenue is classified as a Class III bicycle route between Falcon Street and Third Avenue.

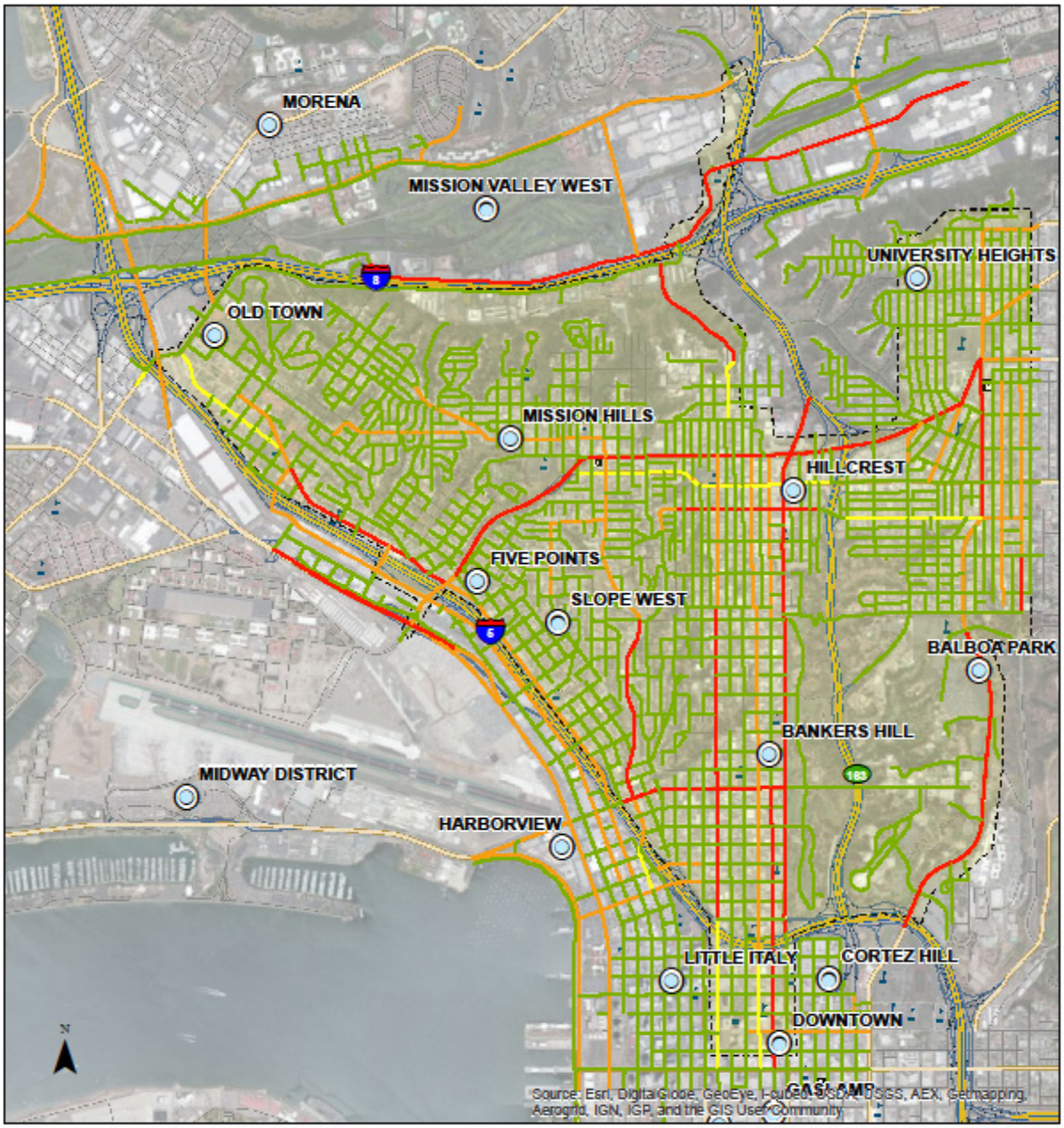
Washington Street

Washington Street functions as an east-west aligned 4-lane major between I-5 and First Avenue. It is currently functioning at its ultimate classification. Washington Street does not have sidewalks or curbs between I-5 and Hawk Street. It is lined with curbs, raised medians, and trees, with sidewalks that exist on both sides of the street throughout the rest of the segment. Curb extensions such as bulb-outs exist at the intersection of West Washington Street and Goldfinch Street to improve the pedestrian environment. Parking is available on select segments between Hawk Street and First Avenue. The posted speed limit is 45 mph between I-5 and Hawk Street and 35 mph east of Hawk Street to SR 163. West Washington Street does not have any bicycle facilities.

West University Avenue

West University Avenue functions as an east-west aligned 2-lane collector between Ibis Street and First Avenue. It is currently functioning at its ultimate classification. West University Avenue is lined with curbs, sidewalks, driveways, and trees. Parking is available east of Albatross Street on both sides of the street. The posted speed limit is 25 mph between Ibis Street and Park Boulevard. West University Avenue is classified as a Class III bicycle route between Falcon Street and Third Avenue.

Figure 1 – Roadways Classified by Speed



StudyArea

LTS Speed
1
2
3
4

Figure 2 Roadways Classified by Speed

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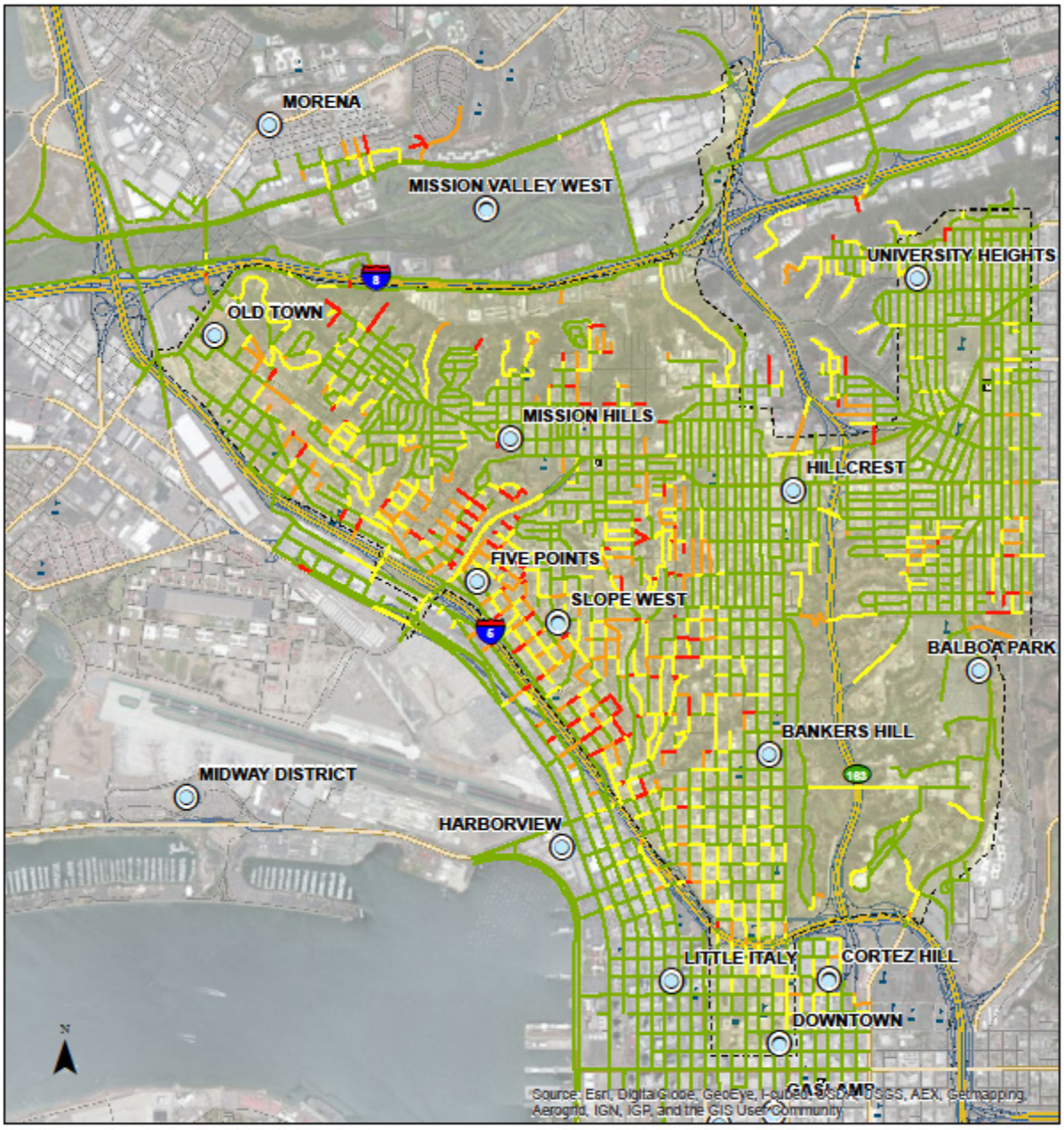
SANDAG

Figure 2 – Roadways Classified by Width

Figure 3 – Roadways Classified by Grade



StudyArea

LTS Grade
1
2
3
4

Figure 4 Roadways Classified by Grade

KOA CORPORATION
SANDAG

Figure 4 – Roadways Classified by ADT

Figure 5 – Roadways Classified by Overall LTS

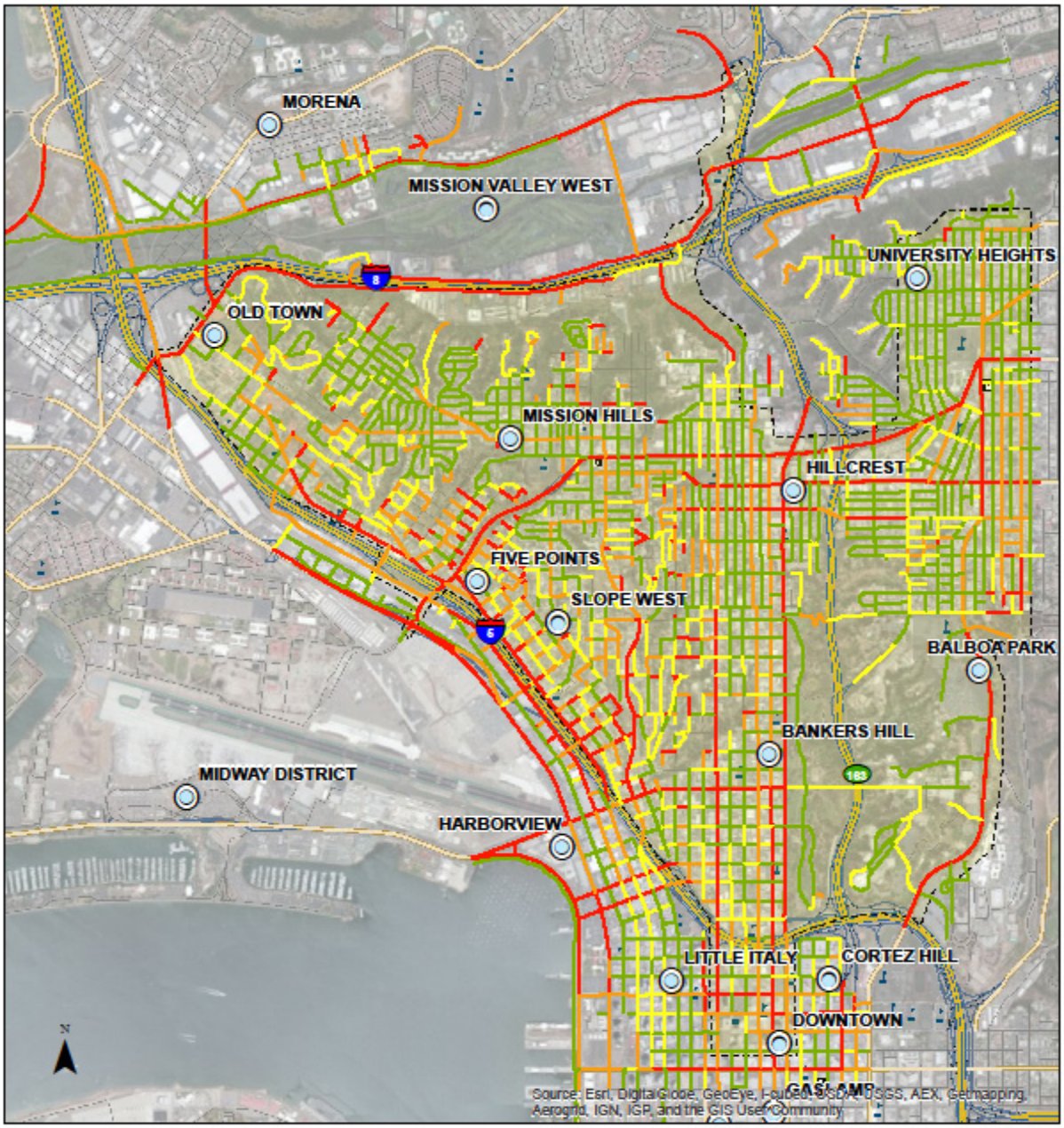


Figure 6 – Bicycle Connectivity Analysis

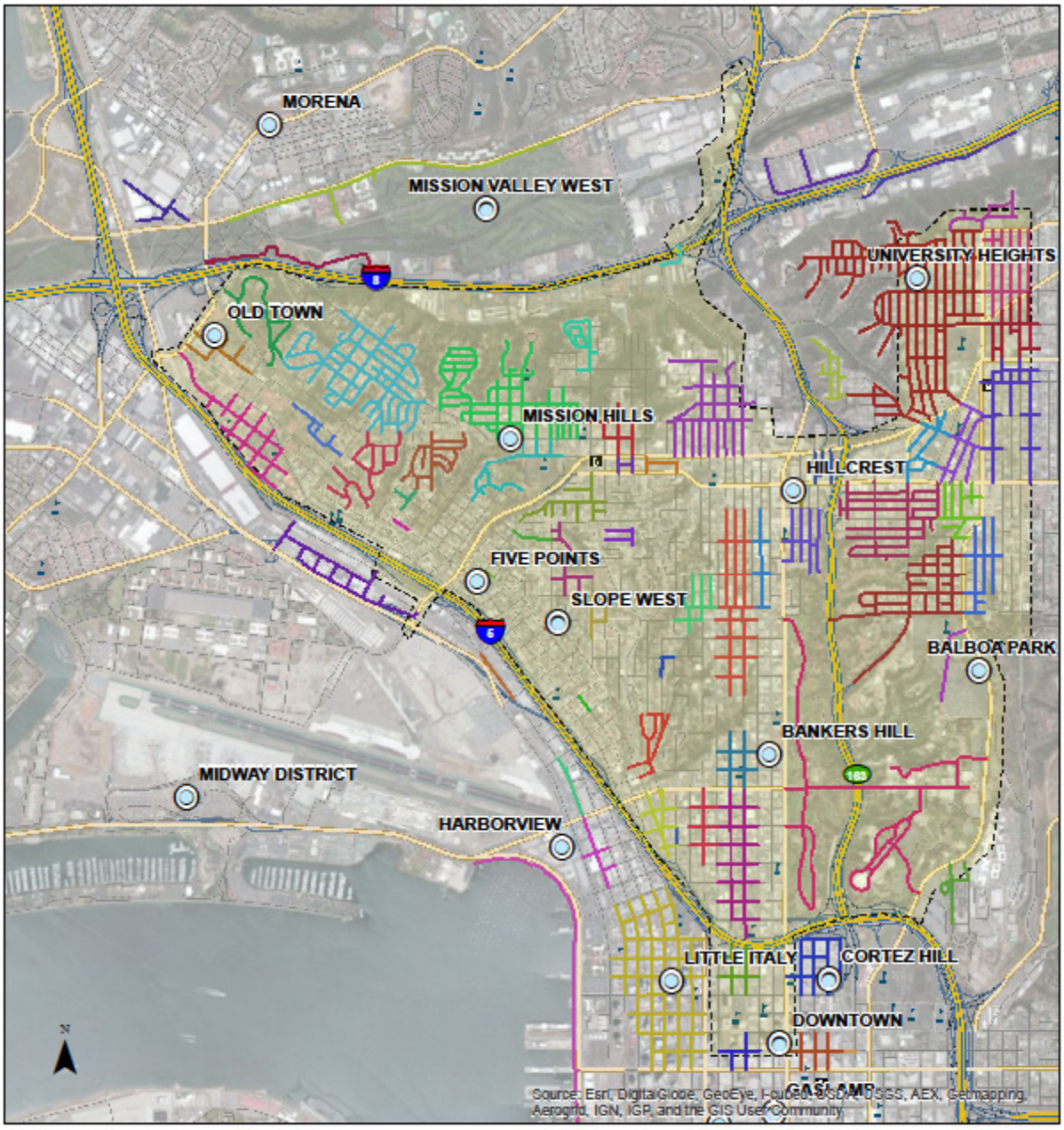


Figure 7 Bicycle Connectivity Analysis

Appendix C
Traffic Analysis Methodology

Summary of Appendix C - Traffic Analysis Methodology

A brief overview of traffic analysis methodologies and concepts used in this analysis is presented in this section. Street system operating conditions are typically described in terms of "level of service." Level of Service (LOS) is a report-card scale used to indicate the quality of traffic flow on roadway segments and at intersections. LOS ranges from LOS A (free flow, little congestion) to LOS F (forced flow, extreme congestion). LOS is an auto-focused measure, which does not account for the operational or safety considerations of other modes, including transit, walking, and biking.

Intersection Capacity

The analysis of peak hour intersection performance was conducted using the Synchro analysis software program, which uses methodologies defined in the 2000 Highway Capacity Manual (HCM) to calculate results. LOS for intersections is determined by control delay. Control delay is defined as the total elapsed time from when a vehicle stops at the end of a queue to the time the vehicle departs from the stop line. The total elapsed time includes the time required for the vehicle to travel from the last-in-queue position to the first-in-queue position, including deceleration of vehicles from free-flow speed to the speed of vehicles in the queue. The HCM LOS for the range of delay by seconds for unsignalized and signalized intersections is described in Table 1.

Table 1
Unsignalized and Signalized Intersection Level of Service (HCM 2000)

Level of Service	Unsignalized Average Control Delay (seconds/vehicle)	Signalized Average Control Delay (seconds/vehicle)
A	0-10	0-10
B	> 10-15	> 10-20
C	> 15-25	> 20-35
D	> 25-35	> 35-55
E	> 35-50	> 55-80
F	>50	> 80

Source: Highway Capacity Manual 2000.

Signalized Intersections

The HCM analysis methodology for evaluating signalized intersections is based on the "operational analysis" procedure. This technique uses 1,900 passenger cars per hour of green per lane as the maximum saturation flow of a single lane at an intersection. This saturation flow rate is adjusted to account for lane width, on-street parking, conflicting pedestrian flow, traffic composition, (e.g., the percentage of vehicles that are trucks), and shared lane movements (e.g., through and right-turn movements from the same lane). Average control delay is calculated by taking a volume-weighted average of all the delays for all vehicles entering the intersection.

All-Way Stop-Controlled Intersections

The HCM analysis methodology for evaluating All-Way Stop-Controlled (AWSC) intersections is based on the degree of conflict for each independent approach created by the opposing approach and each conflicting approach. LOS for AWSC intersections is also based on the average control delay. However, AWSC intersections have different threshold values than those applied to signalized intersections. This is based on the rationale that drivers expect AWSC intersections to carry lower traffic volumes than at

signalized intersections. Therefore, a higher level of delay is acceptable at a signalized intersection for the same LOS.

Two-way Stop-Controlled Intersections

The HCM analysis methodology for evaluating Two-Way Stop-Controlled (TWSC) intersections is based on gap acceptance and conflicting traffic for vehicles stopped on the minor-street approaches. The critical gap (or minimum gap that would be acceptable) is defined as the minimum time interval in the major-street traffic stream that allows intersection entry for one minor-street vehicle. Average control delay and LOS for the "worst approach" are reported. LOS is not defined for the intersection as a whole.

Roadway Segment Capacity

Roadway segment analysis is assessed based on the recommended procedures described in the City of San Diego Traffic Impact Study Manual. The City of San Diego has published daily traffic volume standards for roadways within its jurisdiction. The LOS on study area roadway segments is determined by comparing the average daily traffic to the corresponding roadway classification in Table 2 of the Traffic Impact Study Manual. The thresholds for determining LOS used in this analysis are summarized below.

Table 2 - Roadway Segment Level of Service Definitions

LOS	V/C	Congestion/Delay	Traffic Description
(Used for surface streets, freeways, expressways and conventional highways)			
"A"	≤0.41	None	Free flow.
"B"	>0.41-0.62	None	Free to stable flow, light to moderate volumes.
"C"	>0.62-0.80	None to minimal	Stable flow, moderate volumes, freedom to maneuver noticeably restricted.
"D"	>0.80-0.92	Minimal to substantial	Approaches unstable flow, heavy volumes, very limited freedom to maneuver.
"E"	>0.92-1.00	Significant	Extremely unstable flow, maneuverability and psychological comfort extremely poor.
(Used for surface streets and conventional highways)			
"F"	>1.00	Considerable	Forced or breakdown flow. Delay measured in average travel speed (MPH). Signalized segments experience delays >60.0 seconds/vehicle.
(Used for freeways and expressways)			
"F(0)"	>1.00-1.25	Considerable 0-1 hour delay	Forced flow, heavy congestion, long queues form behind breakdown points, stop and go.
"F(1)"	>1.25-1.35	Severe 1-2 hour delay	Very heavy congestion, very long queues.
"F(2)"	>1.35-1.45	Very Severe 2-3 hour delay	Extremely heavy congestion, longer queues, more numerous breakdown points, longer stop periods.
"F(3)"	>1.45	Extremely Severe 3+ hours of delay	Gridlock

Source: Caltrans, 1992.

Level of Service Definitions

The concept of LOS is defined as a qualitative measure describing operational conditions within a traffic stream, and the motorists' and/or passengers' perception of operations. A LOS definition generally describes these conditions in terms of such factors as speed, travel time, freedom to maneuver, comfort, convenience, and safety. Levels of service for freeway segments can generally be categorized as shown in the table above.

Freeway Ramp Level of Service

Two Methods were used to evaluate the performance of ramps. Freeway ramp meter analysis estimates the peak hour queues and delays at freeway ramps by comparing existing volumes to the meter rate at the given location. The excess demand, if any, forms the basis for calculating the maximum queues and maximum delays anticipated at each location. This approach assumes a static rate throughout the course of the peak hour. However, Caltrans has indicated that the meter rates are continually adjusted based on the level of traffic using the on-ramp. To the extent possible, the meter rate is set such that the queue length does not exceed the available storage, smooth flows on the freeway mainline is maintained, and there is no interference to arterial traffic.

An alternative analysis assumes a 15-minute maximum delay in order to calculate comparable queue distances. Substantial queues and delays can form where demand significantly exceeds the meter rate. Ramp metering is a means of controlling the volume of traffic entering the freeway with the goal of improving the traffic operations and flow on the freeway main lanes.

Meter rates provided by Caltrans were used in the analysis. Caltrans ramp meter analysis methods contained in the City of San Diego's Traffic Impact Study Manual were used in conducting the analysis.

Volume/Capacity Analysis

The Volume/Capacity (V/C) analysis is based on a comparison of each ramp's estimated capacity with its peak hour traffic volumes. The typical capacity af an on- or off-ramp is 1,200 passenger cars per hour per lane. Therefore, a one-lane ramp carrying 960 vehicles during the peak hour would be operating at 80 percent of capacity. A V/C ratio greater than 1.0 corresponds to LOS F. A peak hour LOS E or better is generally a target.

Appendix D
Existing Conditions Analysis Summary

Table 1 – Intersection Analysis – Existing Conditions

Study Intersection	Control	AM Peak Hour		PM Peak Hour		Source
		Delay	LOS	Delay	LOS	
A Street & 1st Ave	Signal	5.4	A	7.2	A	Wilson & Co
A Street & 4th St	Signal	5.4	A	18.2	B	Wilson & Co
A Street & 5th Ave	Signal	10.6	B	12.5	B	Wilson & Co
Adams Ave & Park Blvd	AWSC	10.8	B	9.8	A	Kimley-Horn
Ampudia St & Congress St	Unsignalized	3.8	A	2.5	A	Fehr & Peers Assoc
Anderson Pl & 5th Ave	Unsignalized	10.7	B	14.6	B	RBF
Anderson Pl & 6th Ave	Unsignalized	0.8	A	0.6	A	RBF
Ash St & 1st Ave	Signal	10.6	B	9.1	A	Wilson & Co
Ash St & 4th St	Signal	9.5	A	9.8	A	Wilson & Co
Ash St & 5th Ave	Signal	9.5	A	14.4	B	Wilson & Co
B Street & 4th St	Signal	7.1	A	11.8	B	Wilson & Co
B Street & 5th Ave	Signal	9.3	A	15.0	B	Wilson & Co
Brookes Ave & 4th Ave	Unsignalized	12.8	B	15.3	C	RBF
Brookes Ave & 5th Ave	Unsignalized	12.9	B	17.1	C	RBF
Camino De La Reina / Avenida Del Rio	Signal	11.9	B	13.8	B	KOA
Camino De La Reina / Hotel Circle N	Signal	51.5	D	29.3	C	KOA
Cedar St & 2nd Ave	TWSC	31.8	D	18.0	C	Kimley-Horn
Date St & 4th Ave	OWSC	33.0	D	22.2	C	Kimley-Horn
El Cajon Blvd & Florida St	Signal	15.0	B	21.6	C	Kimley-Horn
Elm St & 1st Ave	Signal	4.7	A	0.0	**F**	Wilson & Co
Elm St & 4th Ave	Signal	14.0	B	5.9	A	RBF
Elm St & 5th Ave	Signal	5.9	A	18.7	B	RBF
Elm St & 6th Ave	Signal	54.4	D	14.8	B	Kimley-Horn
Fir St & 4th Ave	Unsignalized	11.8	B	11.9	B	RBF
Fir St & 5th Ave	Unsignalized	17.1	C	17.1	C	RBF
Fir St & 6th Ave	Unsignalized	14.7	B	12.7	B	RBF
Grape St & 4th Ave	Signal	20.2	C	18.6	B	RBF
Grape St & 5th Ave	Unsignalized	15.0	B	177.2	**F**	RBF
Grape St & 6th Ave	Unsignalized	13.8	B	23.5	C	RBF
Harney St & Congress St	AWSC	8.1	A	8.3	A	Fehr & Peers Assoc
Harney St & Juan St	AWSC	8.3	A	7.9	A	Fehr & Peers Assoc
Harney St & San Diego Ave	AWSC	8.2	A	8.2	A	Fehr & Peers Assoc
Hawthorn St & 4th Ave	Unsignalized	16.8	C	19.0	C	RBF
Hawthorn St & 5th Ave	Unsignalized	20.4	C	24.6	C	RBF
Hawthorn St & 6th Ave	Unsignalized	18.6	C	15.4	C	RBF
Hawthorn St & Brant St	TWSC	9.9	A	12.9	B	Kimley-Horn
Hotel Circle S / Bachman Pl	Signal	139.3	**F**	83.1	**F**	KOA
Ivy Ln & 5th Ave	Unsignalized	10.3	B	12.7	B	RBF
Ivy Ln & 6th Ave	Unsignalized	17.7	C	18.8	C	RBF
Ivy St & 4th Ave	Unsignalized	13.5	B	15.6	C	RBF
Ivy St & 5th Ave	Unsignalized	14.7	B	19.7	C	RBF
Ivy St & 6th Ave	Unsignalized	16.0	C	14.1	B	RBF
Juniper St & 4th Ave	Unsignalized	14.1	B	17.0	C	RBF
Juniper St & 5th Ave	Unsignalized	15.5	C	18.8	C	RBF
Juniper St & 6th Ave	Unsignalized	10.1	B	11.2	B	RBF
Kalmia St & 4th Ave	Unsignalized	13.9	B	15.4	C	RBF
Kalmia St & 5th Ave	Unsignalized	15.0	C	22.4	C	RBF
Kalmia St & 6th Ave	Unsignalized	11.3	B	12.1	B	RBF
Laurel St & 1st Ave	Signal	9.4	A	11.7	B	Kimley-Horn
Laurel St & 4th Ave	Signal	13.0	B	15.2	B	RBF
Laurel St & 5th Ave	Signal	14.0	B	15.5	B	RBF
Laurel St & 6th Ave	Signal	18.6	B	23.0	C	RBF
Madison Ave & Park Blvd	AWSC	10.7	B	15.7	C	Kimley-Horn
Maple St & 4th Ave	Unsignalized	16.1	C	18.6	C	RBF
Maple St & 5th Ave	Unsignalized	20.4	C	19.9	C	RBF
Maple St & 6th Ave	Unsignalized	15.4	C	28.5	D	RBF
Morley Field Dr & Florida Dr	AWSC	30.3	D	31.2	D	Kimley-Horn
Normal St/El Cajon Blvd & Park Blvd	Signal	25.2	C	34.3	C	Kimley-Horn

Study Intersection	Control	AM Peak Hour		PM Peak Hour		Source
		Delay	LOS	Delay	LOS	
Nutmeg St & 4th Ave	Unsignalized	13.6	B	14.8	B	RBF
Nutmeg St & 5th Ave	Unsignalized	16.1	C	28.4	D	RBF
Nutmeg St & 6th Ave	Unsignalized	17.2	C	17.7	C	RBF
Old Town St & Moore St	Unsignalized	16.4	B	16.4	B	Fehr & Peers Assoc
Olive St & 4th Ave	Unsignalized	11.5	B	15.0	C	RBF
Olive St & 5th Ave	Unsignalized	21.2	C	26.7	D	RBF
Olive St & 6th Ave	Unsignalized	18.9	C	18.1	C	RBF
Palm St & 4th Ave	Unsignalized	12.0	B	11.9	B	RBF
Palm St & 5th Ave	Unsignalized	16.9	C	20.3	C	RBF
Palm St & 6th Ave	Unsignalized	13.6	B	13.6	B	RBF
Pennsylvania Ave & 4th Ave	Unsignalized	9.7	A	10.7	B	RBF
Pennsylvania Ave & 5th Ave	Signal	7.3	A	9.8	A	RBF
Pennsylvania Ave & 6th Ave	Signal	8.5	A	16.4	B	RBF
Presidents Way & Park Blvd	Signal	13.2	B	23.3	C	Kimley-Horn
Quince St & 4th Ave	Unsignalized	10.6	B	10.9	B	RBF
Quince St & 5th Ave	Unsignalized	15.0	B	24.7	C	RBF
Quince St & 6th Ave	Signal	6.1	A	5.6	A	Kimley-Horn
Quince St & Balboa Dr	AWSC	7.8	A	7.4	A	Kimley-Horn
Redwood St & 4th Ave	Unsignalized	10.5	B	10.8	B	RBF
Redwood St & 5th Ave	Unsignalized	14.6	B	20.8	C	RBF
Redwood St & 6th Ave	Unsignalized	18.1	C	13.0	B	RBF
Robinson Ave & 1st Ave	Signal	11.9	B	13.0	B	Kimley-Horn
Robinson Ave & 4th Ave	Signal	21.4	C	18.4	B	Kimley-Horn
Robinson Ave & 5th Ave	Signal	10.8	B	15.0	B	Kimley-Horn
Robinson Ave & 6th Ave	Signal	25.9	C	32.3	C	RBF
Robinson Ave & Park Blvd	Signal	8.1	A	9.0	A	Kimley-Horn
Robinson Ave & Richmond St	Signal	6.6	A	7.1	A	Kimley-Horn
Rosecrans St & Pacific Hwy	Signal	64.6	**E**	33.5	C	Fehr & Peers Assoc
San Diego Ave & Old Town St	Signal	18.4	B	11.6	B	Fehr & Peers Assoc
Sassafras St & India St	Signal	6.3	A	20.9	C	Kimley-Horn
Spruce St & 4th Ave	Unsignalized	20.4	C	18.6	C	RBF
Spruce St & 5th Ave	Unsignalized	19.9	C	32.5	D	RBF
Spruce St & 6th Ave	Unsignalized	16.3	C	14.0	B	RBF
SR 163 NB On-Ramp & Park Blvd	OWSC	9.6	A	10.3	B	Kimley-Horn
Taylor St & Congress St	Signal	12.4	B	14.6	B	Fehr & Peers Assoc
Taylor St & Morena Blvd	Signal	22.4	C	16.4	B	Fehr & Peers Assoc
Thorn St & 4th Ave	Unsignalized	13.9	B	15.3	C	RBF
Thorn St & 5th Ave	Unsignalized	14.0	B	23.7	C	RBF
Thorn St & 6th Ave	Unsignalized	13.0	B	15.1	C	RBF
Twiggs St & Congress St	AWSC	8.1	A	8.6	A	Fehr & Peers Assoc
Twiggs St & Juan St	AWSC	8.8	A	8.5	A	Fehr & Peers Assoc
Twiggs St & San Diego Ave	AWSC	7.6	A	7.7	A	Fehr & Peers Assoc
University Ave & 10th St	Signal	18.6	B	20.6	C	Kimley-Horn
University Ave & 1st Ave	Signal	13.4	B	20.0	C	Kimley-Horn
University Ave & 4th Ave	Signal	28.3	C	34.3	C	RBF
University Ave & 5th Ave	Signal	12.9	B	25.3	C	Kimley-Horn
University Ave & 6th Ave	Signal	47.5	D	91.9	**F**	RBF
University Ave & 7th Ave	Signal	5.3	A	10.9	B	Kimley-Horn
University Ave & 8th St	Signal	12.3	B	27.7	C	Kimley-Horn
University Ave & 9th St	Signal	7.5	A	14.0	B	Kimley-Horn
University Ave & Florida St	Signal	10.6	B	17.3	B	Kimley-Horn
University Ave & Normal St	Signal	5.6	A	10.6	B	Kimley-Horn
University Ave & Park Blvd	Signal	24.5	C	39.4	D	Kimley-Horn
University Ave & Richmond St	Signal	19.6	B	25.0	C	Kimley-Horn
University Ave & Vermont St	Signal	10.7	B	17.2	B	Kimley-Horn
Upas St & 4th Ave	Unsignalized	22.3	C	21.1	C	RBF
Upas St & 5th Ave	Signal	8.3	A	7.0	A	RBF
Upas St & 6th Ave	Signal	26.1	C	10.8	B	RBF
Upas St & Park Blvd	Signal	17.7	B	14.3	B	Kimley-Horn

Study Intersection	Control	AM Peak Hour		PM Peak Hour		Source
		Delay	LOS	Delay	LOS	
Upas St & Richmond St	AWSC	7.7	A	8.2	A	Kimley-Horn
Vine St & India St	Signal	5.6	A	7.3	A	Kimley-Horn
Walnut Ave & 4th Ave	Unsignalized	9.7	A	10.5	B	RBF
Walnut Ave & 5th Ave	Unsignalized	12.1	B	11.0	B	RBF
Washington St & 1st Ave	Signal	19.5	B	32.9	C	Kimley-Horn
Washington St & 4th Ave	Signal	35.8	D	50.4	D	RBF
Washington St & 5th Ave	Signal	16.5	B	18.3	B	RBF
Washington St & 8th Ave/SR 163 Off-Ramp	Signal	42.6	D	0.0	**F**	Kimley-Horn
Washington St & Cleveland Ave	Signal	27.5	C	0.0	**F**	Kimley-Horn
Washington St & Front St	Signal	10.4	B	15.8	B	Kimley-Horn
Washington St & Goldfinch St	Signal	33.6	C	39.3	D	Kimley-Horn
Washington St & Hancock St	Signal	24.9	C	28.2	C	Kimley-Horn
Washington St & India St	Signal	11.7	B	14.2	B	Kimley-Horn
Washington St & Lincoln Ave	Signal	48.9	D	55.0	**E**	Kimley-Horn
Washington St & Pacific Hwy NB	Signal	19.4	B	36.0	D	Fehr & Peers Assoc
Washington St & Pacific Hwy SB	Signal	18.7	B	31.2	C	Fehr & Peers Assoc
Washington St & San Diego Ave	Signal	19.7	B	17.6	B	Kimley-Horn
Washington St/Normal St & Campus Ave/Polk Ave	Signal	43.0	D	50.0	D	Kimley-Horn
Zoo Dr/Morley Field Dr & Park Blvd	Signal	21.0	C	17.9	B	Kimley-Horn
Zoo Pl & Park Blvd	Signal	14.8	B	16.8	B	Kimley-Horn

Table 2 – Roadway Segments Analysis – Existing Conditions

Roadway Segment	Roadway Functional Classification	LOS E Capacity	ADT	V/C	LOS	Source
First Ave						
Arbor Dr to Washington Ave	2-lane Collector (Multifamily, commercial, industrial fronting)	8,000	5,240	0.655	D	Kimley-Horn
Washington Ave to University Ave	2-lane Collector (Multifamily, commercial, industrial fronting)	8,000	7,400	0.925	E	Kimley-Horn
University Ave to Robinson Ave	2-lane Collector (Multifamily, commercial, industrial fronting)	8,000	10,100	1.263	F	Kimley-Horn
Robinson Ave to Pennsylvania Ave	2-lane Collector (Multifamily, commercial, industrial fronting)	8,000	7,500	0.938	E	Kimley-Horn
Pennsylvania Ave to Walnut Ave	2-lane Collector (Multifamily, commercial, industrial fronting)	8,000	7,261	0.908	E	Kimley-Horn
Walnut Ave to Laurel St	2-lane Collector (Multifamily, commercial, industrial fronting)	8,000	4,695	0.587	C	Kimley-Horn
Laurel St to Juniper St	2-lane Collector (Multifamily, commercial, industrial fronting)	8,000	7,290	0.911	E	Kimley-Horn
Juniper St to Grape St	2-lane Collector (Multifamily, commercial, industrial fronting)	8,000	7,330	0.916	E	Kimley-Horn
Grape St to Elm St	2-lane Collector (Multifamily, commercial, industrial fronting)	8,000	3,285	0.411	B	Kimley-Horn
Elm St to Cedar St	5-lane Prime Arterial	50,000	31,475	0.630	C	KOA
Fourth Ave						
Arbor Dr to Washington Ave	2-lane Collector (Multifamily, commercial, industrial fronting)	8,000	12,390	1.549	F	Kimley-Horn
Washington Ave to University Ave	2-lane Collector (Multifamily, commercial, industrial fronting)	8,000	10,400	1.300	F	Kimley-Horn
University Ave to Robinson Ave	2-lane Collector (Multifamily, commercial, industrial fronting)	8,000	11,800	1.475	F	Kimley-Horn
Robinson Ave to Walnut Ave	2-lane Collector (Multifamily, commercial, industrial fronting)	8,000	6,946	0.868	E	Kimley-Horn
Walnut Ave to Laurel St	3-lane Major Arterial	25,000	8,492	0.340	A	Kimley-Horn
Laurel St to Grape St	3-lane Major Arterial	25,000	7,790	0.312	A	Kimley-Horn
Grape St to Elm St	3-lane Major Arterial	25,000	7,570	0.303	A	Kimley-Horn
Elm St to Cedar St	3-lane Major Arterial	25,000	13,916	0.557	B	KOA
Fifth Ave						
Washington Ave to University Ave	3-lane Major Arterial	25,000	11,700	0.468	B	Kimley-Horn
University Ave to Robinson Ave	3-lane Major Arterial	25,000	10,300	0.412	B	Kimley-Horn
Robinson Ave to Walnut Ave	3-lane Major Arterial	25,000	12,209	0.488	B	Kimley-Horn
Walnut St to Laurel St	3-lane Major Arterial	25,000	11,400	0.456	B	Kimley-Horn
Laurel St to Hawthorn St	3-lane Major Arterial	25,000	9,260	0.370	A	Kimley-Horn
Hawthorn St to Grape St	3-lane Major Arterial	25,000	10,045	0.402	B	Kimley-Horn
Grape St to Elm St	3-lane Major Arterial	25,000	9,220	0.369	A	Kimley-Horn
Elm St to Cedar St	3-lane Major Arterial	25,000	35,959	1.438	F	KOA
Sixth Ave						
Washington St to University Ave	3-lane Collector (2-way)	19,000	16,877	0.888	E	Kimley-Horn
University Ave to Robinson Ave	4-lane Collector	30,000	24,900	0.830	D	Kimley-Horn
Robinson Ave to Upas St	4-lane Collector	30,000	15,000	0.500	C	Kimley-Horn
Upas St to Laurel St	4-lane Collector	30,000	15,128	0.504	C	Kimley-Horn
Laurel St to Juniper St	4-lane Collector	30,000	10,140	0.338	B	Kimley-Horn
Juniper St to Grape St	4-lane Collector	30,000	10,915	0.364	B	Kimley-Horn
Grape St to Elm St	4-lane Collector	30,000	10,650	0.355	B	Kimley-Horn
Elm St to Cedar St	3-lane Major Arterial	25,000	12,059	0.482	B	KOA
Ninth Ave						
Washington St to University Ave	2-lane Collector (Multifamily, commercial, industrial fronting)	8,000	5,204	0.651	D	Kimley-Horn
A Street						
Sixth Ave to Seventh Ave	3-lane Collector (1-w-)	22,500	14,010	0.623	B	Wilson & Co
Adams Ave						
Park Blvd to Alabama St	3-lane Collector (1-way)	22,500	6,758	0.451	B	Kimley-Horn

Roadway Segment	Roadway Functional Classification	LOS E Capacity	ADT	V/C	LOS	Source
Ash St						
Sixth Ave to Seventh Ave	3-lane Collector (1-way)	22,500	10,150	0.451	A	Wilson & Co
B Street						
Sixth Ave to Seventh Ave	3-lane Collector (1-way)	22,500	11,070	0.492	A	Wilson & Co
Campus Ave						
Madison Ave to Washington Ave	2-lane Collector (Multifamily, commercial, industrial fronting)	8,000	3,175	0.397	B	Kimley-Horn
Washington Ave to Park Blvd	2-lane Collector (Multifamily, commercial, industrial fronting)	8,000	5,610	0.701	D	Kimley-Horn
Cleveland Ave						
Lincoln St to Richmond St	2-lane Collector (Multifamily, commercial, industrial fronting)	8,000	7,775	0.972	E	Kimley-Horn
Tyler St to Lincoln St	2-lane Collector (Multifamily, commercial, industrial fronting)	8,000	4,865	0.608	C	Kimley-Horn
Curlew St						
Robinson Ave to Reynard Way	2-lane Collector (Multifamily, commercial, industrial fronting)	8,000	1,720	0.215	A	Kimley-Horn
El Cajon Blvd						
Park Blvd to Florida St	6-lane Major Arterial	50,000	19,407	0.388	A	Kimley-Horn
Florida St to Texas St	6-lane Major Arterial	50,000	23,366	0.467	B	Kimley-Horn
Elm St						
Second Ave to Third Ave	2-lane Collector (Multifamily, commercial, industrial fronting)	8,000	7,889	0.986	E	Kimley-Horn
Third Ave to Sixth Ave	3-lane Collector (1-way)	22,500	8,179	0.364	B	Kimley-Horn
Florida Dr						
El Cajon Blvd to University Ave	2-lane Collector (Multifamily, commercial, industrial fronting)	8,000	3,375	0.422	B	Kimley-Horn
University Ave to Robinson Ave	2-lane Collector (Multifamily, commercial, industrial fronting)	8,000	5,450	0.681	D	Kimley-Horn
Robinson Ave to Upas St	2-lane Collector (Multifamily, commercial, industrial fronting)	8,000	5,600	0.700	D	Kimley-Horn
Upas St to Morley Field Dr	2-lane Collector (no fronting property)	10,000	5,498	0.550	B	Kimley-Horn
Fort Stockton Dr						
Arista St to Sunset Blvd	2-lane Collector (Multifamily, commercial, industrial fronting)	8,000	3,290	0.411	B	Kimley-Horn
Sunset Blvd to Hawk St	2-lane Collector (Multifamily, commercial, industrial fronting)	8,000	6,100	0.763	D	Kimley-Horn
Hawk St to Goldfinch St	2-lane Collector (Multifamily, commercial, industrial fronting)	8,000	8,450	1.056	F	Kimley-Horn
Goldfinch St to Falcon St	2-lane Collector (Multifamily, commercial, industrial fronting)	8,000	2,910	0.364	B	Kimley-Horn
Front St						
Dickinson St to Arbor Dr	2-lane Collector (Multifamily, commercial, industrial fronting)	8,000	3,790	0.474	C	Kimley-Horn
Arbor Dr to Washington St	2-lane Collector (Multifamily, commercial, industrial fronting)	8,000	5,510	0.689	D	Kimley-Horn
Grape St						
Albatross St to First Ave	3-lane Collector (1-way)	22,500	2,082	0.093	A	Kimley-Horn
First Ave to Third Ave	2-lane Collector (no fronting property)	10,000	4,289	0.429	B	Kimley-Horn
Third Ave to Sixth Ave	2-lane Collector (no fronting property)	10,000	2,097	0.210	A	Kimley-Horn
Hawthorn St						
Brant St to First Ave	2-lane Collector (no fronting property)	10,000	11,558	1.156	F	Kimley-Horn
First Ave to Third Ave	2-lane Collector (no fronting property)	10,000	3,634	0.363	A	Kimley-Horn

Roadway Segment	Roadway Functional Classification	LOS E Capacity	ADT	V/C	LOS	Source
Third Ave to Sixth Ave	2-lane Collector (no fronting property)	10,000	3,577	0.358	A	Kimley-Horn
Hotel Circle S						
Bachman Pl to Camino De La Reina	2-lane Collector with commercial and industrial fronting property	8,000	14,345	1.793	F	KOA
Howard Ave						
Park Blvd to Florida St	2-lane Collector (continuous left-turn lane)	15,000	3,000	0.200	A	Kimley-Horn
Florida St to Texas St	2-lane Collector (continuous left-turn lane)	15,000	3,566	0.238	A	Kimley-Horn
India St						
Washington St to Glenwood Dr	3-lane Collector (1-way)	22,500	23,355	1.038	F	Kimley-Horn
Glenwood Dr to Sassafrass St	3-lane Collector (1-way)	22,500	26,178	1.163	F	Kimley-Horn
Sassafras St to Redwood St	3-lane Collector (2-way)	19,000	18,676	0.983	E	Kimley-Horn
Redwood St to Palm St	3-lane Collector (1-way)	22,500	16,705	0.742	D	Kimley-Horn
Juan St						
Harney St to Witherby St	2-lane Collector (Multifamily, commercial, industrial fronting)	8,000	2,345	0.293	A	Kimley-Horn
Juniper St						
State St to Sixth Ave	2-lane Collector (Multifamily, commercial, industrial fronting)	8,000	0	0.000	A	Kimley-Horn
Laurel St						
Columbia St to Union St	4-lane Collector	30,000	13,691	0.456	B	Kimley-Horn
Union St to First Ave	4-lane Collector	30,000	11,128	0.371	B	Kimley-Horn
First Ave to Third Ave	2-lane Collector (continuous left-turn lane)	15,000	11,326	0.755	D	Kimley-Horn
Third Ave to Sixth Ave	2-lane Collector (no fronting property)	10,000	11,516	1.152	F	Kimley-Horn
Lewis St						
Fort Stockton Dr to Goldfinch St	2-lane Collector (Multifamily, commercial, industrial fronting)	8,000	3,720	0.465	C	Kimley-Horn
Lincoln Ave						
Florida St to Texas St	2-lane Collector (continuous left-turn lane)	15,000	990	0.066	A	Kimley-Horn
Washington St to Park Blvd	2-lane Collector (Multifamily, commercial, industrial fronting)	8,000	8,155	1.019	F	Kimley-Horn
Madison Ave						
Cleveland Ave to Park Blvd	2-lane Collector (Multifamily, commercial, industrial fronting)	8,000	3,750	0.469	C	Kimley-Horn
Park Blvd to Mission Ave	2-lane Collector (continuous left-turn lane)	15,000	6,110	0.407	B	Kimley-Horn
Meade Ave						
Cleveland Ave to Park Blvd	2-lane Collector (Multifamily, commercial, industrial fronting)	8,000	3,290	0.411	B	Kimley-Horn
Park Blvd to Texas St	2-lane Collector (continuous left-turn lane)	15,000	4,060	0.271	A	Kimley-Horn
Mission Ave						
Park Blvd to Texas St	2-lane Collector (no fronting property)	10,000	1,497	0.150	A	Kimley-Horn
Monroe Ave						
Park Blvd to Mission Ave	2-lane Collector (Multifamily, commercial, industrial fronting)	8,000	1,200	0.150	A	Kimley-Horn
Montecito Way						
Front St to Fourth Ave	2-lane Collector (Multifamily, commercial, industrial fronting)	8,000	0	0.000	A	Kimley-Horn
Normal St						
Park Blvd to Washington St	6 Lane Prime Arterial	60,000	22,296	0.372	A	Kimley-Horn

Roadway Segment	Roadway Functional Classification	LOS E Capacity	ADT	V/C	LOS	Source
Washington St to University Ave	4-lane Major Arterial	40,000	4,974	0.124	A	Kimley-Horn
Park Blvd						
Adams Ave to Mission Ave	2-lane Collector (continuous left-turn lane)	15,000	14,839	0.989	E	Kimley-Horn
Mission Ave to El Cajon Blvd	2-lane Collector (no fronting property)	10,000	11,806	1.181	F	Kimley-Horn
El Cajon Blvd to Polk Ave	4-lane Major Arterial	40,000	11,524	0.288	A	Kimley-Horn
Polk Ave to University Ave	4-lane Major Arterial	40,000	13,936	0.348	A	Kimley-Horn
University Ave to Robinson Ave	4-lane Major Arterial	40,000	14,400	0.360	A	Kimley-Horn
Robinson Ave to Upas St	2-lane Collector (continuous left-turn lane)	15,000	12,501	0.833	D	Kimley-Horn
Upas St to Zoo Pl	4-lane Collector	30,000	13,807	0.460	B	Kimley-Horn
Zoo Pl to Space Theater Way	4-lane Major Arterial	40,000	17,200	0.430	B	Kimley-Horn
Space Theater Way to Presidents Way	4-lane Major Arterial	40,000	16,172	0.404	B	Kimley-Horn
Reynard Wy						
Torrance St to Curlew St	2-lane Collector (continuous left-turn lane)	15,000	1,955	0.130	A	Kimley-Horn
Curlew St to Laurel St	2-lane Collector (continuous left-turn lane)	15,000	7,200	0.480	C	Kimley-Horn
Richmond St						
Cleveland Ave to University Ave	2-lane Collector (Multifamily, commercial, industrial fronting)	8,000	7,085	0.886	E	Kimley-Horn
University Ave to Robinson Ave	2-lane Collector (Multifamily, commercial, industrial fronting)	8,000	5,345	0.668	D	Kimley-Horn
Robinson Ave to Upas St	2-lane Collector (Multifamily, commercial, industrial fronting)	8,000	5,015	0.627	D	Kimley-Horn
Robinson Ave						
Brant St to First Ave	2-lane Collector (Multifamily, commercial, industrial fronting)	8,000	1,995	0.249	A	Kimley-Horn
First Ave to Third Ave	2-lane Collector (Multifamily, commercial, industrial fronting)	8,000	5,800	0.725	D	Kimley-Horn
Third Ave to Eighth Ave	2-lane Collector (Multifamily, commercial, industrial fronting)	8,000	11,022	1.378	F	Kimley-Horn
Tenth Ave to Richmond St	2-lane Collector (Multifamily, commercial, industrial fronting)	8,000	21,298	2.662	F	Kimley-Horn
Richmond St to Park Blvd	2-lane Collector (Multifamily, commercial, industrial fronting)	8,000	7,269	0.909	E	Kimley-Horn
Park Blvd to Florida St	2-lane Collector (Multifamily, commercial, industrial fronting)	8,000	4,160	0.520	C	Kimley-Horn
San Diego Ave						
Hortensia St to McKee St	2-lane Collector (Multifamily, commercial, industrial fronting)	8,000	5,830	0.729	D	Kimley-Horn
McKee St to Washington St	4-lane Collector	30,000	13,920	0.464	B	Kimley-Horn
Washington St to India St	2-lane Collector (Multifamily, commercial, industrial fronting)	8,000	4,920	0.615	C	Kimley-Horn
State St						
Laurel St to Juniper St	2-lane Collector (Multifamily, commercial, industrial fronting)	8,000	4,140	0.518	C	Kimley-Horn
Sunset Blvd						
Witherby St to Fort Stockton Dr	2-lane Collector (Multifamily, commercial, industrial fronting)	8,000	2,595	0.324	B	Kimley-Horn
University Ave						
Ibis St to Albatross St	2-lane Collector (Multifamily, commercial, industrial fronting)	8,000	10,527	1.316	F	Kimley-Horn
Albatross St to First Ave	2-lane Collector (no fronting property)	10,000	16,851	1.685	F	Kimley-Horn
First Ave to Fifth Ave	2-lane Collector (no fronting property)	10,000	20,250	2.025	F	Kimley-Horn
Fifth Ave to Sixth Ave	4-lane Major Arterial	40,000	21,184	0.530	C	Kimley-Horn

Roadway Segment	Roadway Functional Classification	LOS E Capacity	ADT	V/C	LOS	Source
Sixth Ave to Eighth Ave	4-lane Major Arterial	40,000	24,400	0.610	C	Kimley-Horn
Vermont St to Richmond St	4-lane Major Arterial	40,000	23,938	0.598	C	Kimley-Horn
Richmond St to Park Blvd	4-lane Collector	30,000	16,275	0.543	C	Kimley-Horn
Park Blvd to Florida St	4-lane Collector	30,000	19,200	0.640	C	Kimley-Horn
Florida St to Texas St	4-lane Collector	30,000	21,611	0.720	D	Kimley-Horn
Upas St						
Third Ave to Sixth Ave	2-lane Collector (no fronting property)	10,000	4,475	0.448	B	Kimley-Horn
Washington St						
India St to University Ave	4-lane Major Arterial	40,000	27,929	0.698	C	Kimley-Horn
University Ave to First Ave	4-lane Major Arterial	40,000	20,477	0.512	B	Kimley-Horn
First Ave to Fourth Ave	4-lane Major Arterial	40,000	32,515	0.813	D	Kimley-Horn
Fourth Ave to Fifth Ave	4-lane Major Arterial	40,000	30,900	0.773	D	Kimley-Horn
Fifth Ave to Sixth Ave	4-lane Major Arterial	40,000	38,428	0.961	E	Kimley-Horn
Sixth Ave to Richmond St	4-lane Major Arterial	40,000	41,778	1.044	F	Kimley-Horn
Richmond St to Normal St	4-lane Major Arterial	40,000	38,725	0.968	E	Kimley-Horn

Ramp	Ramp Type	Peak Period	Meter Ramp (veh/hr)	Demand (veh/hr)	Excess Deman (veh/hr)	Average Delay (min)	V/C	LOS	Source
Interstate 5									
Washington St to I-5 NB	On-Ramp	AM	996	1020	24	1.4	1.02	**F**	Kimley-Horn
		PM	996	1034	38	2.3	1.04	**F**	Kimley-Horn
India St to I-5 NB	On-Ramp	AM	996	915	0	0	0.92	D	Kimley-Horn
		PM	996	1066	70	4.2	1.07	**F**	Kimley-Horn
Hawthorn St to I-5 NB	On-Ramp	AM	996	454	0	0	0.46	B	Kimley-Horn
		PM	996	842	0	0	0.85	D	Kimley-Horn
1st Ave to I-5 NB	On-Ramp	AM	1200	1040	0	0	0.87	D	Wilson & Co
		PM	1200	2030	830	41.5	1.69	**F**	Wilson & Co
1st Ave to I-5 SB	On-Ramp	AM	1200	640	0	0	0.53	B	Wilson & Co
		PM	1200	1180	0	0	0.98	E	Wilson & Co
5th Ave to I-5 SB	On-Ramp	AM	1200	560	0	0	0.47	B	Wilson & Co
		PM	1200	1140	0	0	0.95	E	Wilson & Co
I-5 NB to 6th St	Off-Ramp	AM	2400	1330	0	0	0.55	B	Wilson & Co
		PM	2400	1200	0	0	0.5	B	Wilson & Co
I-5 SB to Cedar St	Off-Ramp	AM	1200	1210	10	0.5	1.01	**F**	Wilson & Co
		PM	1200	650	0	0	0.54	B	Wilson & Co
SR 163									
SR 163 SB to 4th St	Off-Ramp	AM	1200	420	0	0	0.35	A	Wilson & Co
		PM	1200	800	0	0	0.67	C	Wilson & Co
SR 163 SB to Ash St	Off-Ramp	AM	2400	1200	0	0	0.50	B	Wilson & Co
		PM	2400	460	0	0	0.19	A	Wilson & Co
SR 163 SB to Park Blvd	Off-Ramp	AM	1200	330	0	0	0.28	A	Wilson & Co
		PM	1200	230	0	0	0.19	A	Wilson & Co

Appendix E
Transit Routes

Appendix N - Transit Routes

This appendix contains information about the transit routes within the project study area.

Local Bus Service

1: Hillcrest – Grossmont Transit Center or 70th Street Trolley

Route 1 runs from the Uptown community to the City of La Mesa, primarily using El Cajon Boulevard and La Mesa Boulevard. Within Uptown, Route 1 originates and terminates at 5th Avenue and Evans Place, with two other stops provided on University Avenue. The route provides daily service with headways of 15 minutes on weekdays between 6 a.m. and 6 p.m., and every 20 to 30 minutes during the remaining service hours on weekdays, and on weekends and holidays. Notable destinations include the Uptown Shopping Center, Downtown La Mesa, and Grossmont Center.

3: Euclid Trolley – UC San Diego Medical Center/Hillcrest

Route 3 runs from the Lincoln Park area, through the Gaslamp Quarter and downtown, and into the Uptown community. The route primarily runs along Ocean View Boulevard, Market Street, and 4th and 5th Avenues. Within the project study area, Route 3 has eight stops: three northbound on 5th Avenue, three southbound on 4th Avenue, one on University Avenue, and one at the UC San Diego Medical Center. The route provides daily service with headways of 15 minutes on weekdays between 6 a.m. and 7 p.m., and every 20 to 30 minutes during the remaining weekday service hours and on Saturdays. Sunday service from Uptown runs once an hour between about 6:30 a.m. and 7:30 p.m. Notable destinations include the 5th Avenue Trolley Station, Balboa Park, Market Creek Plaza, and the UC San Diego Medical Center in Hillcrest.

7: Downtown – La Mesa

Route 7 runs from downtown, through Balboa Park along Park Boulevard, and heads east at the intersection of Park Boulevard and University Avenue to the City of La Mesa. The route primarily runs along Broadway, Park Boulevard, and University Avenue. The route has two stops in project study area, both located along Park Boulevard. The route provides daily service with headways between 11 and 20 minutes on weekdays, and every 15 to 30 minutes on weekends and holidays. The route does not serve Broadway on Sundays. Notable destinations include the City College, the San Diego Zoo, the Joan Kroc Center, and the City Heights Transit Village.

10: Old Town – University and College

Route 10 runs west to east, from the Old Town Transit Center through Uptown and Greater North Park and into City Heights. The route primarily runs along University Avenue and has limited stops between 5th Avenue and College Avenue. Trolley connections can be made at Old Town Transit Center and the Washington Street Trolley Station. There are nine stops within the project study area along Washington Street and University Avenue. The route has service seven days a week with limited stops, especially on the weekends and holidays. Weekday frequency is every 12 minutes in the morning towards Old Town and in the afternoon towards City Heights. Otherwise, weekday headways are 15 minutes. Weekend and holiday service runs every 20 to 30 minutes. Destinations include Uptown Shopping Center, Scripps Mercy Hospital, and City Heights Transit Plaza.

11: SDSU – Skyline Hills

Route 11 runs from San Diego State University (SDSU) through Greater North Park and Uptown, south into downtown, and east to the Skyline area. Within the project study area, Route 11 has three stops: two along Park Boulevard and one at the intersection of 4th Avenue and University Avenue. The route provides daily service in 15-minute headways through Uptown on weekdays, and every 30 minutes on

weekends and holidays. On Sundays, there is no service between 39th Street in Normal Heights and SDSU. Notable destinations include Horton Plaza, the Uptown Shopping Center, and SDSU.

15: SDSU – Downtown

Route 15 runs from downtown, through Uptown and Greater North Park, and east to SDSU. The route primarily uses Broadway, State Route 163, and El Cajon Boulevard. There are limited stops between Park Boulevard and the SDSU Transit Center and on Sundays there is no service along Broadway. Within the project study area, Route 15 has one stop at Washington Street and Lincoln Avenue. The route provides daily service with headways of 12 to 15 minutes on weekdays, and every 20 to 30 minutes on weekends and holidays. Notable destinations include the City College Trolley Station, The Boulevard Transit Plaza, and SDSU.

83: Mission Hills/Hillcrest – Downtown

Route 83 runs from the intersection of Washington Street and Dove Street in Uptown, through the Hillcrest area, west to Mission Hills, and south to downtown. This route is almost completely contained in the Uptown community. The route provides weekday service only, with headways of 60 minutes. Notable destinations include the Mission Hills area, Little Italy, and Scripps Mercy Hospital.

120: Downtown – Kearny Mesa Transit Center

Route 120 runs north-south from downtown, through Uptown, north through Fashion Valley to the Kearny Mesa area. Within the project study area, Route 120 primarily uses 4th and 5th Avenues, with four stops on each. The route provides daily service with headways of 15 minutes on weekdays, and every 30 to 60 minutes on weekends and holidays. Notable destinations include Horton Plaza, the Fashion Valley Mall, Sharp and Children's Hospitals, and the Kearny Mesa Transit Center.

Express Bus Service

There are two express bus routes that serve the project study area: Route 150 (UTC Express - Downtown Express) and Route 20 (Downtown Express - Mira Mesa Express). These express bus route stops are located at:

- Old Town Transit Center (Route 150)
- Fashion Valley Transit Center (Route 20)
- University Avenue near 7th Avenue (Route 20/Sunday)

The transit centers for these routes are described separately further in the "Trolley/Train Stations" section, but are well-defined and offer more amenities than typical bus stops because they serve multiple routes.

Bus Rapid Transit Service

The Mid-City Bus Rapid Transit (BRT) is a planned BRT route that connects downtown to SDSU via Park Boulevard and El Cajon Boulevard. The BRT route is expected to open in July 2014. There are two new stops for the BRT along Park Boulevard:

- Park Boulevard and El Cajon Boulevard/Normal Street (Mid-City BRT)
- Park Boulevard and University Avenue (Mid-City BRT)

Figure 1 – Existing Trolley Routes

Source: MTS

Routes

All three Trolley lines serve the periphery of the Uptown community. The Blue Line provides service from the San Ysidro Transit Center north through San Diego's central business district (downtown). The current frequency for the Blue Line is about 7 ½ minutes for weekday a.m. and p.m. peak periods and 15 minutes for off-peak periods, including the weekends. Late night service operates at a 30-minute frequency. Blue Line service between America Plaza and Old Town was discontinued in fall 2012.

The Orange Line has one terminus at the Santa Fe Depot, it travels east through the center of downtown, continues toward La Mesa, and terminates at the El Cajon Transit Center. The current frequency for weekday and weekend service is 15 minutes. Early morning and late evening service has a 30-minute frequency.

The Green Line also serves downtown and runs east through Mission Valley, serving major shopping centers in the valley, Qualcomm Stadium, and SDSU. The line terminates in Santee. The general frequency for weekday and weekend service is 15 minutes. Early morning and late evening service has a 30-minute frequency.

Fashion Valley Transit Center

The Fashion Valley Transit Center serves several bus routes and the Green Line Trolley at the Fashion Valley Mall. The station provides vehicular parking, vending, a kiosk for food/drinks, benches, and shelter. The station is lighted and has wide sidewalks. The curb ramps are older and are the typical size for pedestrian use. However, if heavy bike activity is expected, wider ramps should be considered. The buses are operated at the road level while the trolley tracks and platform are elevated.

Figure 2 Fashion Valley Transit Center

Although there are several stairs to the trolley, bicycle access to the trolley tracks is available by a single elevator at the east end of the platform. Additional access to the raised platform exists by bridge to the neighboring parking structure. People walking and biking on the path along the San Diego River would commonly cross at the signal at Avenida del Oro and Fashion Valley Road, or at the all-way stop at Avenida del Oro and the mall entrance near the east end of the transit station. Both roads can be busy during peak commute and shopping times, but Avenida del Oro is narrower and has less volume and lower speeds.

Old Town Transit Center

This transit center is at the intersection of Taylor Street and Congress Street and serves several local/express bus routes, the Green Line Trolley, Amtrak, and COASTER. The station provides benches, shelter, vehicular parking, vending, transit information, and restroom facilities. The station is well-lit and is landscaped with shade trees.

Figure 3 Old Town Transit Center

Access for people with bicycles is available at numerous pedestrian ramp access points onto a wide sidewalk and platform. The intersection of Pacific Highway/Taylor Street is busy and wide, but is controlled by a signal with crosswalks. Taylor Street and Congress Street is a smaller, closer intersection to the station and is also signal-controlled. Congress Street is a calmer, lower-volume road with attractions for tourist activity. While bike lanes exist on Pacific Coast Highway, there is no infrastructure facilitating bicycle movements into the station area.

Washington Street

The station is accessed from Washington Street, a busy 4-lane arterial. The station is between Pacific Highway and Hancock Street, west of Interstate 5. Bicycle routes along Washington Street will face challenges getting people riding bikes across the street without using the sidewalks. There are two signalized intersections nearby to provide crossing opportunities (100' and 200' away) and the sidewalks are at least 10 feet wide in this area.

Figure 4 Washington Street Station

The Washington Street trolley station is along the Green Line and is a transfer point for select bus routes. The station has long narrow platforms with bench seating and shelters. There is plenty of lighting for nighttime safety and visibility and trees for landscaping. There is no infrastructure facilitating safe access to the station area.

5th Avenue Station

The 5th Avenue Station is served by the Blue and Orange Lines. This station is located on C Street, between 5th and 6th Avenues which is currently a highly pedestrian-oriented corridor. Vehicular activity is prohibited on this street and the sidewalk facilities are wide. No formal bicycle amenities are provided at this location, but benches, shelters, and signage with transit information are available. The station is lighted and landscaped with trees that offer added shade. The station has long platforms that span the entire block.

Figure 5 5th Avenue Station

The station has open access to the adjacent 5th and 6th Avenues via older, pedestrian-scale curb ramps at the intersections. The streets are 1-way and its intersections are operated by signals for controlled crossing and safety. The station is currently being upgrade to accommodate new low platform trolley cars.

Appendix F
Tier 1 Initial Alternative Analysis Results

Table 1 – Tier 1 – Initial Alternative Analysis Results

Evaluation Criteria								
Alignment #	Segment	Alignment	Regional Connectivity	Neighborhood Connectivity	Direct Connectivity	Achievable LTS	Existing Deficiency	Score
1	**A1.G1.01**	**Five Points - Mission Hills: Washington**	**Y**	**Y**	**Y**	**Y**	**Y**	**5**
2	A1.G1.02	Mission Hills - Little Italy: Goldfinch/Reynard	Y	N	Y	Y	Y	4
3	A1.G1.03	Old Town - Mission Hills: Presidio	Y	Y	N	Y	N	3
3	A1.G1.04	Old Town - Mission Hills: Presidio	See Old Town - Mission Hills: Presidio					0
4	A1.G1.05	Mission Hills Loop	N	N	N	Y	Y	2
5	A1.G1.06	Old Town - Five Points: Pacific Highway	Another Regional Project					0
1	**A1.G2.01**	**Five Points - Mission Hills: Washington**	**Y**	**Y**	**Y**	**Y**	**Y**	**5**
6	**A1.G2.02**	**Mission Hills - Hillcrest: University**	**Y**	**Y**	**Y**	**Y**	**Y**	**5**
7	A1.G2.03	Old Town - Mission Hills: Presidio/Fort Stockton	Y	Y	N	Y	N	3
8	A1.G2.04	Old Town - Mission Hills: Jackson/Fort Stockton	Y	Y	N	N	N	2
9	A1.G2.05	Old Town - Mission Hills: Harney/Juan	Y	Y	Y	N	N	3
2	A1.G2.06	Mission Hills - Little Italy: Goldfinch/Reynard	See Mission Hills - Little Italy: Goldfinch/Reynard					0
10	**A1.G2.07**	**Mission Hills - Hillcrest: Washington**	**Y**	**Y**	**Y**	**Y**	**Y**	**5**
11	**A1.G2.08**	**Old Town - Five Points: Congress/San Diego Ave**	**Y**	**Y**	**Y**	**Y**	**Y**	**5**
12	A1.G2.09	Old Town - Mission Hills: Juan	Y	Y	Y	N	N	3
13	**A2.G1.01**	**Hillcrest - Bankers Hill: 5th**	**Y**	**Y**	**Y**	**Y**	**Y**	**5**
14	**A2.G1.02**	**Hillcrest - Bankers Hill: 4th**	**Y**	**Y**	**Y**	**Y**	**Y**	**5**
15	**A2.G1.03**	**Hillcrest - North Park: University**	**Y**	**Y**	**Y**	**Y**	**Y**	**5**
16	**A2.G1.04**	**University Heights - Balboa Park: Park**	**Y**	**Y**	**Y**	**Y**	**Y**	**5**
17	A2.G1.05	Village Place	Another Regional Project					0
18	A2.G1.06	North Park - Downtown: Florida Street	Y	N	Y	Y	Y	4
19	A2.G1.07	Howard Avenue	Another Regional Project					0

	Evaluation Criteria							
Alignment #	Segment	Alignment	Regional Connectivity	Neighborhood Connectivity	Direct Connectivity	Achievable LTS	Existing Deficiency	Score
20	A2.G1.08	Meade Avenue	Another Regional Project					0
21	A2.G1.09	Mission Hills - Hillcrest - Downtown: SR 163	Y	N	Y	Y	Y	4
10	A2.G1.10	Mission Hills - Hillcrest: Washington	See Mission Hills - Hillcrest: Washington					0
22	**A2.G2.01**	**Mission Valley - Hillcrest: Bachman/4th**	**Y**	**Y**	**Y**	**Y**	**Y**	**5**
23	**A2.G2.02**	**Mission Valley - Hillcrest: Bachman/1st**	**Y**	**Y**	**Y**	**Y**	**Y**	**5**
24	**A2.G2.03**	**Hillcrest - Bankers Hill: 3rd**	**Y**	**Y**	**Y**	**Y**	**Y**	**5**
24	A2.G2.04	Hillcrest - Bankers Hill: 3rd	See Hillcrest - Bankers Hill: 3rd					0
25	**A2.G2.05**	**Hillcrest - Bankers Hill: 6th**	**Y**	**Y**	**Y**	**Y**	**Y**	**5**
17	A2.G2.06	Village Place	Another Regional Project					0
16	A2.G2.07	University Heights - Balboa Park: Park	See University Heights - Balboa Park: Park					0
15	**A2.G2.08**	**Hillcrest - North Park: University**	**Y**	**Y**	**Y**	**Y**	**Y**	**5**
26	A2.G2.09	University Heights - Hillcrest: Madison/Maryland	Y	Y	Y	Y	N	4
27	A2.G2.10	Adams Avenue	Another Regional Project					0
28	**A2.G2.11**	**Hillcrest - North Park: Washington/El Cajon**	**Y**	**Y**	**Y**	**Y**	**Y**	**5**
29	A2.G2.12	Arbor Drive Bridge	N	N	Y	Y	Y	3
13	**A2.G2.13**	**Hillcrest - Bankers Hill: 5th**	**Y**	**Y**	**Y**	**Y**	**Y**	**5**
14	**A2.G2.14**	**Hillcrest - Bankers Hill: 4th**	**Y**	**Y**	**Y**	**Y**	**Y**	**5**
30	A2.G2.15	Mission Hills - Hillcrest - Downtown: SR 163	See Mission Hills - Hillcrest - Downtown: SR 163					0
31	A2.G2.16	Balboa Park: Bridle Trail	N	N	Y	Y	Y	3
32	A2.G2.17	Balboa Park: east of SR163	N	Y	Y	Y	Y	4
33	A2.G2.18	Universty Heights - Hillcrest - Balboa Park: Richmond	See University Heights - Hillcrest - Balboa Park: Richmond					0
27	A2.G2.19	Adams Avenue	Another Regional Project					0
28	A3.G1.01	Lewis/Lincoln Bridge	N	N	N	Y	Y	2

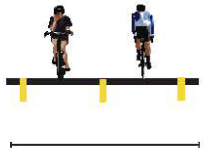
	Evaluation Criteria							
Alignment #	Segment	Alignment	Regional Connectivity	Neighborhood Connectivity	Direct Connectivity	Achievable LTS	Existing Deficiency	Score
29	A3.G1.02	Mission Valley - Hillcrest: Camino del Rio - Lincoln	N	N	N	Y	Y	2
33	A3.G1.03	Universty Heights - Hillcrest - Balboa Park: Richmond	Y	Y	N	Y	Y	4
26	A3.G1.04	University Heights - Hillcrest: Madison/Maryland	See University Heights - Hillcrest: Madison/Maryland					0
34	**A3.G1.05**	**Mission Valley - Hillcrest: Bachman**	**Y**	**Y**	**Y**	**Y**	**Y**	**5**
14	A3.G1.06	Hillcrest - Bankers Hill: 4th	See Hillcrest - Bankers Hill: 4th					0
24	A3.G1.07	Hillcrest - Bankers Hill: 3rd	See Hillcrest - Bankers Hill: 3rd					0
35	**A3.G1.08**	**Hillcrest - Bankers Hill: 1st**	**Y**	**Y**	**Y**	**Y**	**Y**	**5**
13	A3.G1.09	Hillcrest - Bankers Hill: 5th	See Hillcrest - Bankers Hill: 5th					0
25	A3.G1.10	Hillcrest - Bankers Hill: 6th	See Hillcrest - Bankers Hill: 6th					0
28	A3.G1.11	Lewis/Lincoln Bridge	See Lewis/Lincoln Bridge					0
36	A3.G1.12	Mission Hills - North Park: Washington	See Hillcrest - North Park: Washington					0
37	A3.G1.13	Mission Hills - North Park: University	See Hillcrest - North Park: University					0
38	**A3.G1.14**	**Hillcrest - North Park: Robinson**	**Y**	**Y**	**Y**	**Y**	**Y**	**5**
39	A3.G1.15	Bankers Hill - Balboa Park: Upas	Y	Y	Y	Y	N	4
40	A3.G1.16	Mission Hills - Little Italy: Goldfinch/Reynard	See Mission Hills - Little Italy: Goldfinch/Reynard					0
33	A3.G1.17	University Heights - Hillcrest - Balboa Park: Richmond	N	Y	Y	Y	Y	4
41	A3.G1.18	Avenida del Rio	Another Regional Project					0
0	A3.G2	Repeat Alignments	See A3.G1 Alignments					0
42	**A4.G1.01**	**Hillcrest - Bankers Hill: 3rd/Walnut/5th/6th**	**Y**	**Y**	**Y**	**Y**	**Y**	**5**
43	A4.G1.02	Vermont	N	N	Y	Y	N	2
44	A4.G1.03	Balboa Park: SR 163/Richmond	See Balboa Park: east of SR163					0
44	A4.G1.04	Balboa Park: SR 163/Richmond/Quince	Y	Y	N	Y	Y	4
45	A4.G1.05	Balboa Park - East Village: Pan American/Presidents Way	See Balboa Park - East Village: Pan American/Presidents Way					0
46	A4.G1.06	Little Italy - Bankers Hill: Grape	Y	N	Y	Y	Y	4

	Evaluation Criteria							
Alignment #	Segment	Alignment	Regional Connectivity	Neighborhood Connectivity	Direct Connectivity	Achievable LTS	Existing Deficiency	Score
47	A4.G1.07	Little Italy - Bankers Hill: Hawthorn	Y	N	Y	Y	Y	4
48	A4.G1.08	Harbor View - Little Italy: Pacific Highway	Another Regional Project					0
45	A4.G1.09	Balboa Park - East Village: Pan American/Presidents Way	Y	Y	N	Y	N	3
49	A4.G1.10	Downtown: B Street/Ash St	Another Regional Project					0
50	A4.G1.11	Little Italy - Downtown: Cedar	Y	N	Y	Y	Y	4
51	A4.G1.12	Little Italy - Bankers Hill: Juniper	Y	N	Y	Y	Y	4
16	A4.G1.13	University Heights - Balboa Park: Park	See University Heights - Balboa Park: Park					0
52	**A4.G1.14**	**Zoo Drive**	**Y**	**Y**	**Y**	**Y**	**Y**	**5**
33	A4.G1.15	Universty Heights - Hillcrest - Balboa Park: Richmond	See Universty Heights - Hillcrest - Balboa Park: Richmond					0
43	A4.G1.16	Vermont	See Vermont					0
25	A4.G1.17	Hillcrest - Bankers Hill: 6th	See Hillcrest - Bankers Hill: 6th					0
13	**A4.G1.18**	**Hillcrest - Bankers Hill: 5th**	**Y**	**Y**	**Y**	**Y**	**Y**	**5**
14	**A4.G1.19**	**Hillcrest - Bankers Hill: 4th**	**Y**	**Y**	**Y**	**Y**	**Y**	**5**
35	**A4.G1.20**	**Hillcrest - Bankers Hill: 1st**	**Y**	**Y**	**Y**	**Y**	**Y**	**5**
37	A4.G1.21	Mission Hills - North Park: University	See Mission Hills - North Park: University					0
52	A4.G1.22	Robinson	See Robinson					0
24	A4.G1.23	Hillcrest - Bankers Hill: 3rd	See Hillcrest - Bankers Hill: 3rd					0
53	A4.G1.24	Little Italy - Bankers Hill: Laurel	Y	N	Y	Y	Y	4
54	A4.G1.25	Balboa Park - Downtown: Park Blvd	N	Y	Y	Y	Y	4
55	A4.G2.01	Walnut Ave	N	N	Y	Y	N	2
56	**A4.G2.02**	**Hillcrest - Hillcrest: Pennsylvania Ave**	**Y**	**Y**	**Y**	**Y**	**Y**	**5**
57	A4.G2.03	Alley Nub	See Alley, Nub					0
21	A4.G2.04	Mission Hills - Hillcrest - Downtown: SR 163	See Mission Hills - Hillcrest - Downtown: SR 163					0

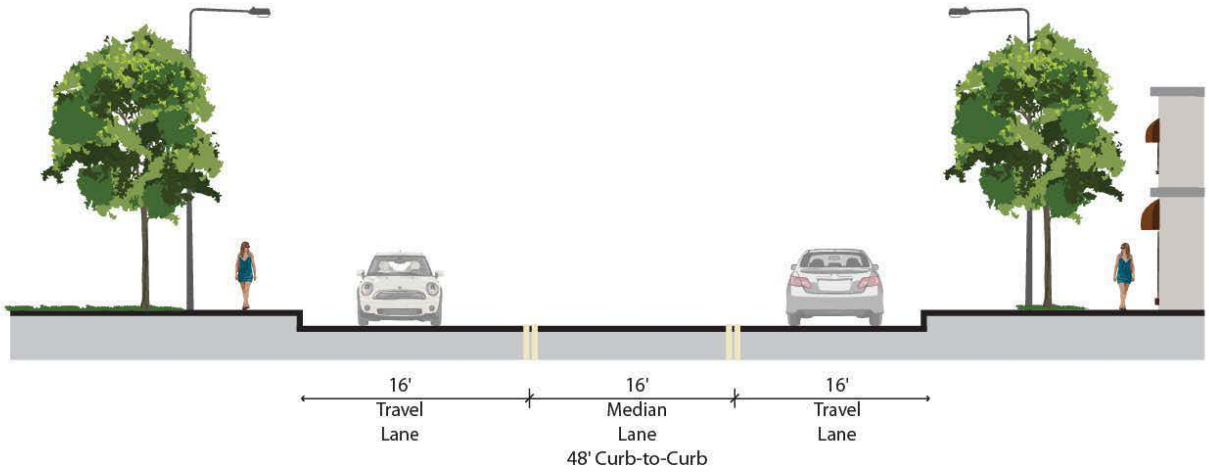
	Evaluation Criteria							
Alignment #	Segment	Alignment	Regional Connectivity	Neighborhood Connectivity	Direct Connectivity	Achievable LTS	Existing Deficiency	Score
33	A4.G2.05	University Heights - Hillcrest - Balboa Park: Richmond	See Richmond					0
51	A4.G2.06	Little Italy - Bankers Hill: Juniper	See Juniper					0
16	A4.G2.07	University Heights - Balboa Park: Park	See University Heights - Balboa Park: Park					0
25	A4.G2.08	Hillcrest - Bankers Hill: 6th	See Hillcrest - Bankers Hill: 6th					0
13	A4.G2.09	Hillcrest - Bankers Hill: 5th	See Hillcrest - Bankers Hill: 5th					0
14	A4.G2.10	Hillcrest - Bankers Hill: 4th	See Hillcrest - Bankers Hill: 4th					0
35	A4.G2.11	Hillcrest - Bankers Hill: 1st	See Hillcrest - Bankers Hill: 1st					0
15	A4.G2.12	Hillcrest - North Park: University	See Mission Hills - North Park: University					0
52	**A4.G2.13**	**Robinson**	**Y**	**Y**	**Y**	**Y**	**Y**	**5**
24	A4.G2.14	Hillcrest - Bankers Hill: 3rd	See Hillcrest - Bankers Hill: 3rd					0
37	A4.G2.15	Mission Hills - North Park: University	See Mission Hills - North Park: University					0
2	A4.G2.16	Mission Hills - Little Italy: Goldfinch/Reynard/State	See Mission Hills - Little Italy: Goldfinch/Reynard					0
58	**A4.G2.17**	**University Heights - Balboa Park: Georgia St**	**Y**	**Y**	**Y**	**Y**	**Y**	**5**
13	A4.G2.18	Hillcrest - Bankers Hill: 5th	See Hillcrest - Bankers Hill: 5th					0
54	A4.G2.19	Balboa Park - Downtown: Park Blvd	See Balboa Park - Downtown: Park Blvd					0
53	A4.G2.20	El Prado	See Laurel					0

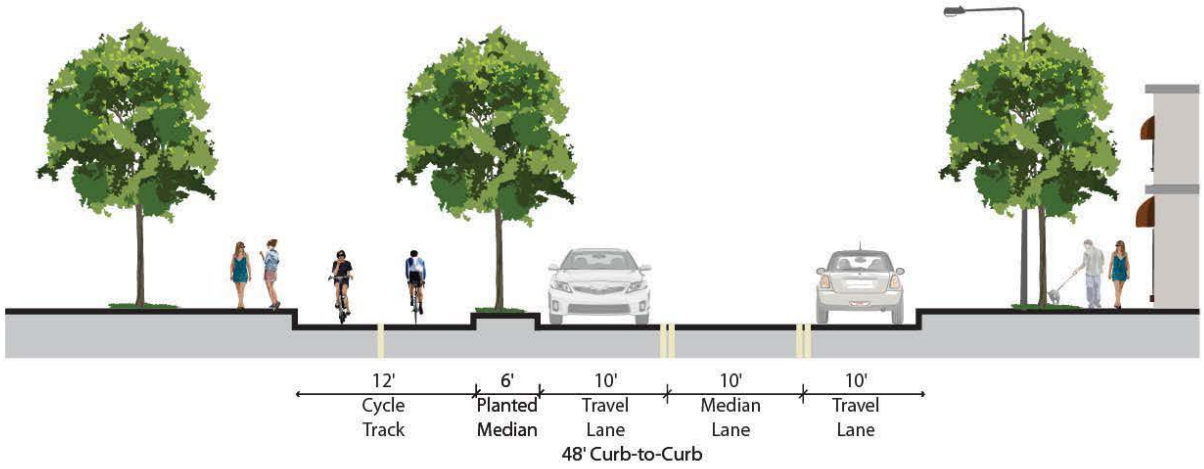
Appendix G
Tier II Design Concepts
(Cross Sections)

Mission Valley - Hillcrest: Hotel Circle/Bachman Pl
Multi-Use Path: Ulric Street

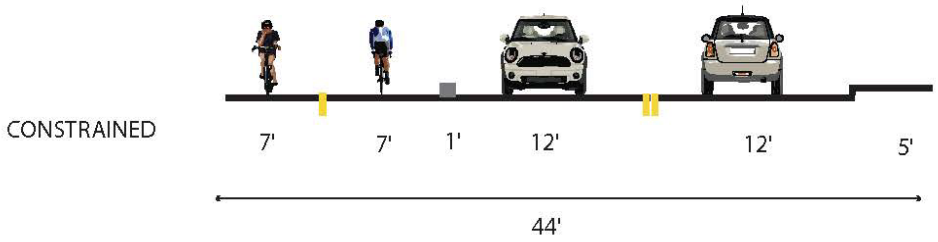


Mission Valley - Hillcrest: Hotel Circle/Bachman Place
Camino de la Reina

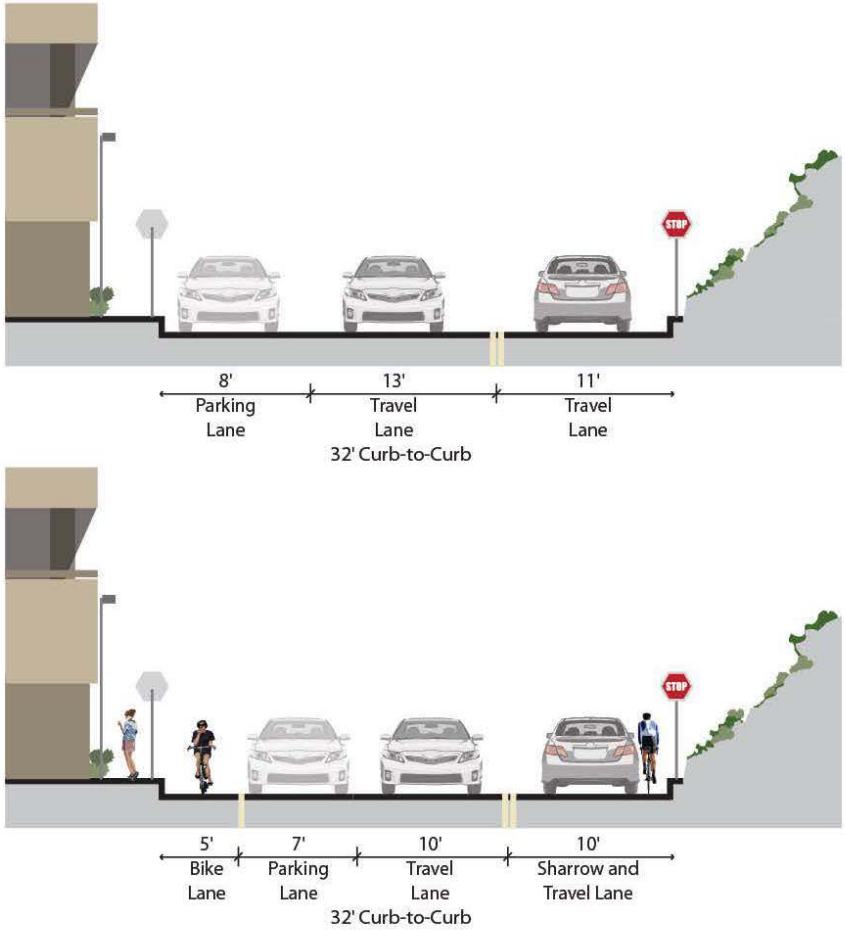




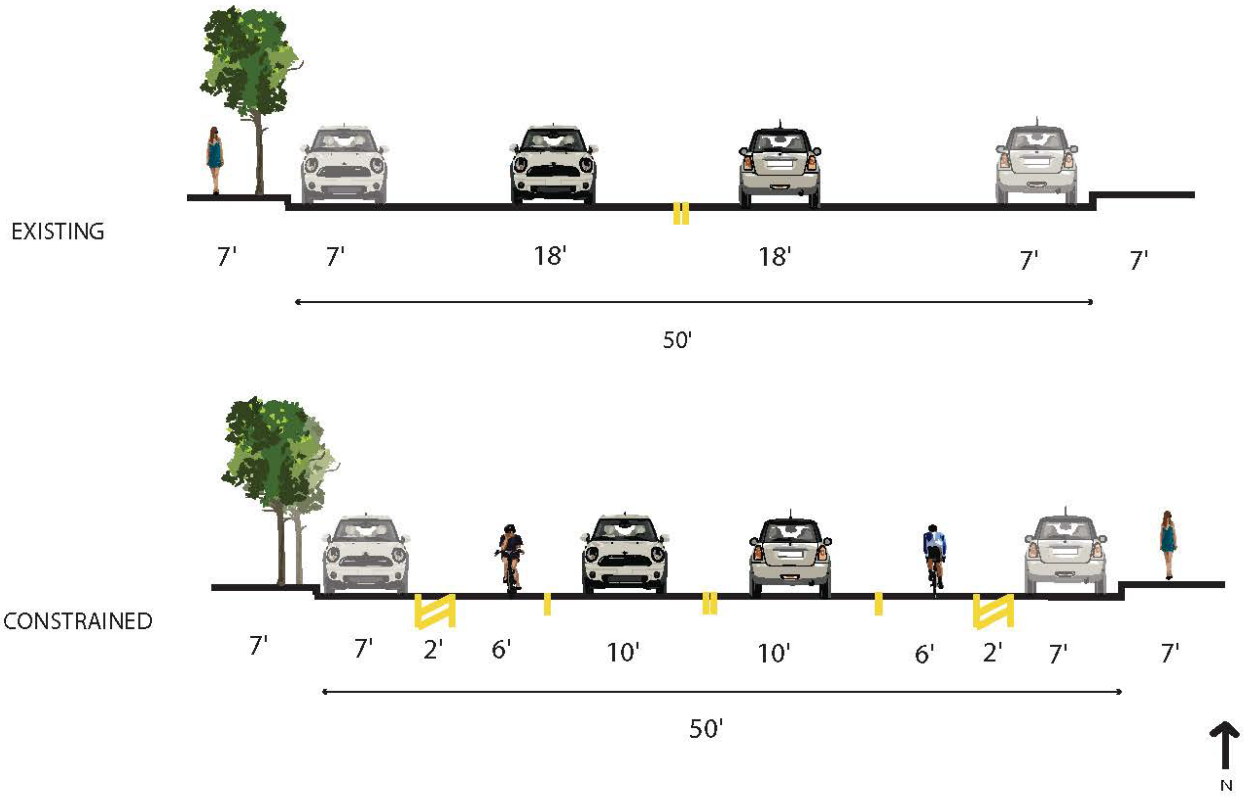
Mission Valley - Hillcrest: Hotel Circle/Bachman Pl
Hotel Circle: I-8 Underpass



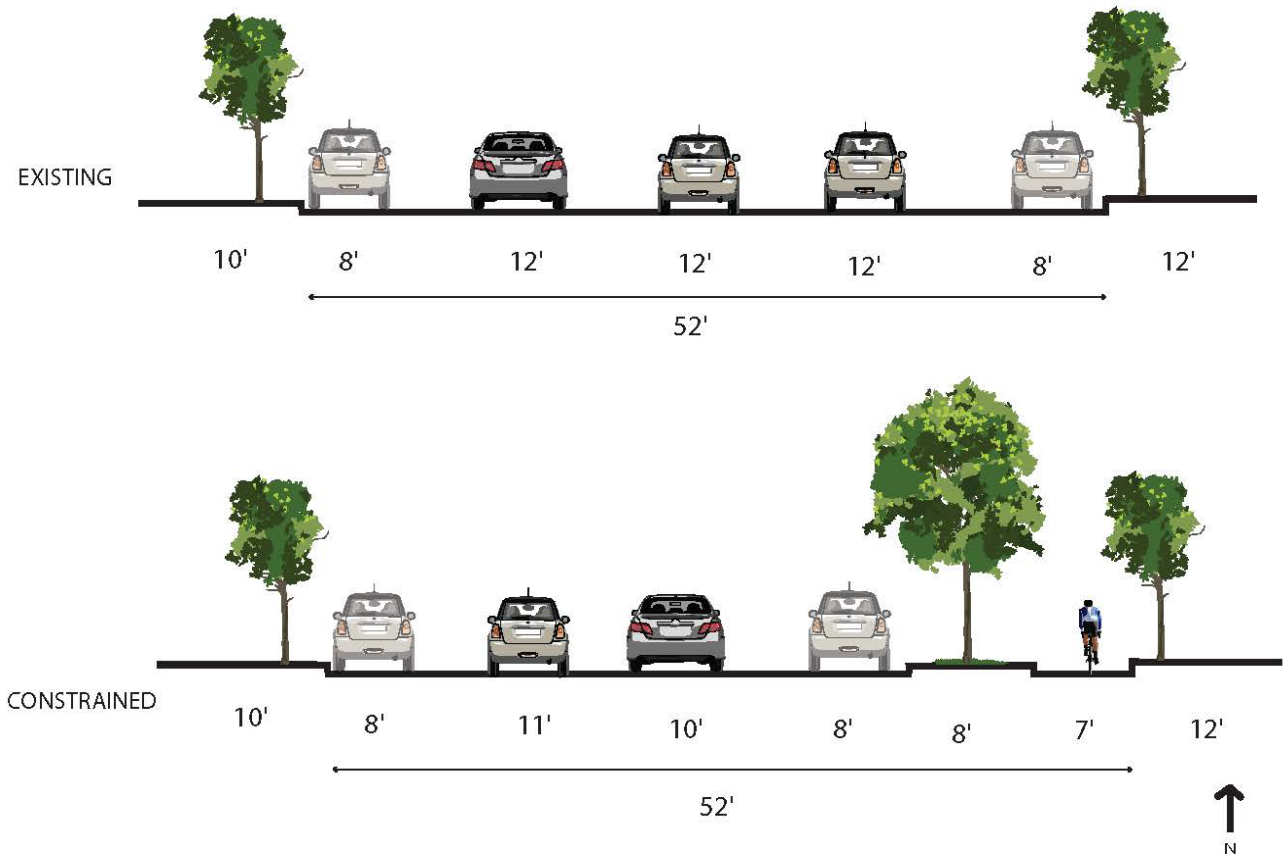
Mission Valley - Hillcrest: Bachman Place
Bachman Place



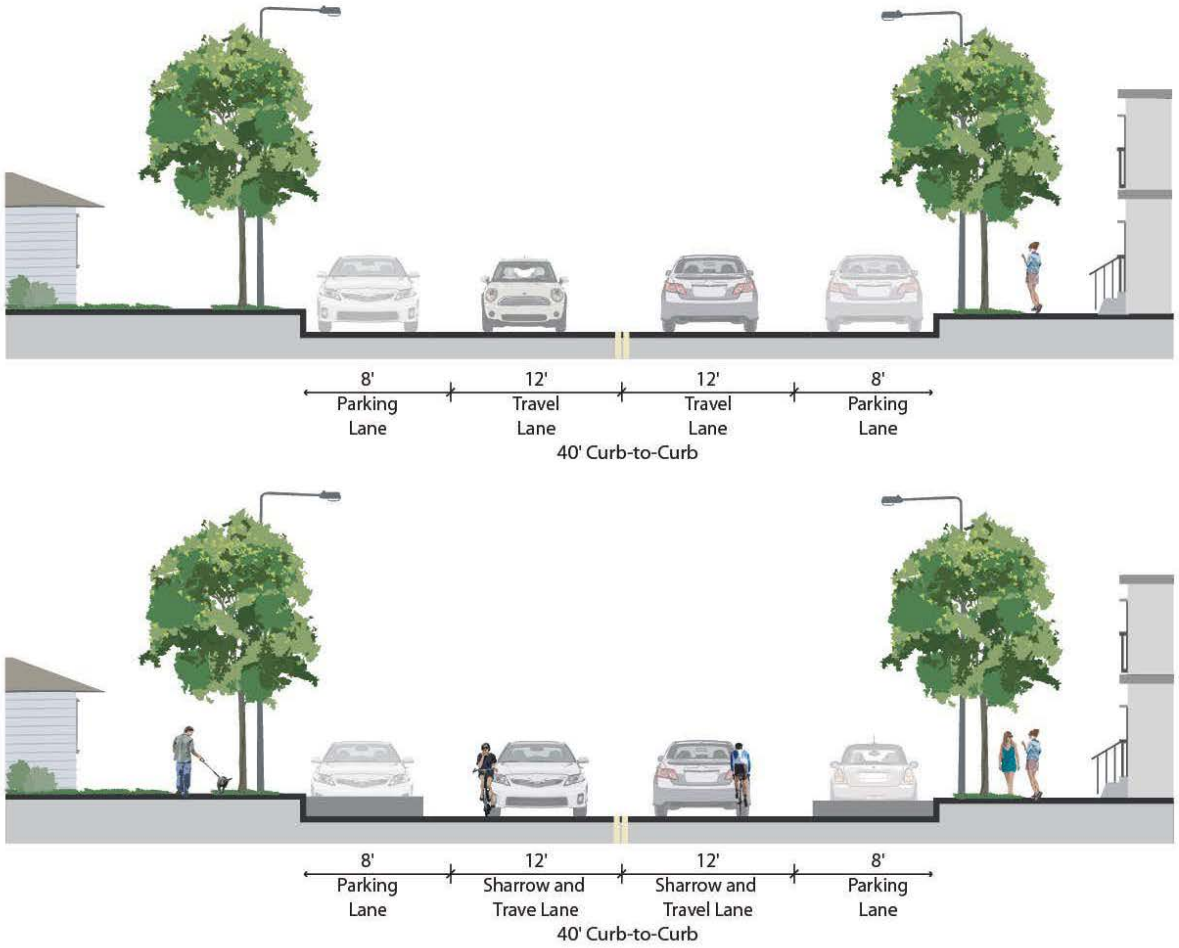
Bankers Hill-Downtown: 1st Avenue
1st Avenue: Lewis Street to Upas Street



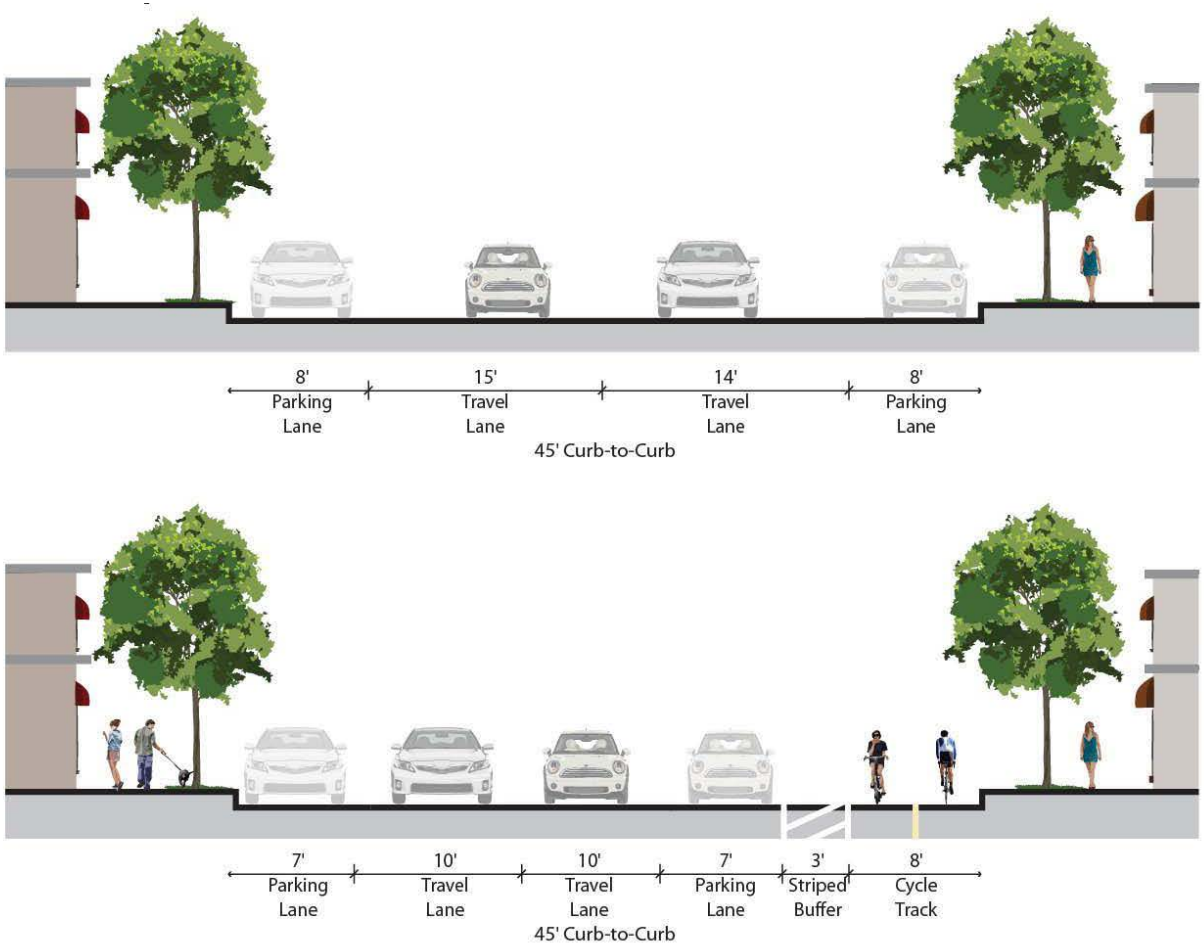
Bankers Hill-Downtown: 1st Avenue
1st Avenue: Upas Street to C Street



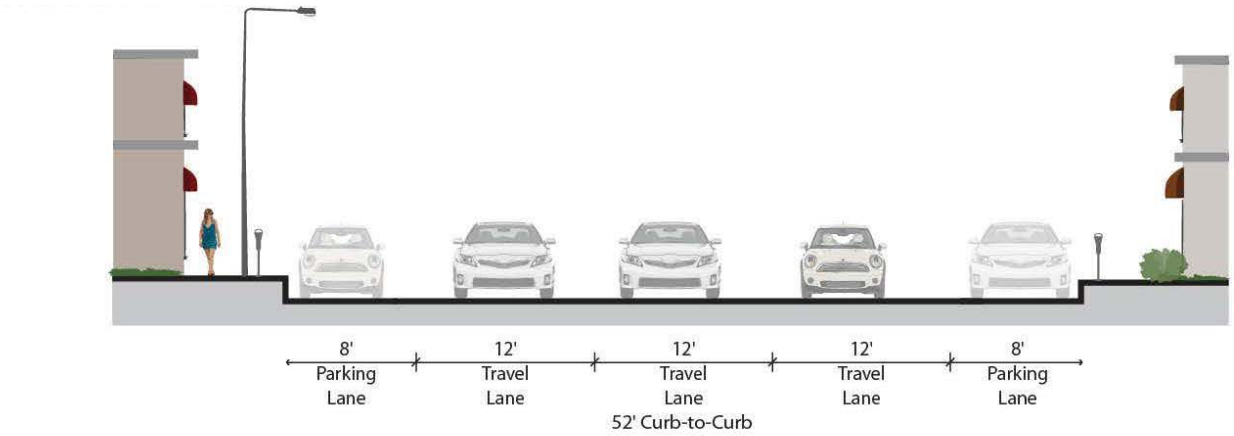
Hillcrest - Bankers Hill: 3rd Avenue
3rd Avenue

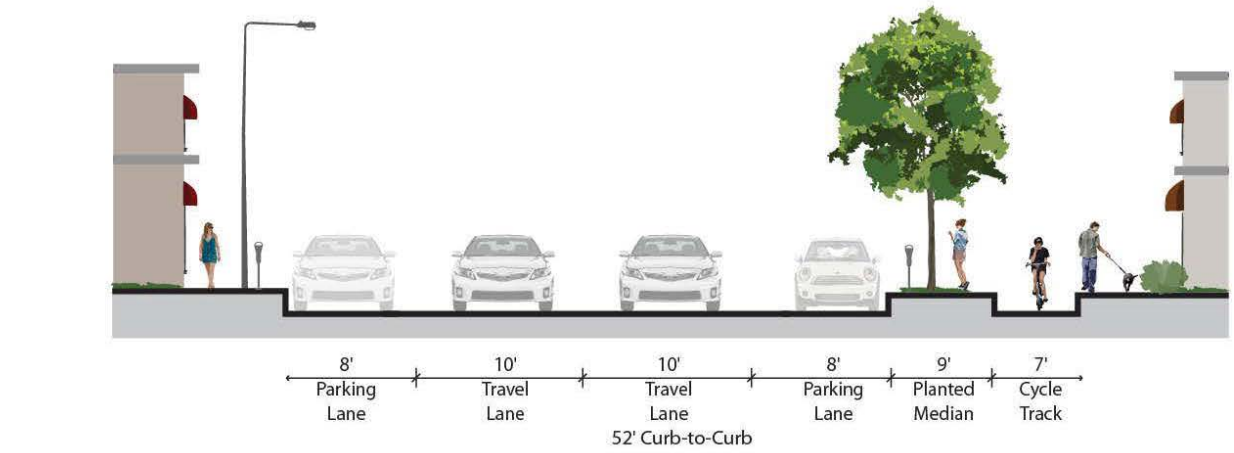


Hillcrest - Bankers Hill: 4th Avenue
4th Avenue: Lewis Street - Upas Street

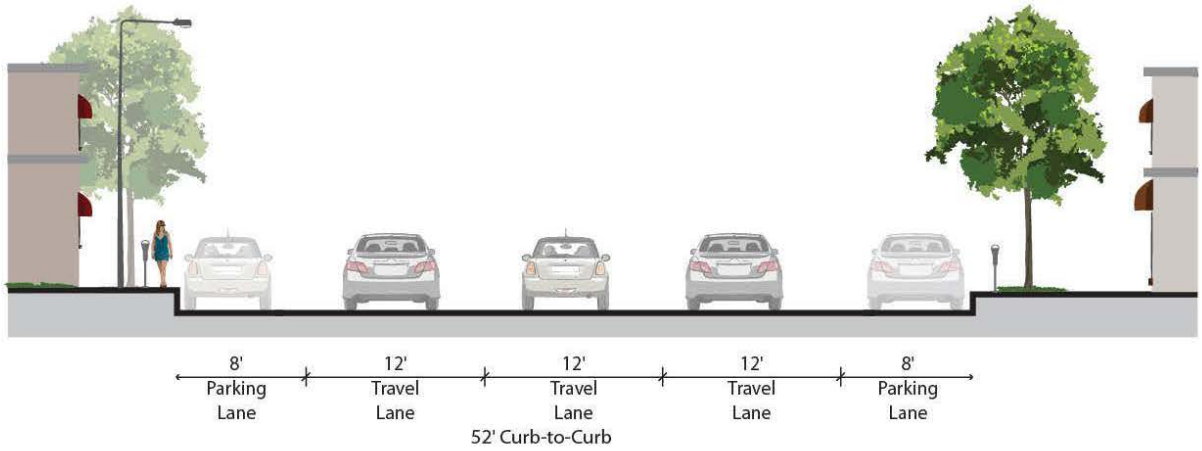


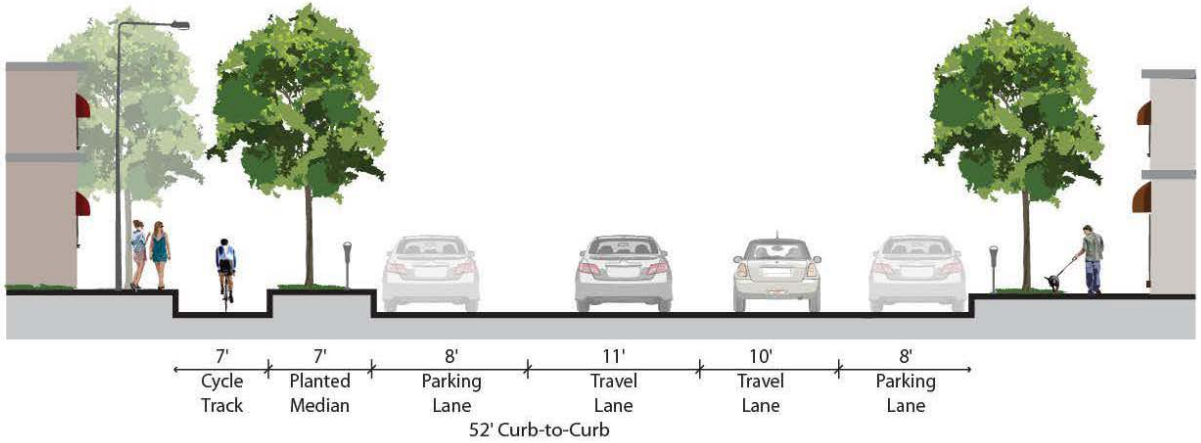
Bankers Hill - Downtown: 4th Avenue
4th Avenue: Upas Street - C Street



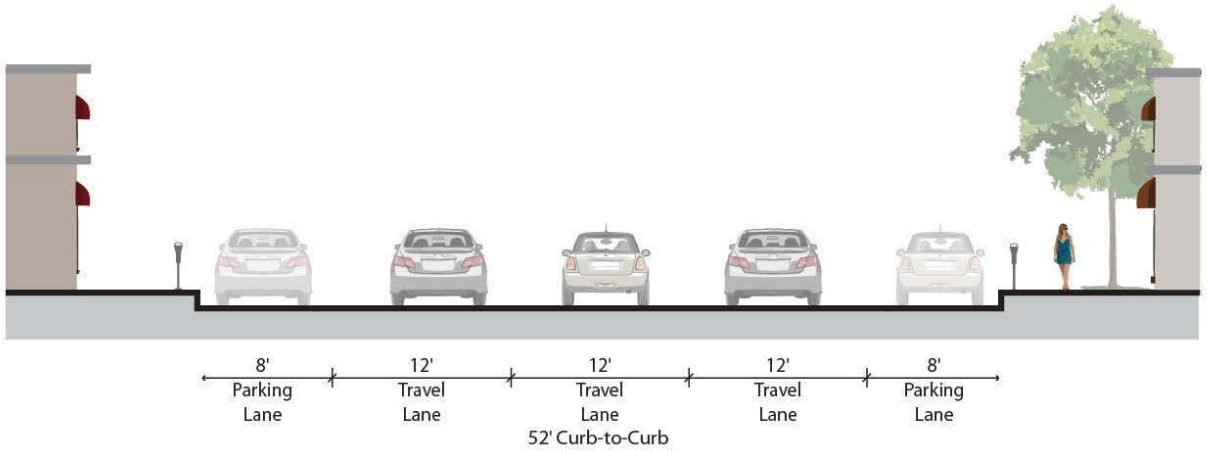


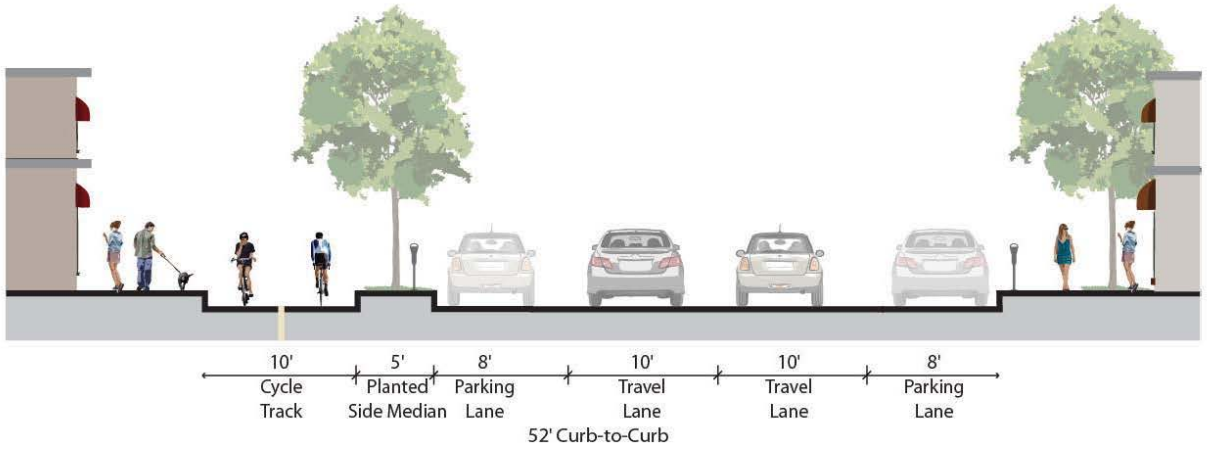
Hillcrest - Bankers Hill: 5th Avenue
5th Avenue: Washington Street - Upas Street



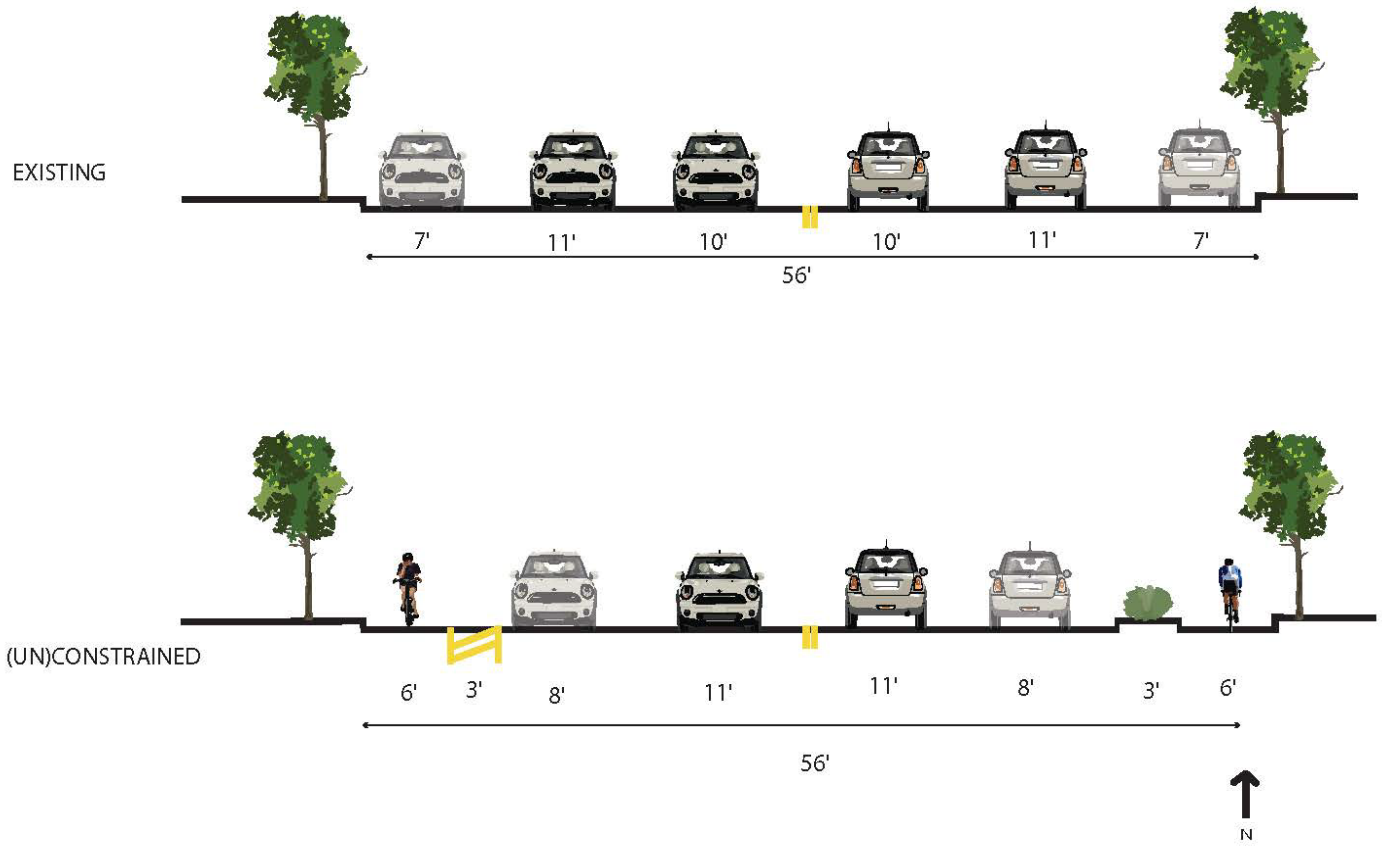


Bankers Hill - Downtown: 5th Avenue
5th Avenue: Upas Street - C Street

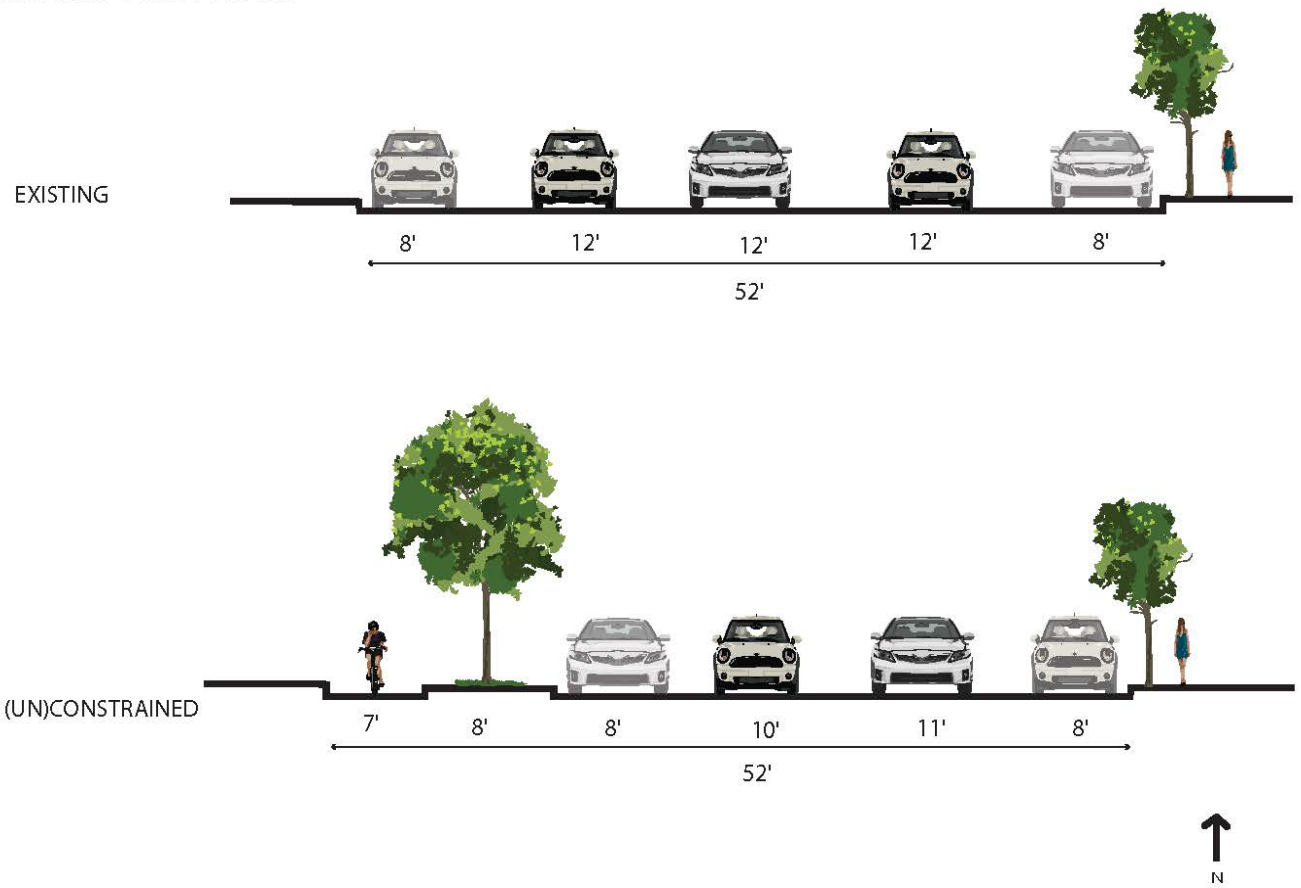




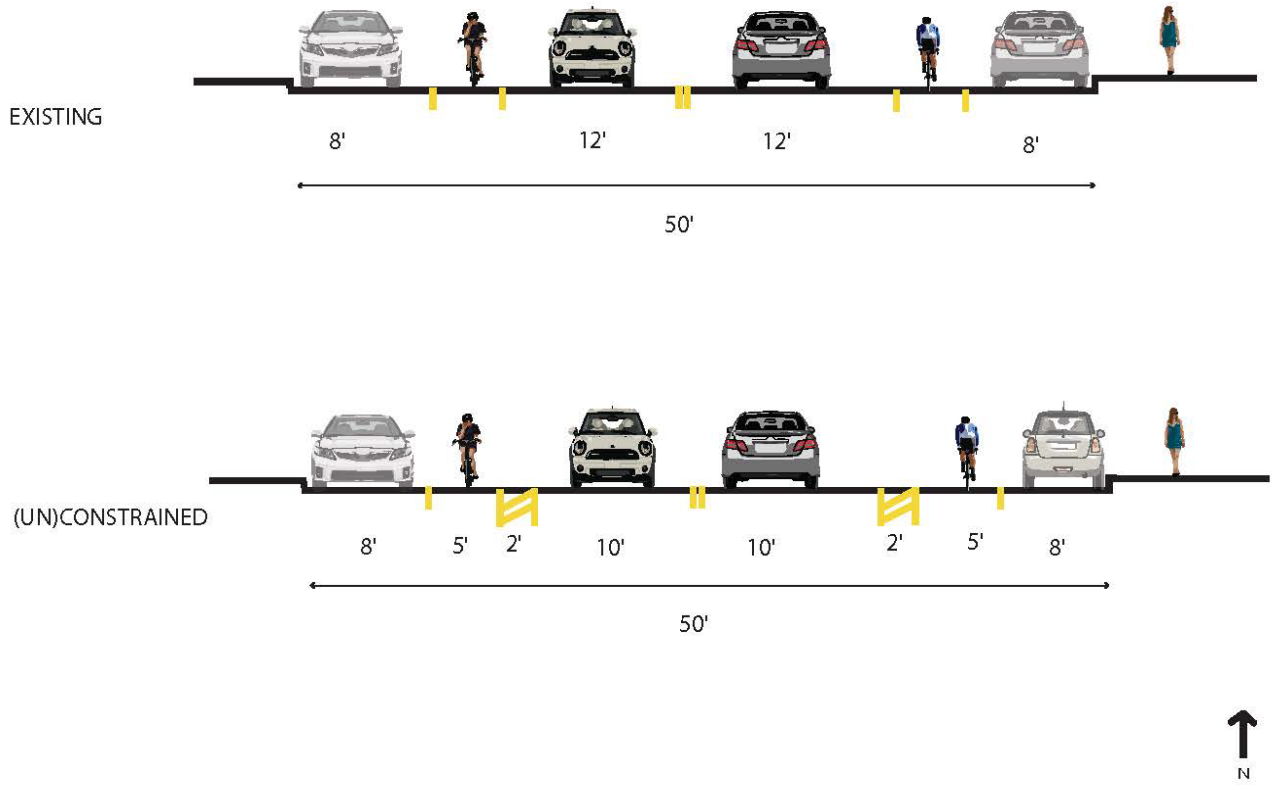
Hillcrest - Bankers Hill: 6th Avenue
6th Avenue: Washington Street - Upas Street



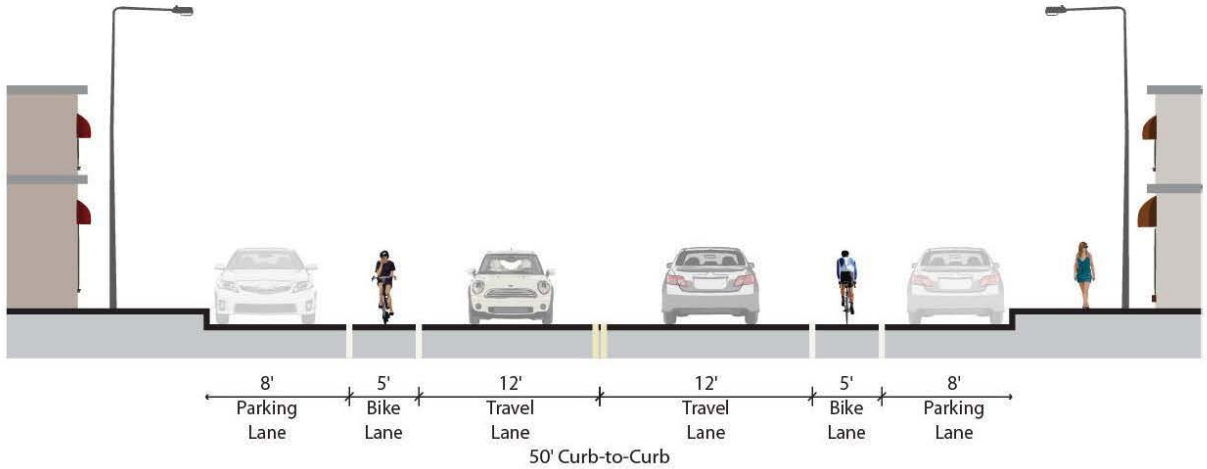
Bankers Hill - Downtown: 6th Avenue
6th Avenue: Upas Street - C Street

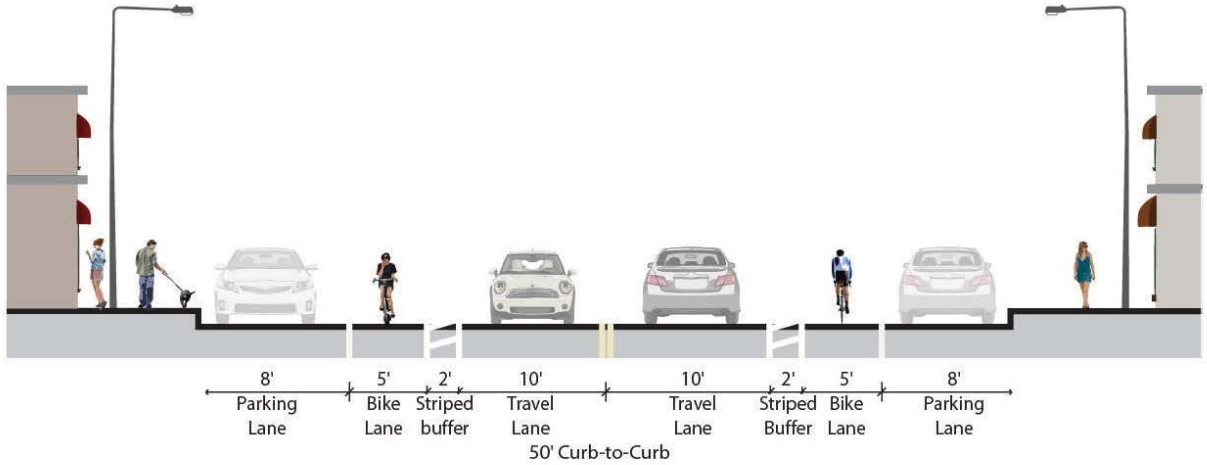


Old Town - Five Points: Congress/San Diego Avenue
San Diego Avenue: Hortensia Street - Pringle Street

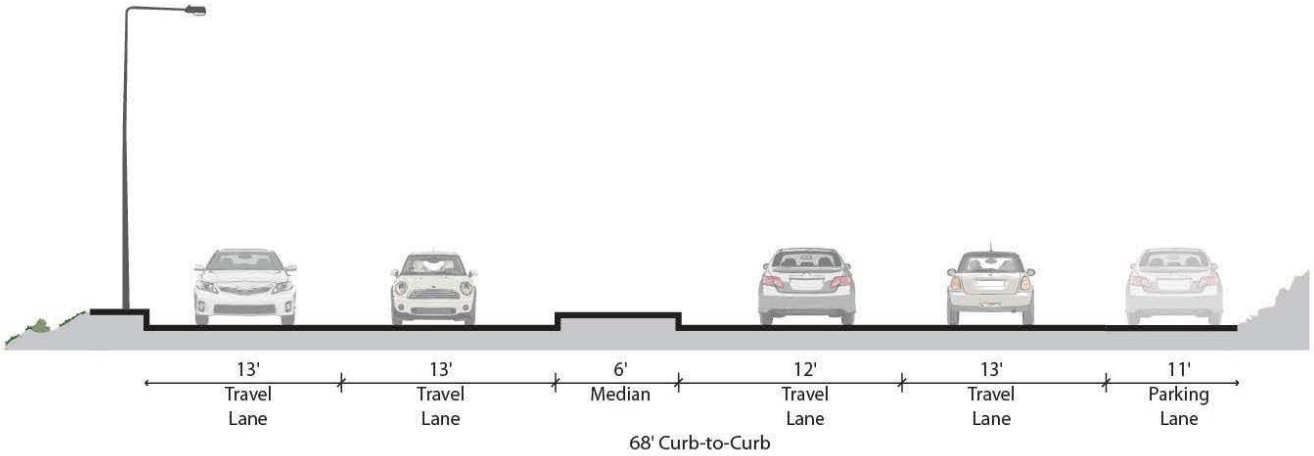


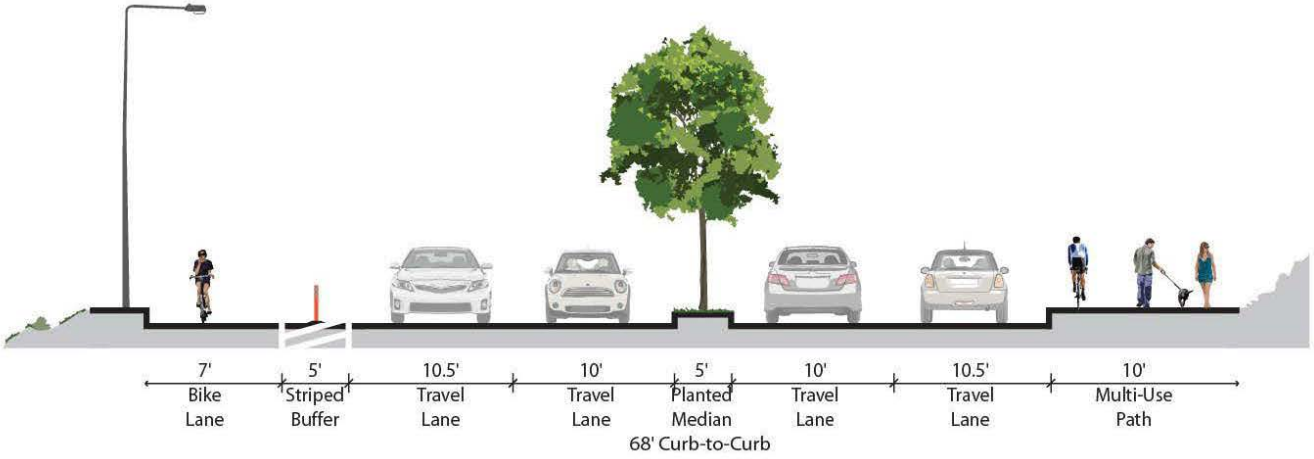
San Diego Avenue



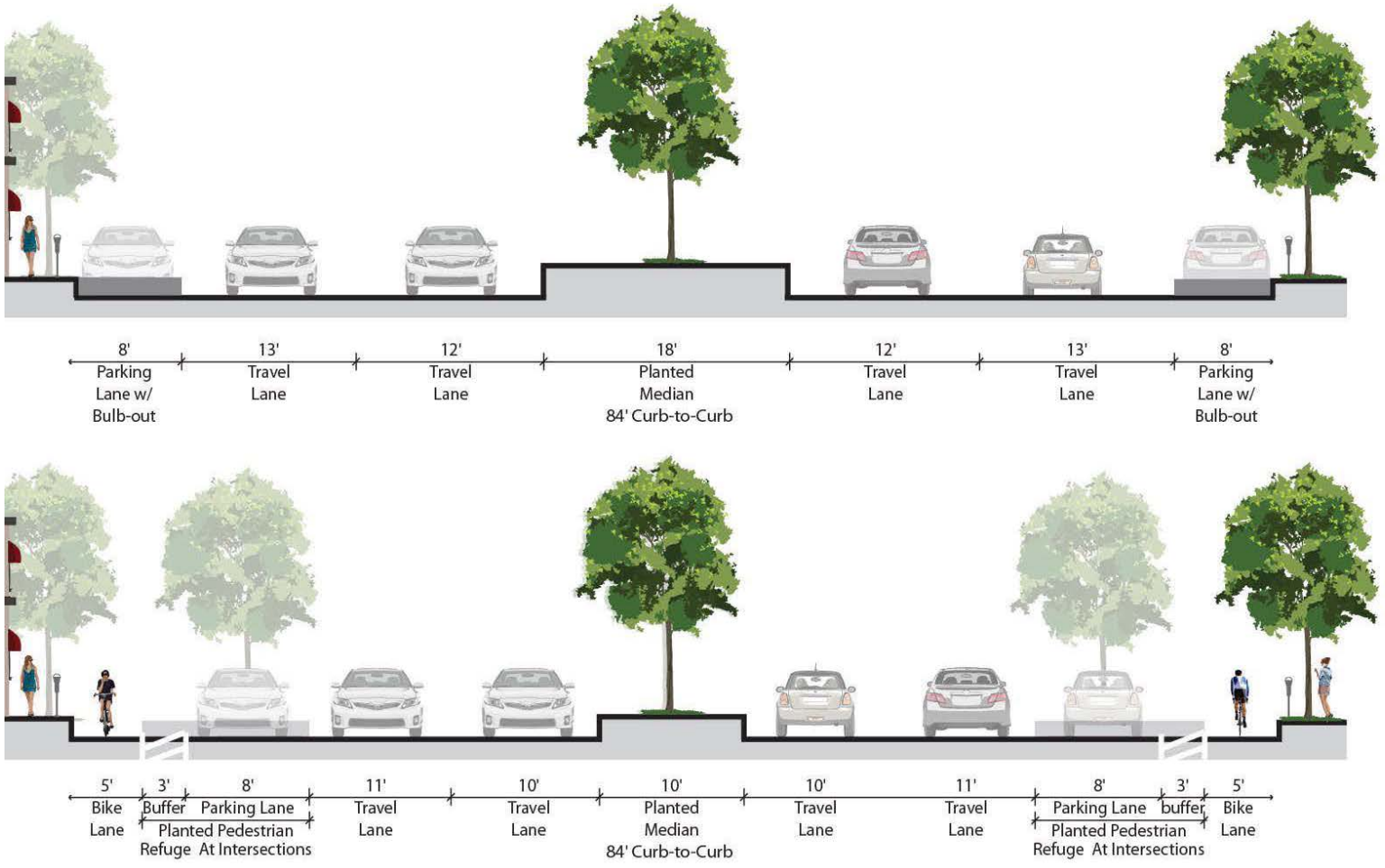


Five Points - Mission Hills: Washington Street
Washington Avenue: India Street - Ibis Court

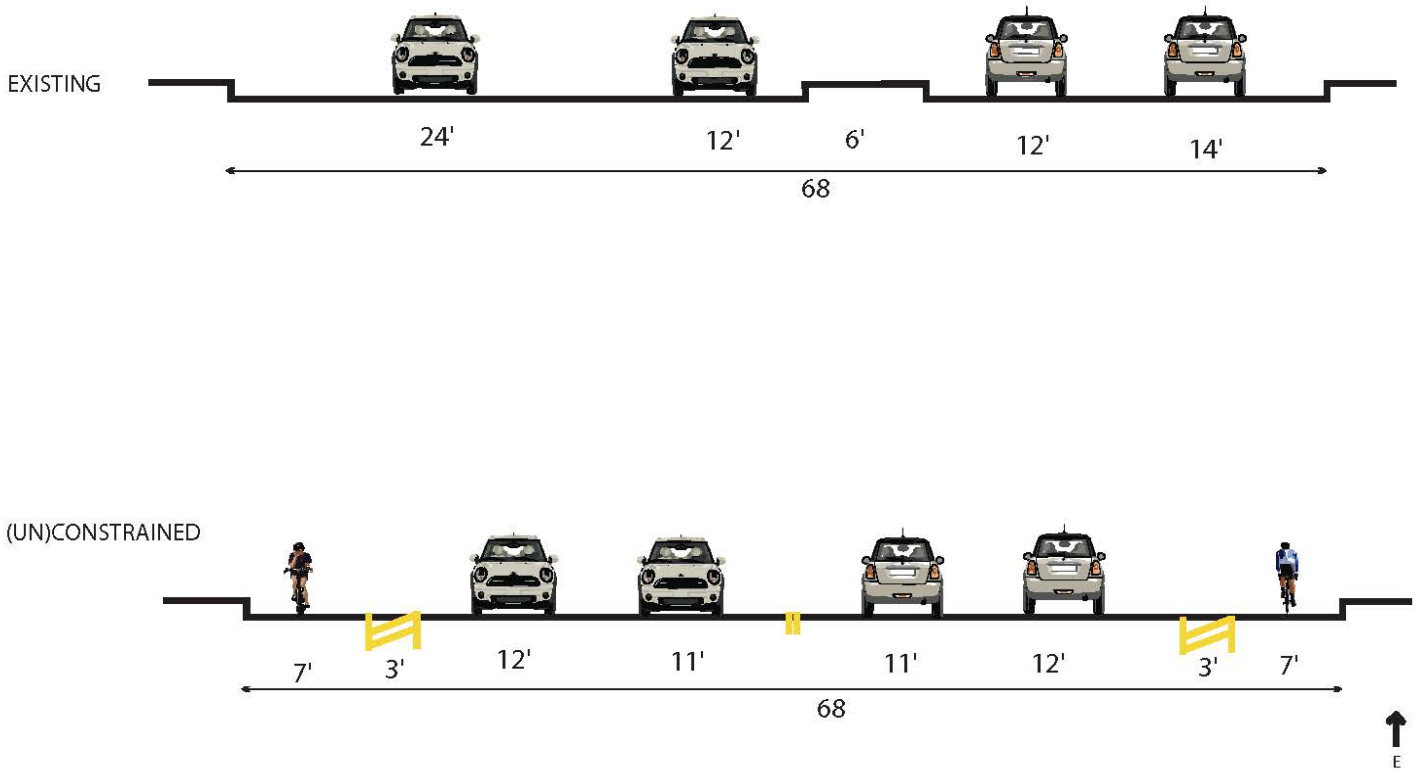




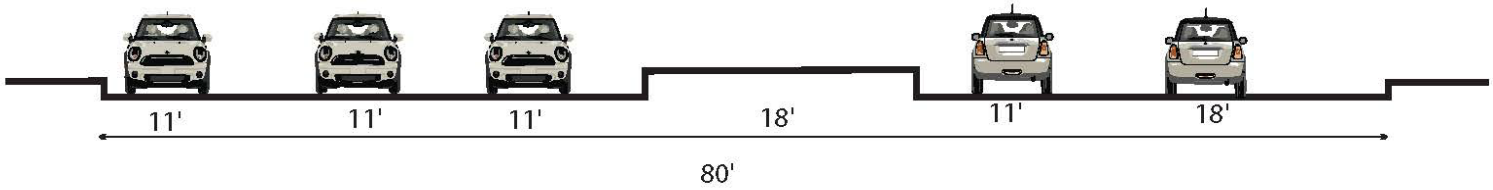
Mission Hills - Hillcrest: Washington Avenue
Washington Avenue: Ibis Court - 9th Avenue



Hillcrest - North Park: Washington Street
Washington Street at SR 163



Hillcrest - North Park: Washington Avenue
Washington Street East of SR 163



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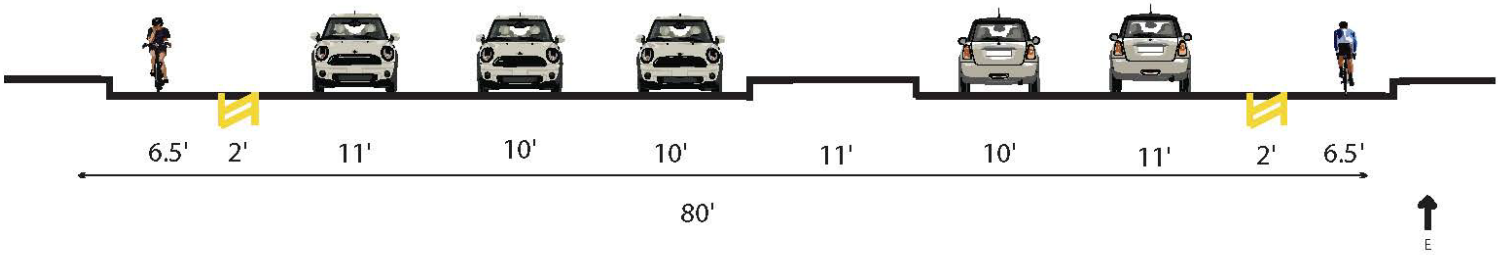
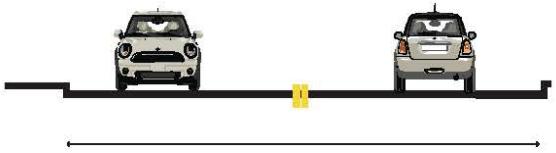
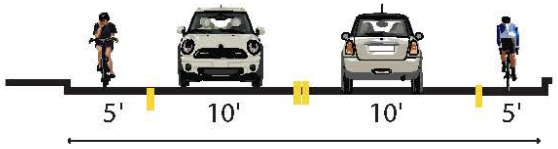


Mission Hills - Hillcrest: University Avenue
University Avenue and Falcon Street

EXISTING

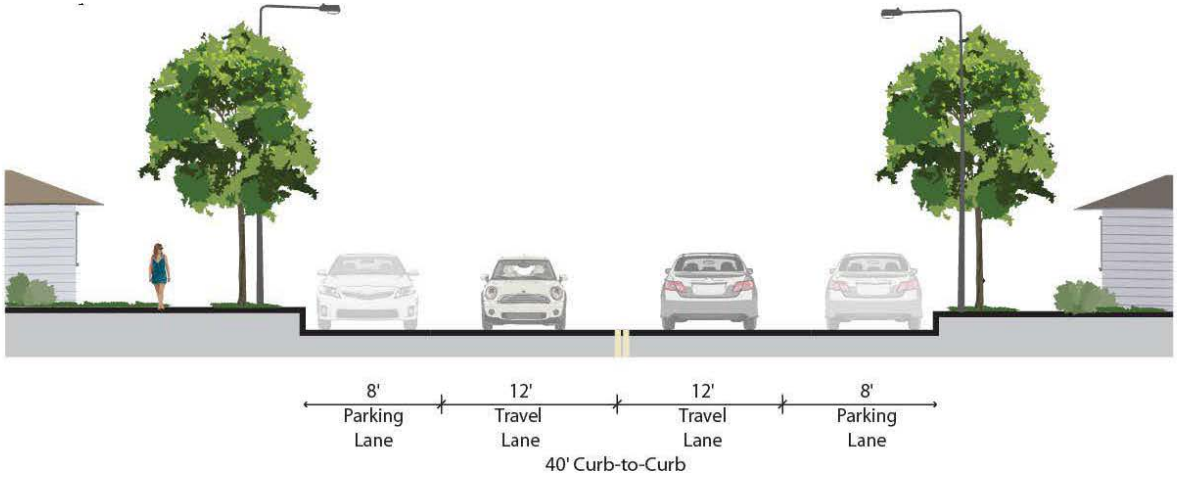


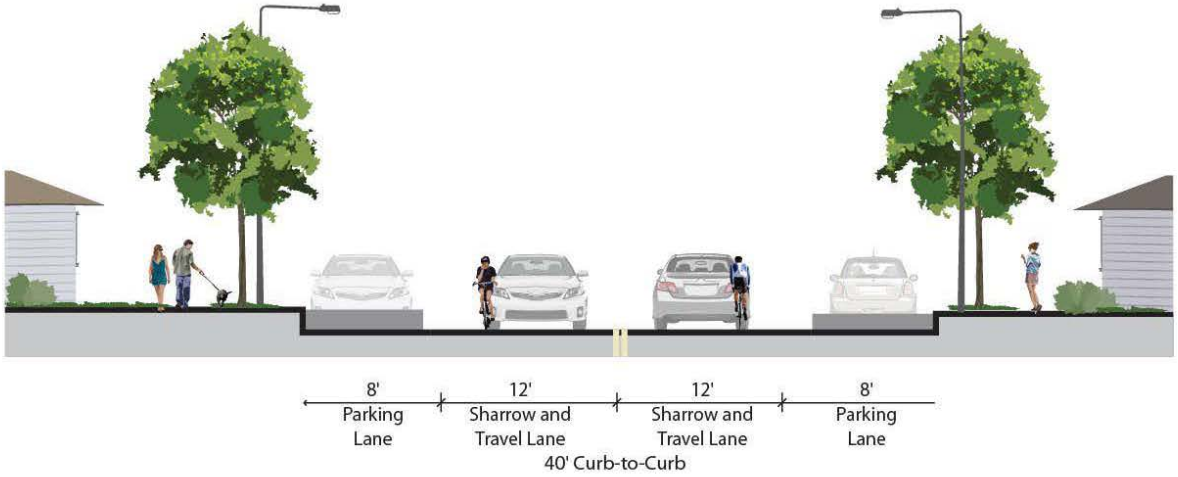
OPTION



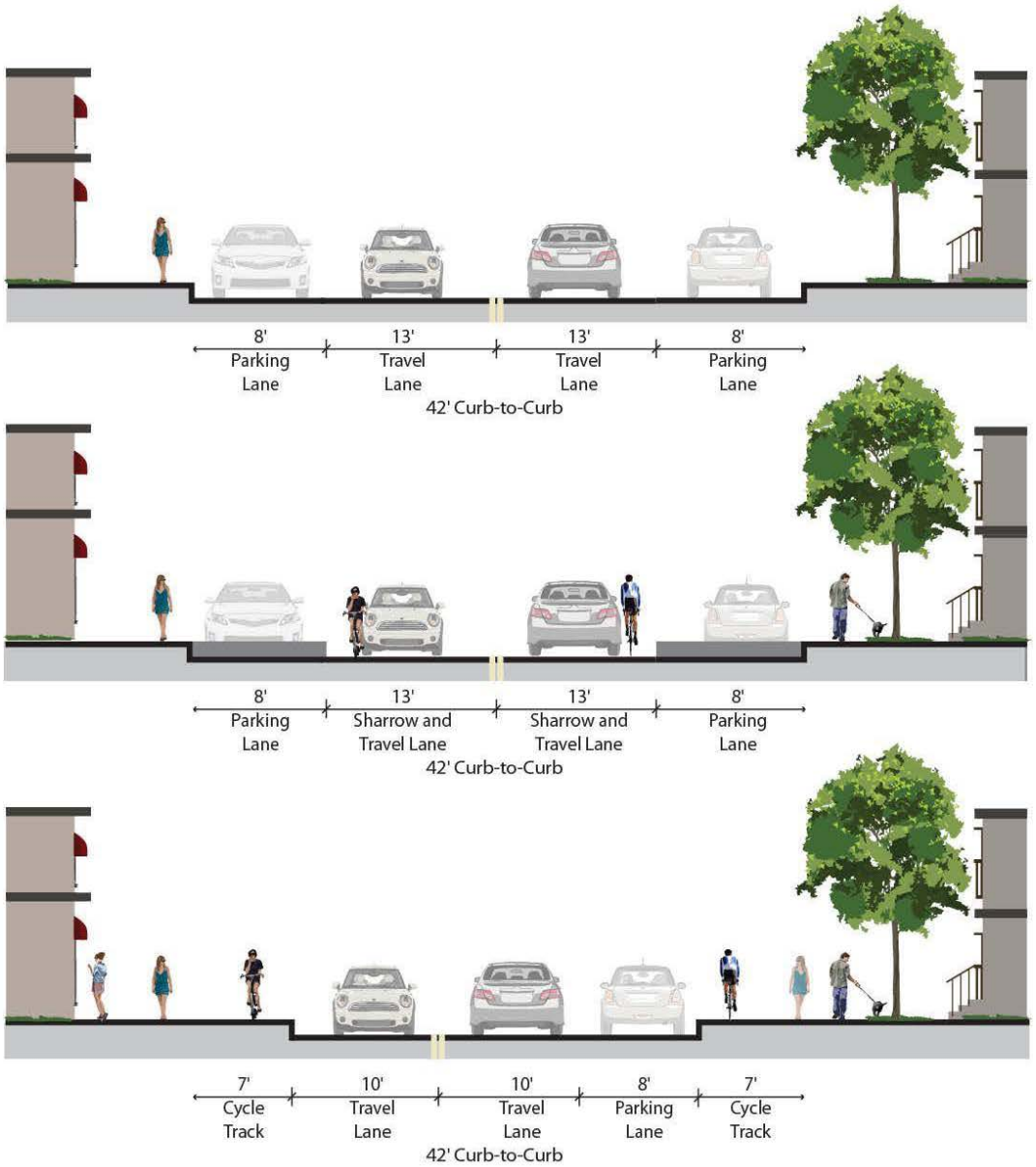
E

Mission Hills - Hillcrest: University Avenue
University Avenue: Albatross Street - Front Street

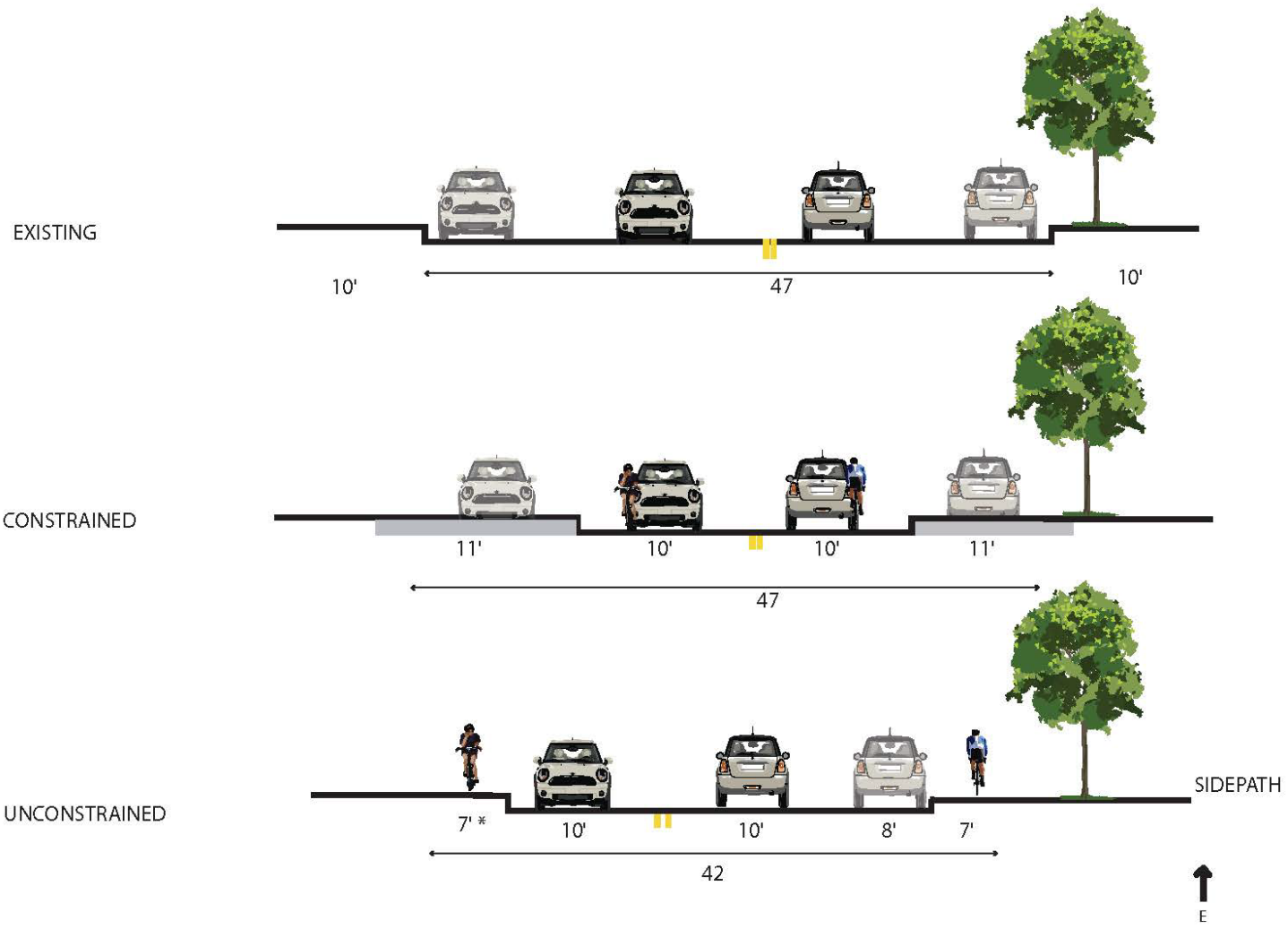




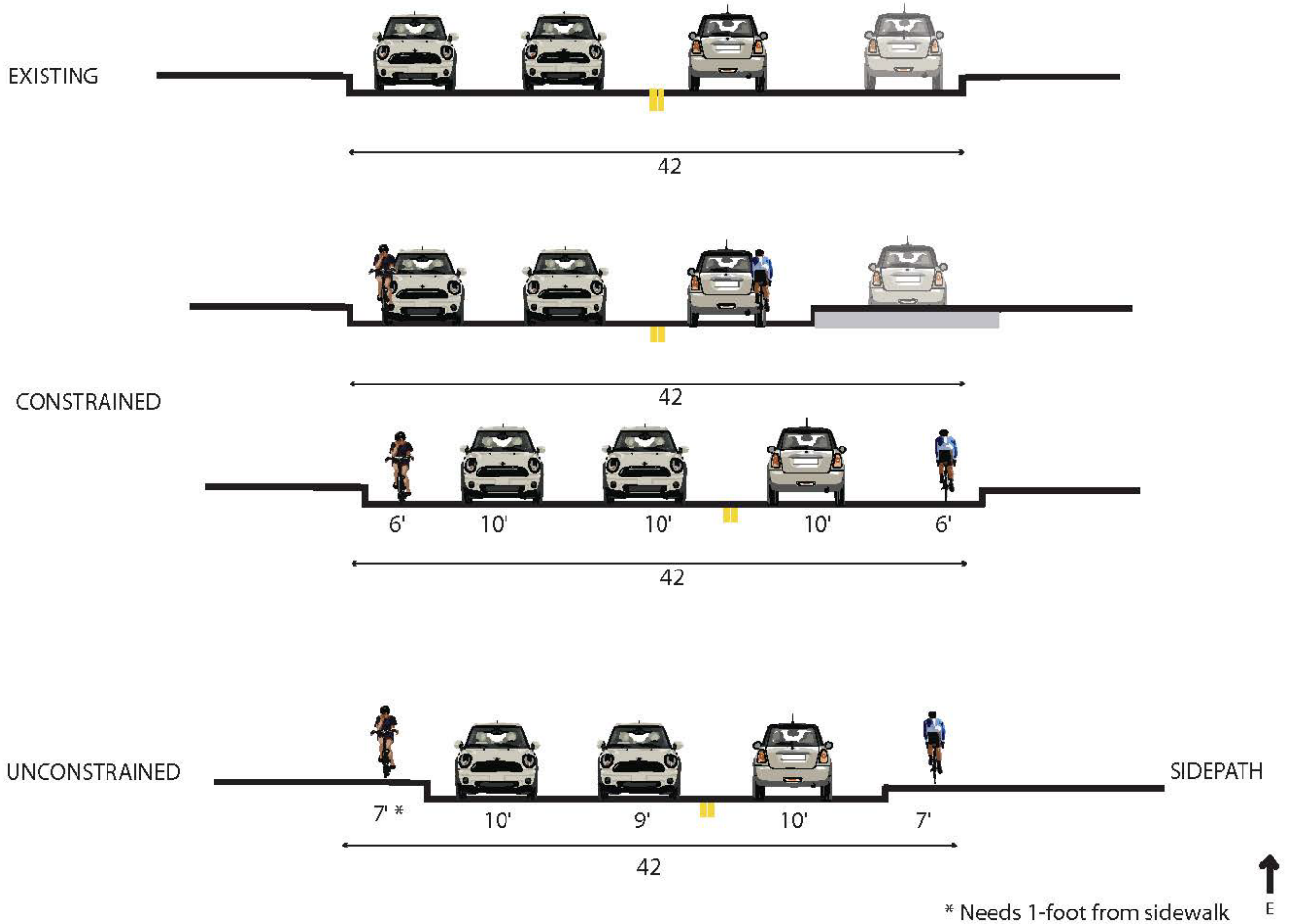
Mission Hills - Hillcrest: University Avenue
University Avenue: Front Street - 3rd Avenue



Hillcrest - Hillcrest: University Avenue
University Avenue: 3rd Avenue (Alley) - 4th Avenue

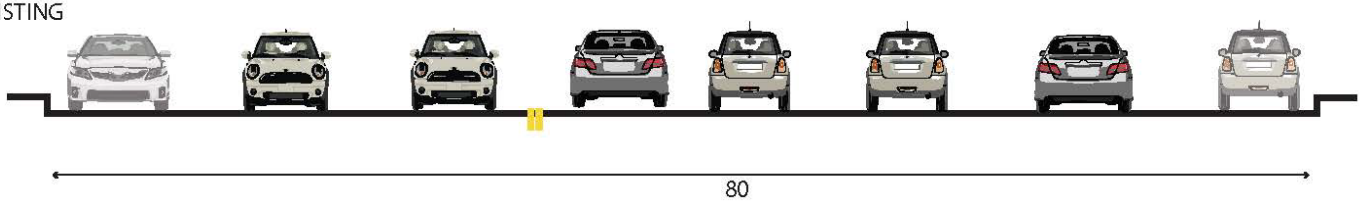


Hillcrest - Hillcrest: University Avenue
University Avenue: 4th Avenue - 5th Avenue



Hillcrest - Hillcrest: University Avenue
University Avenue: 5th Avenue - 6th Avenue

EXISTING



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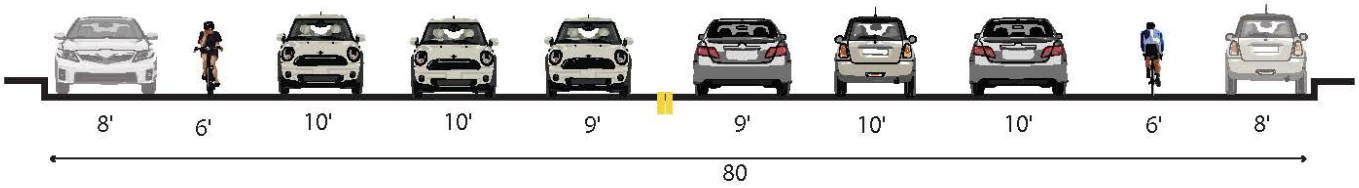

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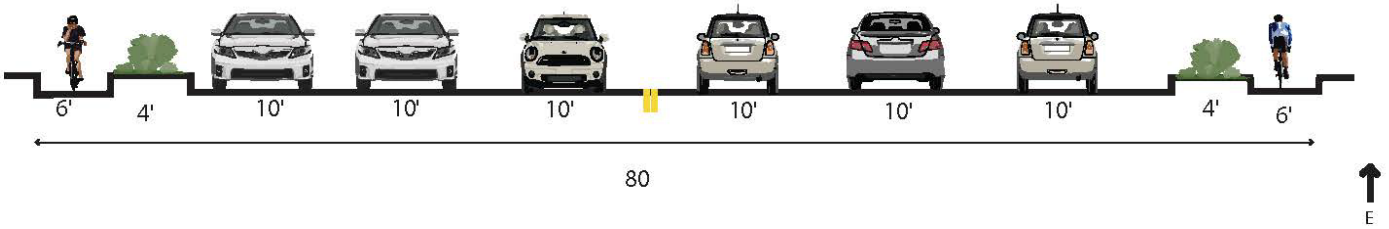
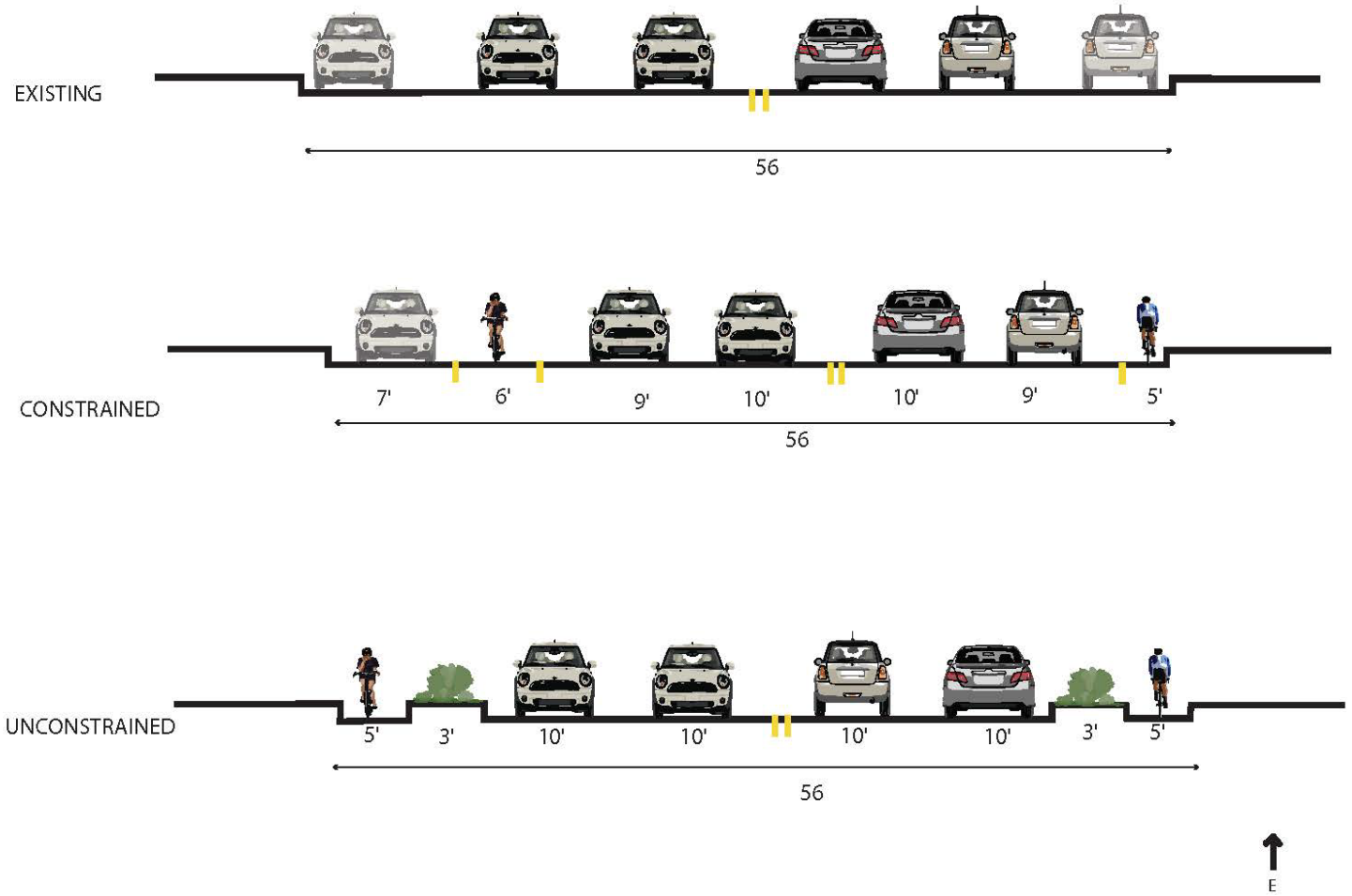
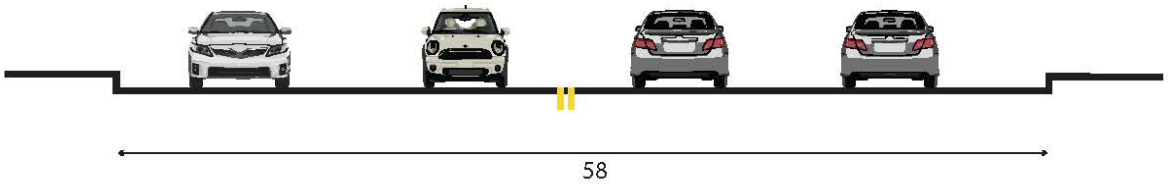


Hillcrest - Hillcrest: University Avenue
University Avenue: 6th Avenue - 9th Avenue



Hillcrest - North Park: University Avenue
University Avenue: 9th Avenue - 10th Avenue

EXISTING



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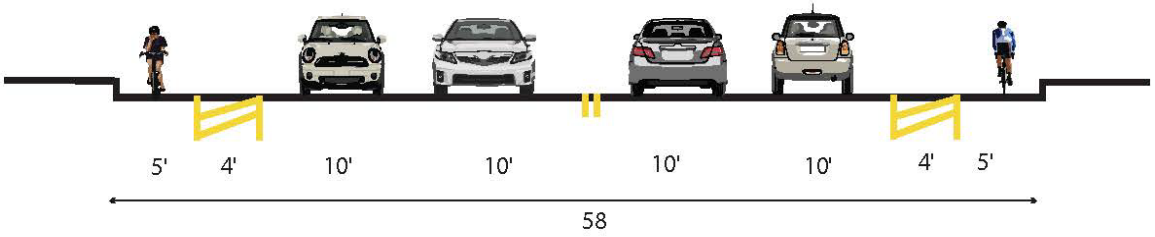
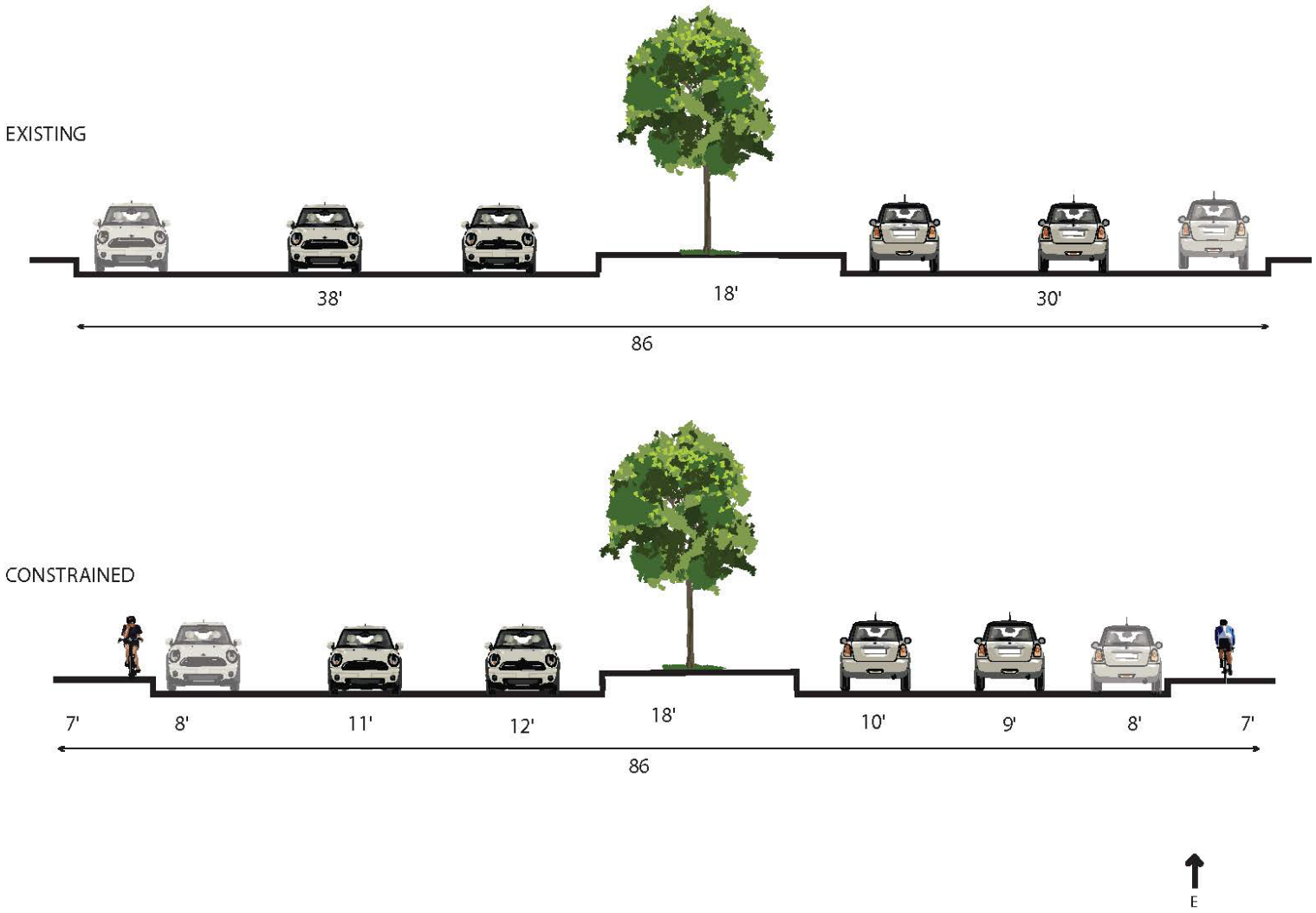
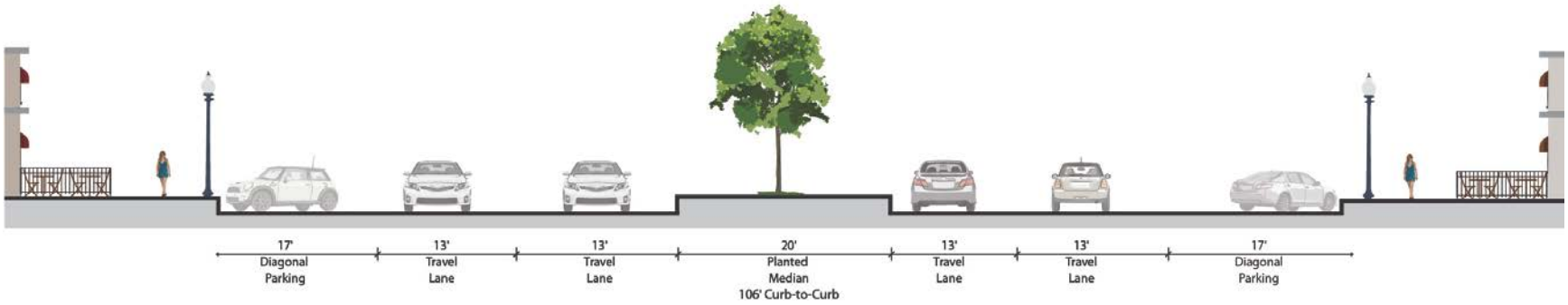


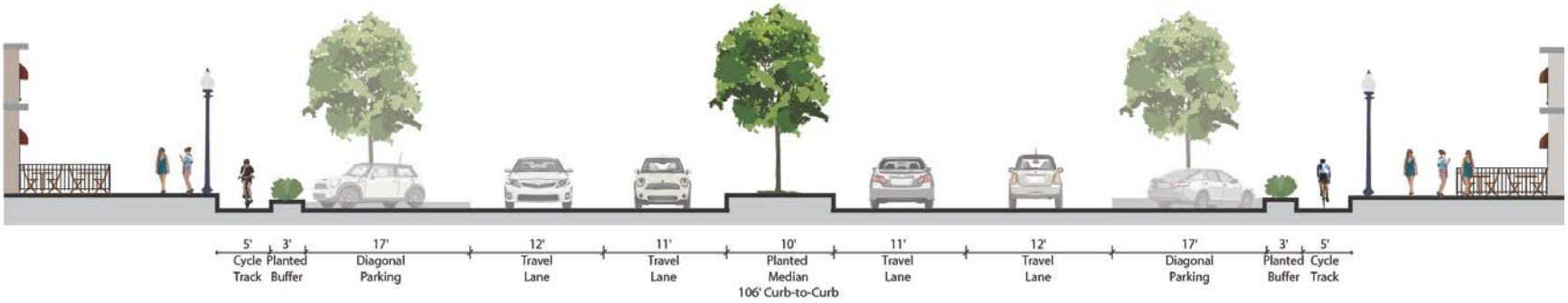
Hillcrest - North Park: University Avenue
University Avenue: 10th Avenue - Vermont Street



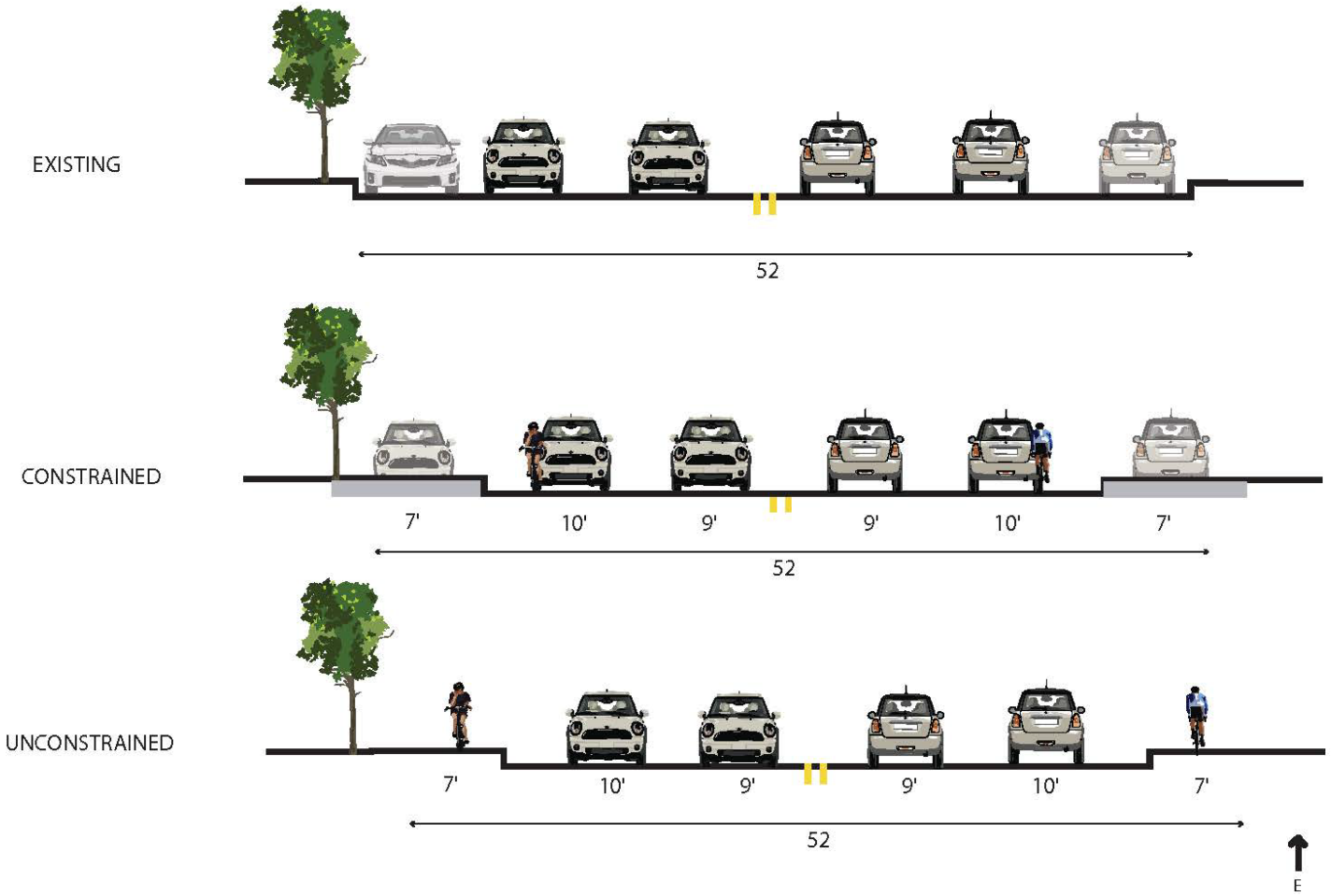
* Median may need to be narrowed.

Hillcrest - North Park: University Avenue
University Avenue: Vermont Street to Normal Street



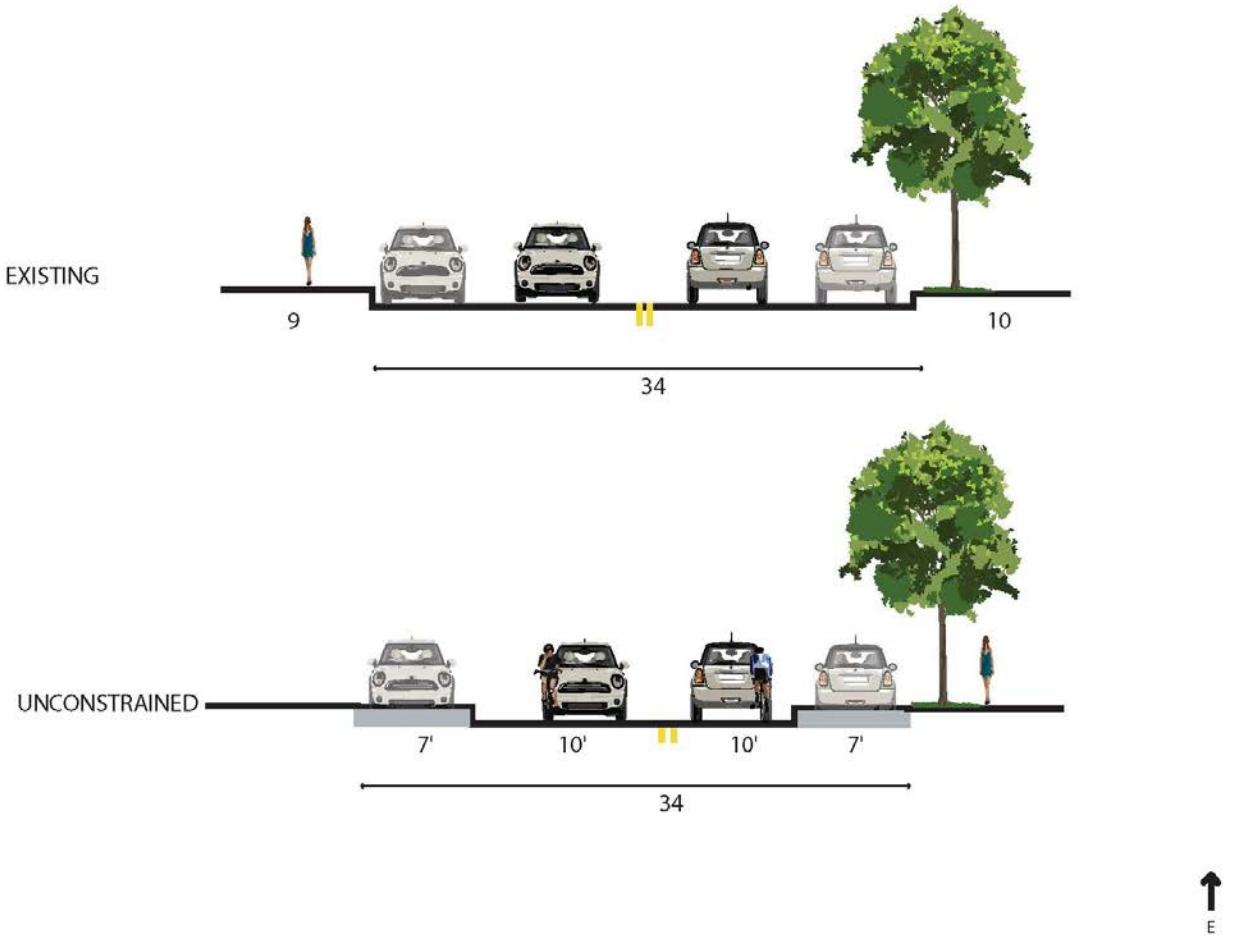


University Avenue: Normal Street - Centre Street

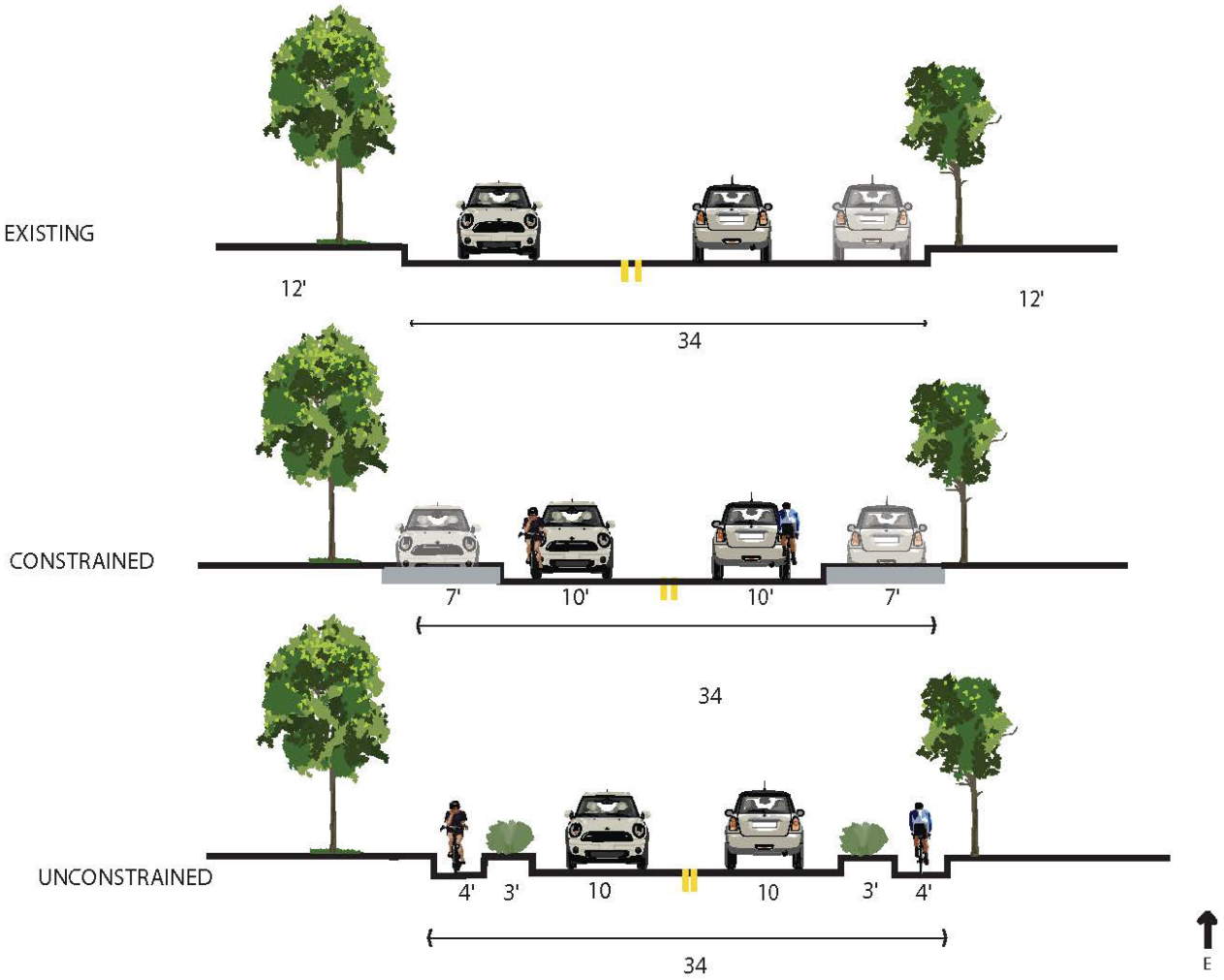


* Actual Street Width along this span measured at approximately 51' 9" in portions.

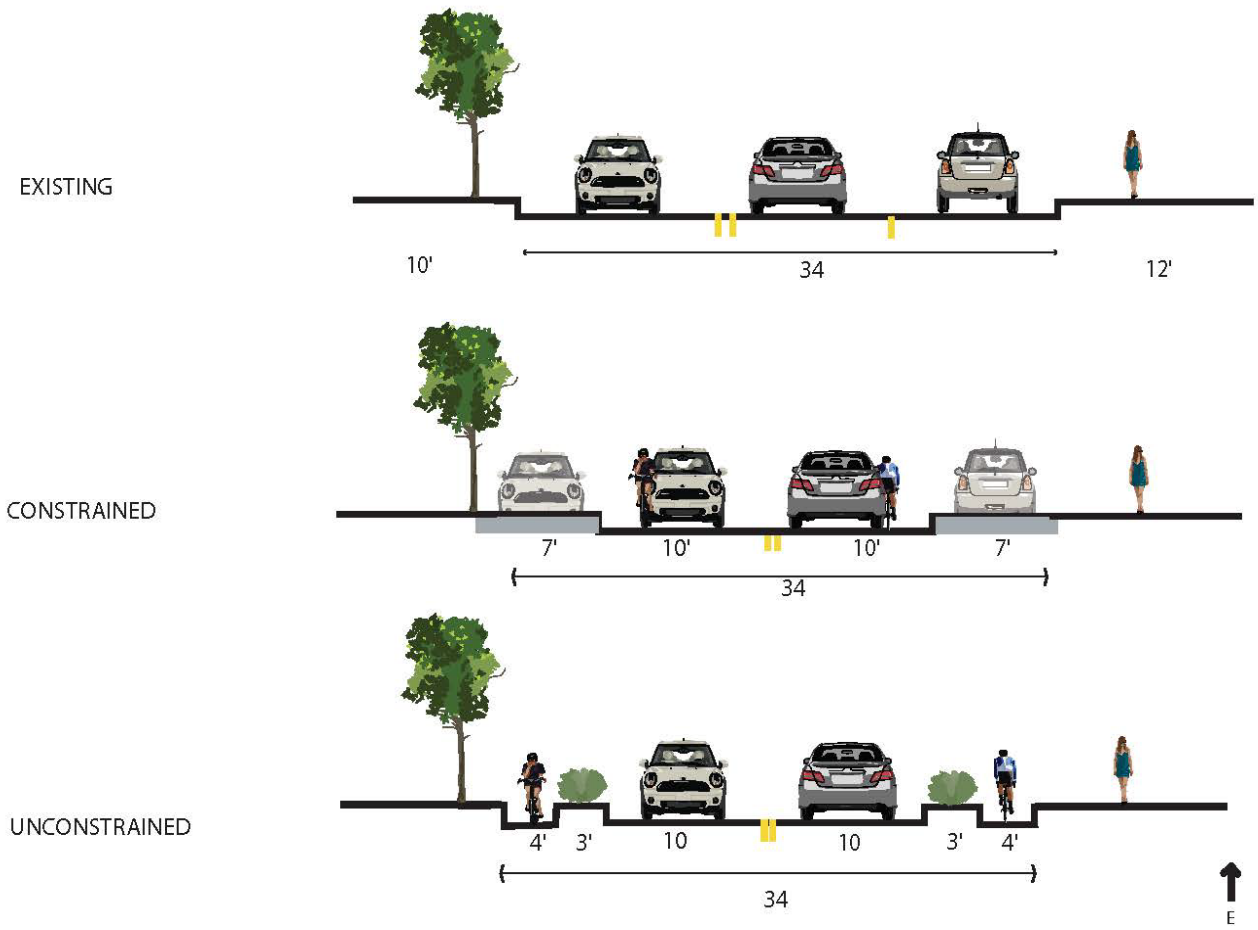
Hillcrest - Hillcrest: Robinson Avenue
Robinson Avenue: 1st Avenue - 3rd Avenue



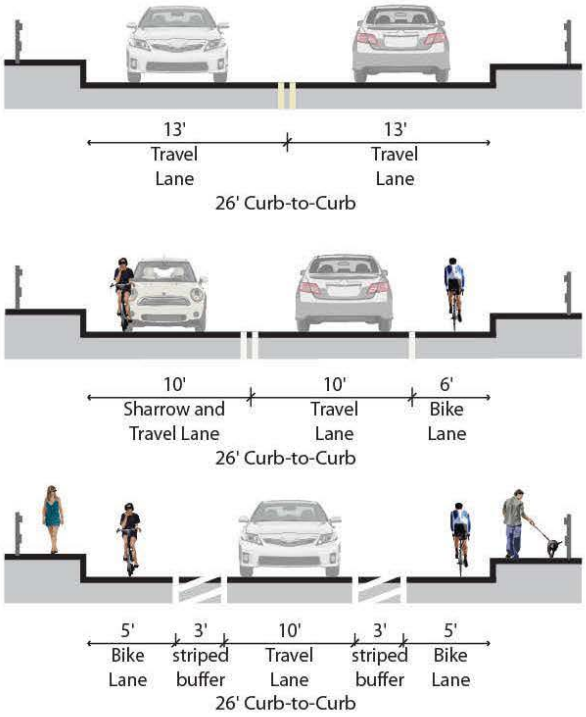
Hillcrest - Hillcrest: Robinson Avenue
Robinson Avenue: 4th Avenue - 5th Avenue



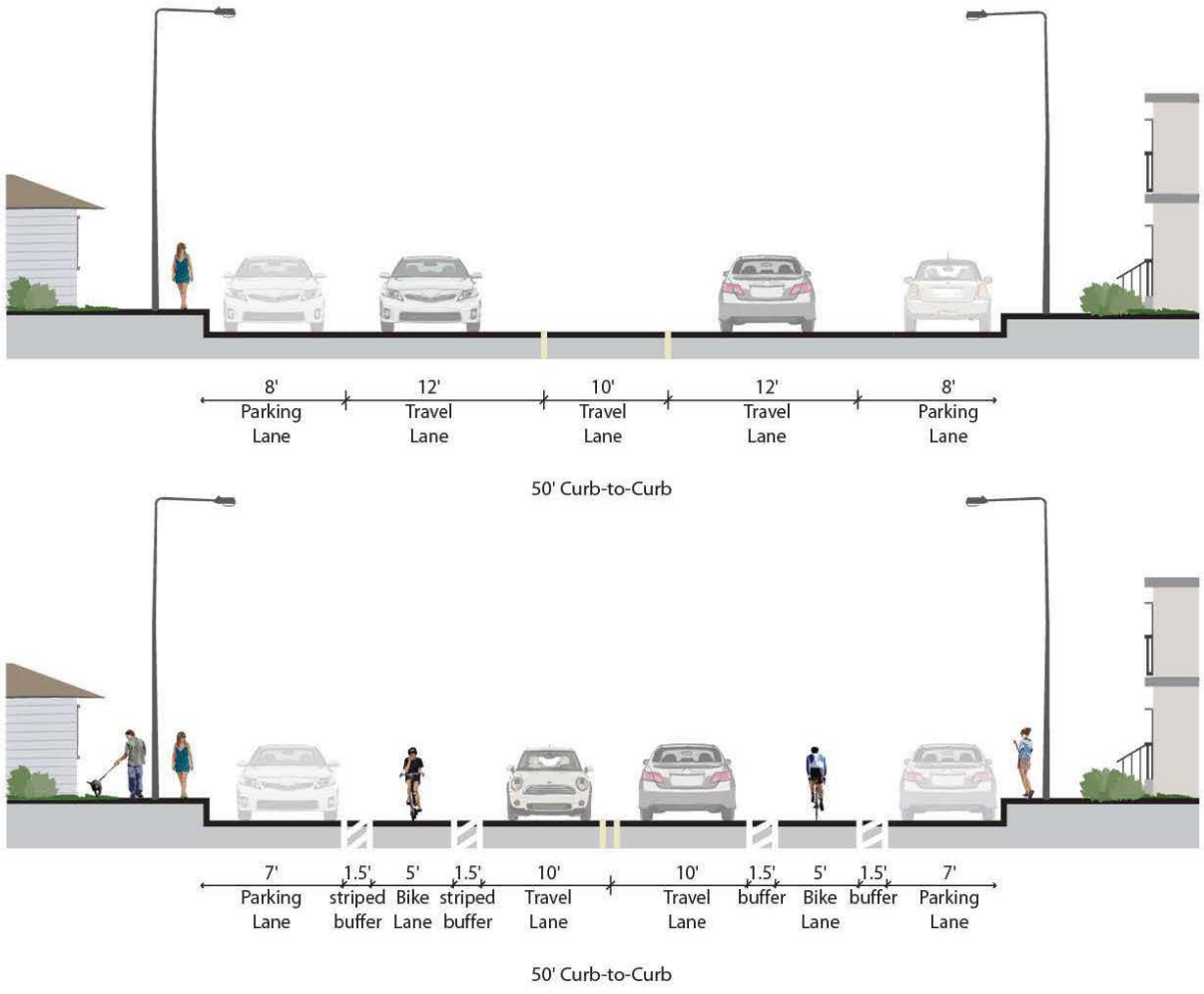
Hillcrest - Hillcrest: Robinson Avenue
Robinson Avenue: 5th Avenue - 6th Avenue



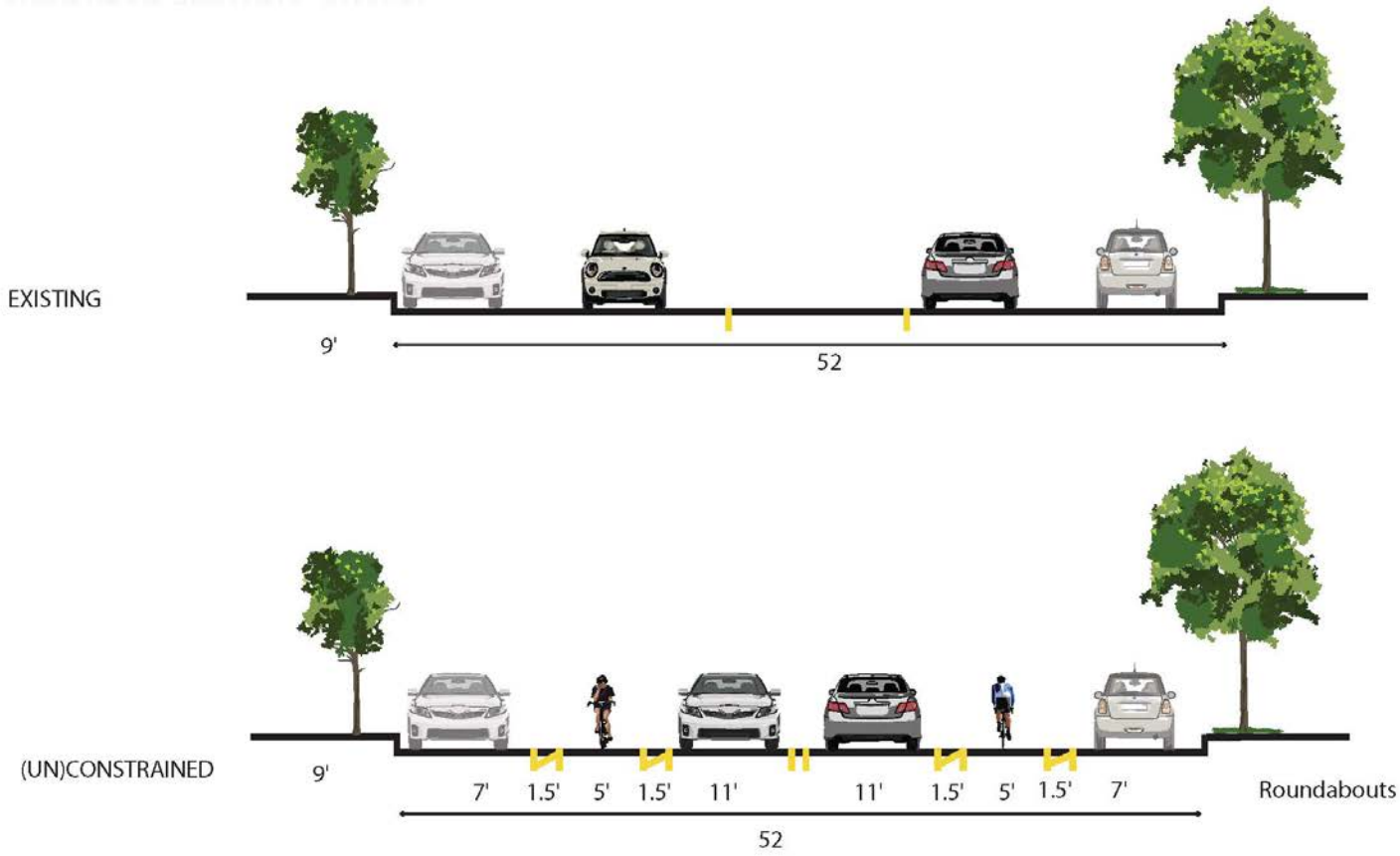
Hillcrest - North Park: Robinson Avenue
Robinson Avenue: 8th Avenue - 10th Avenue



Hillcrest - North Park: Robinson Avenue
Robinson Avenue: 10th Avenue - Vermont Street

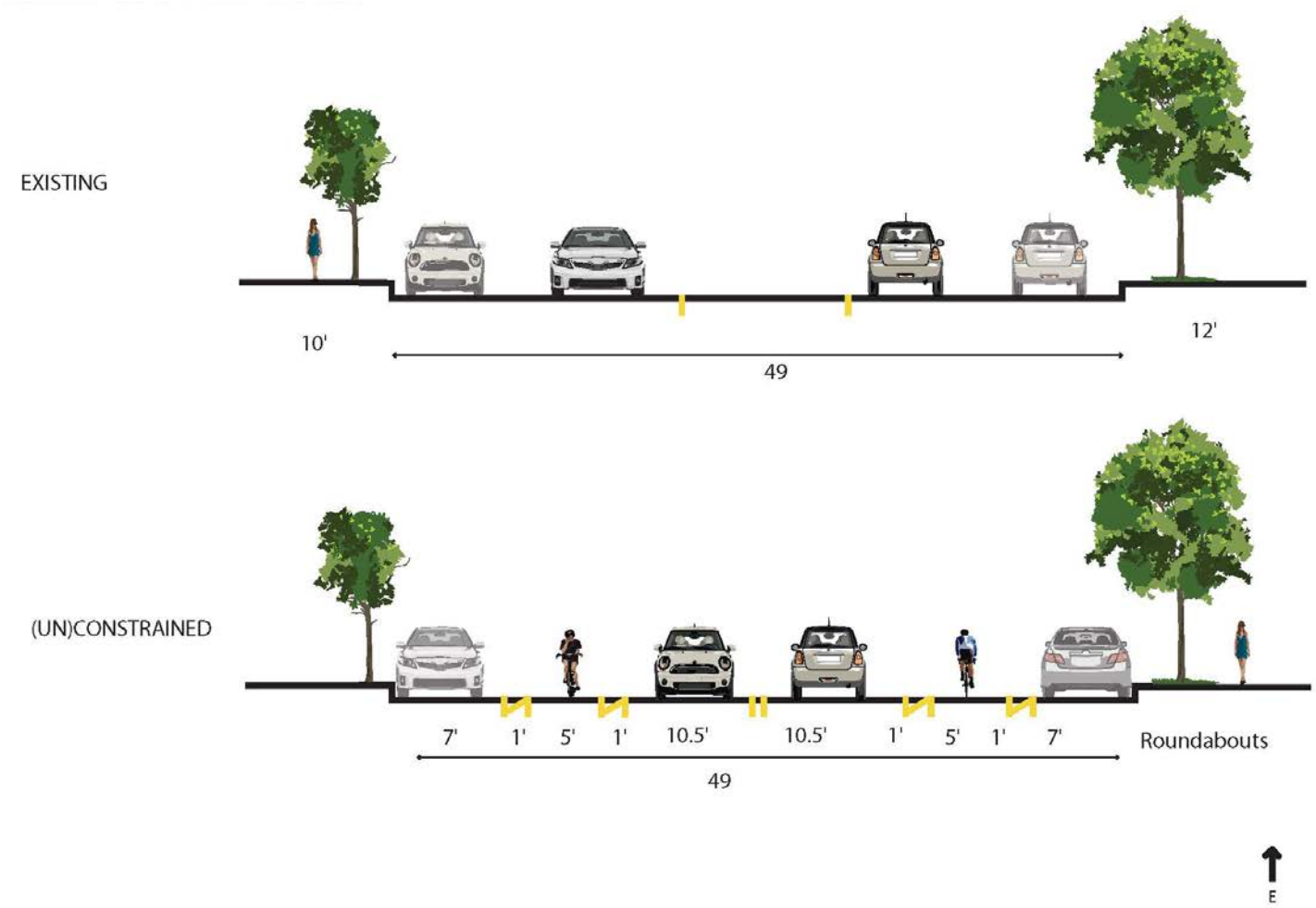


Hillcrest - North Park: Robinson Avenue
Robinson Avenue: Vermont Street - Centre Street

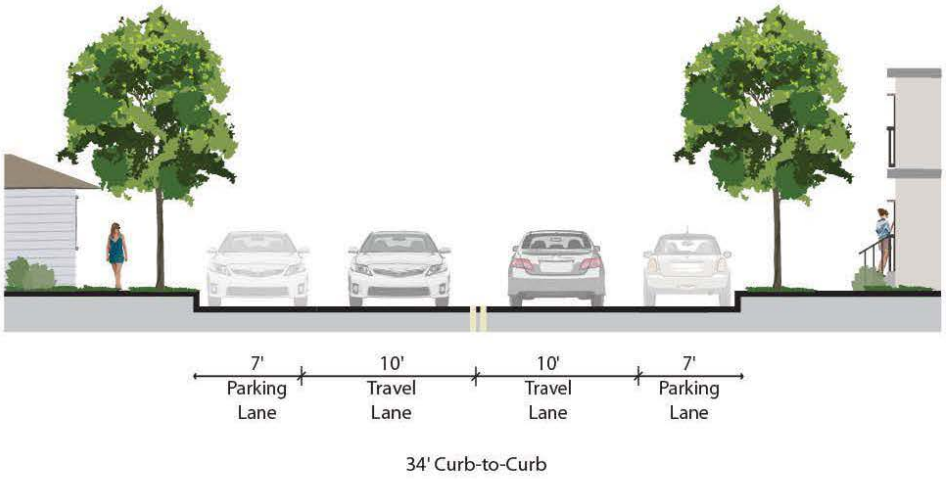


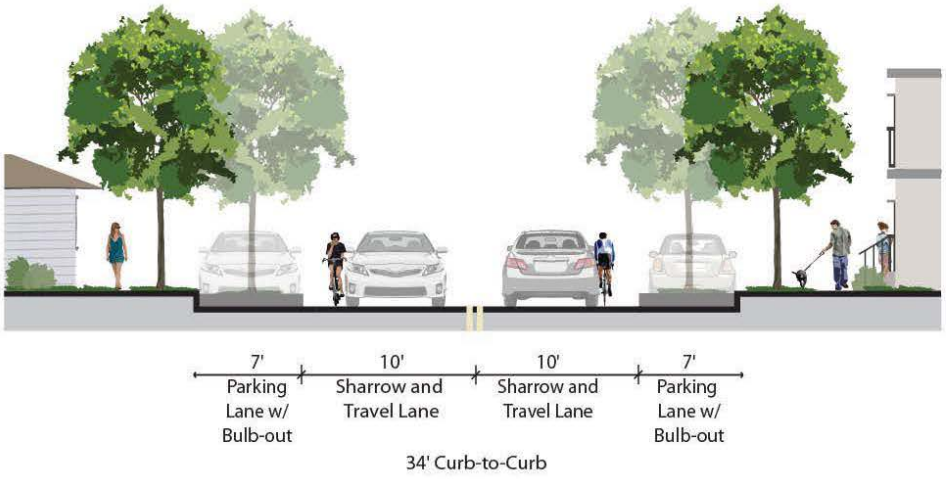
* Actual Street Width along this span measured at approximately 51'6".

Hillcrest - North Park: Robinson Avenue
Robinson Avenue: Centre Street - Park Boulevard

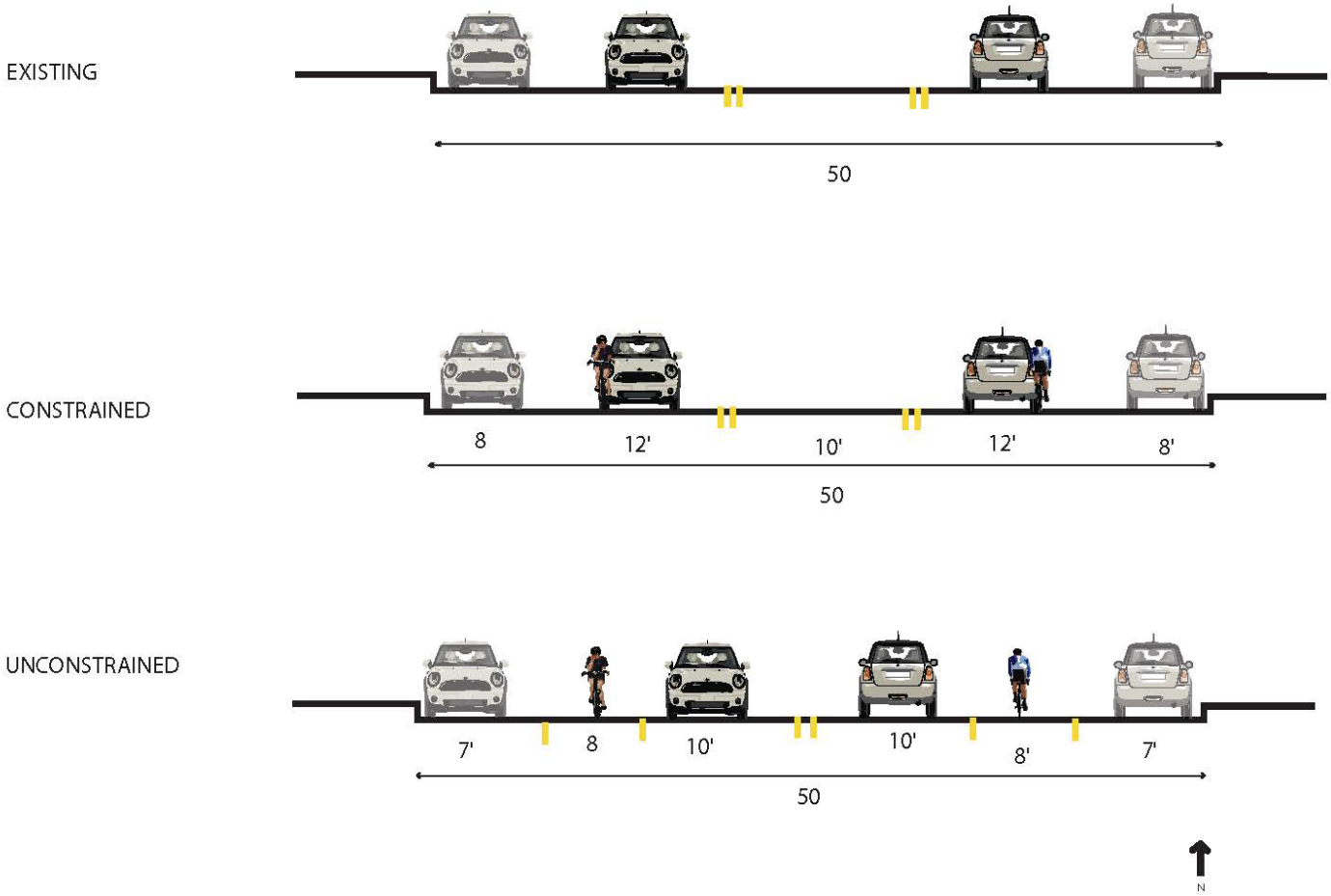


Hillcrest - North Park: Pennsylvania Avenue
Pennsylvania Avenue: 3rd Avenue - Vermont Street

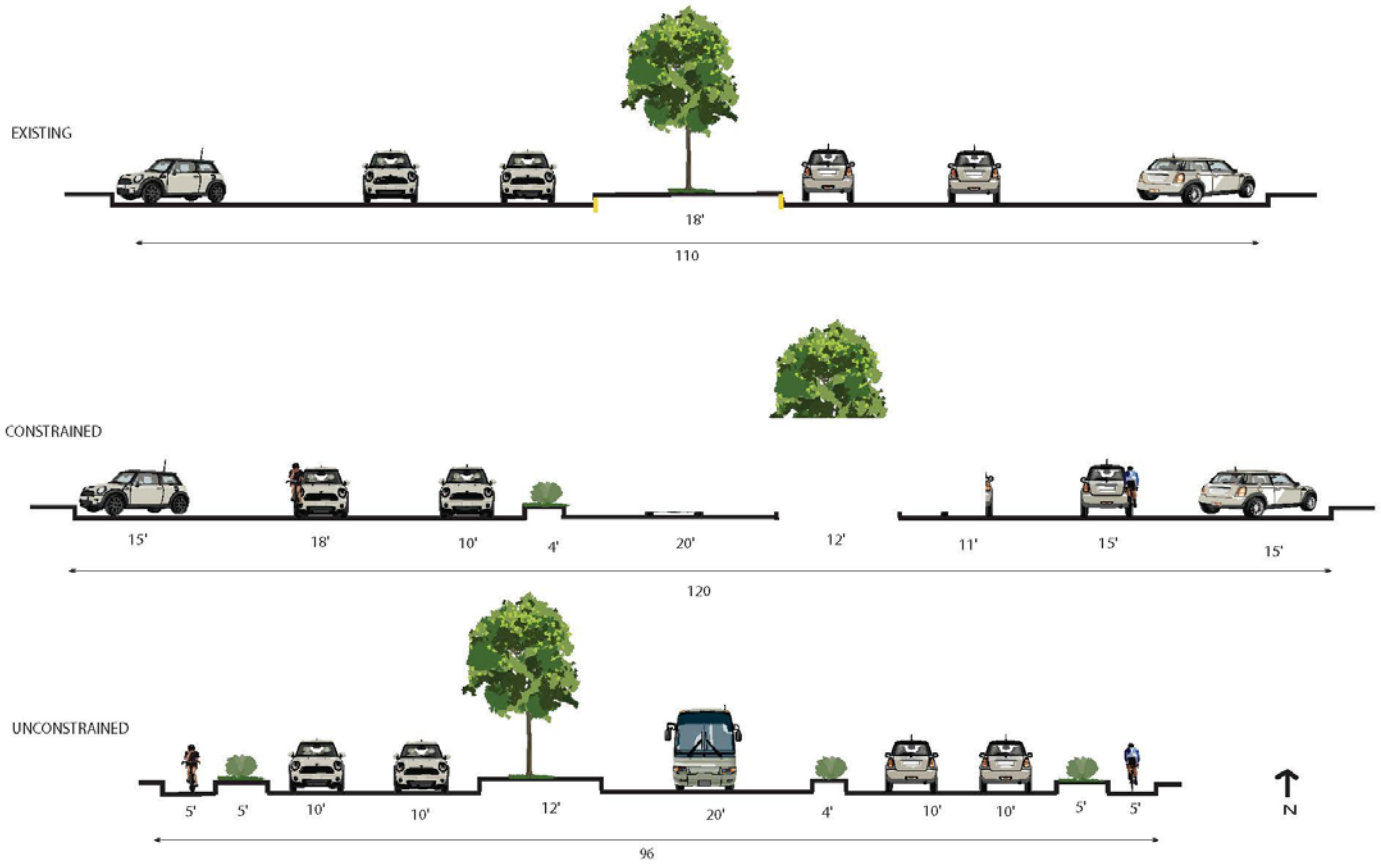




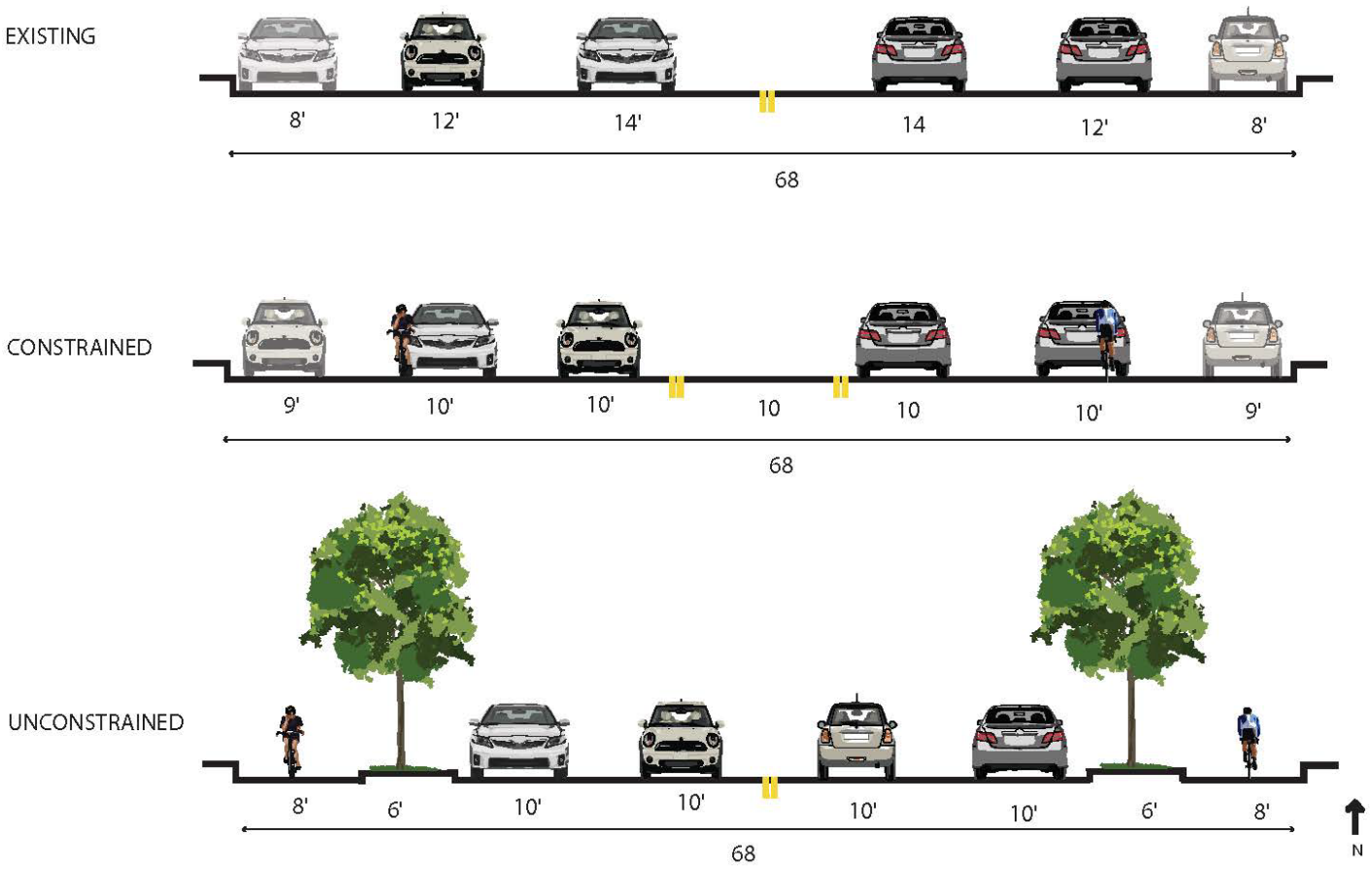
University Heights - Balboa Park: Park Boulevard
Park Boulevard: North of Meade



University Heights - Balboa Park
Park Boulevard: South of Lincoln



University Heights - Balboa Park: Park Boulevard
Park Boulevard: University - Robinson



University Heights: Park Boulevard
Park Boulevard: Robinson - Upas Street

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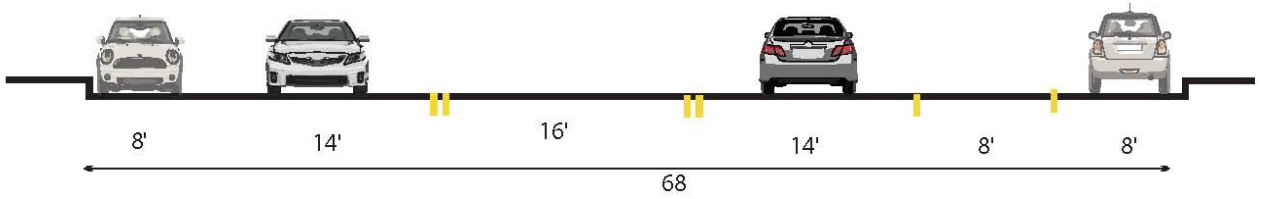

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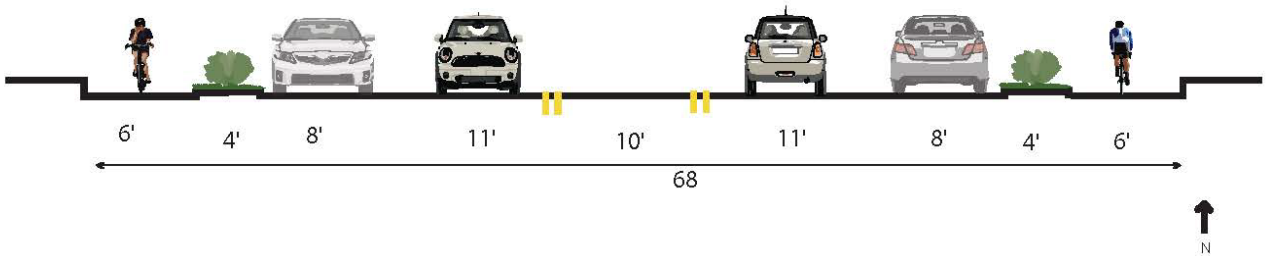
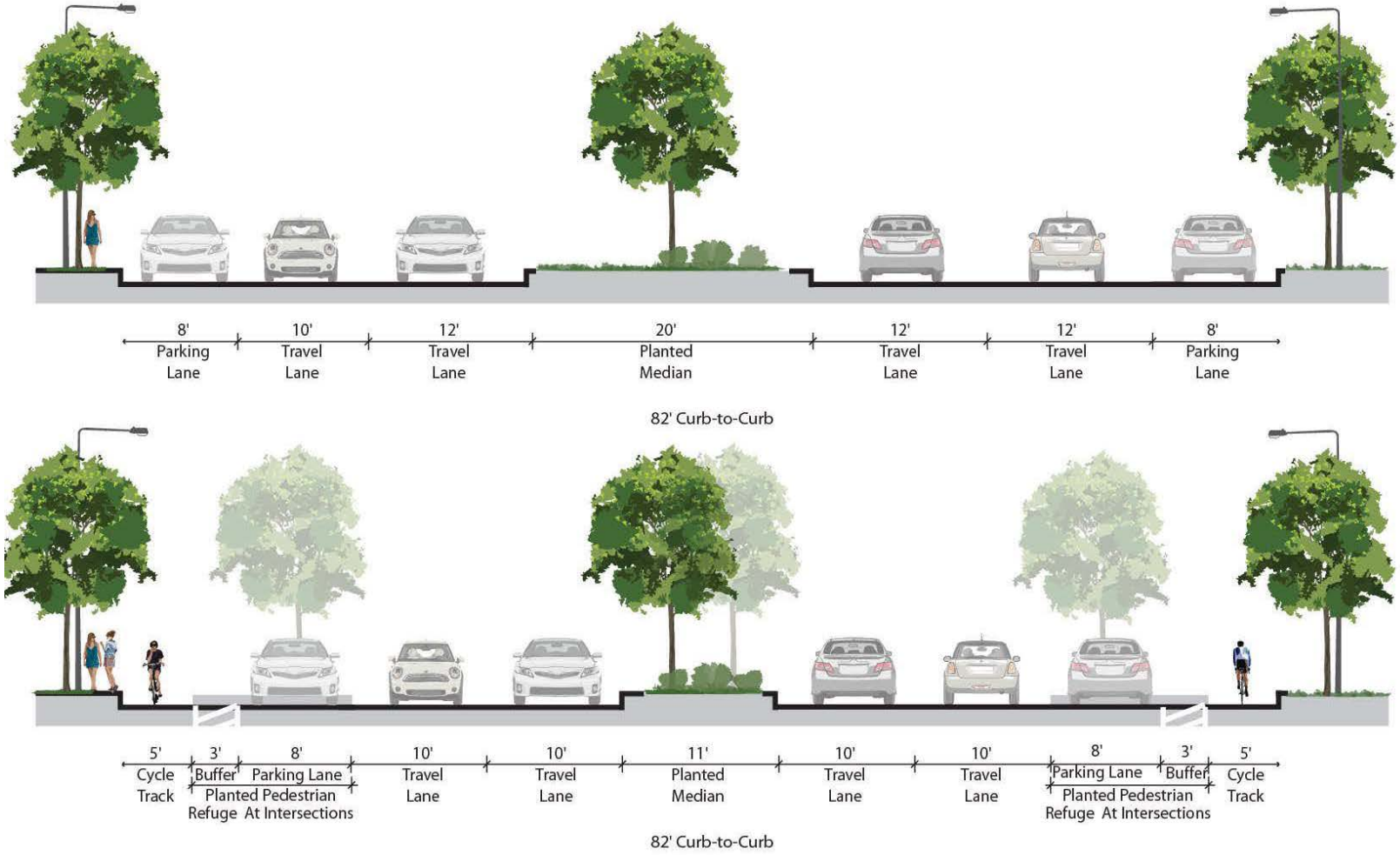
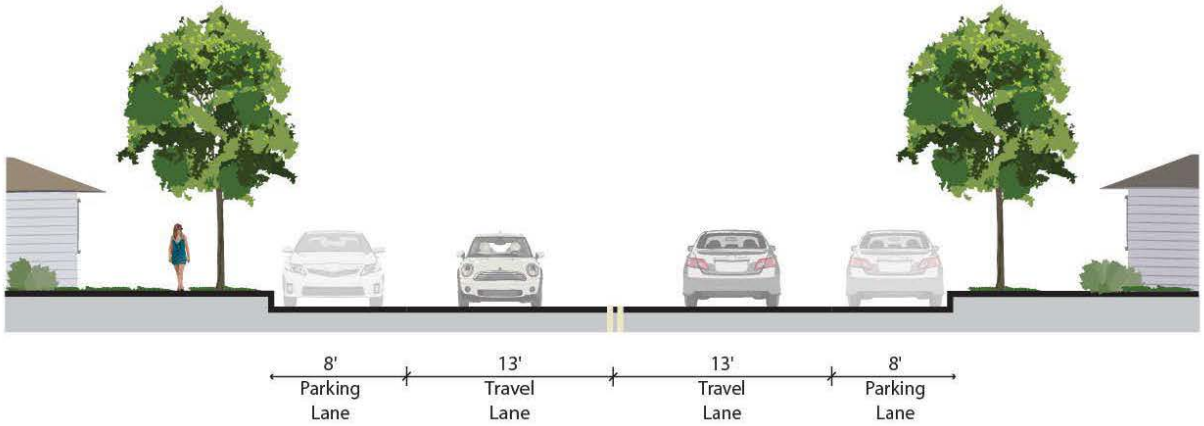


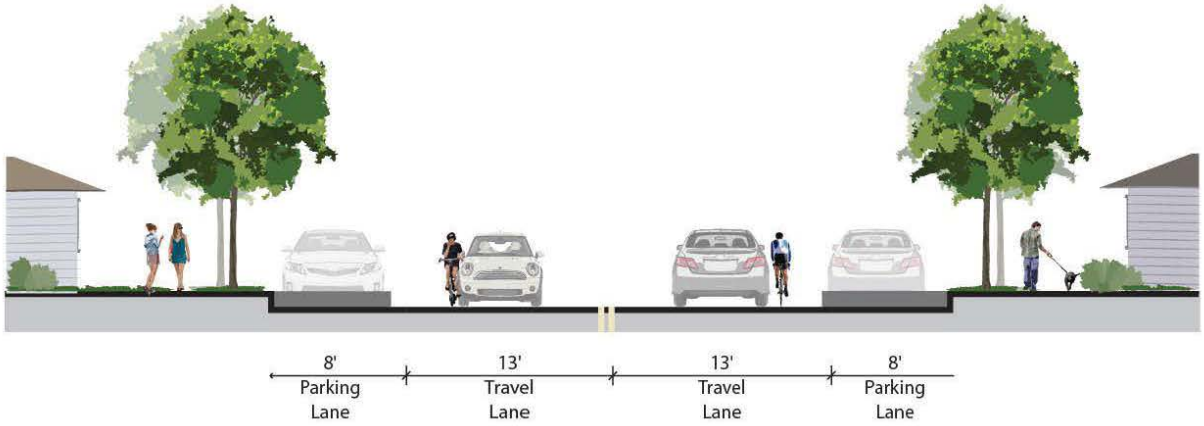
University Heights - Balboa Park: Park Boulevard
Park Boulevard: Upas Street - Zoo Place



University Heights - Balboa Park: Georgia Street
Georgia Street: Adams Avenue - Robinson Avenue



42' Curb-to-Curb



42' Curb-to-Curb

Appendix H
Preliminary Capacity Analysis

Project Description

The alignment alternatives being analyzed include segments where reducing the number of vehicular travel lanes to accommodate the design option that best meets the project evaluation criteria. One segment is on 5th Avenue, through Downtown San Diego, where a lane reduction from three lanes to two lanes would be necessary to accommodate a protected bikeway. The other segment is along Robinson Avenue between 10th Avenue and Park Boulevard which would require eliminating the center turn lane to accommodate a buffered bike lane in both directions. These two segments, along 5th Avenue and Robinson Avenue, are the subject of this preliminary capacity analysis.

Preliminary Capacity Analysis

This preliminary capacity analysis is to evaluate intersections within the project area where lane removal may affect vehicular capacity. This analysis used available data from multiple sources and newly commissioned counts. The study area was selected based on one of more or the following criteria:

- The segment analysis, during the Tier II analysis, showed potential congestion
- Field observations indicated the potential for traffic congestion
- Potential reduction in the center median lane may result in vehicular congestion

The results only represent the direct impacts of the project under existing conditions. Based on the results of this analysis, all intersections were found to operate at an acceptable level of service (LOS); therefore, no direct impacts would occur under existing conditions due to the implementation of the Project.

The study area is shown in Figure 1. The locations analyzed are listed below.

Intersections

1. Fifth Avenue and Washington Street
2. Fifth Avenue and University Avenue
3. Fifth Avenue and Robinson Avenue
4. Fifth Avenue and I-5 SB On-Ramp
5. Fifth Avenue and Cedar Street
6. Fifth Avenue and Beech Street
7. Fifth Avenue and Ash Street
8. Fifth Avenue and A Street
9. Fifth Avenue and B Street
10. Fifth Avenue and C Street
11. Robinson Avenue and Richmond Street

Figure 2 shows the existing roadways configuration. Figure 3 shows the proposed roadways configuration.

Study Scenarios

The following scenarios are addressed in this analysis:

- Existing Conditions
- Existing Conditions with Project

The future conditions were not analyzed for the purpose of this preliminary planning and conceptual design phase of the Project. A complete traffic impact study including existing and future conditions will be conducted at a later date during the engineering and environmental phase of the Project. The purpose of this preliminary capacity analysis is to identify any potential issues that may be caused by the Project early on in the process.

Figure 1 – Study Area

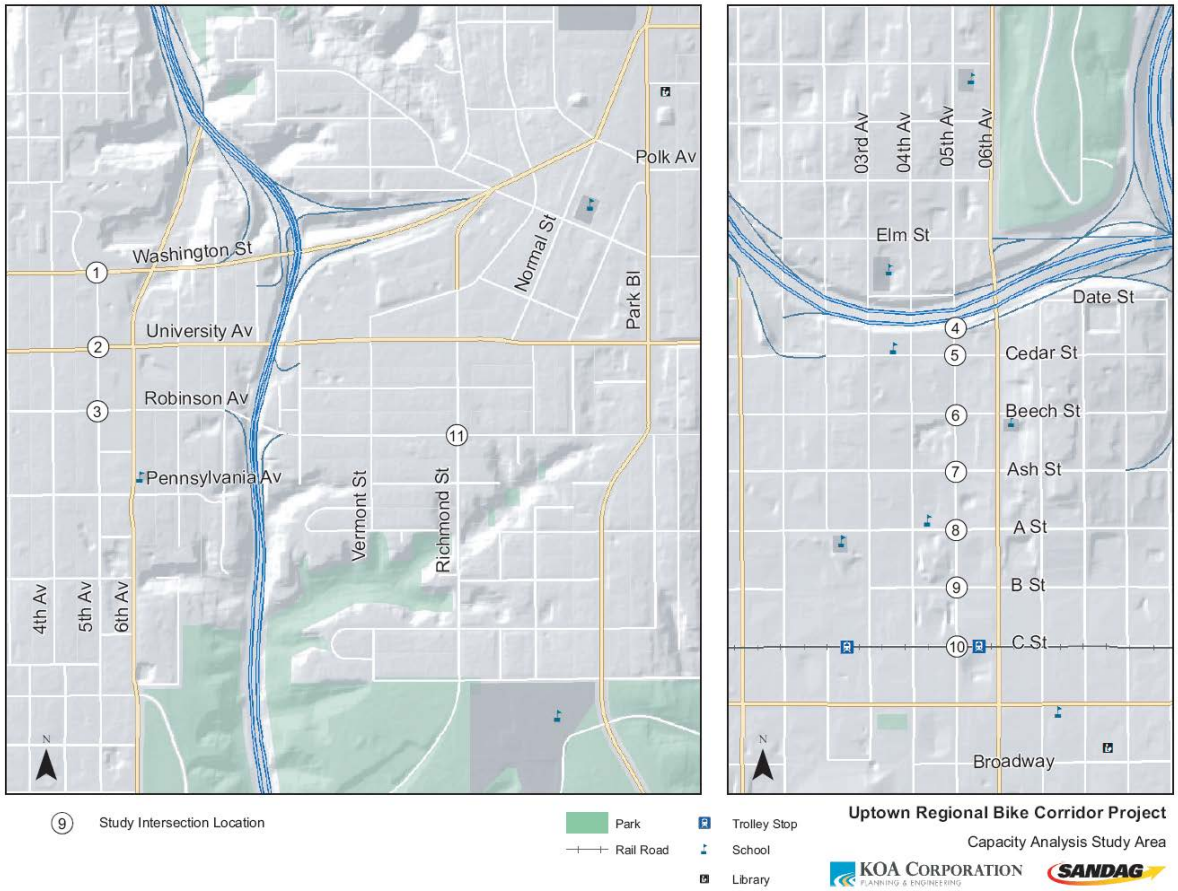


Figure 2 – Existing Roadway Configuration

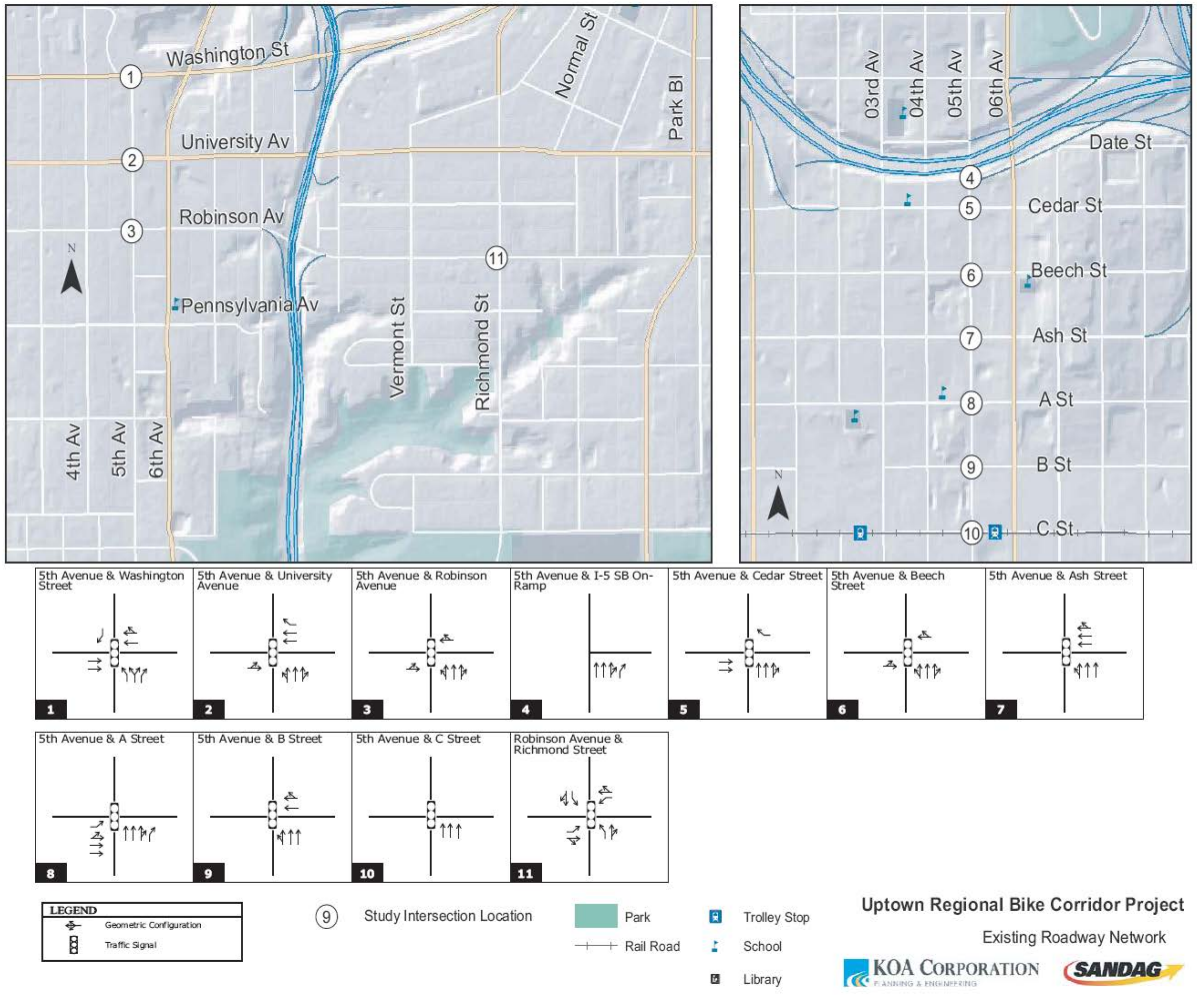
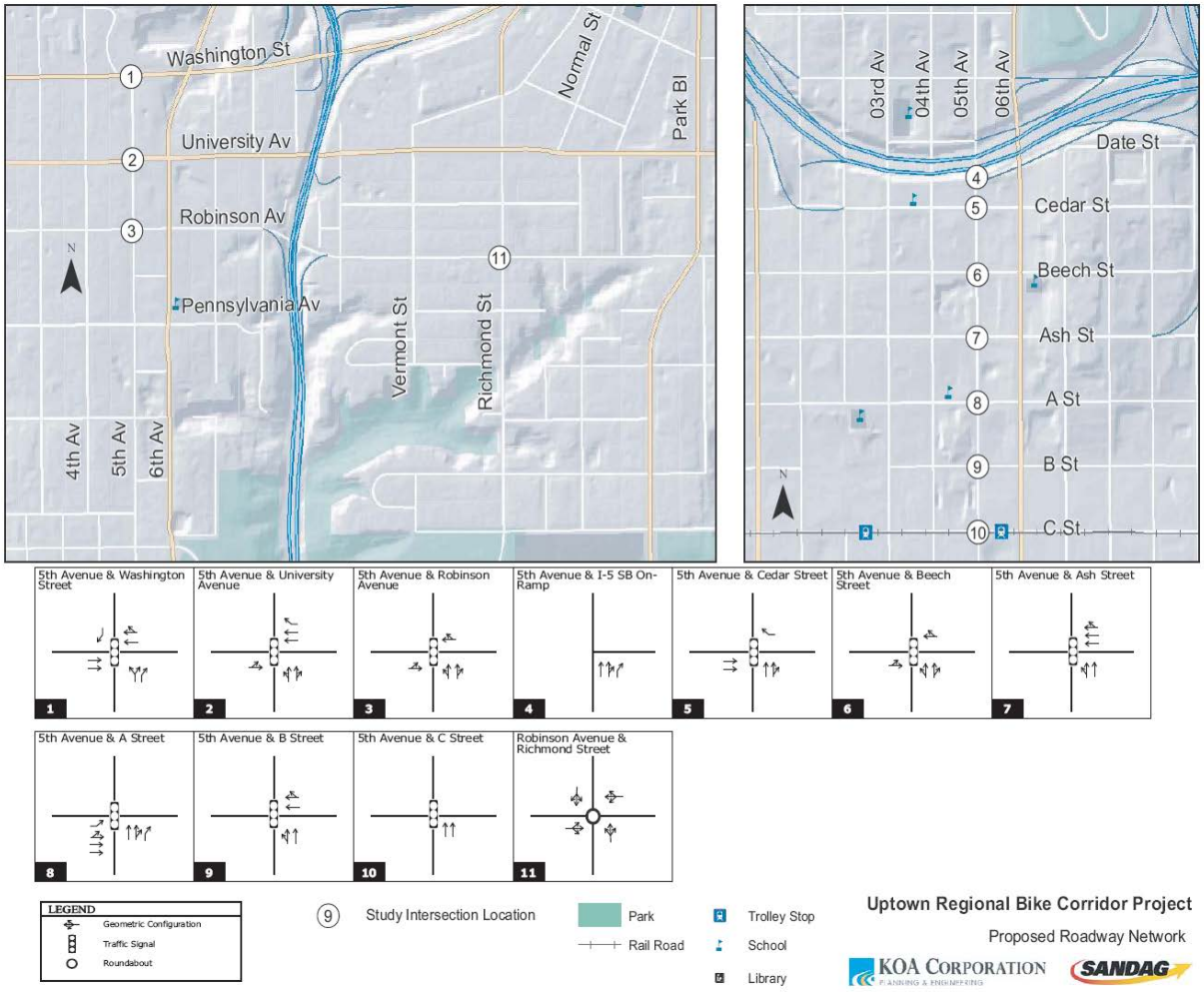


Figure 3 – Proposed Roadway Configuration



Vehicular Traffic Analysis

Peak period turning movement traffic volumes and 24-hour daily traffic volumes were analyzed. Figure 4 shows the existing traffic conditions for intersections. Figure 5 shows the existing plus project traffic conditions for intersections. Appendix H-A contains the traffic analysis methodologies and concepts used in this analysis.

Figure 4 – Existing Traffic Conditions

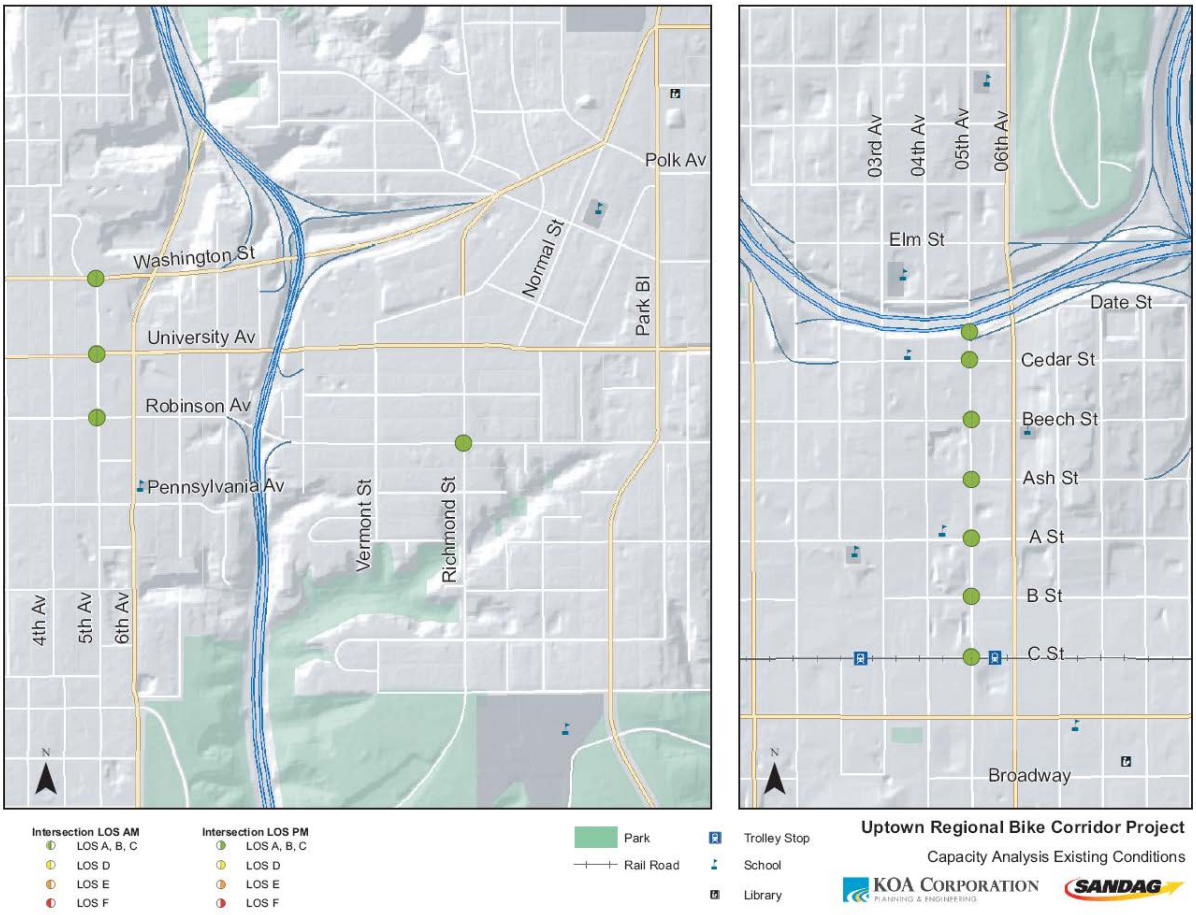
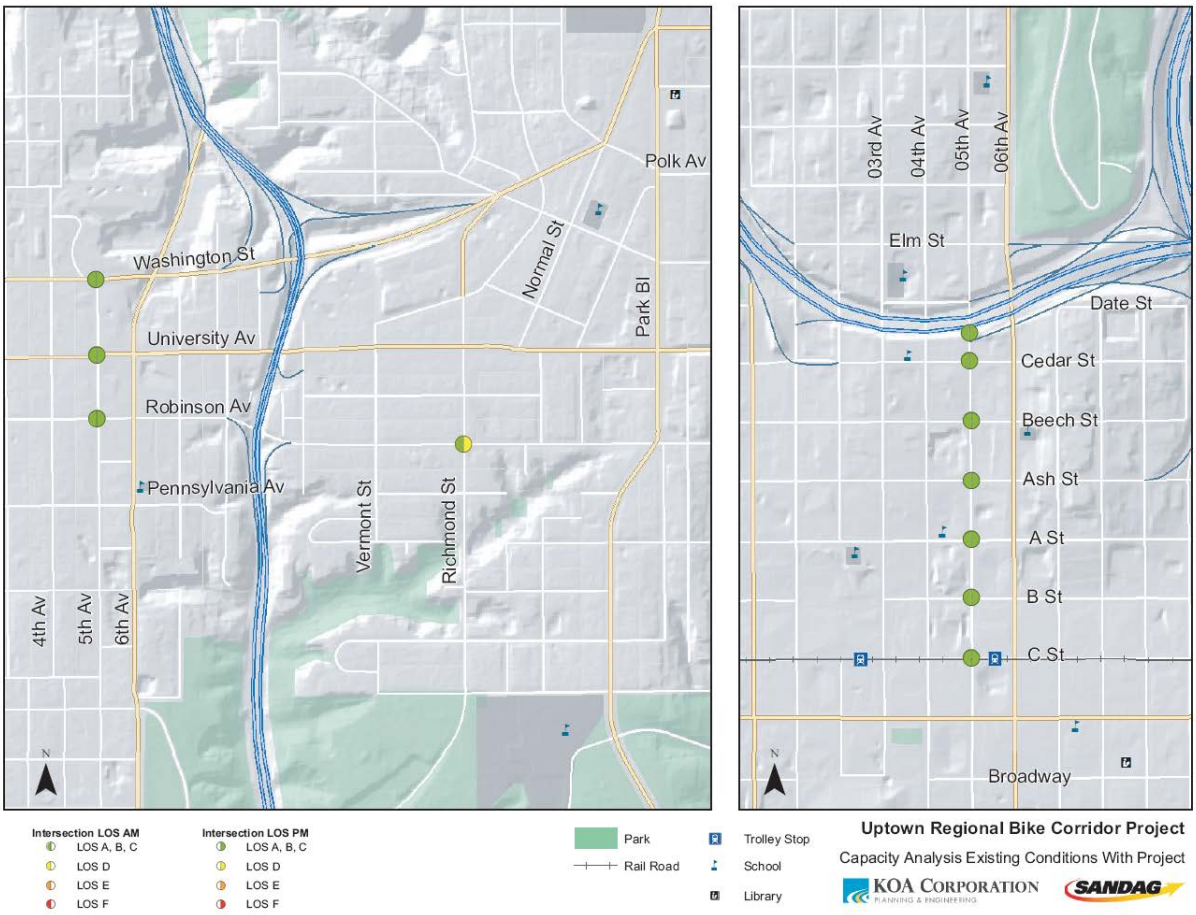


Figure 5 – Existing plus Project Traffic Conditions



Intersection Analysis

The effect of the proposed project segments on the study area circulation network for existing conditions was evaluated. Table 1 summarizes the results of the intersection analysis. As shown in Table 2, all intersections in the study area operate at LOS D or better under both existing and existing with project scenarios.

Table 1 – Existing Intersection Conditions

Intersection	Existing Conditions		Existing Conditions With Project [2]		Δ Delay	Significant
	Delay	LOS	Delay	LOS		
AM Peak Hour						
1. Fifth Avenue & Washington Street	14.4	B	15.3	B	0.9	No
2. Fifth Avenue & University Avenue	12.3	B	13.0	B	0.7	No
3. Fifth Avenue & Robinson Avenue	10.8	B	11.8	B	1.0	No
4. Fifth Avenue & I-5 SB On-Ramp	0.0	A	0.0	A	0.0	No
5. Fifth Avenue & Cedar Street	12.8	B	13.3	B	0.5	No
6. Fifth Avenue & Beech Street	10.6	B	11.3	B	0.7	No
7. Fifth Avenue & Ash Street	11.6	B	11.3	B	-0.3	No
8. Fifth Avenue & A Street	15.7	B	16.6	B	0.9	No
9. Fifth Avenue & B Street	12.0	B	13.1	B	1.1	No
10. Fifth Avenue & C Street	3.5	A	3.5	A	0.0	No
11. Robinson Avenue & Richmond Street [1]	6.3	A	54.2%	A	N/A	No
PM Peak Hour						
1. Fifth Avenue & Washington Street	15.2	B	19.9	B	4.7	No
2. Fifth Avenue & University Avenue	25.1	C	28.8	C	3.7	No
3. Fifth Avenue & Robinson Avenue	14.7	B	19.1	B	4.4	No
4. Fifth Avenue & I-5 SB On-Ramp	0.0	A	0.6	A	0.6	No
5. Fifth Avenue & Cedar Street	13.3	B	14.5	B	1.2	No
6. Fifth Avenue & Beech	11.5	B	11.8	B	0.3	No
7. Fifth Avenue & Ash Street	11.7	B	14.1	B	2.4	No
8. Fifth Avenue & A Street	15.2	B	16.6	B	1.4	No
9. Fifth Avenue & B Street	14.0	B	14.3	B	0.3	No
10. Fifth Avenue & C Street	3.6	A	3.9	A	0.3	No
11. Robinson Avenue & Richmond Street [1]	7.0	A	78.8%	D	N/A	No

Notes:

[1] Intersection Capacity Utilization reported under Existing Conditions With Project

[2] Geometry change only for With Project conditions, Baseline Conditions do not change

Appendix H-A: Traffic Analysis Methodology

A brief overview of traffic analysis methodologies and concepts used in this analysis is presented in this section. Street system operating conditions are typically described in terms of "level of service." Level of service (LOS) is a report-card scale used to indicate the traffic flow on roadway segments and at intersections. LOS ranges from LOS A (free flow, little congestion) to LOS F (forced flow, extreme congestion). LOS is an auto-focused measure, which does not account for the operational or safety considerations of other modes, including transit, walking, and biking.

Intersection Capacity

The analysis of peak hour intersection performance was conducted using the Synchro analysis software program, which uses methodologies defined in the 2000 Highway Capacity Manual (HCM) to calculate results. LOS for intersections is determined by control delay. Control delay is defined as the total elapsed time from when a vehicle stops at the end of a queue to the time the vehicle departs from the stop line. The total elapsed time includes the time required for the vehicle to travel from the last-in-queue position to the first-in-queue position; including deceleration of vehicles from free-flow speed to the speed of vehicles in the queue The HCM LOS for the range of delay by seconds for unsignalized and signalized intersections is described in Table 1.

Table 1
Unsignalized and Signalized Intersection Level of Service (HCM 2000)

Level of Service	Unsignalized Average Control Delay (seconds/vehicle)	Signalized Average Control Delay (seconds/vehicle)
A	0-10	0-10
B	> 10-15	> 10-20
C	> 15-25	> 20-35
D	> 25-35	> 35-55
E	> 35-50	> 55-80
F	>50	> 80

Source: Highway Capacity Manual 2000.

Signalized Intersections

The HCM analysis methodology for evaluating signalized intersections is based on the "operational analysis" procedure. This technique uses 1,900 passenger cars per hour of green per lane as the maximum saturation flow of a single lane at an intersection. This saturation flow rate is adjusted to account for lane width, on-street parking, conflicting pedestrian flow, traffic composition, (e.g., the percentage of vehicles that are trucks), and shared lane movements (e.g., through and right-turn movements from the same lane). Average control delay is calculated by taking a volume-weighted average of all the delays for all vehicles entering the intersection.

Level of Service Definitions

The concept of LOS is defined as a qualitative measure describing operational conditions within a traffic stream, and the motorists' and/or passengers' perception of operations. A LOS definition generally describes these conditions in terms of such factors as speed, travel time, freedom to maneuver, comfort, convenience, and safety. LOS for freeway segments can generally be categorized as shown in the table above.

Appendix I
Tier II Performance Measures Scoring Sheets and Analysis

Appendix I - Tier II Performance Measures Scoring Sheets and Analysis

This appendix includes the individual scoring sheets and analysis for each of the Tier II performance measures.

Evaluation Criteria	Tier II Performance Measures		
Category	**Criteria**	**Description**	**Scoring Measure**
System Connectivity	Regional Connectivity	Does the proposed alignment connect two or more regional corridors identified in the Regional Bike Plan?	(Yes/No)
	City Plan Connectivity	Does the proposed alignment compliment the City of San Diego Bike Plan?	(Yes/No)
	Neighborhood Connectivity	Does the proposed alignment connect two or more project area neighborhood nodes?	(Yes/No)
	Directness	Is the proposed alignment a direct alignment to the regional or neighborhood connection?	(Yes/No), or Distance in feet.
	Deficiency	Is there an existing deficiency that the alignment is addressing?	- Alignment has no facility. - Alignment has a facility, but facility doesn't serve average person, therefore, it is not adequate. - A parallel alignment has adequate facilities. - Alignment has adequate facilities.
	Independent Utility	Does the alignment have independent utility (i.e. does it make sense as a stand alone project)?	(Yes/No)
	Multimodal Connectivity	Ability to transfer to various transit modes (bus, trolley, train, shuttle service).	- High number of transit nodes connected to alignment. - Medium number of transit nodes connected to alignment. - Low number of transit nodes connected to alignment.
Placemaking	Activity Center Proximity	Are there proximate activity centers along the alignment?	- High number of activity centers within 2 blocks of alignment. - Medium number of activity centers within 2 blocks of alignment. - Low number of activity centers within 2 blocks of alignment.
	Population	Population served by connected LTS network.	- High number of people connected to through LTS 1 & 2 streets and people on the alignment. '- Medium number of people connected to through LTS 1 & 2 streets and people on the alignment. '- Low number of people connected to through LTS 1 & 2 streets and people on the alignment.
Design Concept	Traffic Operations	How is the vehicular LOS affected by the alignment and facility type?	-High likelihood of LOS change. -Medium likelihood of LOS change. -Low likelihood of LOS change.
	Parking	How is on-street parking affected by the alignment and facility type?	-High number of parking spaces potentially displaced. -Medium number of parking spaces potentially displaced. -Low number of parking spaces potentially displaced.
	Geometric Feasibility	Is the alignment/facility type feasible in the	(Yes/No)
Safety Considerations	Collisions	Would alignment reduce the number of existing collisions?	-High number of bike-collisions along alignment. -Medium number of bike-collisions along alignment. -Low number of bike-collisions along alignment.
	Achievable LTS	Can we achieve a facility that provides for the	(Yes/No)
Community Input	Alignments	Alignments that received high, medium-level or low public support.	-High level of public support. -Medium level of public support. -Low level of public support.
	Facility Type	Facilitiy types that received high, medium-level or low public support.	-High level of public support. -Medium level of public support. -Low level of public support.
Environment	Environmental Impacts	Potential environmental impacts caused by the alignment and facility type. Not including traffic impact	-High level of environmental impact. -Medium level of environmental impact. -Low level of environmental impact.
Financial	Cost	What is the alignment/facility overall cost (including engineering, environmental, planning, permits, etc)?	-High potential cost (not quantified). -Medium potential cost (not quantified). -Low potential cost (not quantified).

System Connectivity – Directness and Multimodal Connectivity Measures

Criteria - Is the proposed alignment a direct connection to a designated regional or neighborhood route (existing or planned)? Ability to transfer to other transit modes.

Directness

Measured in feet to the nearest designated route.

Directness			
Corridor	**Alignment**	**Length (mi)**	**Score**
Mission Valley - Hillcrest	Hotel Circle/Bachman Pl	1.67	Shortest
Hillcrest - Bankers Hill	1st	0.94	Shortest
Hillcrest - Bankers Hill	3rd/Upas	0.80	Shortest
Hillcrest - Bankers Hill	4th	0.87	Shortest
Hillcrest - Bankers Hill	5th	0.97	Shortest
Hillcrest - Bankers Hill	6th	1.07	Shorter
Bankers Hill - Downtown	1st	1.91	Shortest
Bankers Hill - Downtown	4th	1.72	Shortest
Bankers Hill - Downtown	5th	1.81	Shortest
Bankers Hill - Downtown	6th	1.91	Shortest
Old Town - Five Points	Congress/San Diego Ave	1.49	Shortest
Five Points - Mission Hills	Washington	0.49	Shortest
Mission Hills - Hillcrest	Washington	0.93	Shortest
Mission Hills - Hillcrest	University Ave	0.81	Shortest
Hillcrest - Hillcrest	Washington	0.72	Short
Hillcrest - Hillcrest	University Ave		
	Constrained	0.49	Shortest
	Unconstrained	0.49	Shortest
Hillcrest - Hillcrest	Robinson Ave		
	Constrained	0.49	Shortest
	Unconstrained	0.49	Shortest
Hillcrest - Hillcrest	Pennsylvania Ave	0.74	Short
Hillcrest - North Park	Washington	1.75	Short
Hillcrest - North Park	University Ave		
	Constrained	1.03	Shortest
	Unconstrained	1.03	Shortest
Hillcrest - North Park	Robinson Ave		
	Constrained	1.26	Shorter
	Unconstrained	1.26	Shorter
Hillcrest - North Park	Pennsylvania Ave	1.47	Shorter
University Heights - Balboa Park	Park		
	Constrained	2.11	Shortest
	Unconstrained	2.11	Shortest
University Heights - Balboa Park	Georgia St	2.21	Short
University Heights - Balboa Park	Zoo Drive	2.16	Short

Multimodal Connectivity

Measured by number of transit routes and stops along the alignment. Weighted by station type, with trolley/commuter train scoring highest, Express next, and local stops lowest.

Multimodal Connectivity								
Corridor	**Alignment**	Local Bus	Express Bus	Trolley	Coaster	Amtrak	**Total**	**Score**
Mission Valley - Hillcrest	Hotel Circle/Bachman Pl	2	0	0	0	0	0.5	High
Hillcrest - Bankers Hill	1st	4	0	0	0	0	1	Low
Hillcrest - Bankers Hill	3rd/Upas	4	1	0	0	0	1.5	Medium
Hillcrest - Bankers Hill	4th	5	0	0	0	0	1.25	Medium
Hillcrest - Bankers Hill	5th	5	1	0	0	0	1.75	High
Hillcrest - Bankers Hill	6th	3	1	0	0	0	1.25	Medium
Bankers Hill - Downtown	1st	2	2	2	0	0	3.5	High
Bankers Hill - Downtown	4th	1	1	2	0	0	2.75	Medium
Bankers Hill - Downtown	5th	1	1	2	0	0	2.75	Medium
Bankers Hill - Downtown	6th	0	0	2	0	0	2	Low
Old Town - Five Points	Congress/San Diego Ave	9	1	1	1	1	5.75	High
Five Points - Mission Hills	Washington	2	0	1	0	0	1.5	High
Mission Hills - Hillcrest	Washington	3	0	1	0	0	1.75	Medium
Mission Hills - Hillcrest	University Ave	0	0	0	0	0	0	Low
Hillcrest - Hillcrest	Washington	3	0	0	0	0	0.75	Low
Hillcrest - Hillcrest	University Ave							
	Constrained	5	1	0	0	0	1.75	High
	Unconstrained	5	1	0	0	0	1.75	High
Hillcrest - Hillcrest	Robinson Ave							
	Constrained	3	0	0	0	0	0.75	Low
	Unconstrained	3	0	0	0	0	0.75	Low
Hillcrest - Hillcrest	Pennsylvania Ave	3	0	0	0	0	0.75	Low
Hillcrest - North Park	Washington	3	0	0	0	0	0.75	Medium
Hillcrest - North Park	University Ave							
	Constrained	5	1	0	0	0	1.75	High
	Unconstrained	5	1	0	0	0	1.75	High
Hillcrest - North Park	Robinson Ave							
	Constrained	1	0	0	0	0	0.25	Low
	Unconstrained	1	0	0	0	0	0.25	Low
Hillcrest - North Park	Pennsylvania Ave	0	0	0	0	0	0	Low
University Heights - Balboa Park	Park							
	Constrained	5	0	0	0	0	1.25	High
	Unconstrained	5	0	0	0	0	1.25	High
University Heights - Balboa Park	Georgia St	0	0	0	0	0	0	Low
University Heights - Balboa Park	Zoo Drive	0	0	0	0	0	0	Low

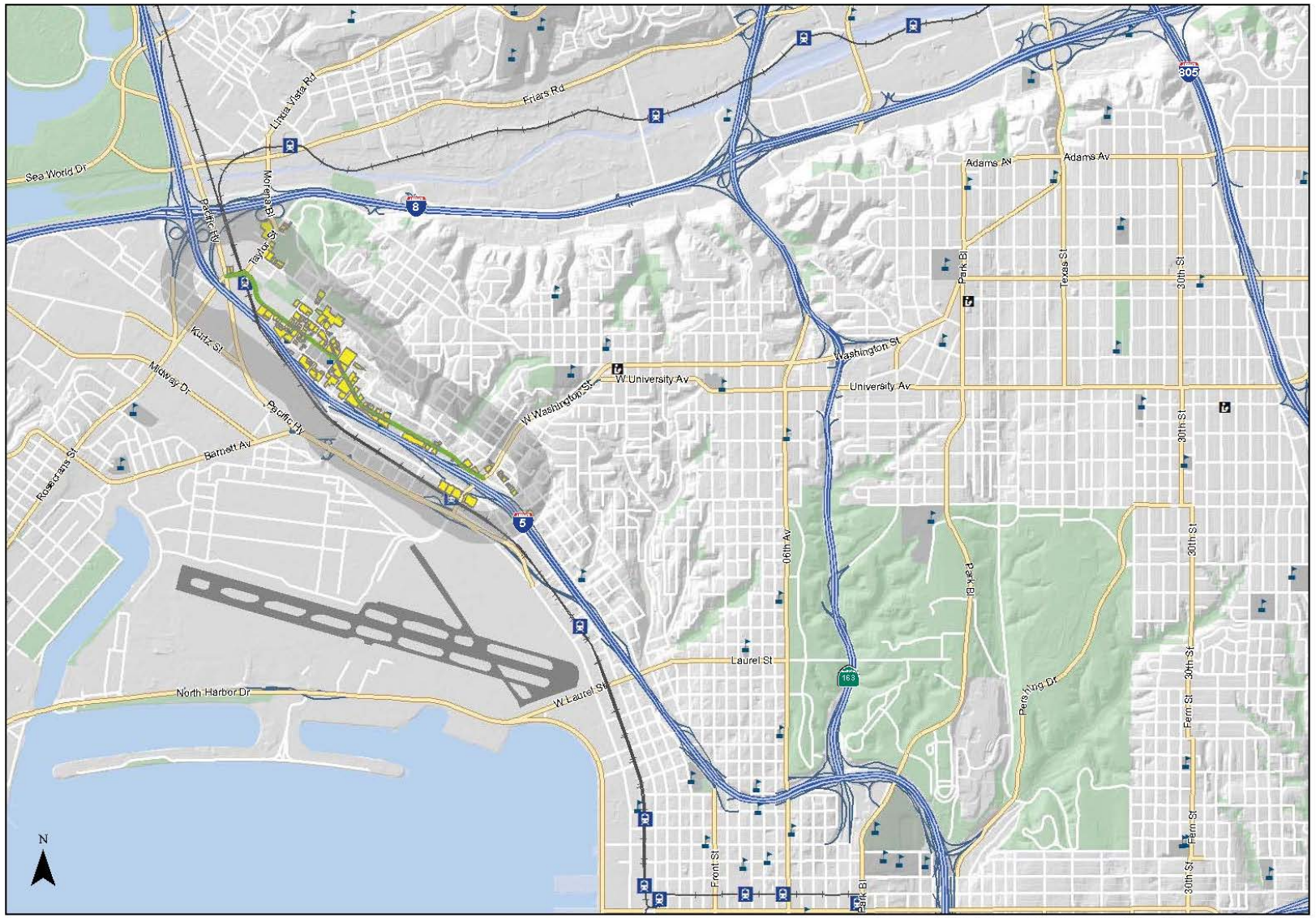
Placemaking – Activity Center Proximity and Population Served

Criteria - Are there proximate activity centers along the alignment? Population served by connected LTS network.

Activity Center Proximity

Measured by the number of activity centers within a 750-foot radius of the alignment. Activity score reflects the weighted number of activity centers within a 1,500-foot radius of the alignment (and shown in maps proceeding scoring table). Closeness Factors: 0-750 = 1, 750-1500 = .05 * weighted # activity center.

Activity Center Proximity			
Corridor	**Alignment**	**Activity**	**Score**
Mission Valley - Hillcrest	Hotel Circle/Bachman Pl	49	High
Hillcrest - Bankers Hill	1st	151	Low
Hillcrest - Bankers Hill	3rd/Upas	216	Medium
Hillcrest - Bankers Hill	4th	249	High
Hillcrest - Bankers Hill	5th	245	High
Hillcrest - Bankers Hill	6th	239	High
Bankers Hill - Downtown	1st	214	Low
Bankers Hill - Downtown	4th	408	High
Bankers Hill - Downtown	5th	358	High
Bankers Hill - Downtown	6th	315	Medium
Old Town - Five Points	Congress/San Diego Ave	129	High
Five Points - Mission Hills	Washington	19	High
Mission Hills - Hillcrest	Washington	147	High
Mission Hills - Hillcrest	University Ave	126	Medium
Hillcrest - Hillcrest	Washington	132	Medium
Hillcrest - Hillcrest	University Ave		
	Constrained	162	High
	Unconstrained	162	High
Hillcrest - Hillcrest	Robinson Ave		
	Constrained	135	Medium
	Unconstrained	135	Medium
Hillcrest - Hillcrest	Pennsylvania Ave	80	Low
Hillcrest - North Park	Washington	84	Medium
Hillcrest - North Park	University Ave		
	Constrained	121	High
	Unconstrained	121	High
Hillcrest - North Park	Robinson Ave		
	Constrained	84	Medium
	Unconstrained	84	Medium
Hillcrest - North Park	Pennsylvania Ave	26	Low
University Heights - Balboa Park	Park		
	Constrained	156	Medium
	Unconstrained	156	Medium
University Heights - Balboa Park	Georgia St	136	Low
University Heights - Balboa Park	Zoo Drive	136	Medium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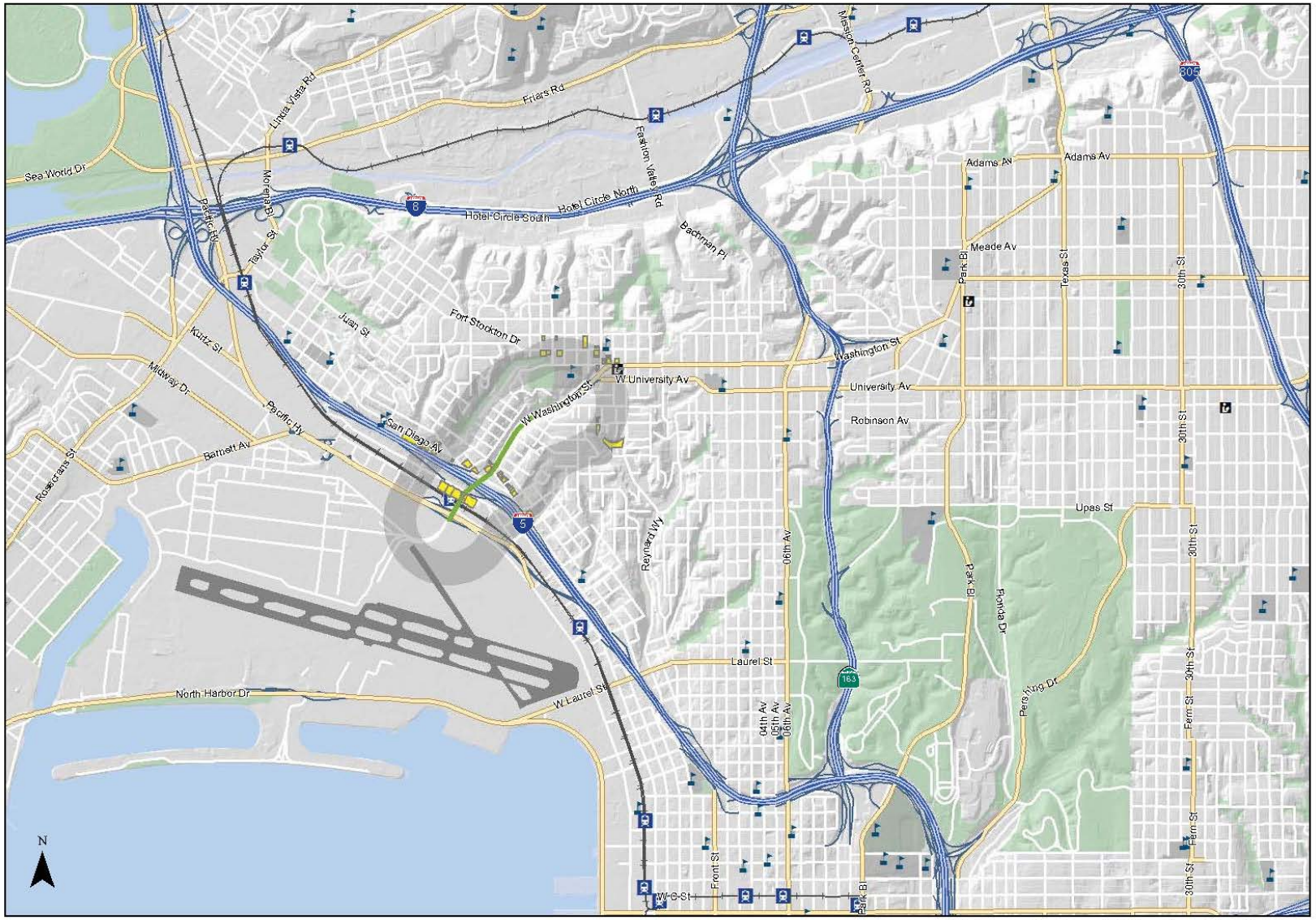
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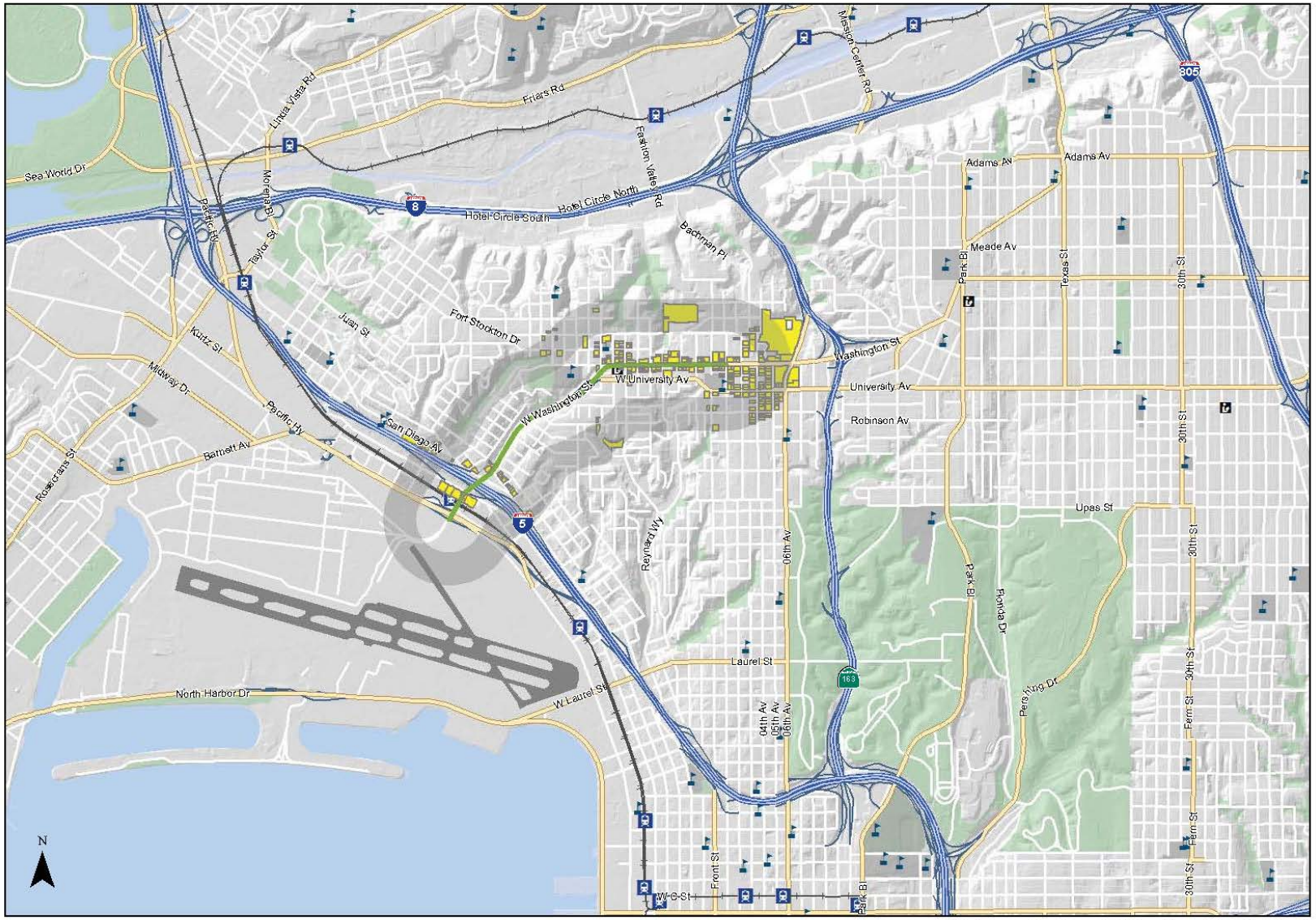
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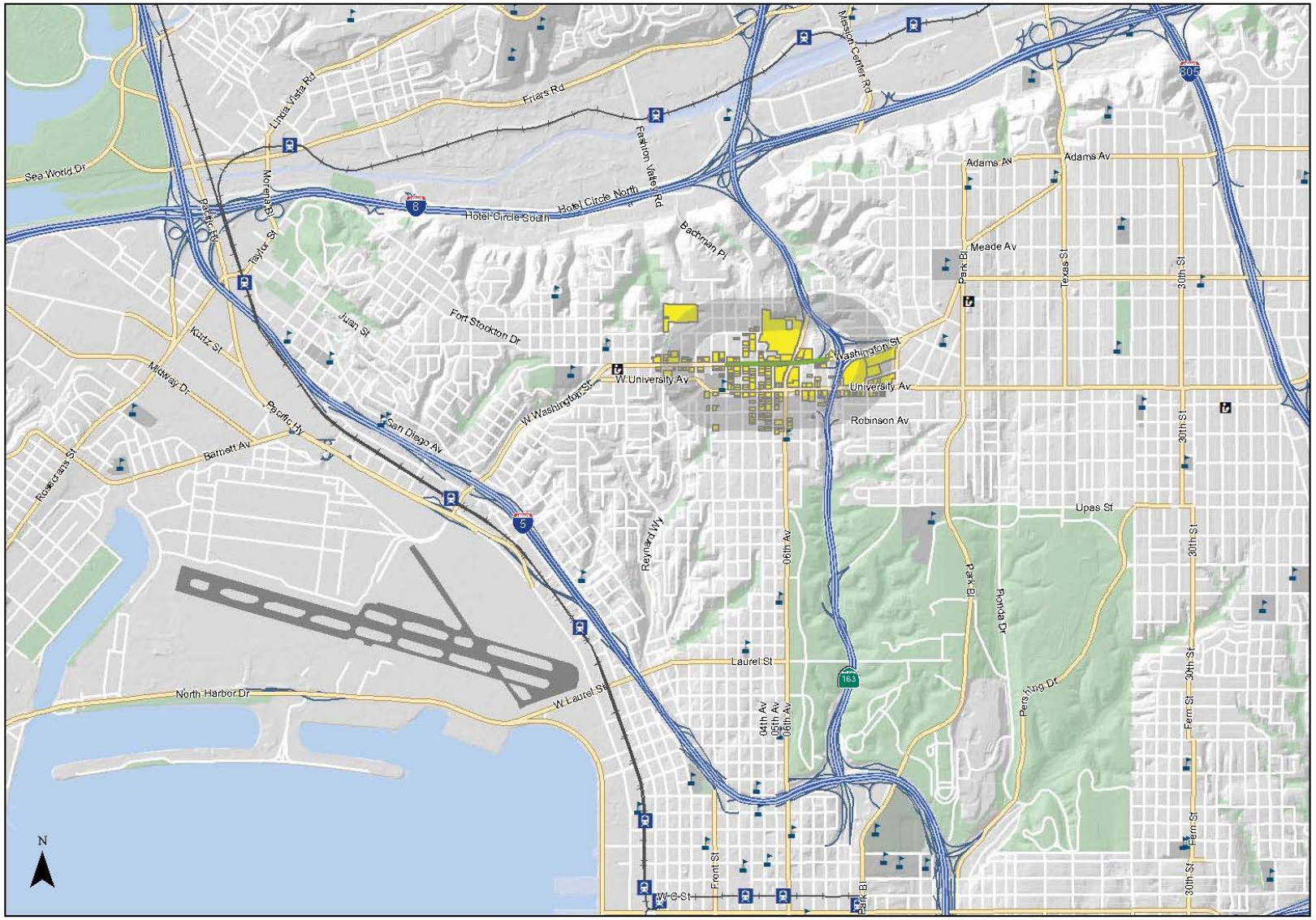
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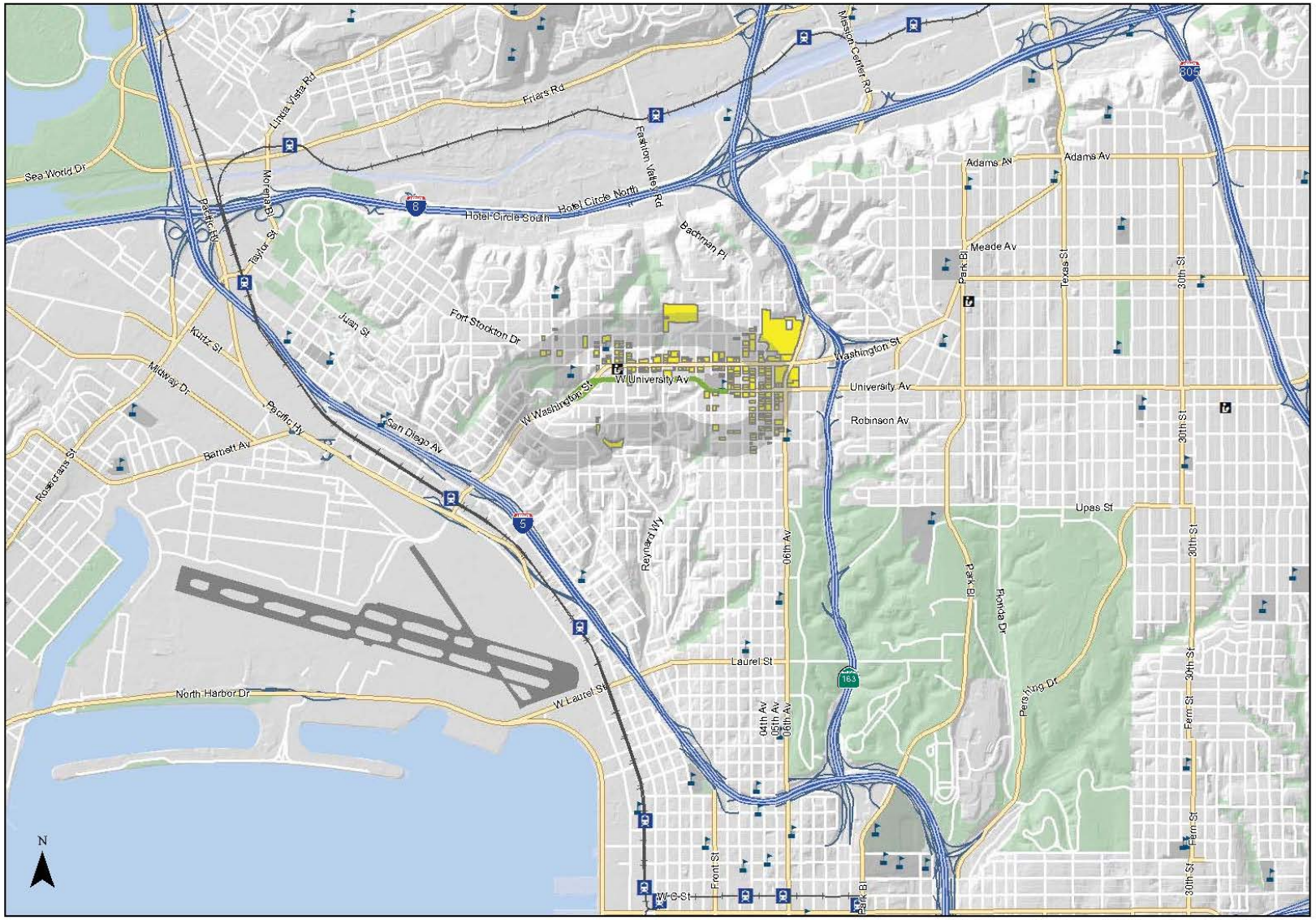
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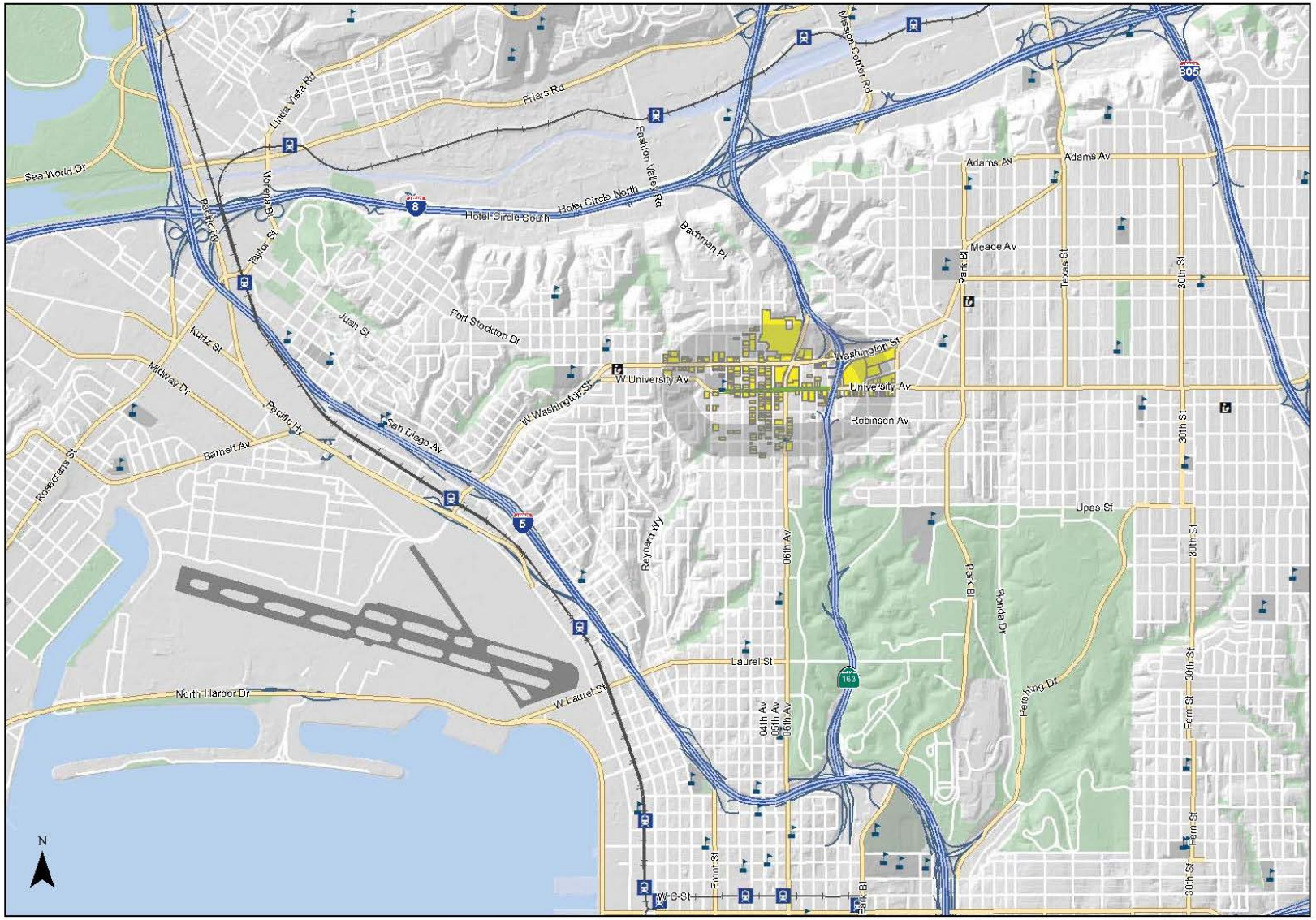
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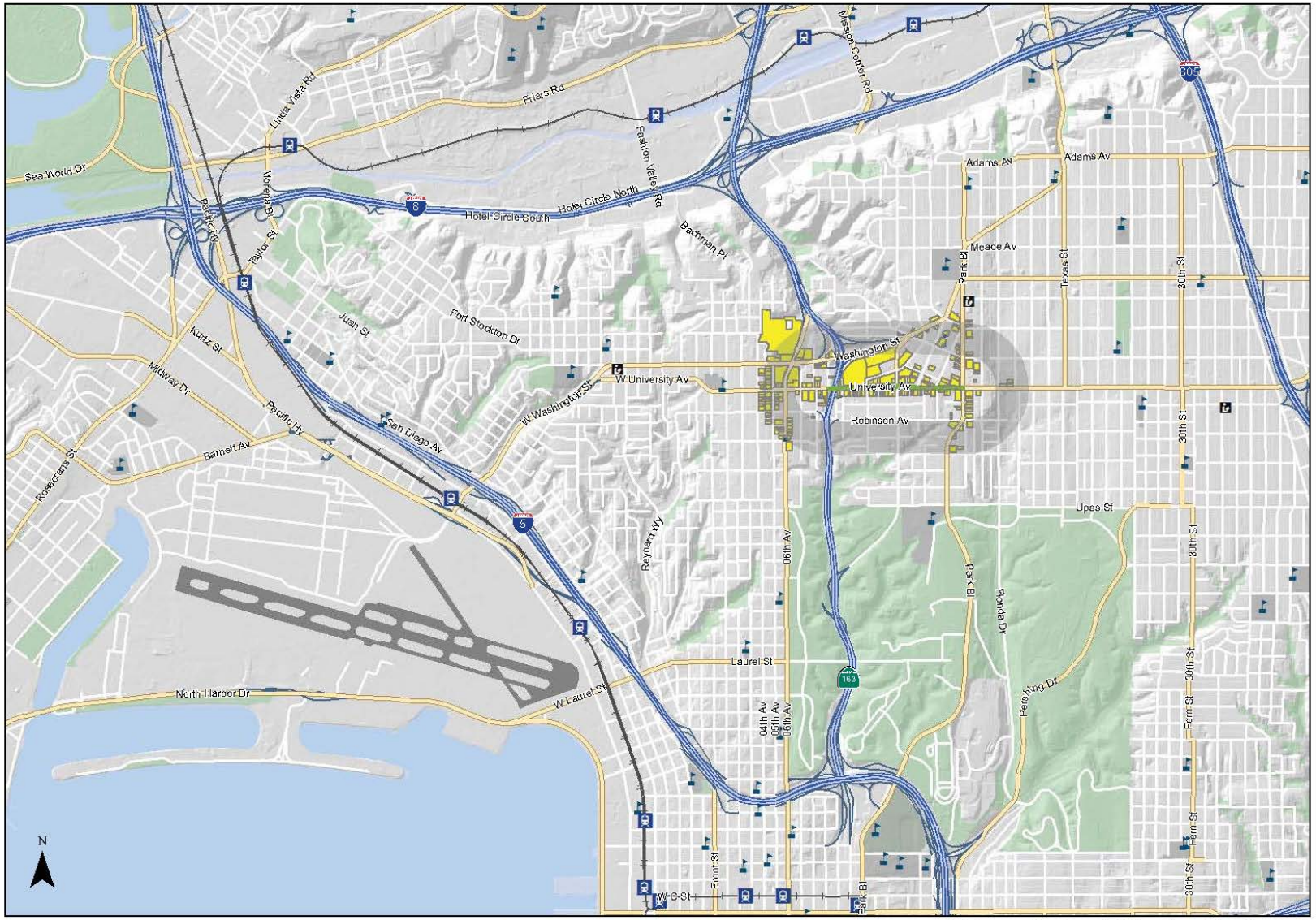
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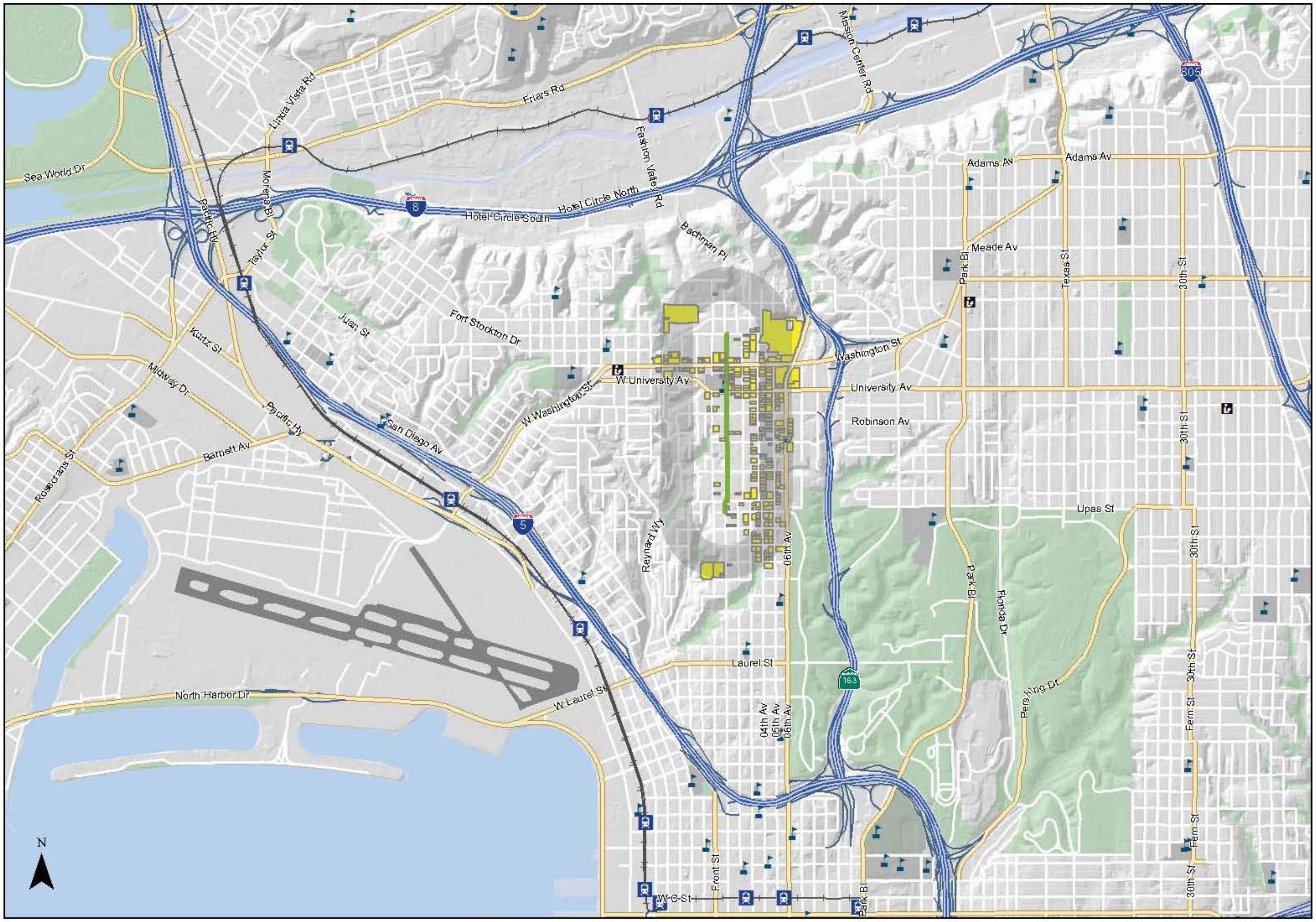

Hillcrest - Bankers Hill Corridor
1st Ave Alignment

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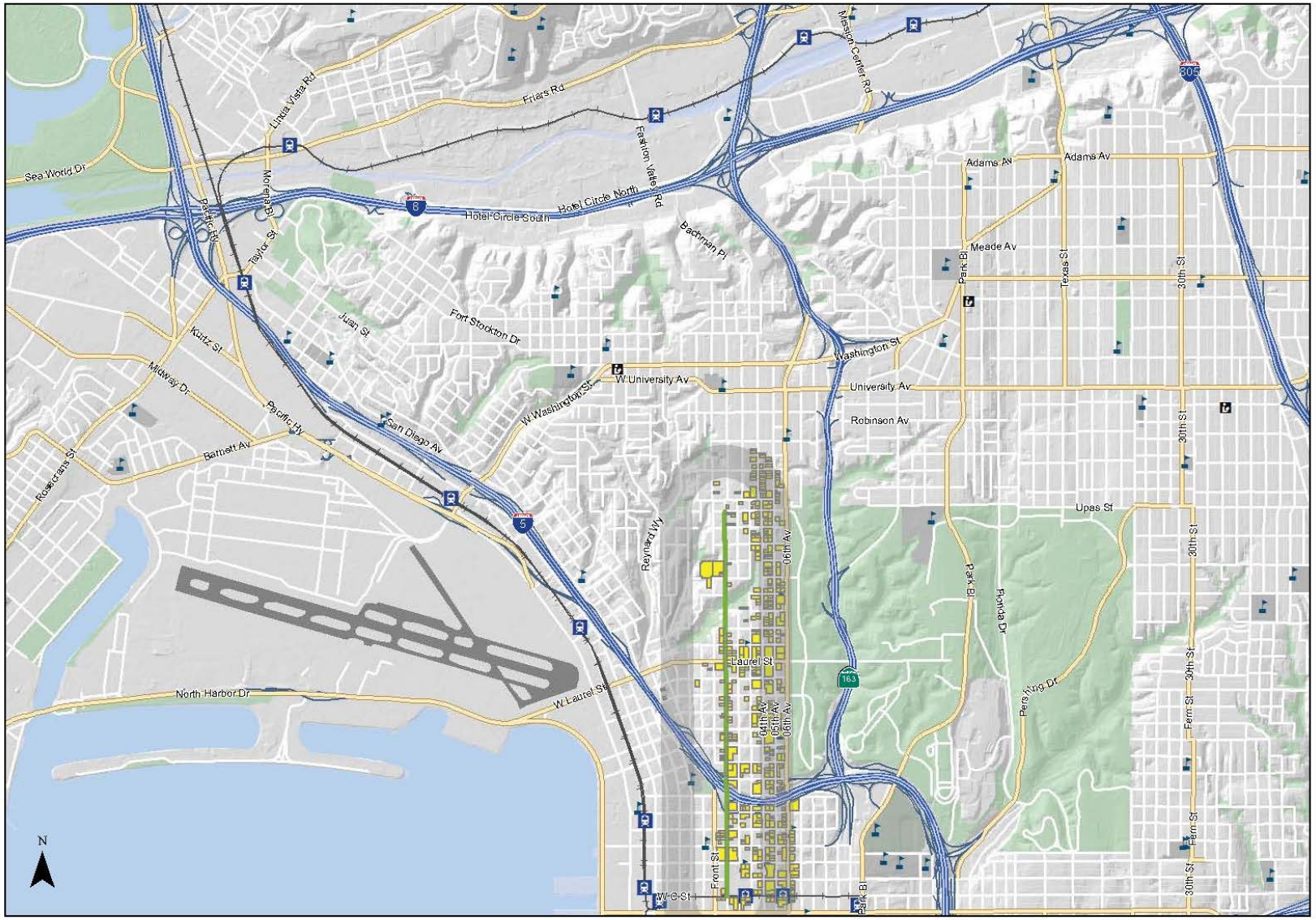
Activity Center Proximity by Alignment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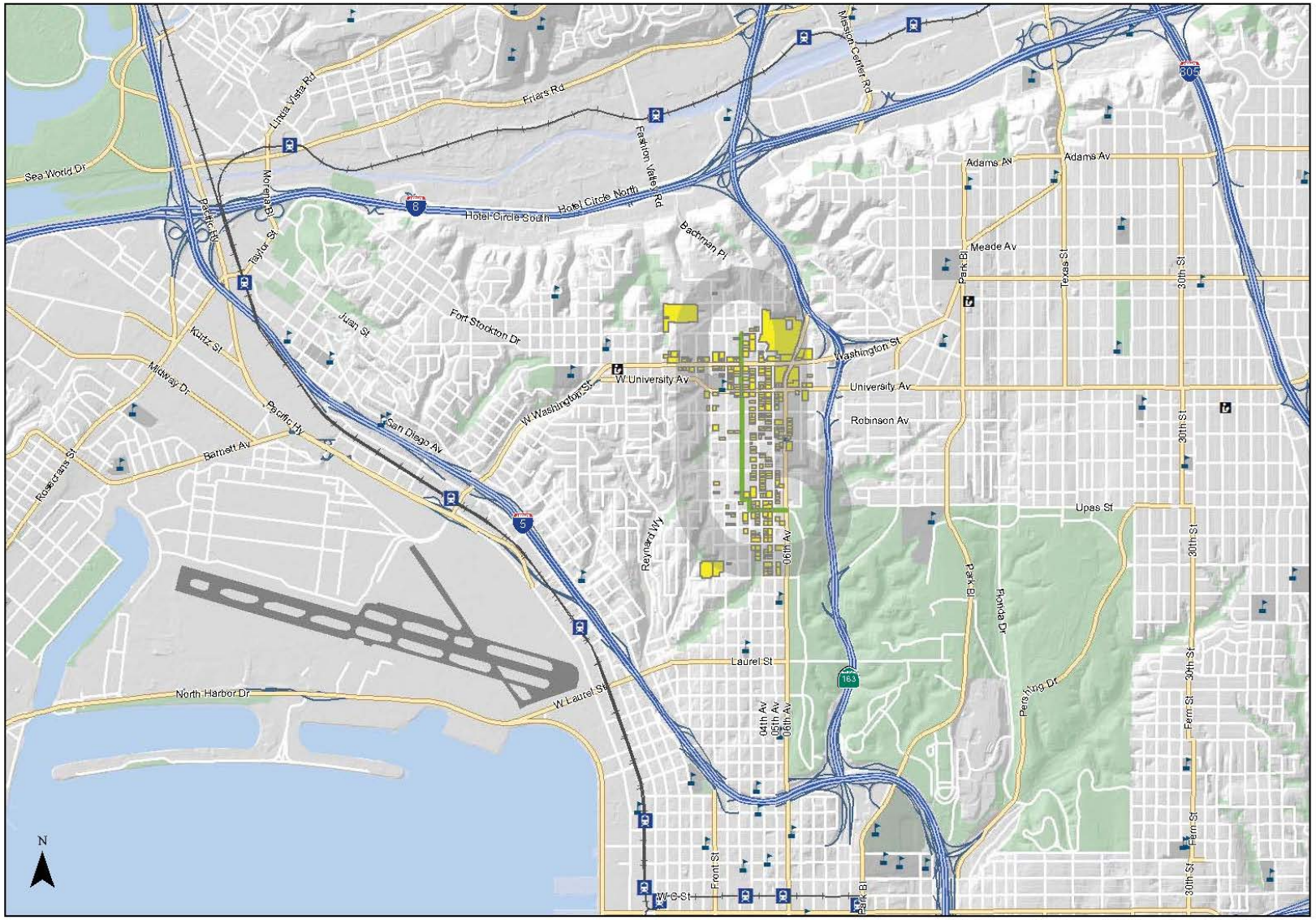
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Library
Uptown Regional Bike Corridor Project
Activity Center Proximity by Alignment
KOA CORPORATION
PLANNING & ENGINEERING
SANDAG
N
Sea World Dr
Linda Vista Rd
Friars Rd
Mission Center Rd
Taylor St
Hotel Circle South
Hotel Circle North
Fashion Valley Rd
Bachman Pl
Adams Av
Meade Av
Texas St
30th St
Park Bl
Fort Stockton Dr
Juan St
Kurtz St
Washington St
W University Av
University Av
Robinson Av
Midway Dr
Pacific Hwy
San Diego Av
W Washington St
Barnett Av
Rosecrans St
Reynard Way
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Florida Dr
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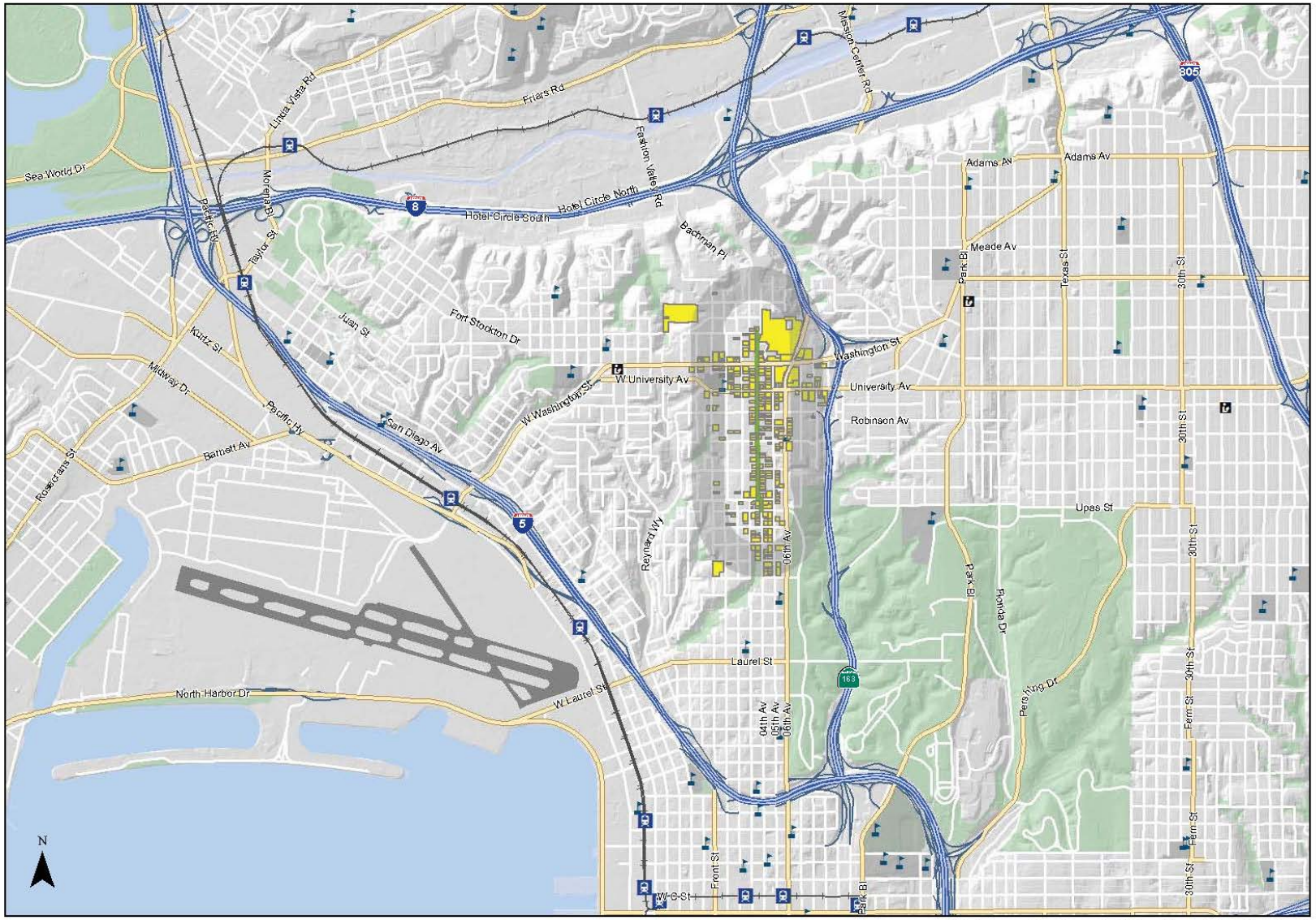
05th Av
Pershing Dr
Fern St
Front St
W G St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Robinson Av
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San Diego Av
W Washington St
Barnett Av
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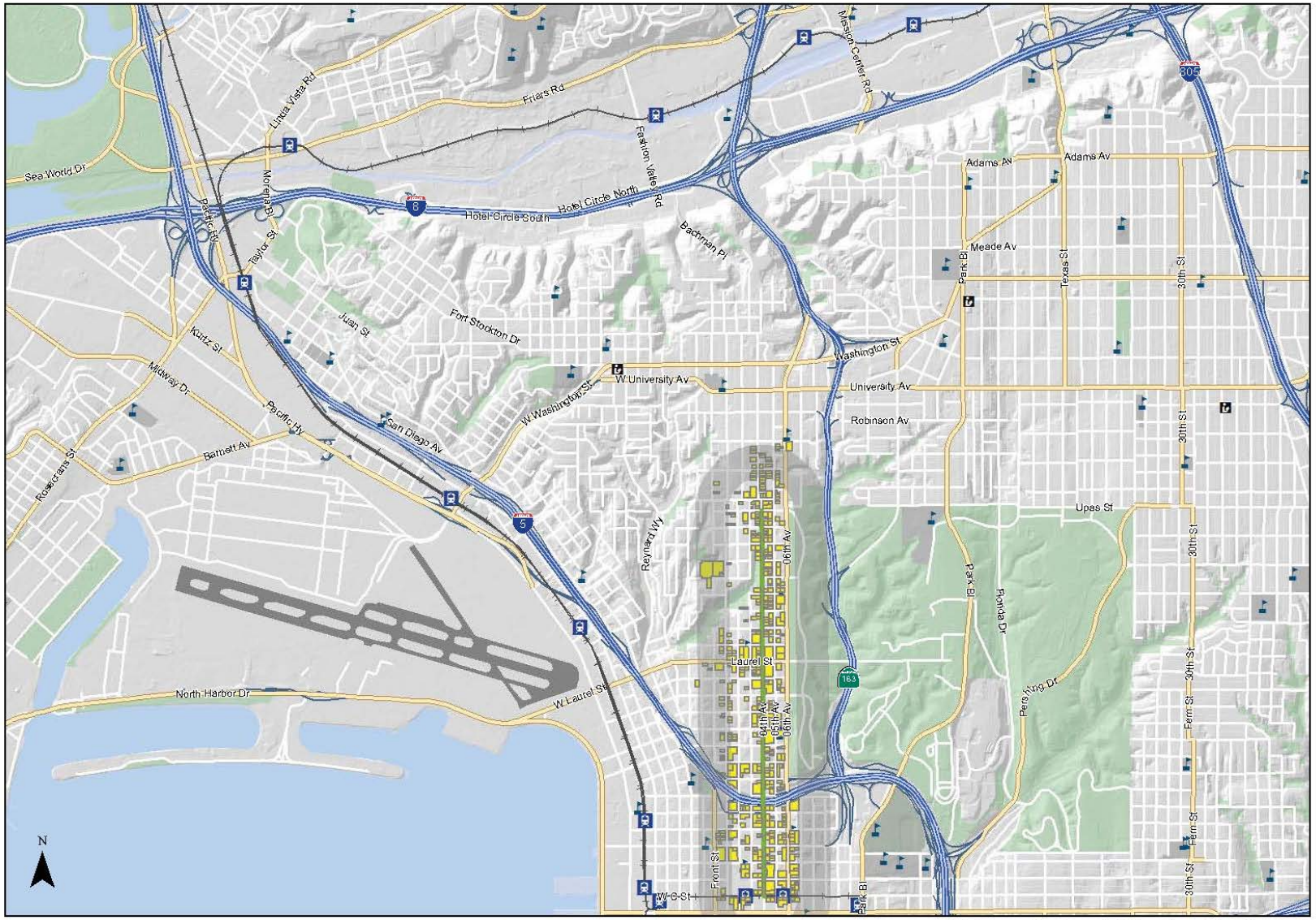
Upas St
Florida Dr
Laurel St
North Harbor Dr
W Laurel St
04th Av
05th Av
Pershing Dr
Fern St
Front St
W C St
N
Hillcrest - Bankers Hill Corridor
4th Ave Alignment
Activity Center
Half Score Area
Park
Rail Road
Trolley Stop
School
Library
Uptown Regional Bike Corridor Project
Activity Center Proximity by Alignment
KOA Corporation
Planning & Engineering
SANDAG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Juan St
Fort Stockton Dr
Washington St
Kurtz St
Midway Dr
Pacific Hy
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W University Av
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San Diego Av
Barnett Av
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Reynard Way
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North Harbor Dr
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Pershing Dr
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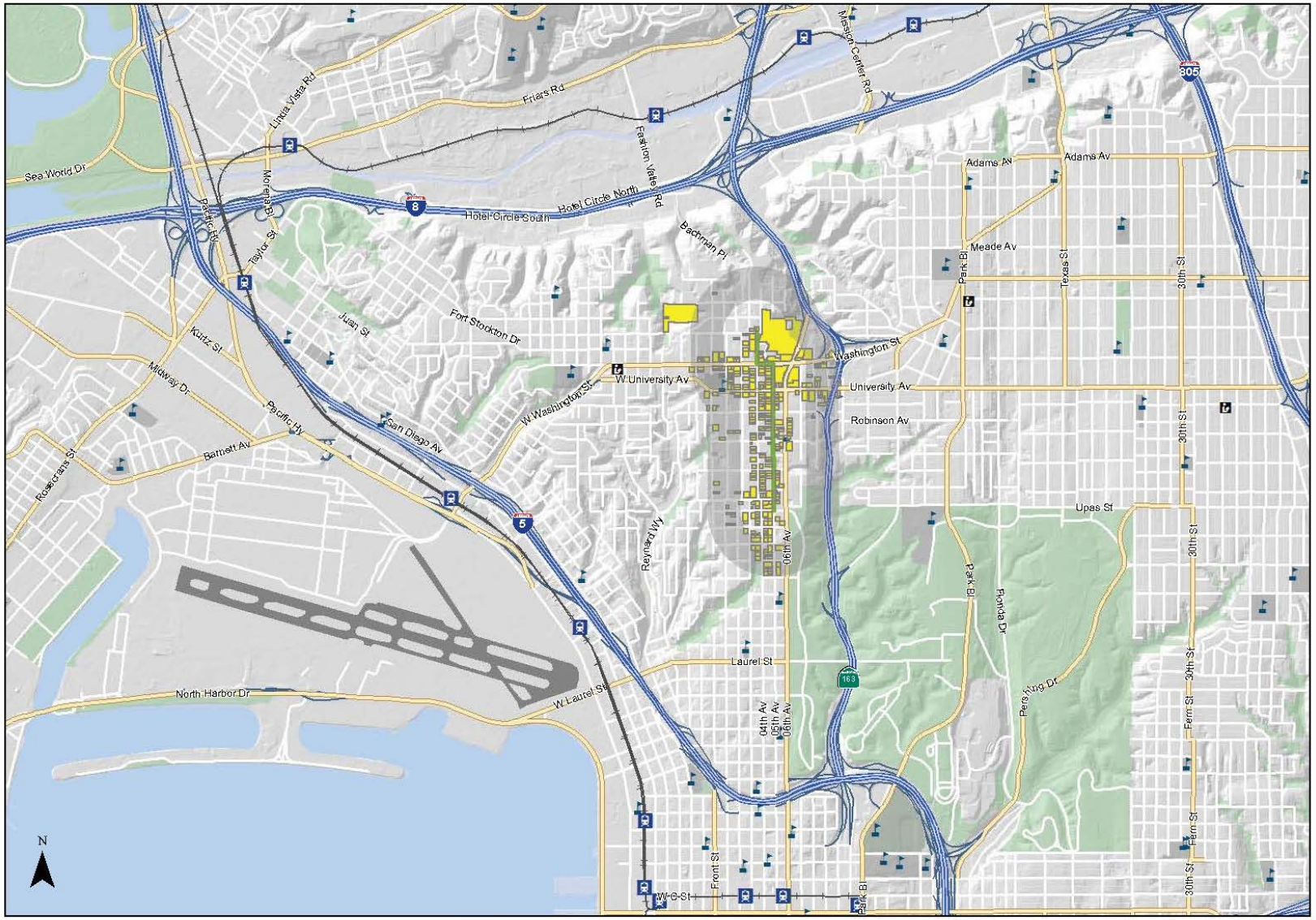
Front St
W C St
N
Bankers Hill - Downtown Corridor
4th Ave Alignment
Activity Center
Half Score Area
Park
Rail Road
Trolley Stop
School
Library
Uptown Regional Bike Corridor Project
Activity Center Proximity by Alignment
KOA Corporation
Planning & Engineering
SANDAG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06th Av
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Front St
W G St
N
Hillcrest - Bankers Hill Corridor
5th Ave Alignment
Activity Center
Half Score Area
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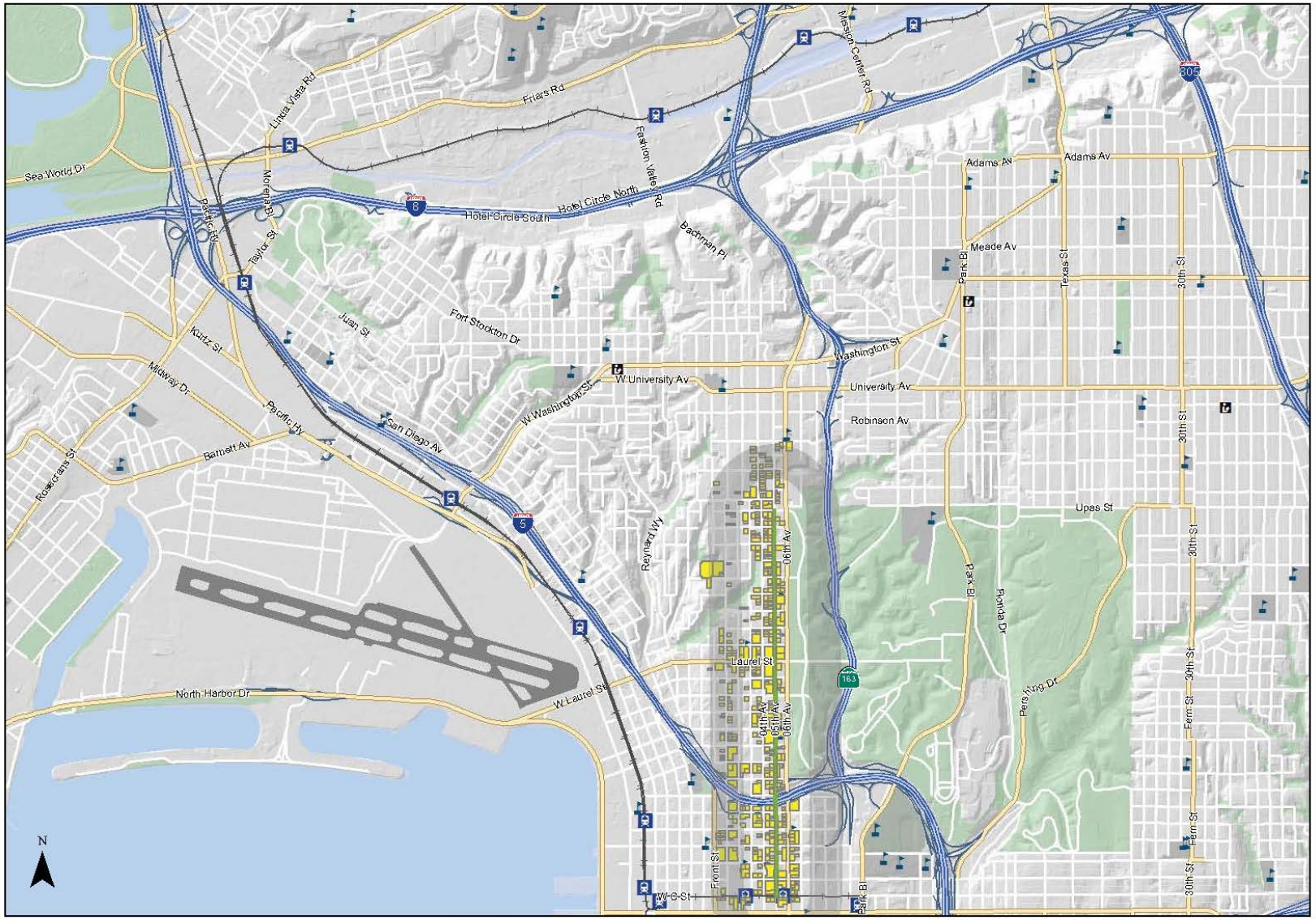
Trolley Stop
School
Library
Uptown Regional Bike Corridor Project
Activity Center Proximity by Alignment
KOA Corporation
Planning & Engineering
SANDAG



Bankers Hill - Downtown Corridor
5th Ave Alignment

Activity Center
Half Score Area
Park
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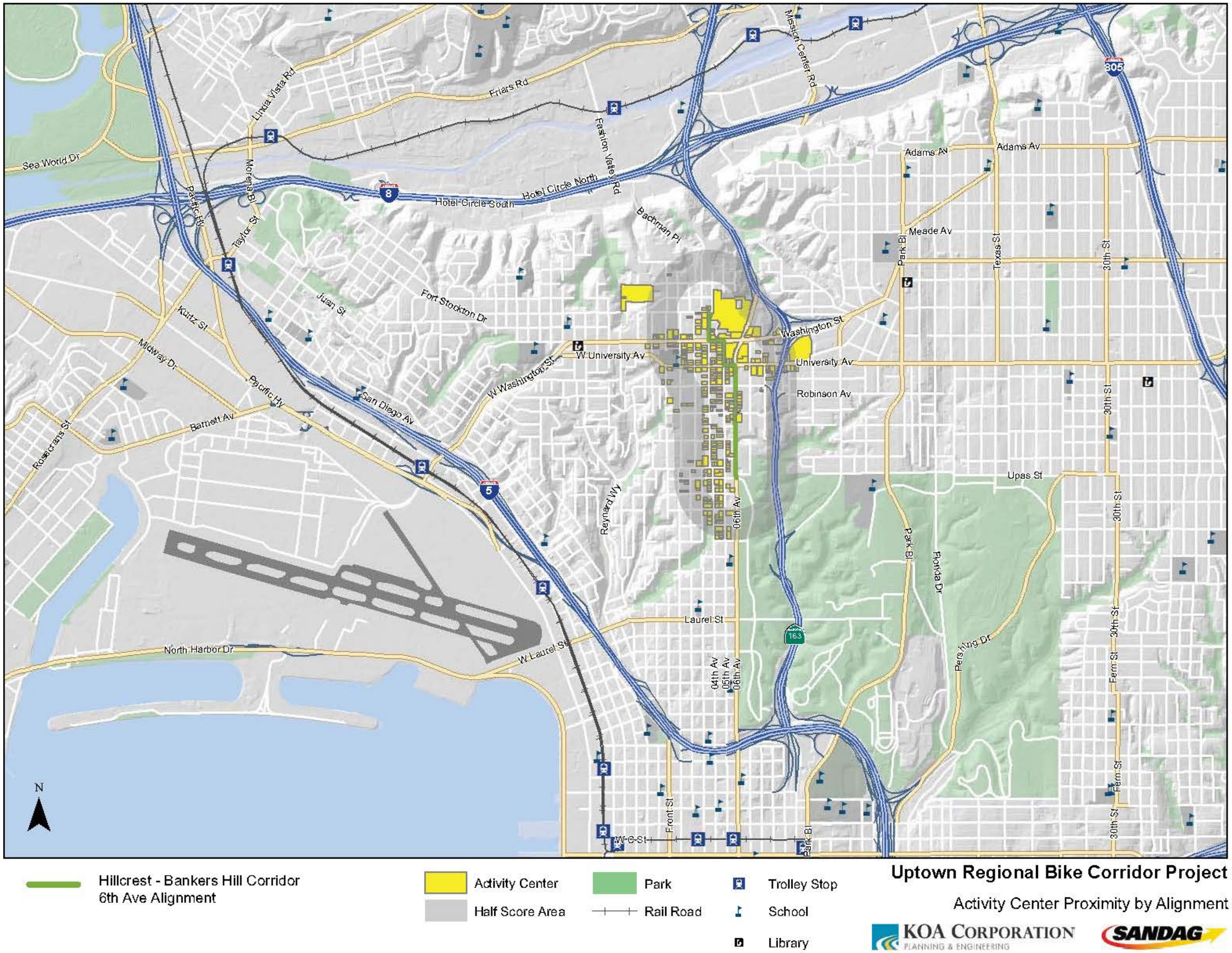
Trolley Stop
School
Library

Uptown Regional Bike Corridor Project

Activity Center Proximity by Alignment

KOA CORPORATION PLANNING & ENGINEERING SANDAG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Pacific Hy
San Diego Av
Barnett Av
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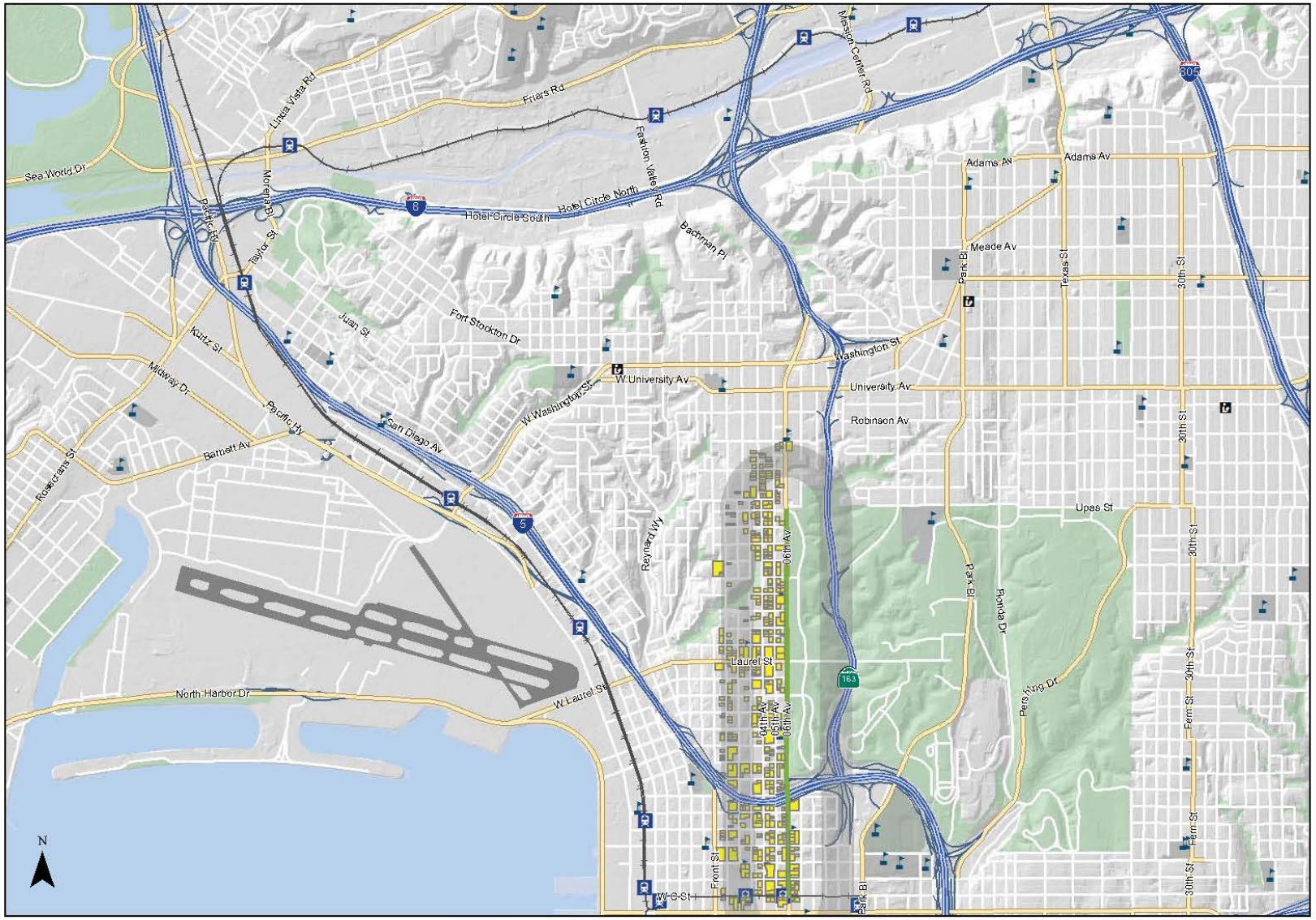
Upas St
Reynard Wy
06th Av
Florida Dr
Laurel St
North Harbor Dr
W Laurel St
Pershing Dr
04th Av
05th Av
Fern St
Front St
W C St
N
Hillcrest - Bankers Hill Corridor
6th Ave Alignment
Activity Center
Half Score Area
Park
Rail Road
Trolley Stop
School
Library
Uptown Regional Bike Corridor Project
Activity Center Proximity by Alignment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Barnett Av
Robert Fulton St
Reynard Way
Upas St
Florida Dr
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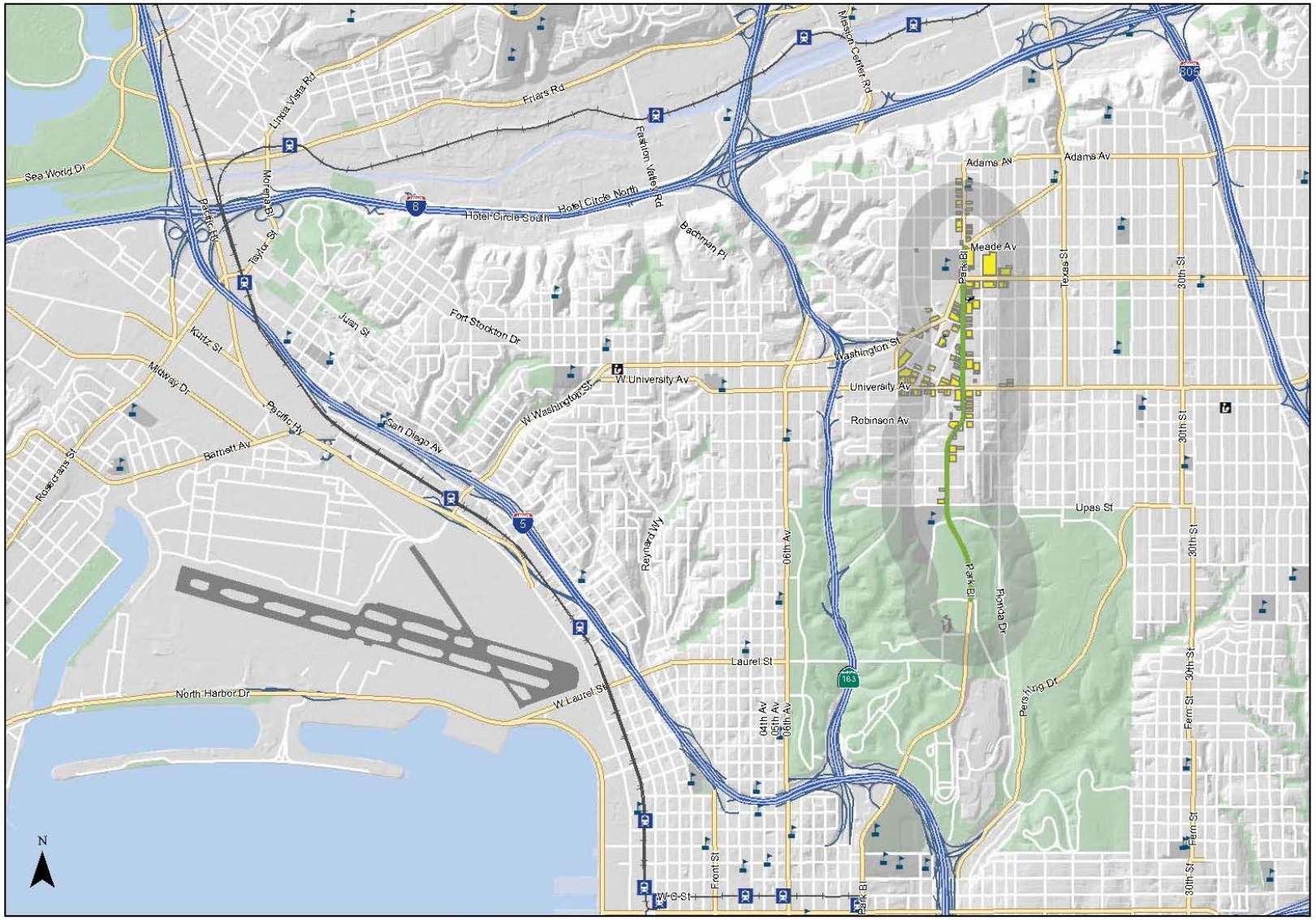
North Harbor Dr
W Laurel St
Pershing Dr
Fern St
Front St
W C St
N
Bankers Hill - Downtown Corridor
6th Ave Alignment
Activity Center
Half Score Area
Park
Rail Road
Trolley Stop
School
Library
Uptown Regional Bike Corridor Project
Activity Center Proximity by Alignment
KOA Corporation
Planning & Engineering
SANDAG



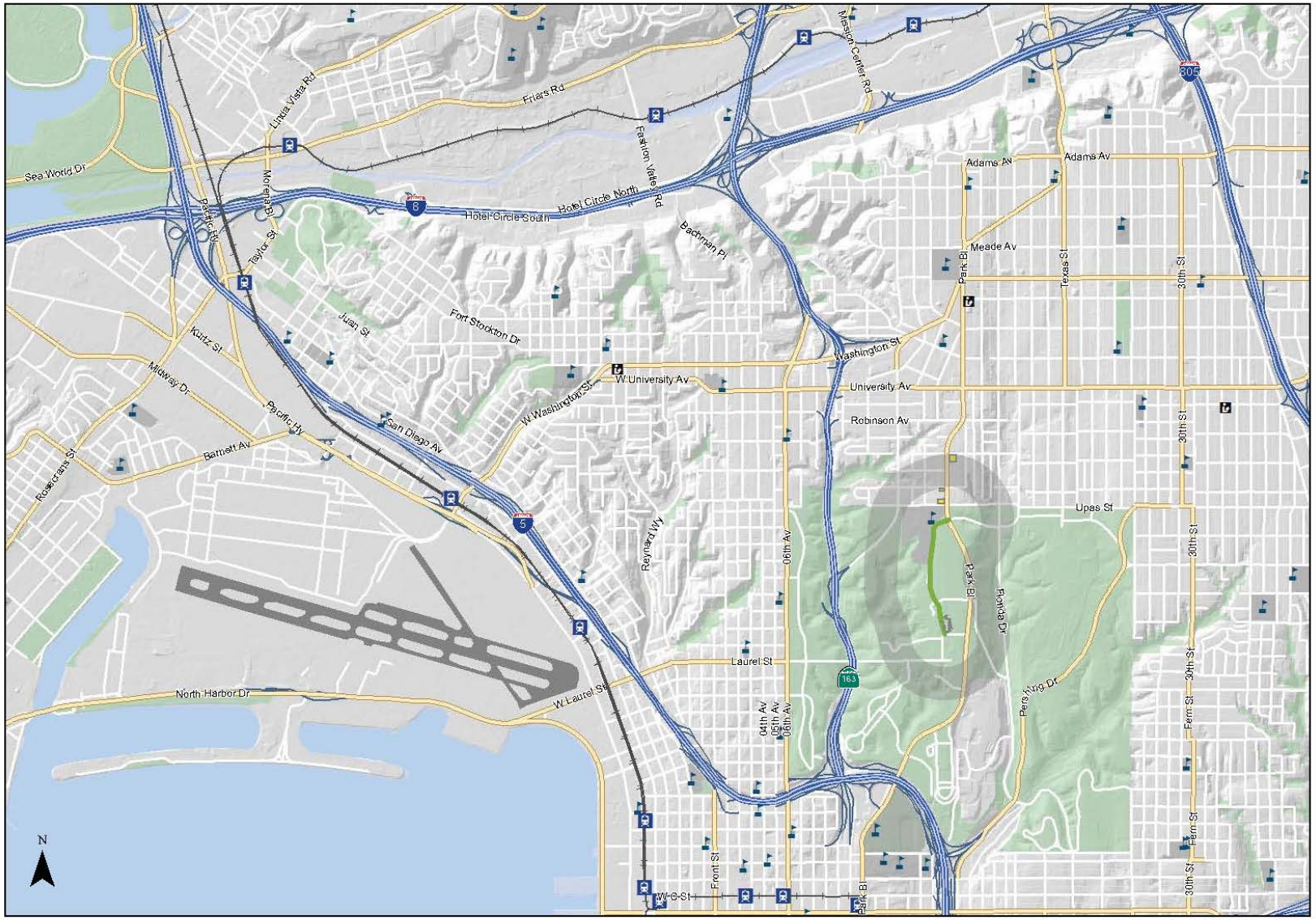
University Heights - Balboa Park Corridor
Park Blvd Alignment

Activity Center
Half Score Area
Park
Rail Road
Trolley Stop
School
Library

Uptown Regional Bike Corridor Project

Activity Center Proximity by Alignment

KOA CORPORATION PLANNING & ENGINEERING SANDAG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Juan St
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University Av
Robinson Av
Pacific Hwy
San Diego Av
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Barnett Av
Rosecrans St
Reynard Way
06th Av
Upas St
Florida Dr
Laurel St
North Harbor Dr
W Laurel St
04th Av
05th Av
Pershing Dr
Fern St
Front St
W G St
N
Balboa Park - Balboa Park Corridor
Zoo Pl Alignment
Activity Center
Half Score Area
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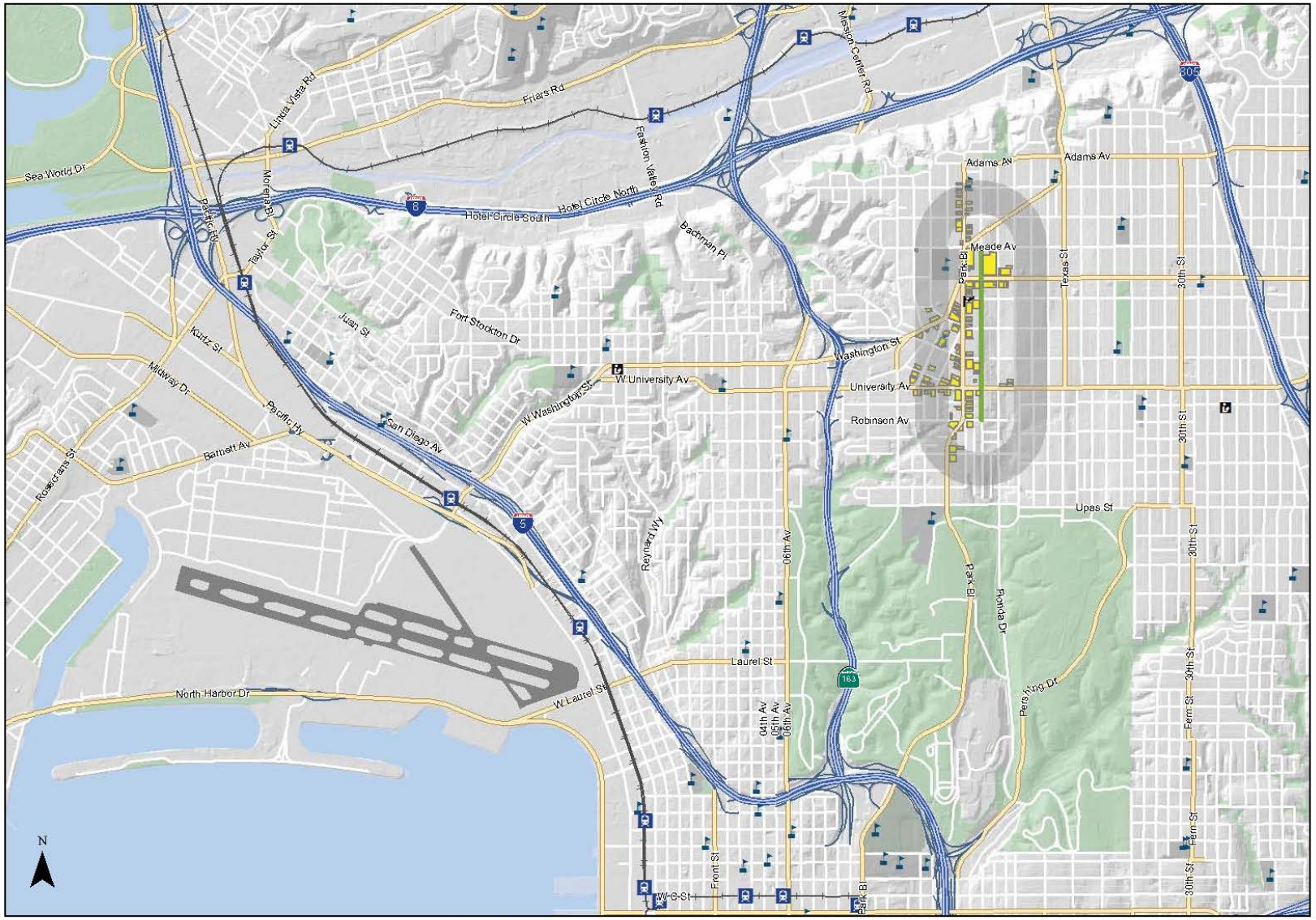
Trolley Stop
School
Library
Uptown Regional Bike Corridor Project
Activity Center Proximity by Alignment
KOA Corporation
Planning & Engineering
SANDAG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University Av
Robinson Av
Barnett Av
San Diego Av
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Reynard Wy
06th Av
Upas St
Florida Dr
Laurel St
North Harbor Dr
W Laurel St
04th Av
05th Av
Pershing Dr
Fern St
Front St
W C St
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University Heights - Balboa Park Corridor
Georgia St Alignment
Activity Center
Half Score Area
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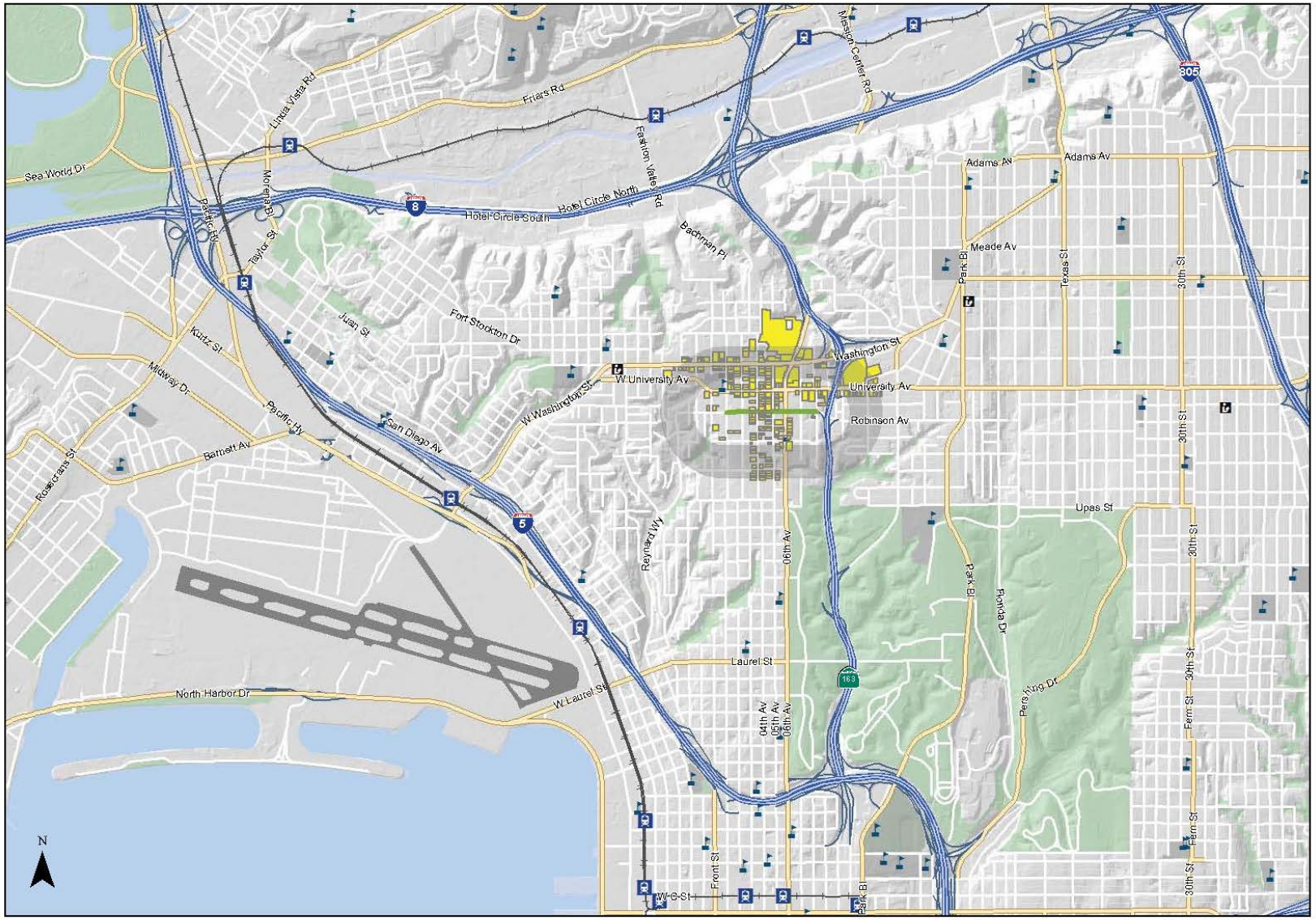
Trolley Stop
School
Library
Uptown Regional Bike Corridor Project
Activity Center Proximity by Alignment
KOA Corporation
Planning & Engineering
SANDAG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Fort Stockton Dr
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Kurtz St
Midway Dr
Pacific Hwy
San Diego Av
W Washington St
Washington St
W University Av
University Av
Robinson Av
Barnett Av
Robert Fulton St
Reynard Way
Upas St
Florida Dr
Laurel St
North Harbor Dr
W Laurel St
Pershing Dr
Fern St
Front St
W G St
N
Hillcrest - Hillcrest Corridor
Robinson Ave Alignment
Activity Center
Half Score Area
Park
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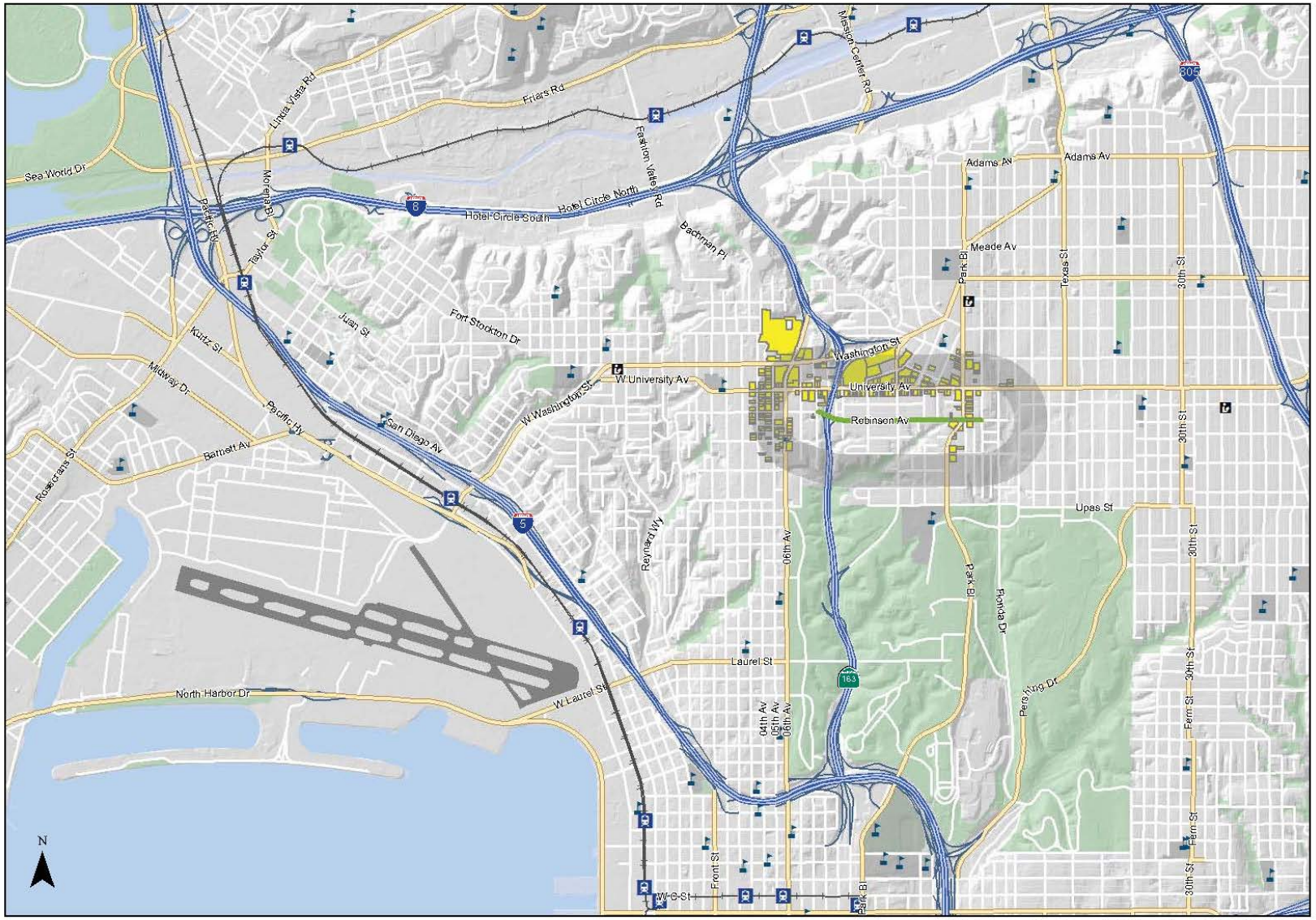
Trolley Stop
School
Library
Uptown Regional Bike Corridor Project
Activity Center Proximity by Alignment
KOA Corporation
Planning & Engineering
SANDAG


Hillcrest - North Park Corridor
Robinson Ave Alignment
Activity Center
Half Score Area
Park
Rail Road
Trolley Stop
School
Library
Uptown Regional Bike Corridor Project
Activity Center Proximity by Alignment
KOA CORPORATION
PLANNING & ENGINEERING
SANDAG
N
Friars Rd
Linda Vista Rd
Mission Center Rd
Sea World Dr
Hotel Circle South
Hotel Circle North
Fashion Valley Rd
Taylor St
Bachman Pl
Adams Av
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Park Bl
Juan St
Fort Stockton Dr
Kurtz St
Midway Dr
Pacific Hy
San Diego Av
W Washington St
Washington St
W University Av
University Av
Robinson Av
Barnett Av
Robert Trans St
Reynard Wy
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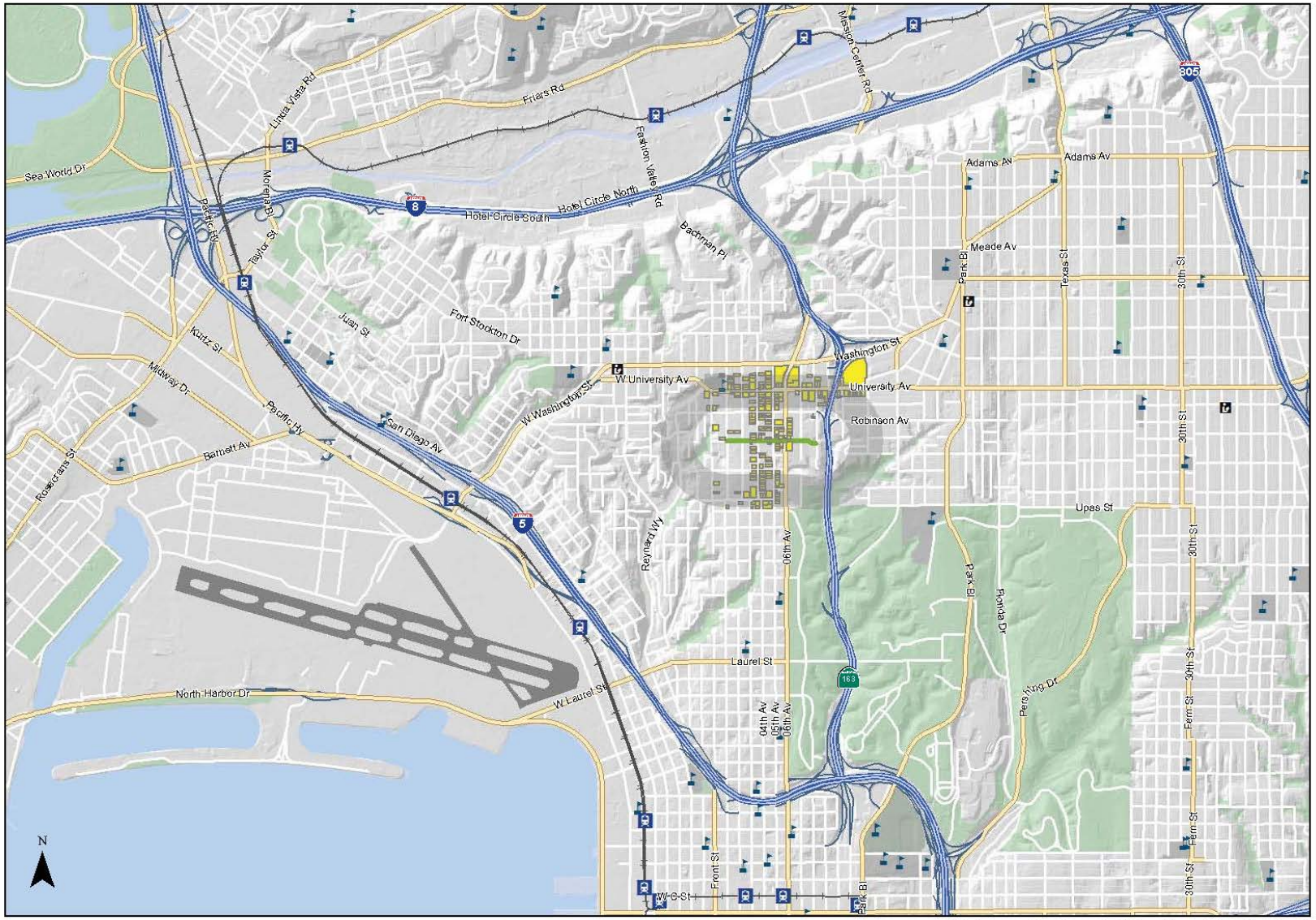
Hillcrest - Hillcrest Corridor
Pennsylvania Ave Alignment
Activity Center
Half Score Area
Park
Rail Road
Trolley Stop
School
Library
Uptown Regional Bike Corridor Project
Activity Center Proximity by Alignment
KOA CORPORATION
PLANNING & ENGINEERING
SANDAG
N
Friars Rd
Linda Vista Rd
Sea World Dr
Hotel Circle South
Hotel Circle North
Taylor St
Kurtz St
Midway Dr
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Rosecrans St
Pacific Hwy
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University Av
Robinson Av
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Meade Av
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Upas St
Reynard Way
Laurel St
W Laurel St
North Harbor Dr
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04th Av
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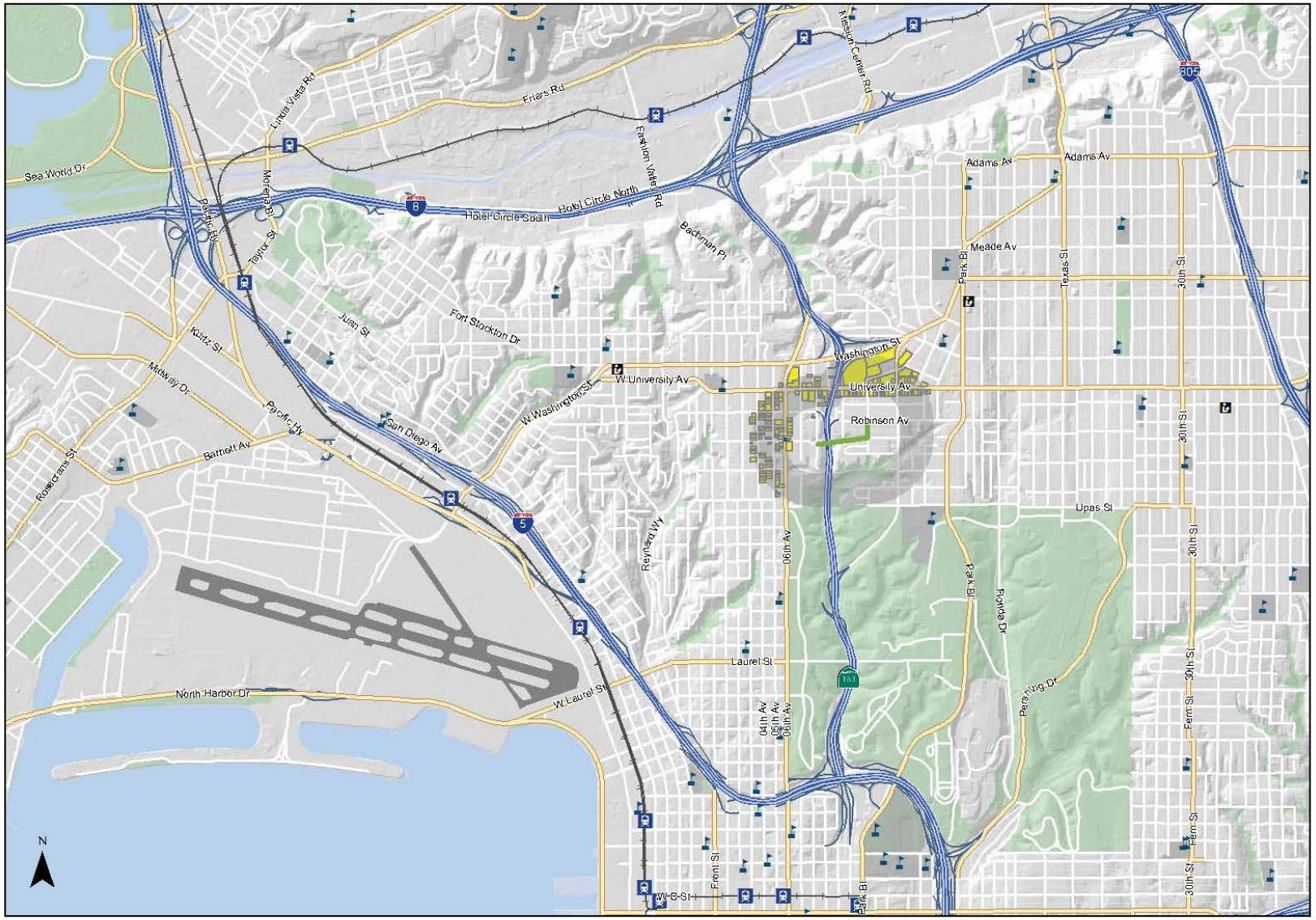
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Fort Stockton Dr
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University Av
Robinson Av
San Diego Av
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Barnett Av
Rosecrans St
Reynard Wy
Upas St
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Laurel St
North Harbor Dr
W Laurel St
Pershing Dr
Fern St
Front St
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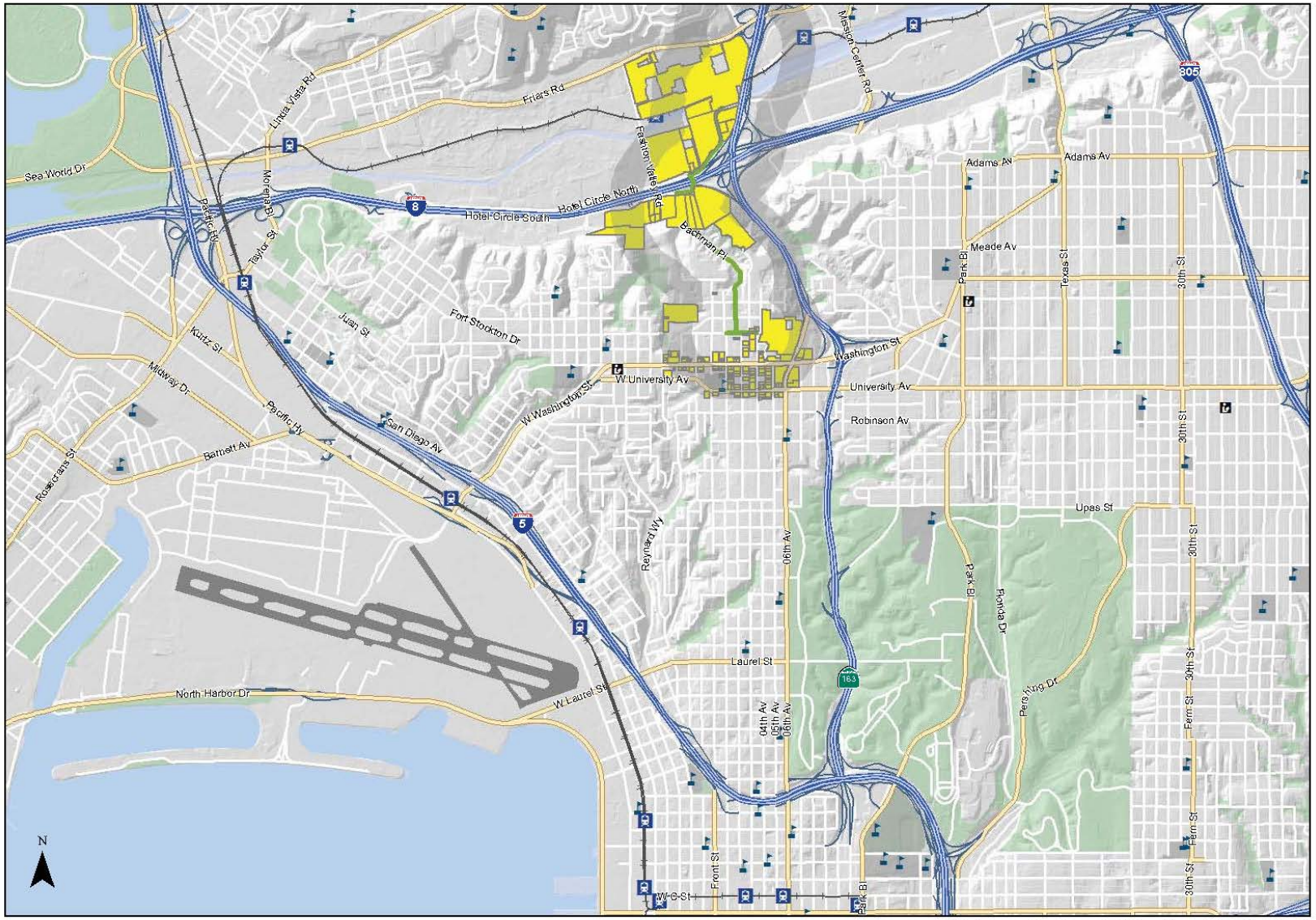
Hillcrest - North Park Corridor
Pennsylvania Ave Alignment
Activity Center
Half Score Area
Park
Rail Road
Trolley Stop
School
Library
Uptown Regional Bike Corridor Project
Activity Center Proximity by Alignment
KOA Corporation
Planning & Engineering
SANDAG


Mission Valley - Hillcrest Corridor
Hotel Circle/Bachman Pl Alignment
Activity Center
Half Score Area
Park
Rail Road
Trolley Stop
School
Library
Uptown Regional Bike Corridor Project
Activity Center Proximity by Alignment
KOA CORPORATION
PLANNING & ENGINEERING
SANDAG
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Friars Rd
Linda Vista Rd
Sea World Dr
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Hotel Circle North
Fashion Valley Rd
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North Harbor Dr
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Fern St
Pershing Dr
04th Av
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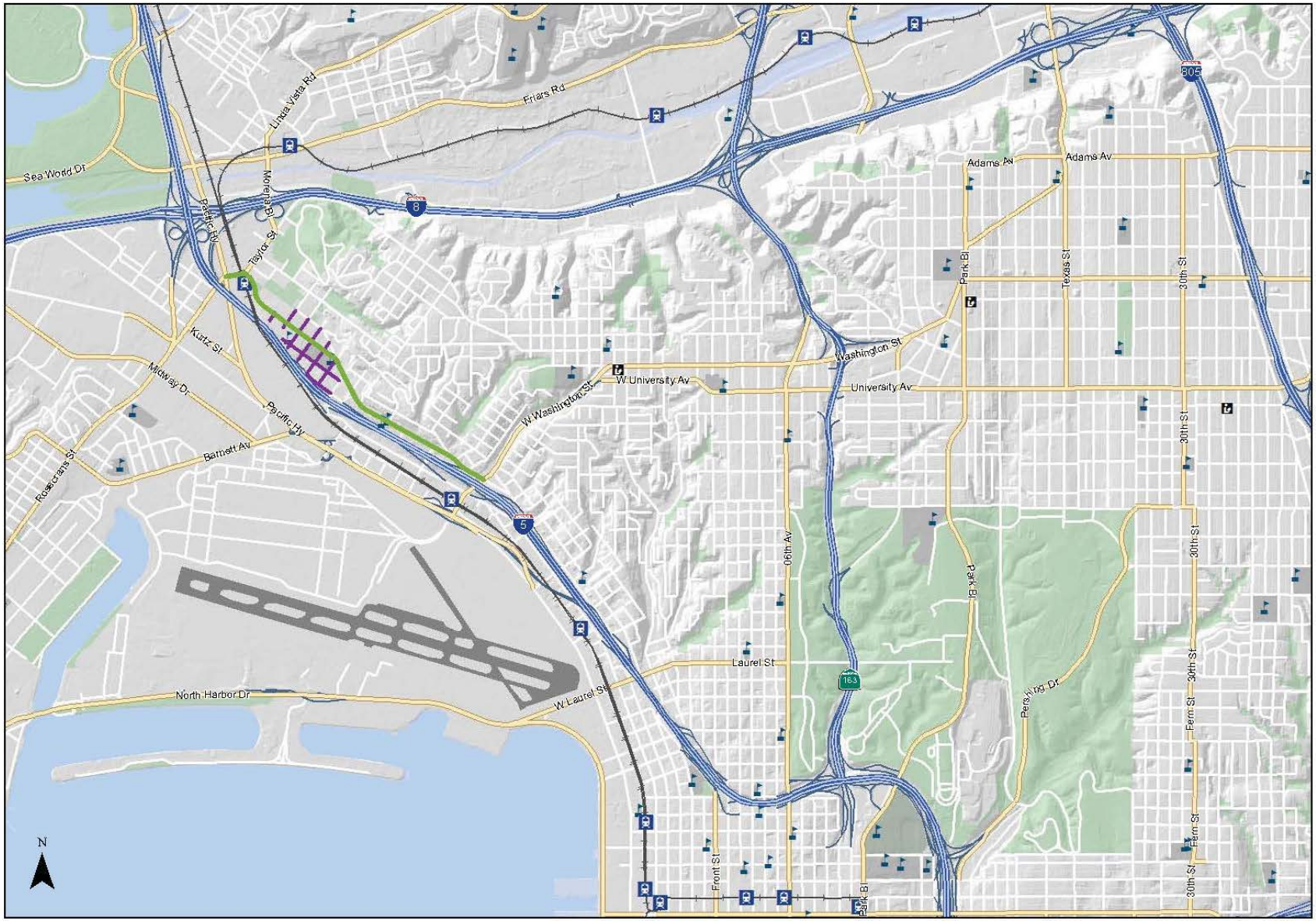
805

Population Served

Measured by percentage of population served, calculated based on the type of user according to the proposed facility.

Population Served			
Corridor	**Alignment**	**Population**	**Score**
Mission Valley - Hillcrest	Hotel Circle/Bachman Pl	147	High
Hillcrest - Bankers Hill	1st	369.2	Medium
Hillcrest - Bankers Hill	3rd/Upas	305.68	Medium
Hillcrest - Bankers Hill	4th	439.76	High
Hillcrest - Bankers Hill	5th	48.99	Low
Hillcrest - Bankers Hill	6th	407.2	High
Bankers Hill - Downtown	1st	6391	High
Bankers Hill - Downtown	4th	6118	High
Bankers Hill - Downtown	5th	995	Low
Bankers Hill - Downtown	6th	744	Low
Old Town - Five Points	Congress/San Diego Ave	806.68	High
Five Points - Mission Hills	Washington	15	High
Mission Hills - Hillcrest	Washington	4274.6	High
Mission Hills - Hillcrest	University Ave	791.27	Medium
Hillcrest - Hillcrest	Washington	2287	Medium
Hillcrest - Hillcrest	University Ave		
	Constrained	18.31	Low
	Unconstrained	1226.77	Medium
Hillcrest - Hillcrest	Robinson Ave		
	Constrained	36.09	Low
	Unconstrained	2418.03	Medium
Hillcrest - Hillcrest	Pennsylvania Ave	4899	High
Hillcrest - North Park	Washington	2803.28	Medium
Hillcrest - North Park	University Ave		
	Constrained	29.82	Low
	Unconstrained	1997.94	Medium
Hillcrest - North Park	Robinson Ave		
	Constrained	51.68	Low
	Unconstrained	3462.56	High
Hillcrest - North Park	Pennsylvania Ave	2068	Medium
University Heights - Balboa Park	Park		
	Constrained	55.01	Low
	Unconstrained	3685.67	High
University Heights - Balboa Park	Georgia St	2740	Medium
University Heights - Balboa Park	Zoo Drive	2740	Medium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Laurel St
W Laurel St
North Harbor Dr
Pershing Dr
Fern St
Front St
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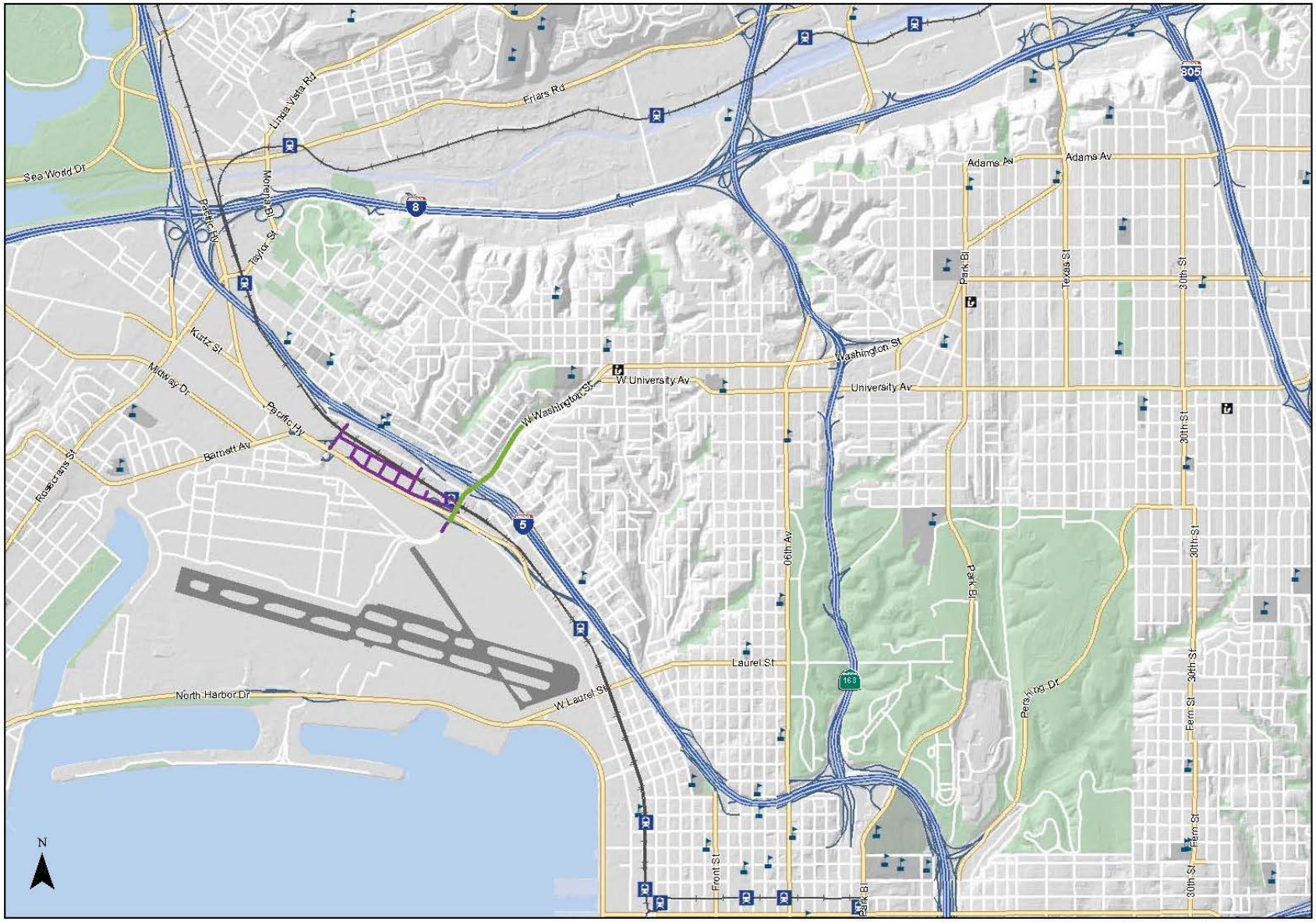
Old Town - Five Points Corridor
Congress St/San Diego Ave Alignment
Roads Connected by Alignment
Park
Rail Road
Trolley Stop
School
Library
Uptown Regional Bike Corridor Project
Connected Population by Alignment
KOA Corporation
PLANNING & ENGINEERING
SANDAG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North Harbor Dr
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Five Points - Mission Hills Corridor
Washington St Alignment
Roads Connected by Alignment
Park
Rail Road
Trolley Stop
School
Library
Uptown Regional Bike Corridor Project
Connected Population by Alignment
KOA CORPORATION
PLANNING & ENGINEERING
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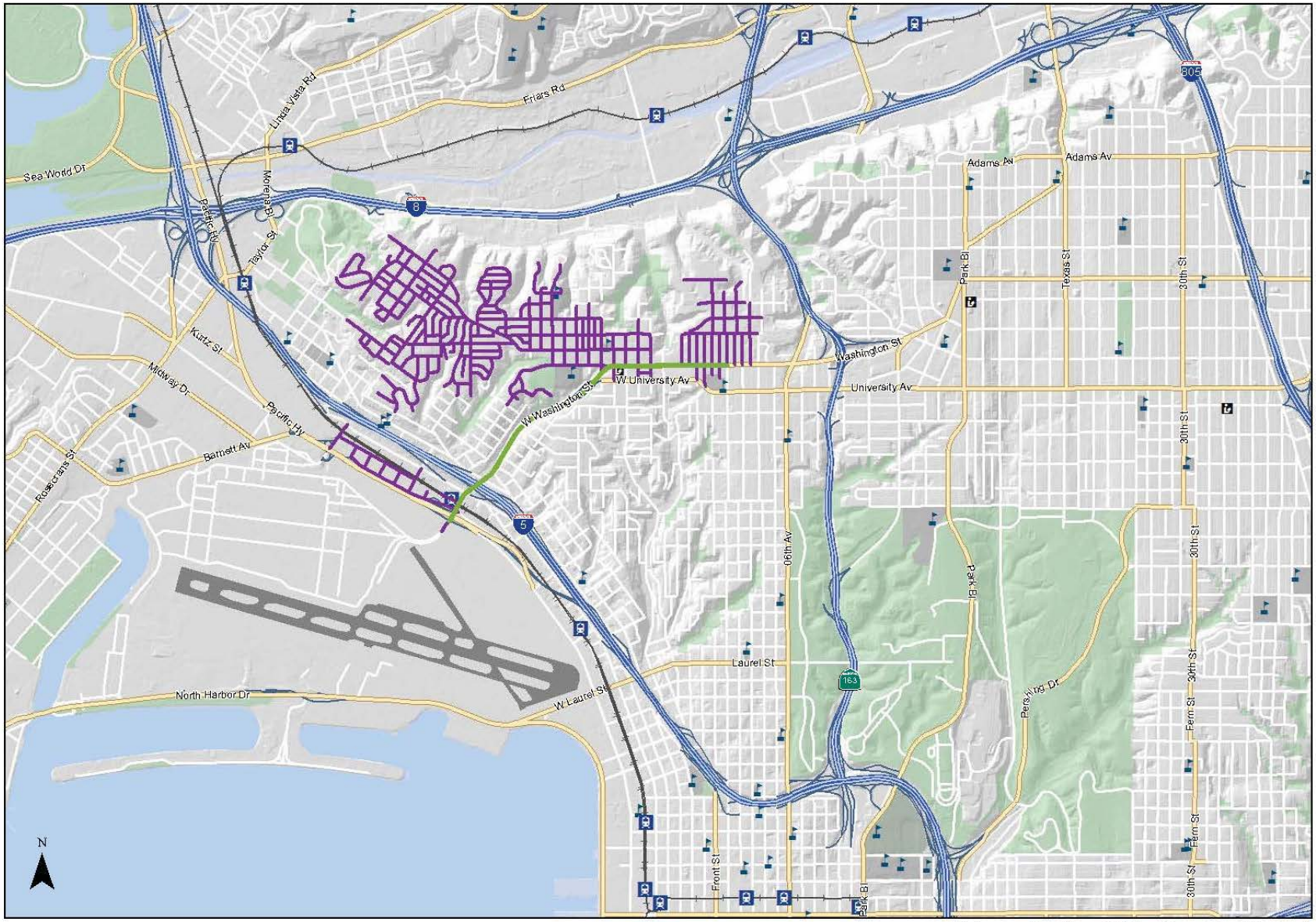
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North Harbor Dr
Pershing Dr
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Mission Hills - Hillcrest Corridor
Washington St Alignment
Roads Connected by Alignment
Park
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Trolley Stop
School
Library
Uptown Regional Bike Corridor Project
Connected Population by Alignment
KOA CORPORATION
PLANNING & ENGINEERING
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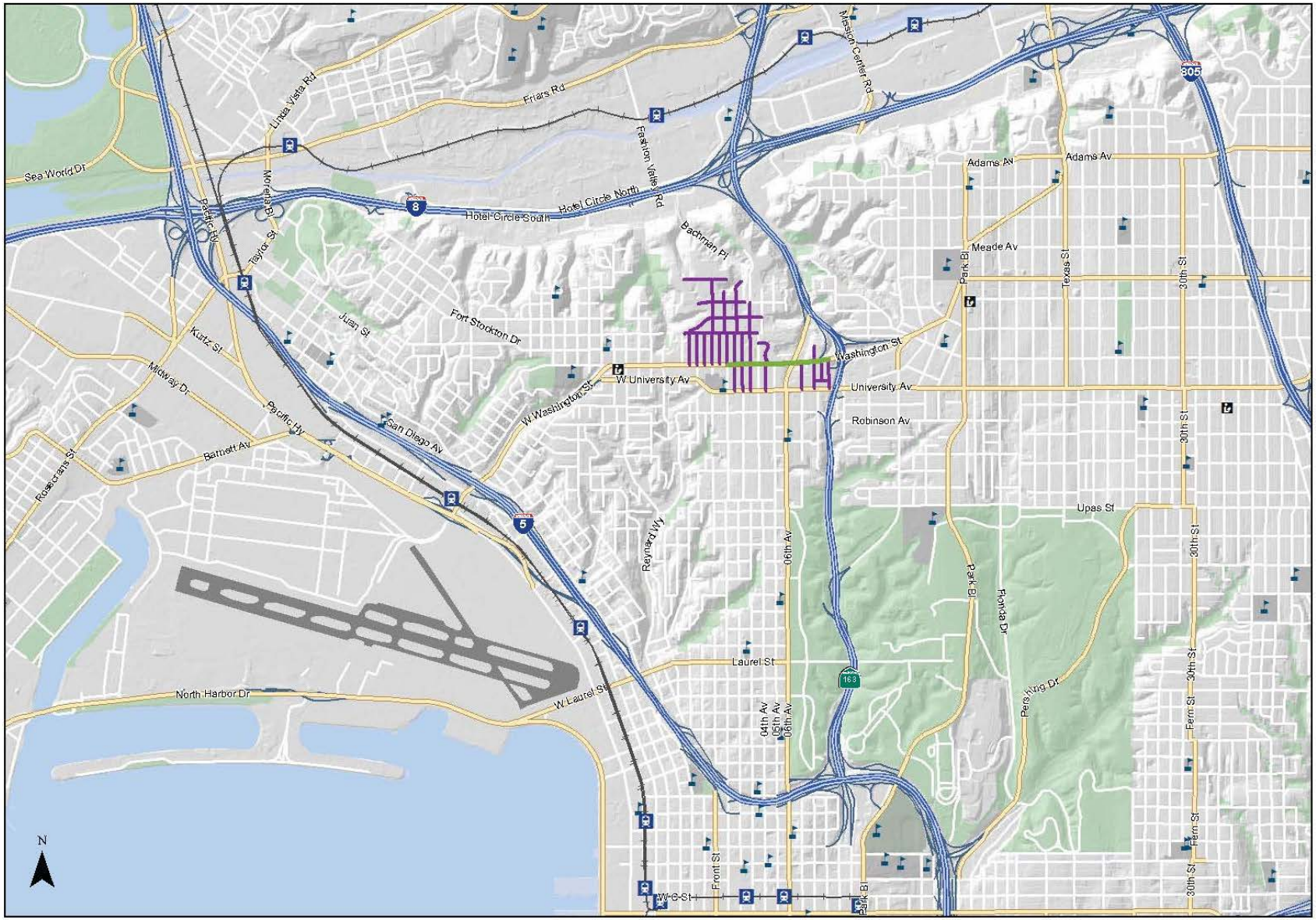
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Washington St Alignment
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Uptown Regional Bike Corridor Project
Connected Population by Alignment
KOA Corporation
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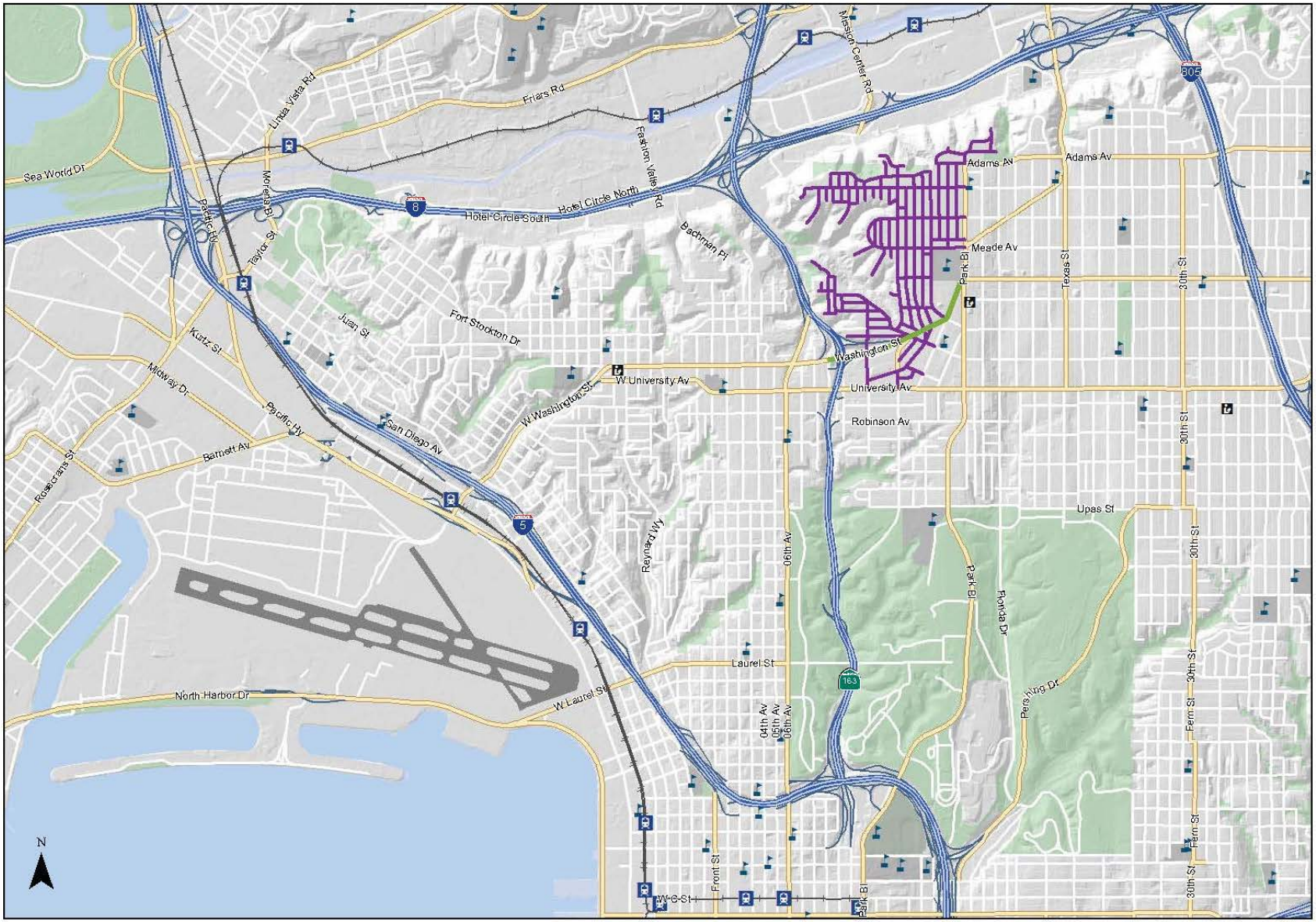
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Hillcrest - North Park Corridor
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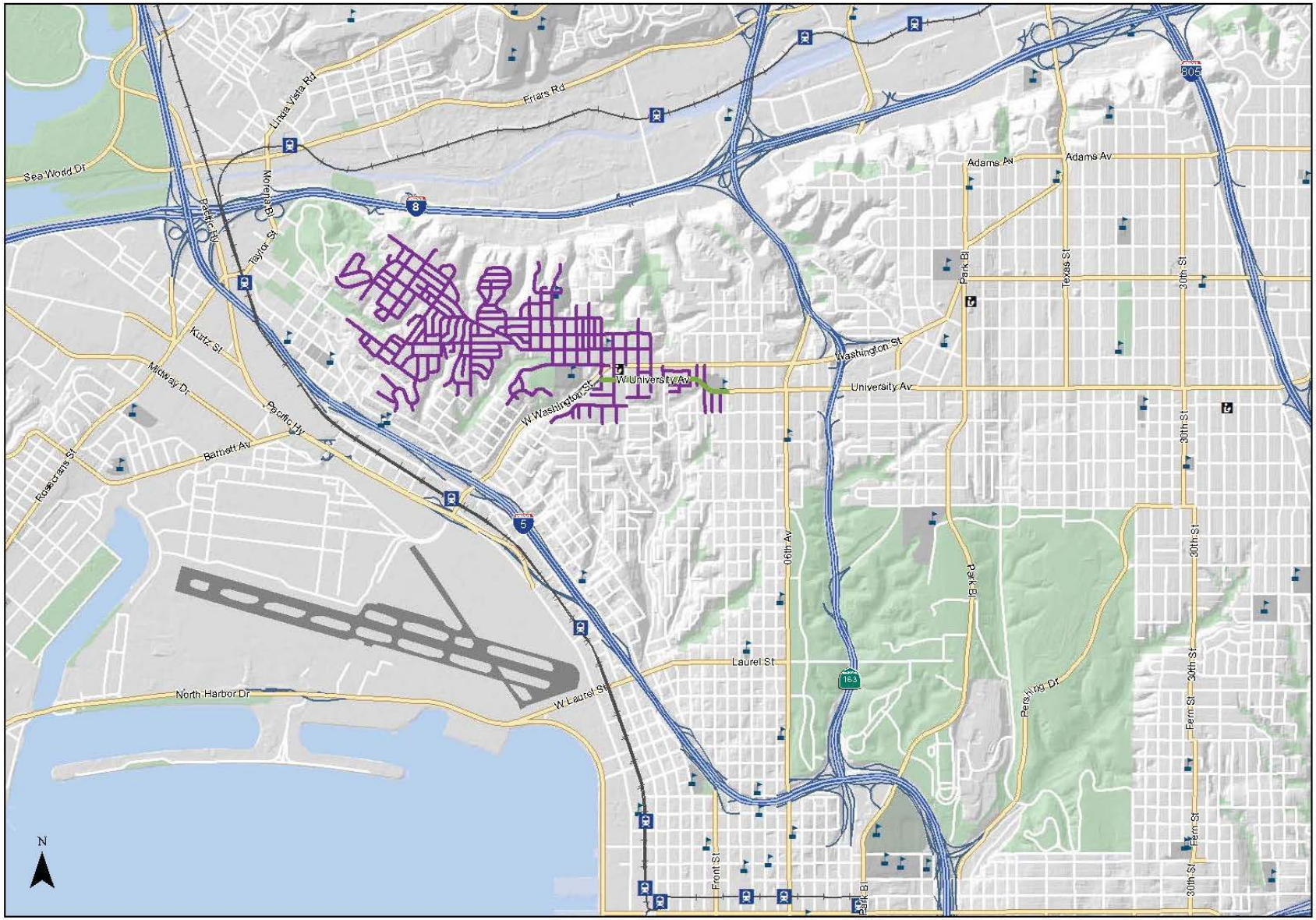
Planning & Engineering
SANDAG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Mission Hills - Hillcrest Corridor
University Ave Alignment
Roads Connected by Alignment
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PLANNING & ENGINEERING
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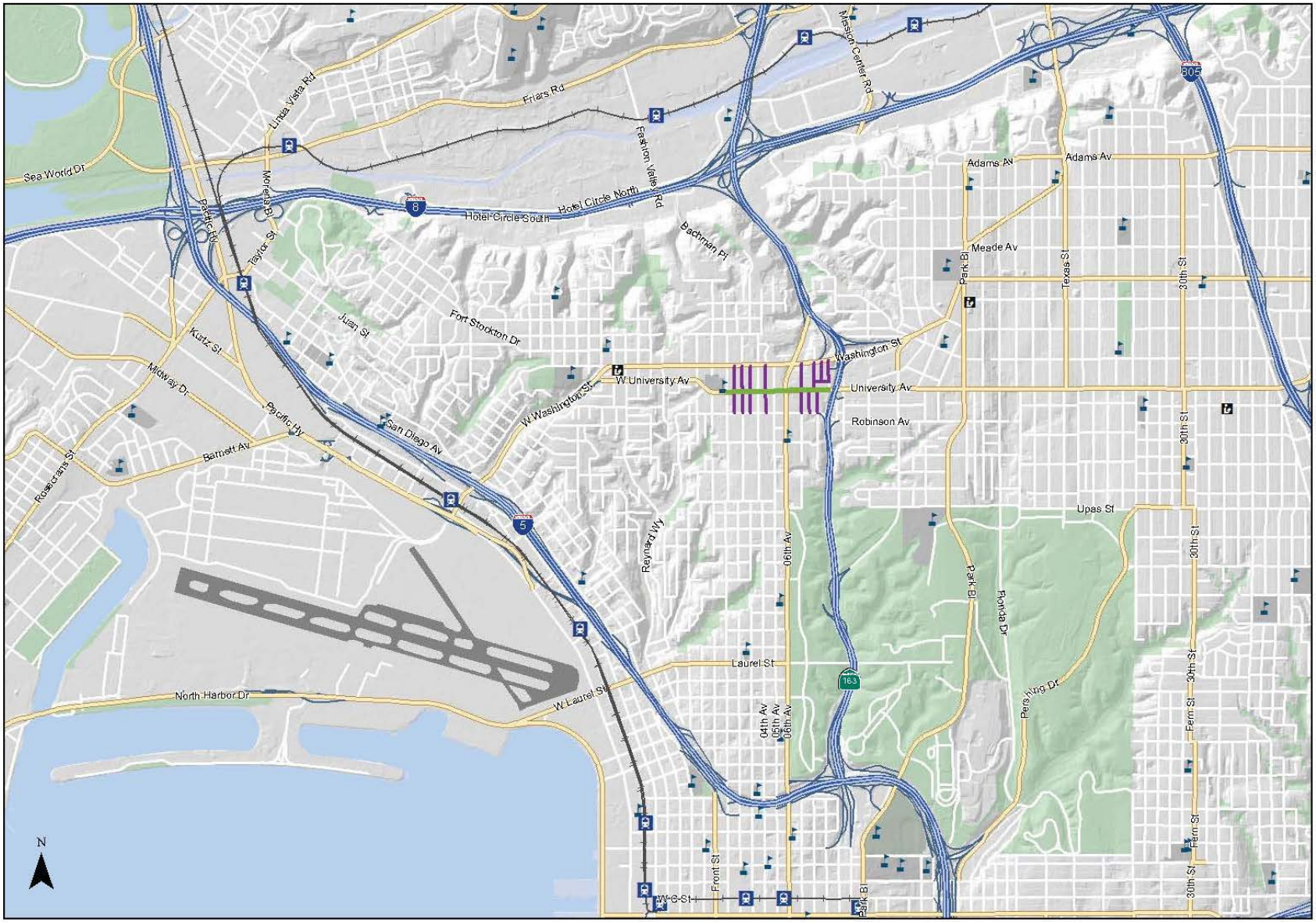
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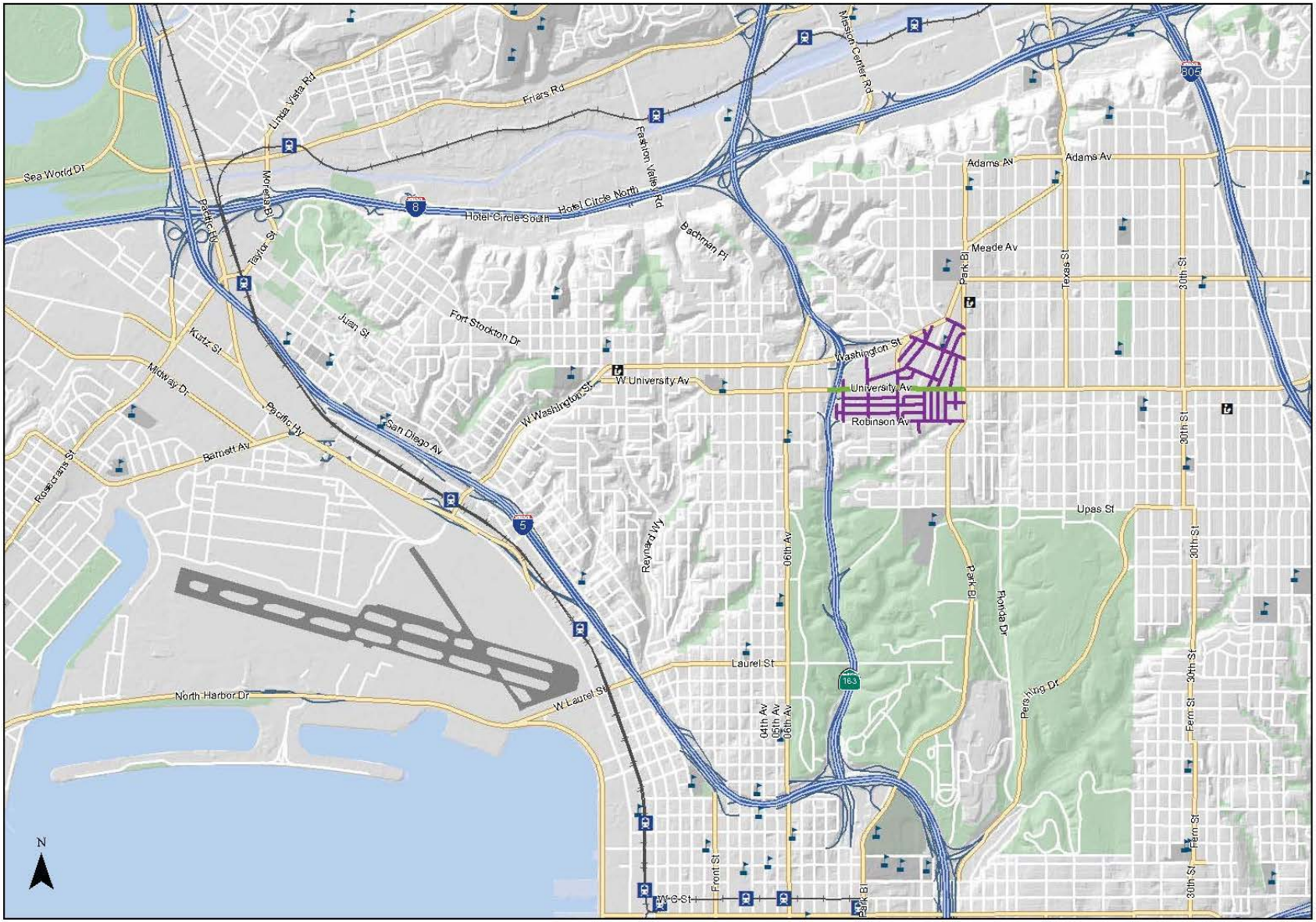
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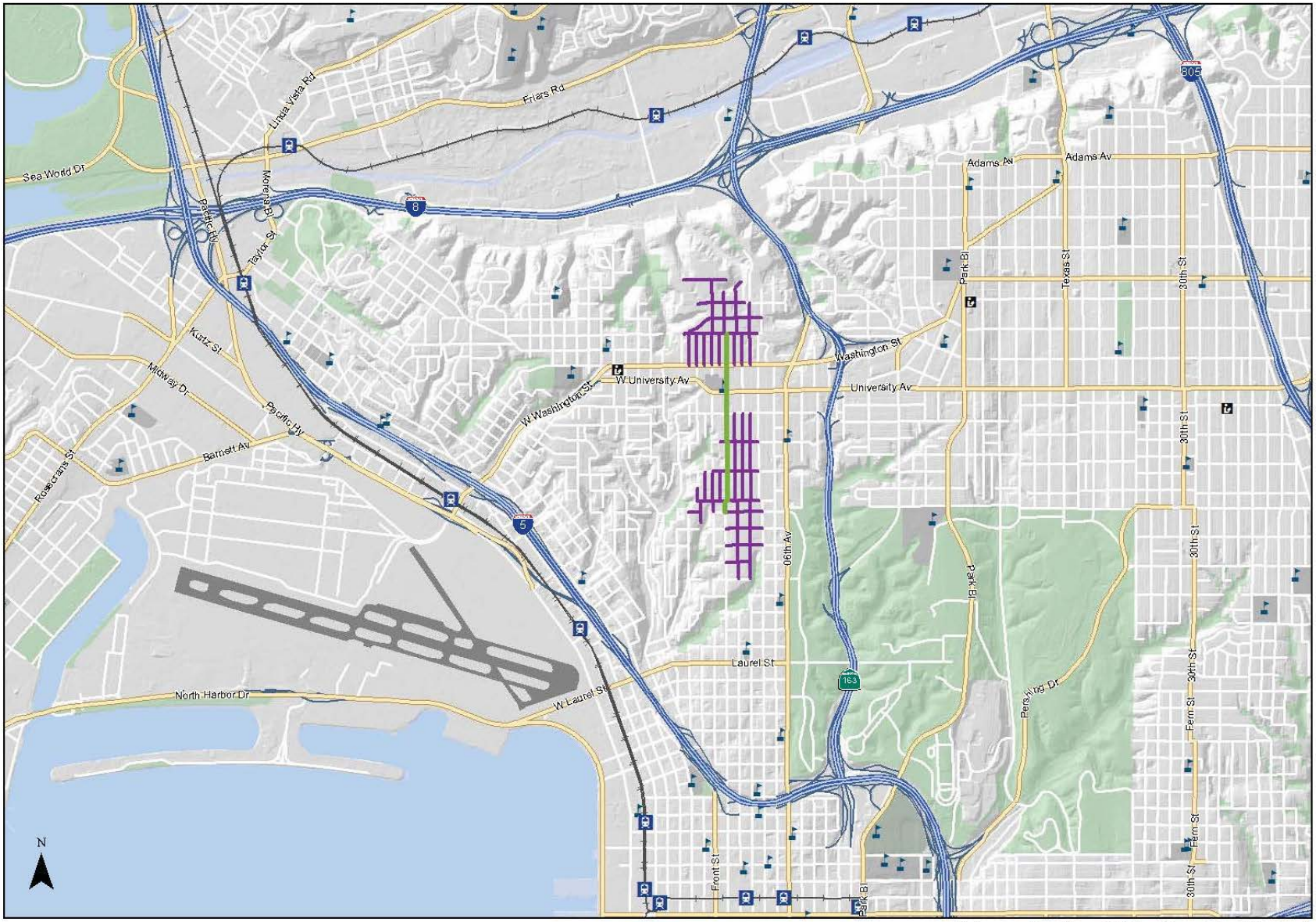
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1st Ave Alignment
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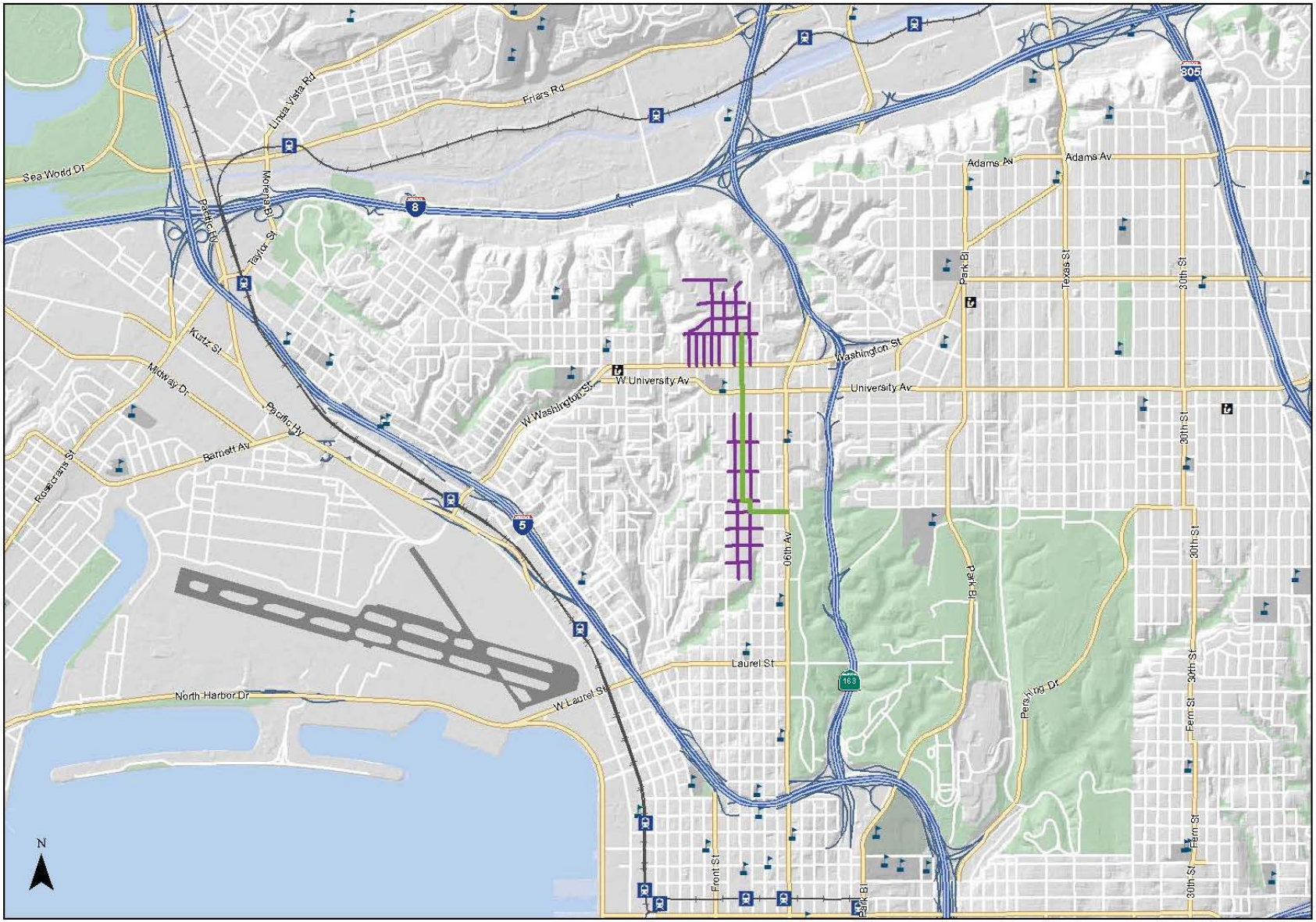
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3rd Ave/Upas St Alignment
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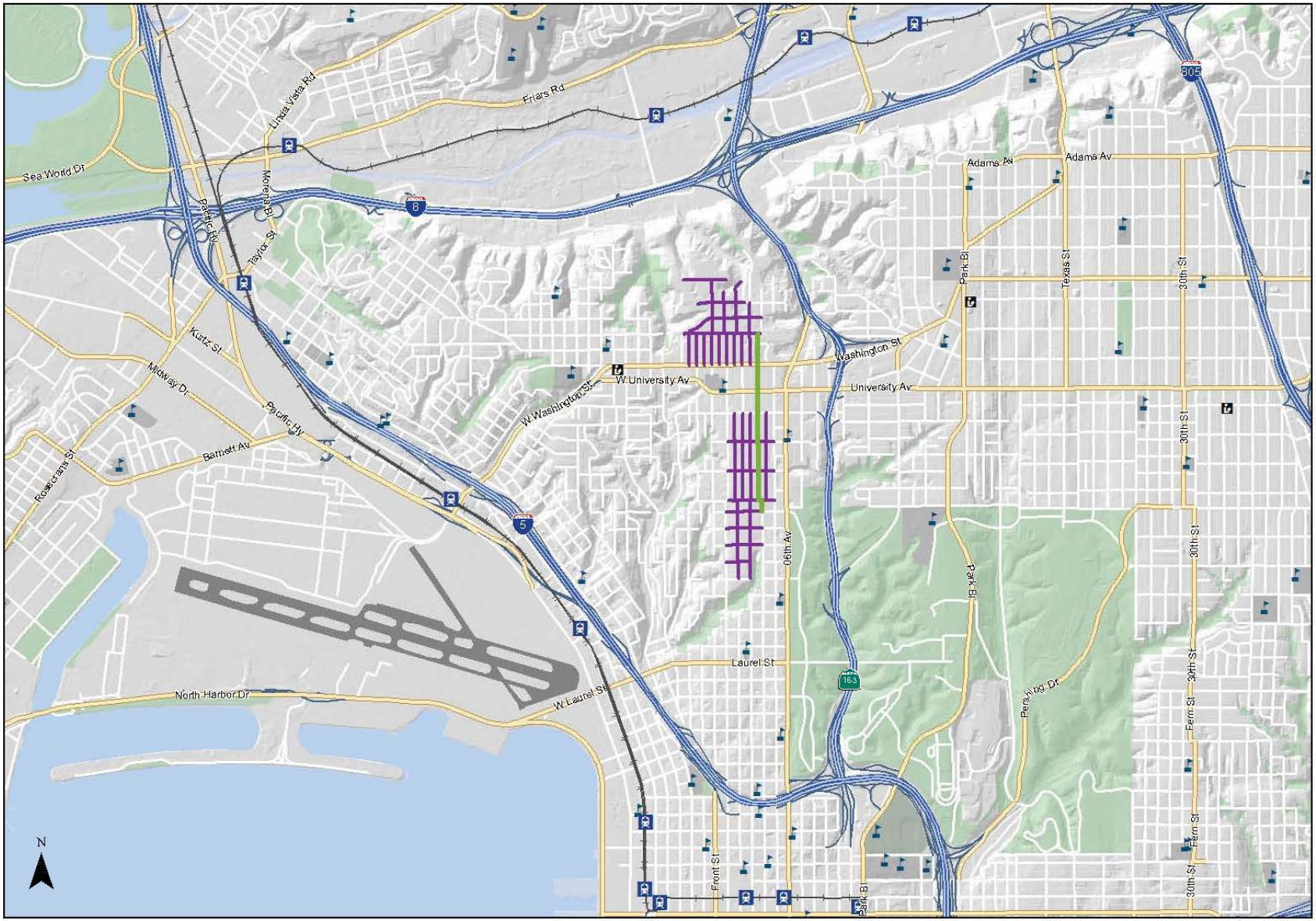
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4th Ave Alignment
Roads Connected by Alignment
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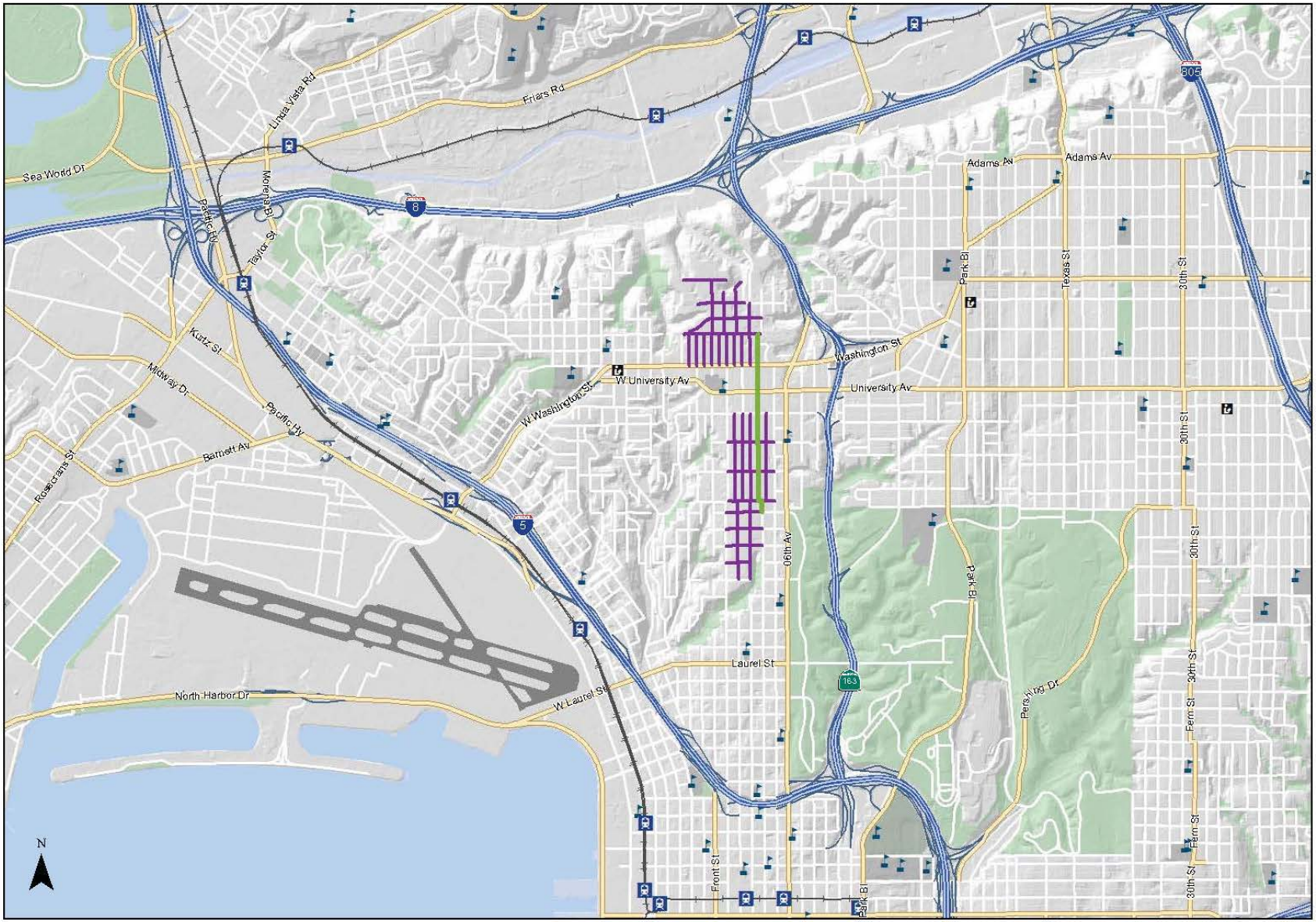
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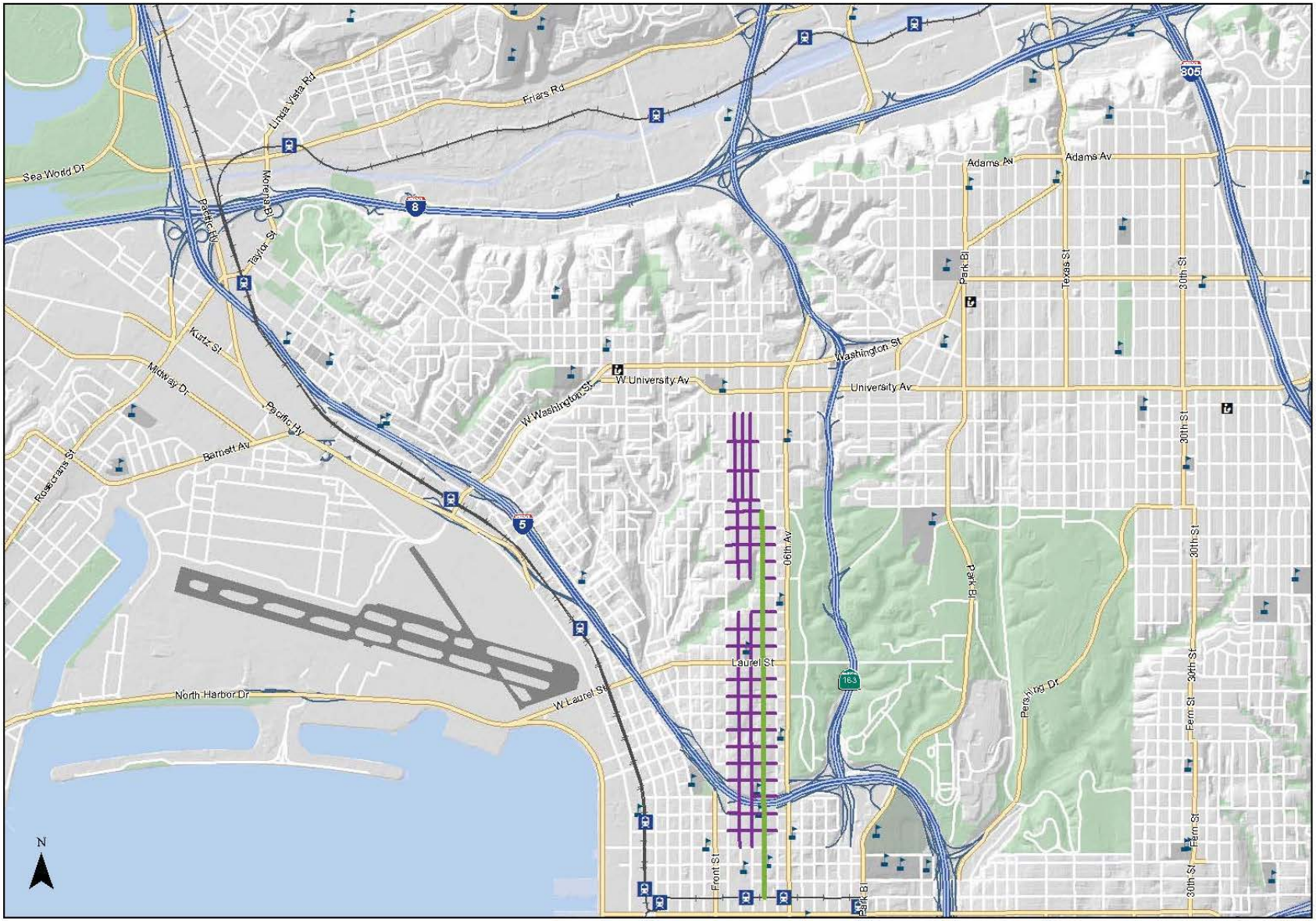
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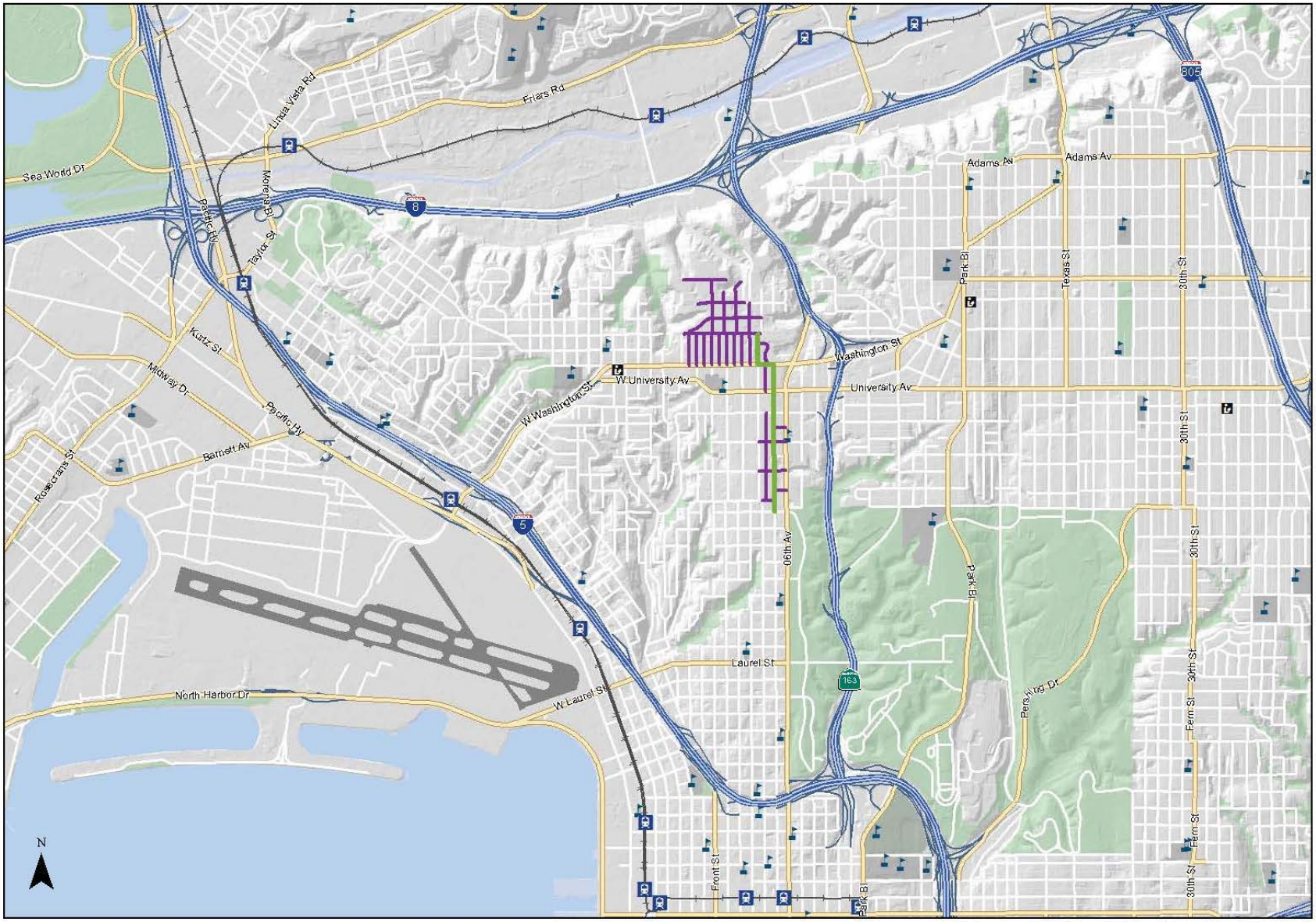
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5th Ave Alignment
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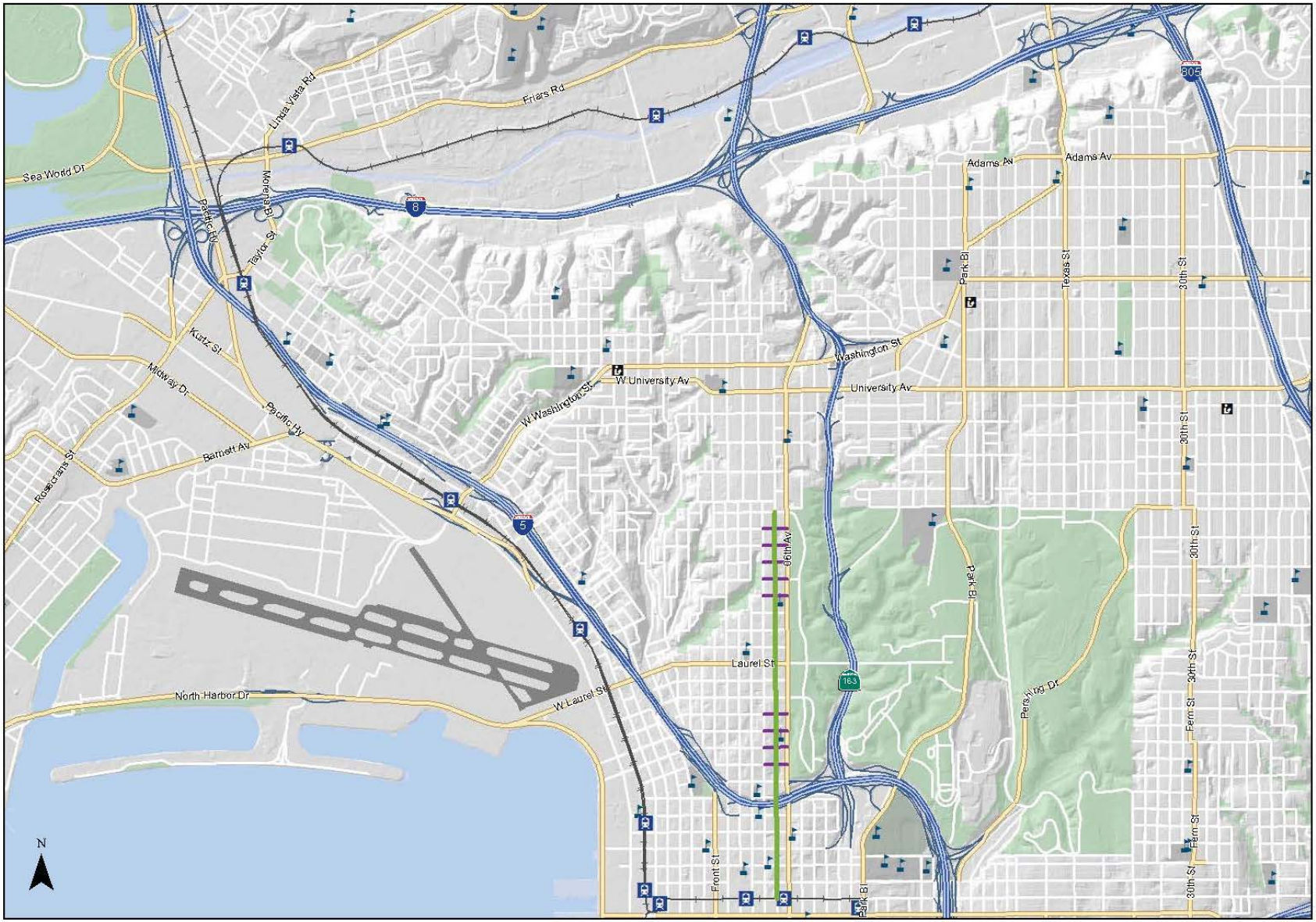
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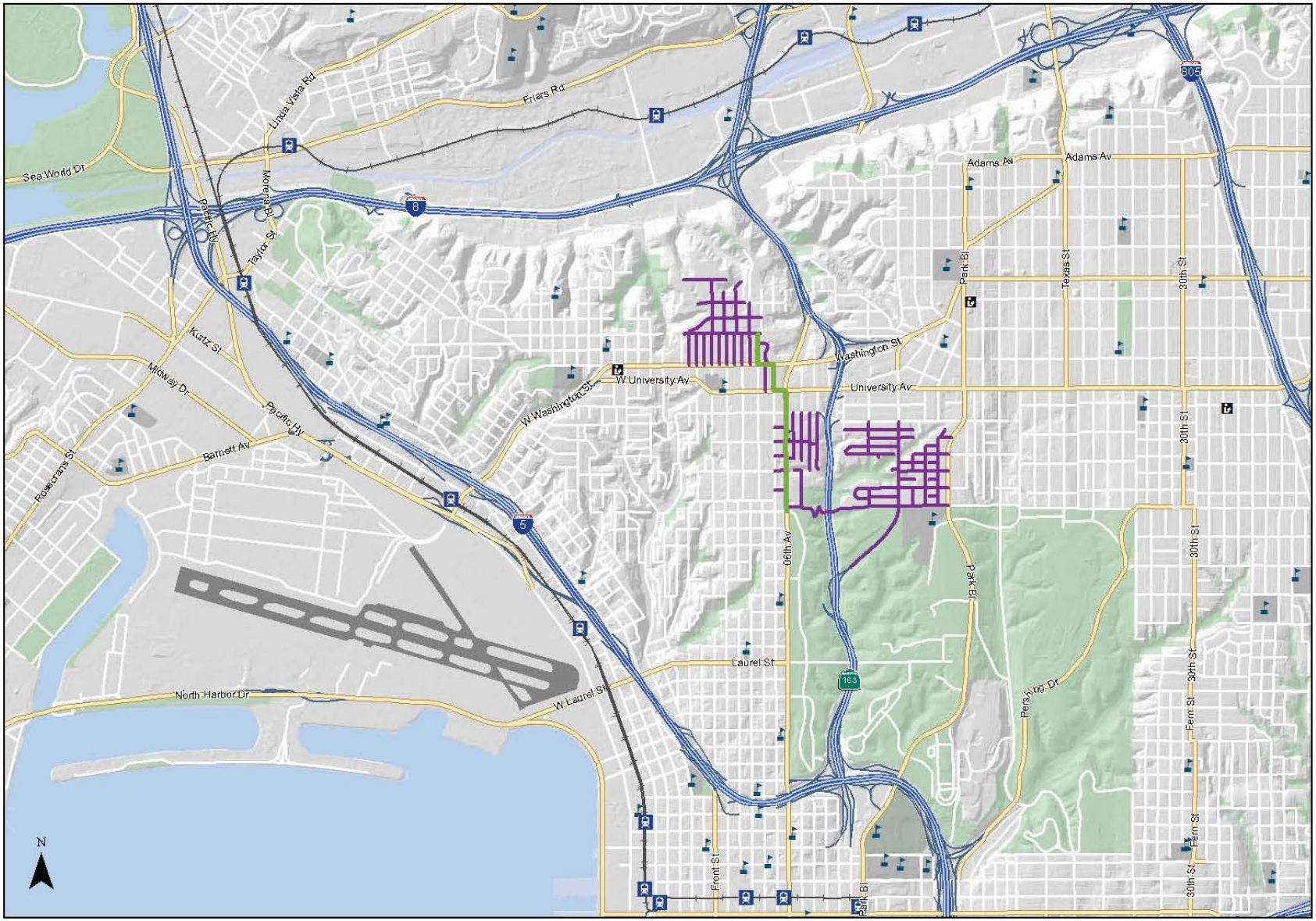
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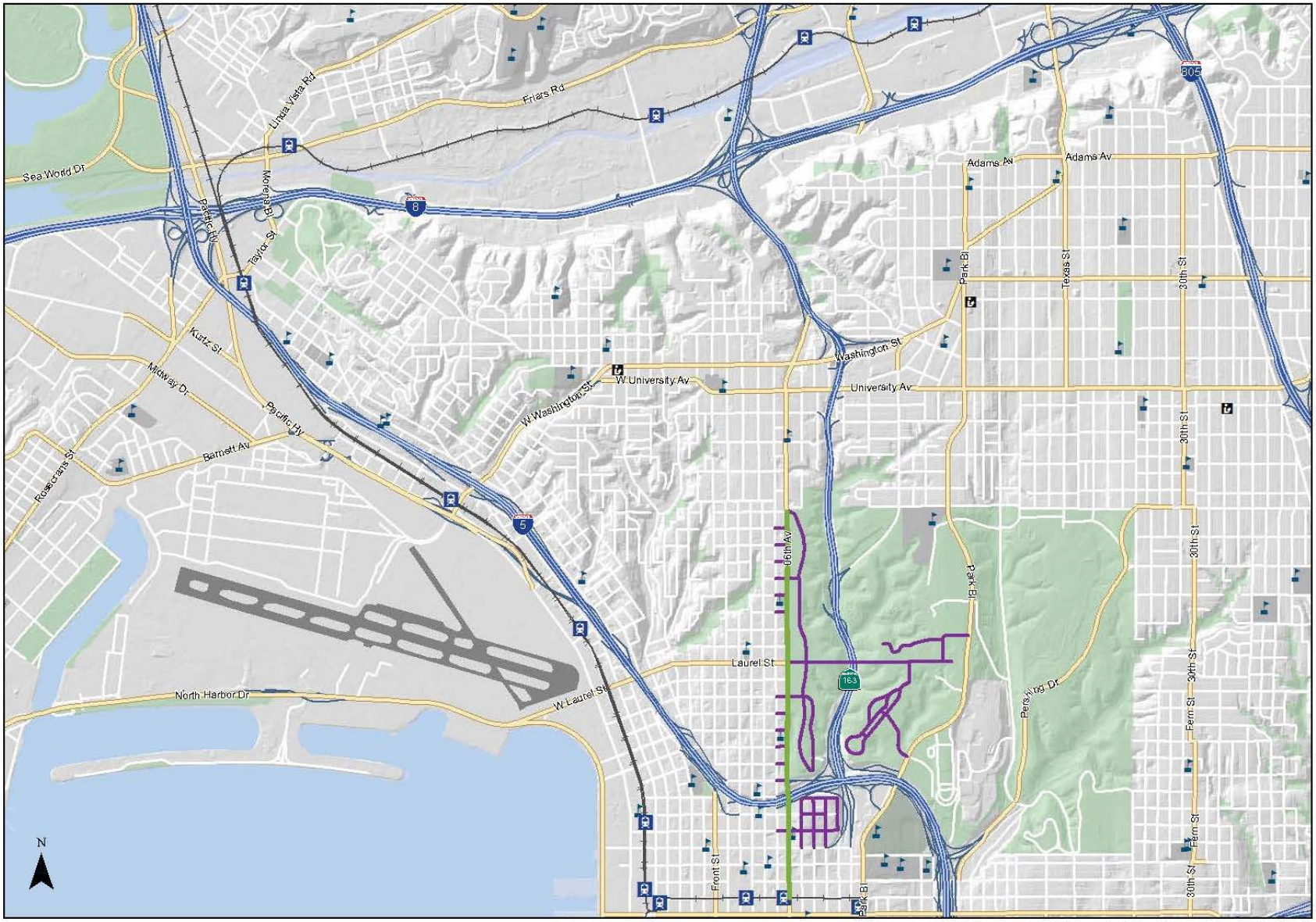
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Roads Connected by Alignment
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PLANNING & ENGINEERING
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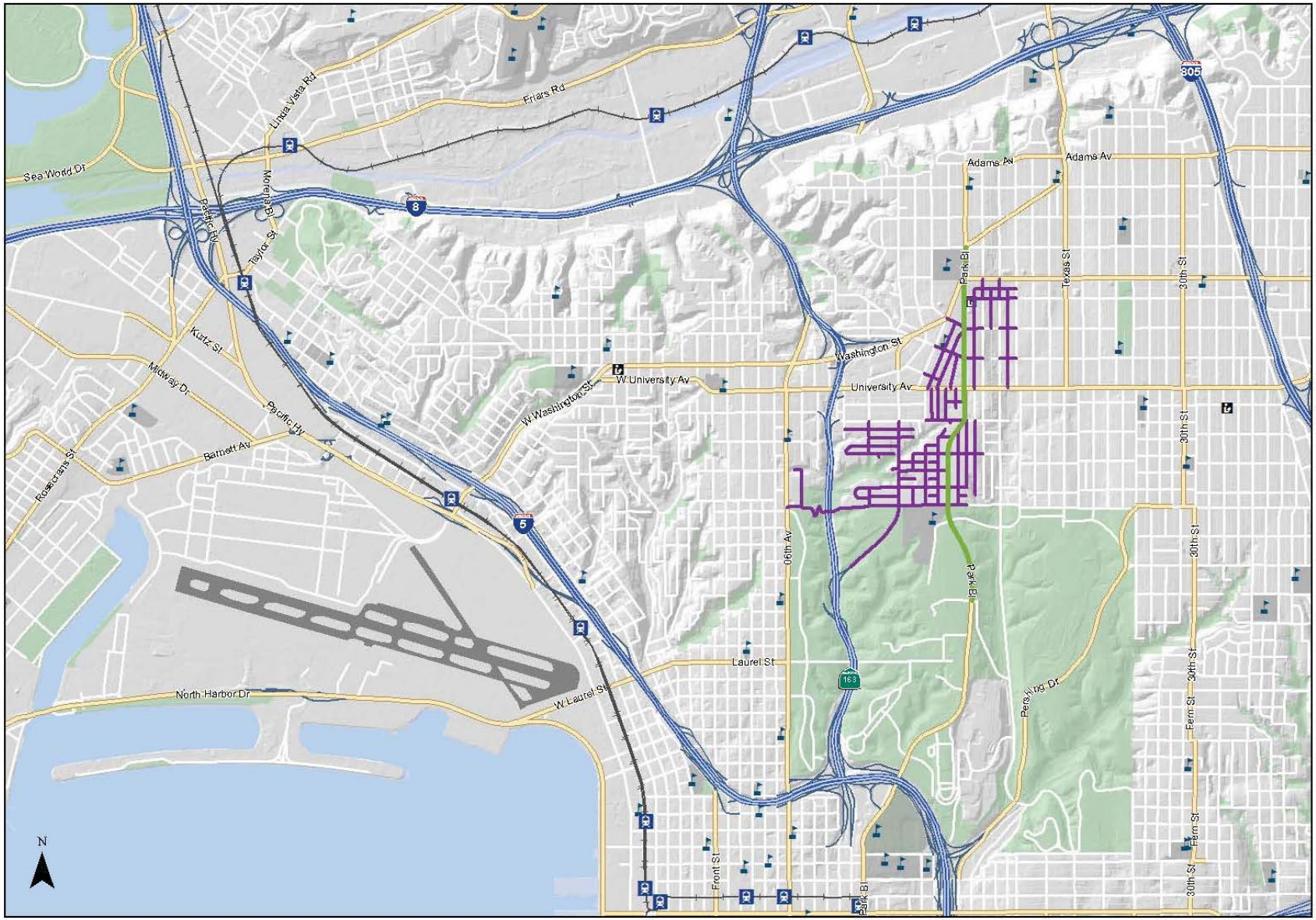
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Park Blvd Alignment
Roads Connected by Alignment
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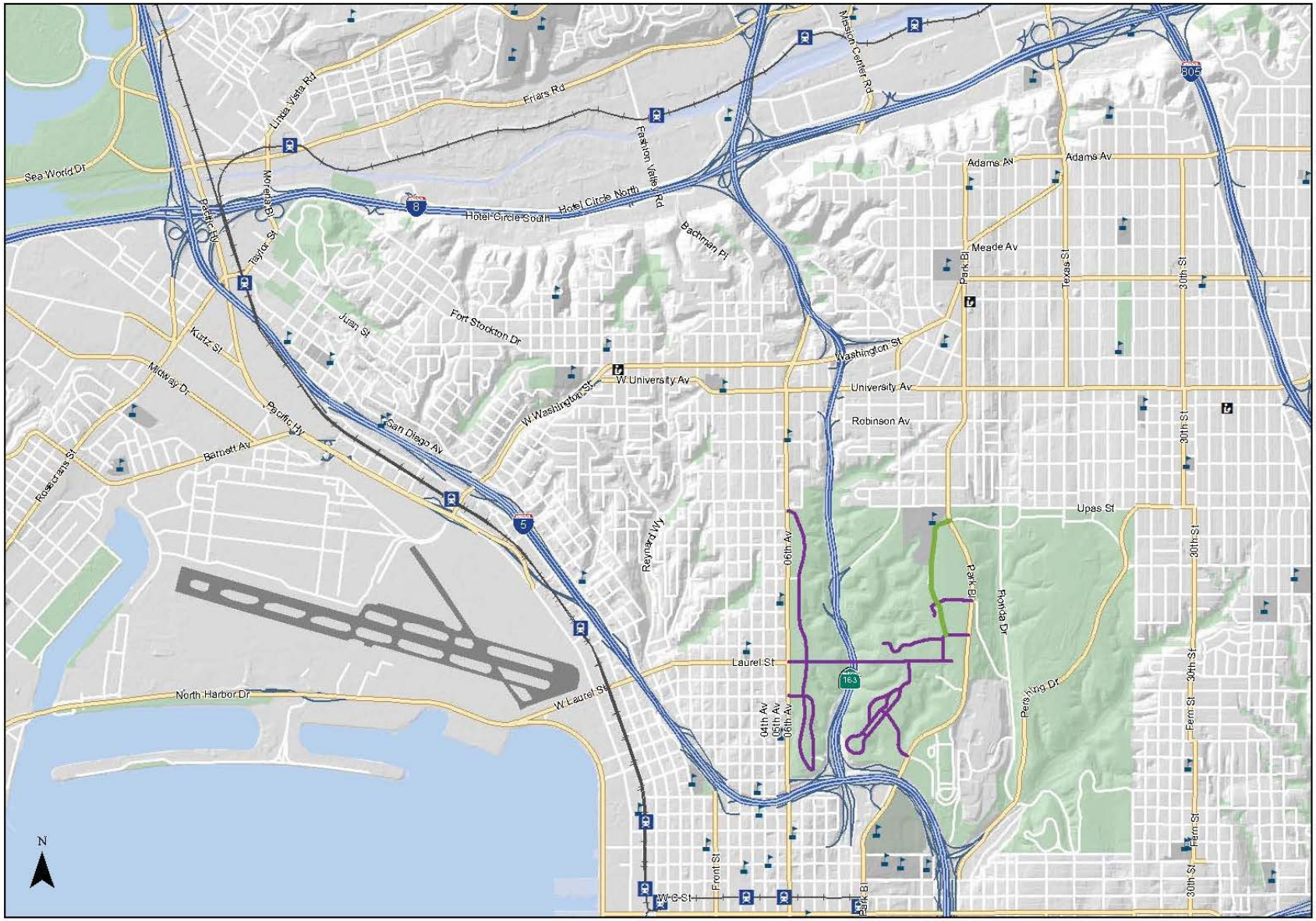
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Zoo Pl Alignment
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Planning & Engineering
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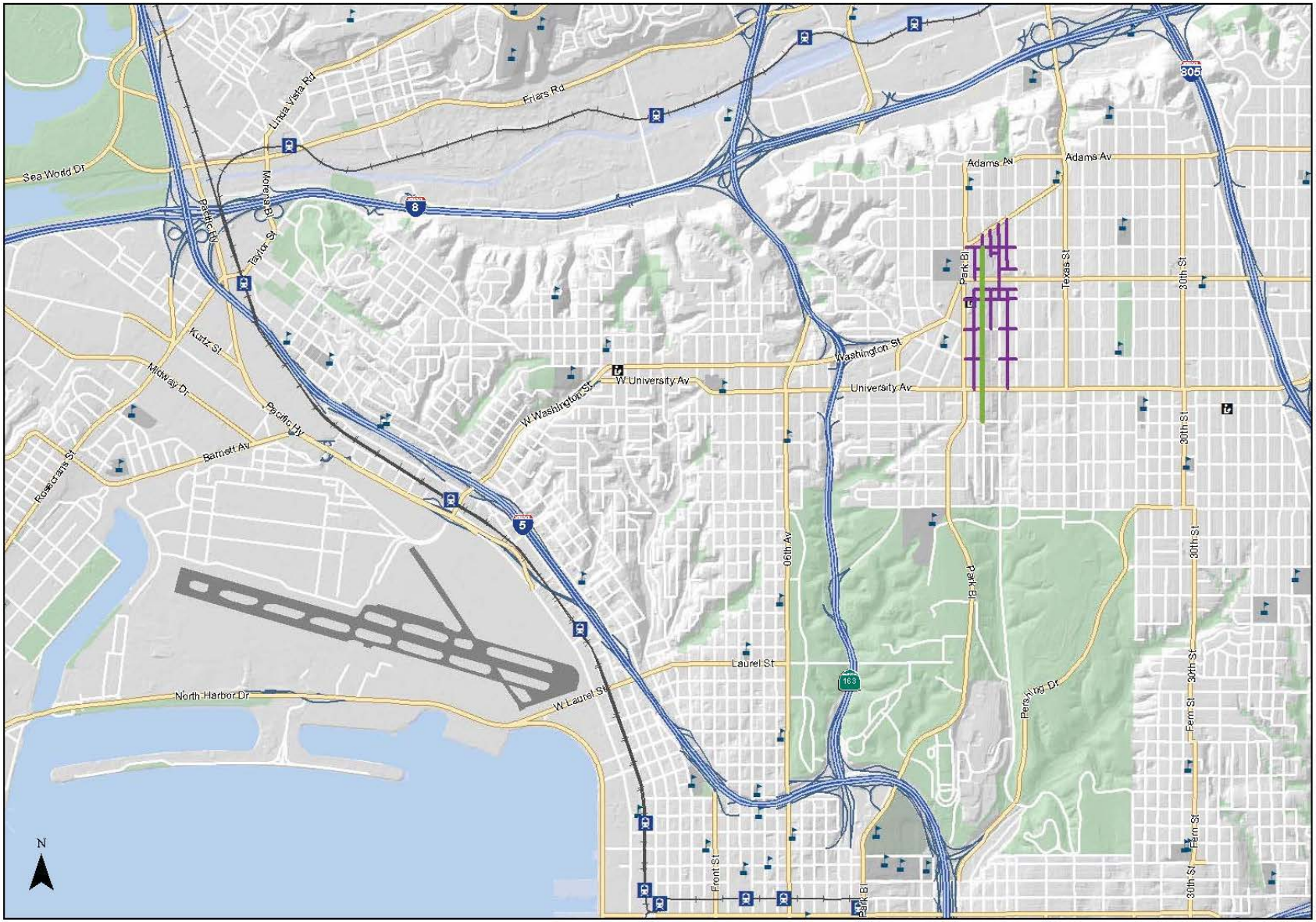
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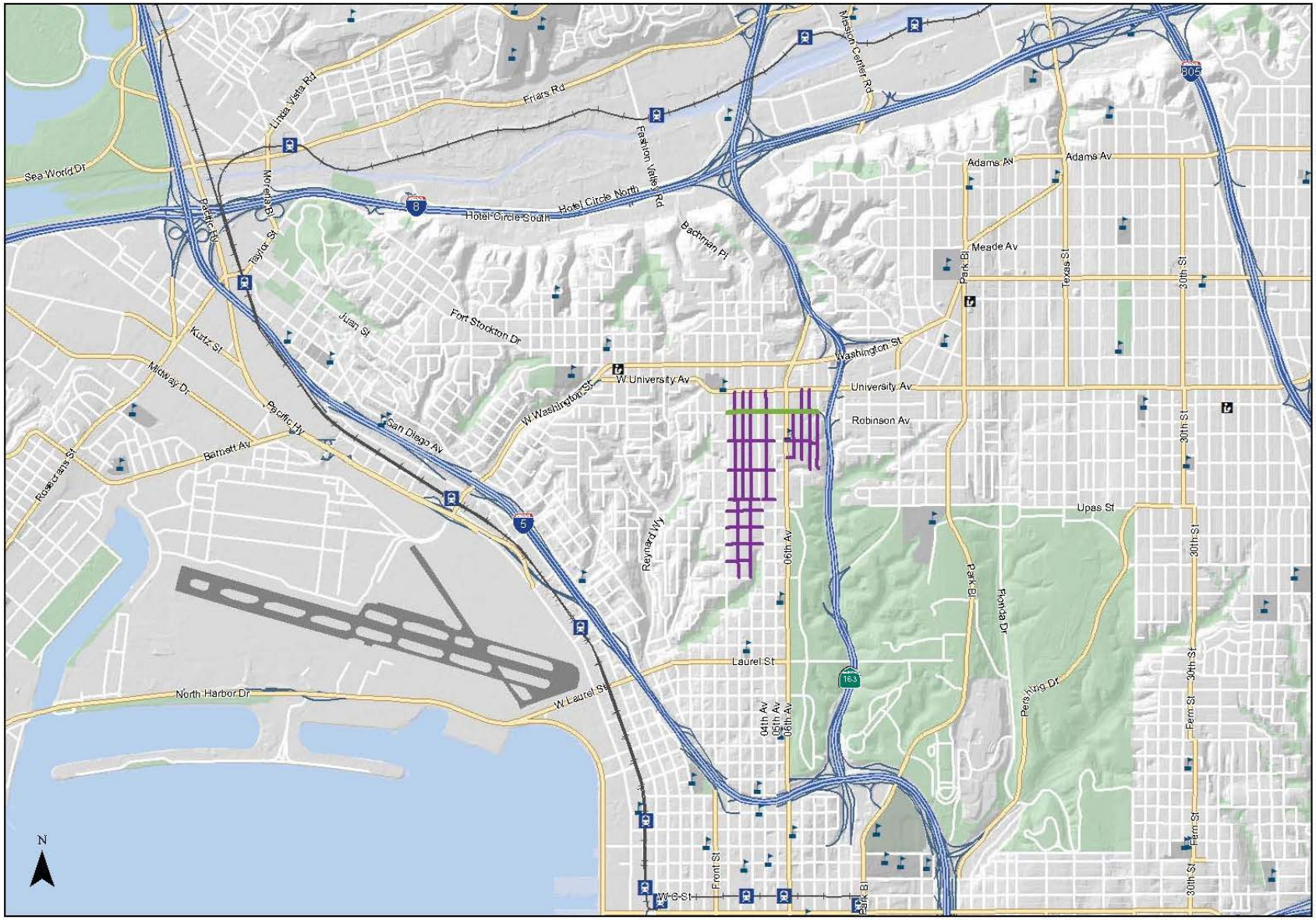
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Robinson Ave Alignment
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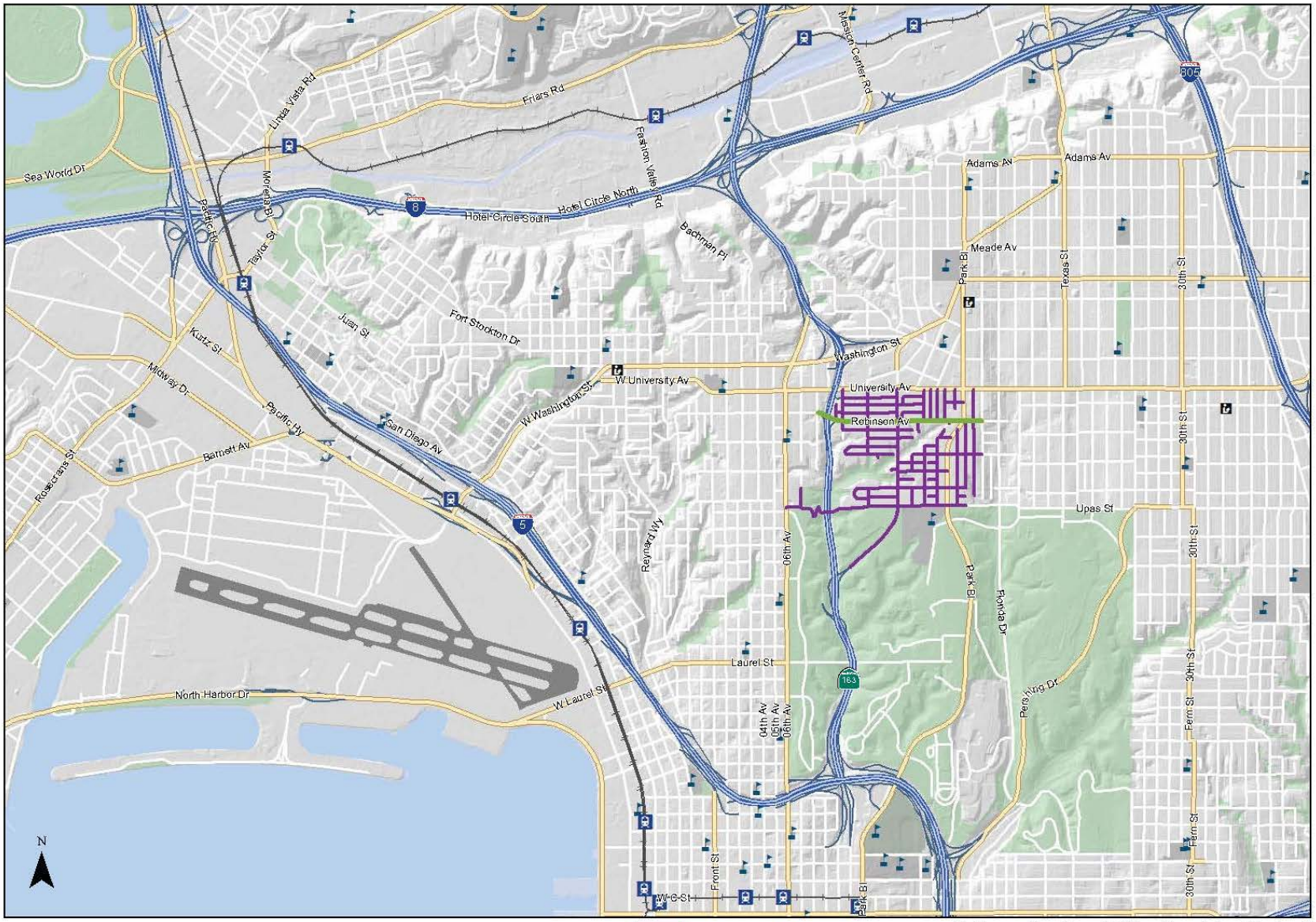
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KOA CORPORATION
PLANNING & ENGINEERING
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Mission Center Rd
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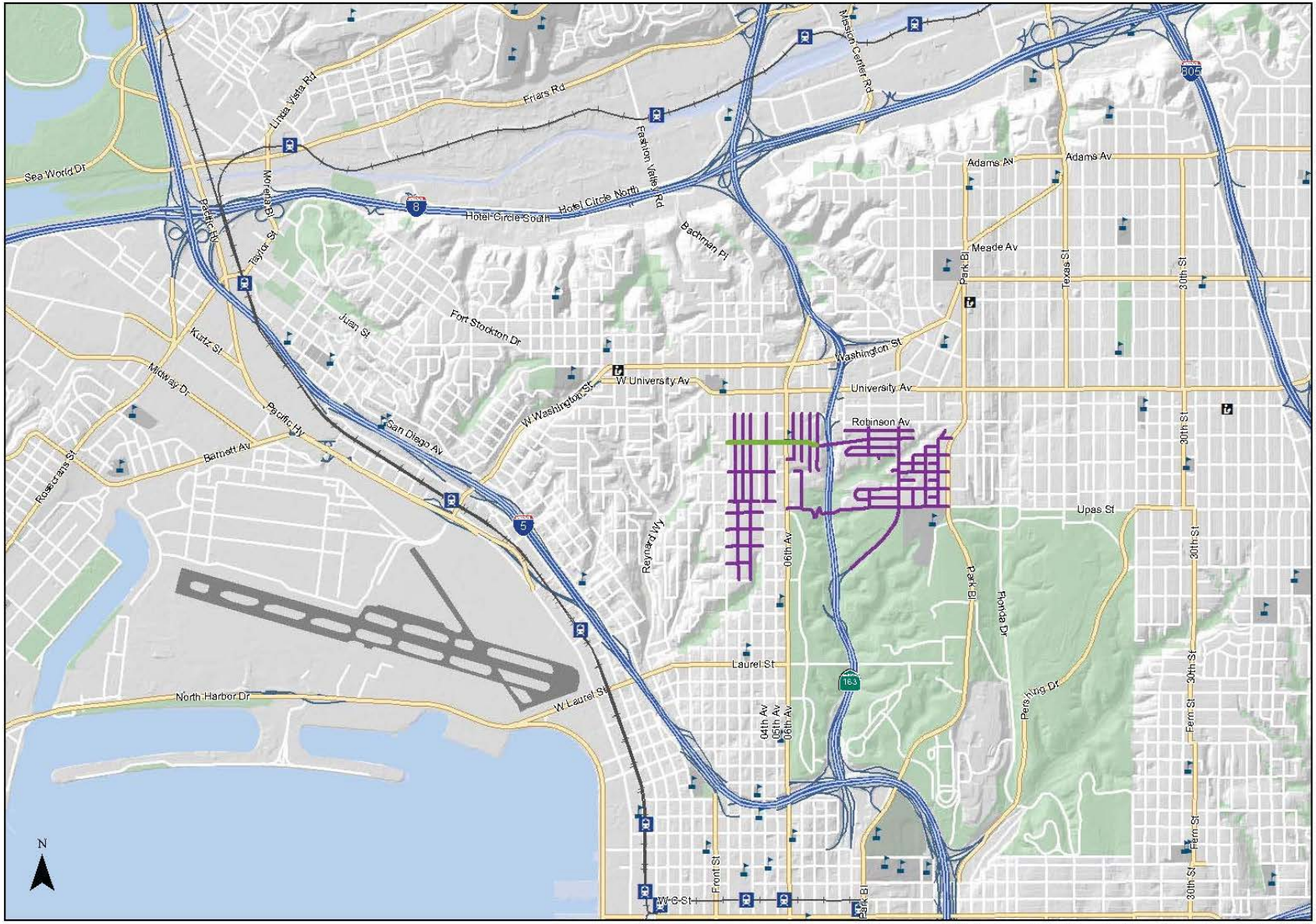
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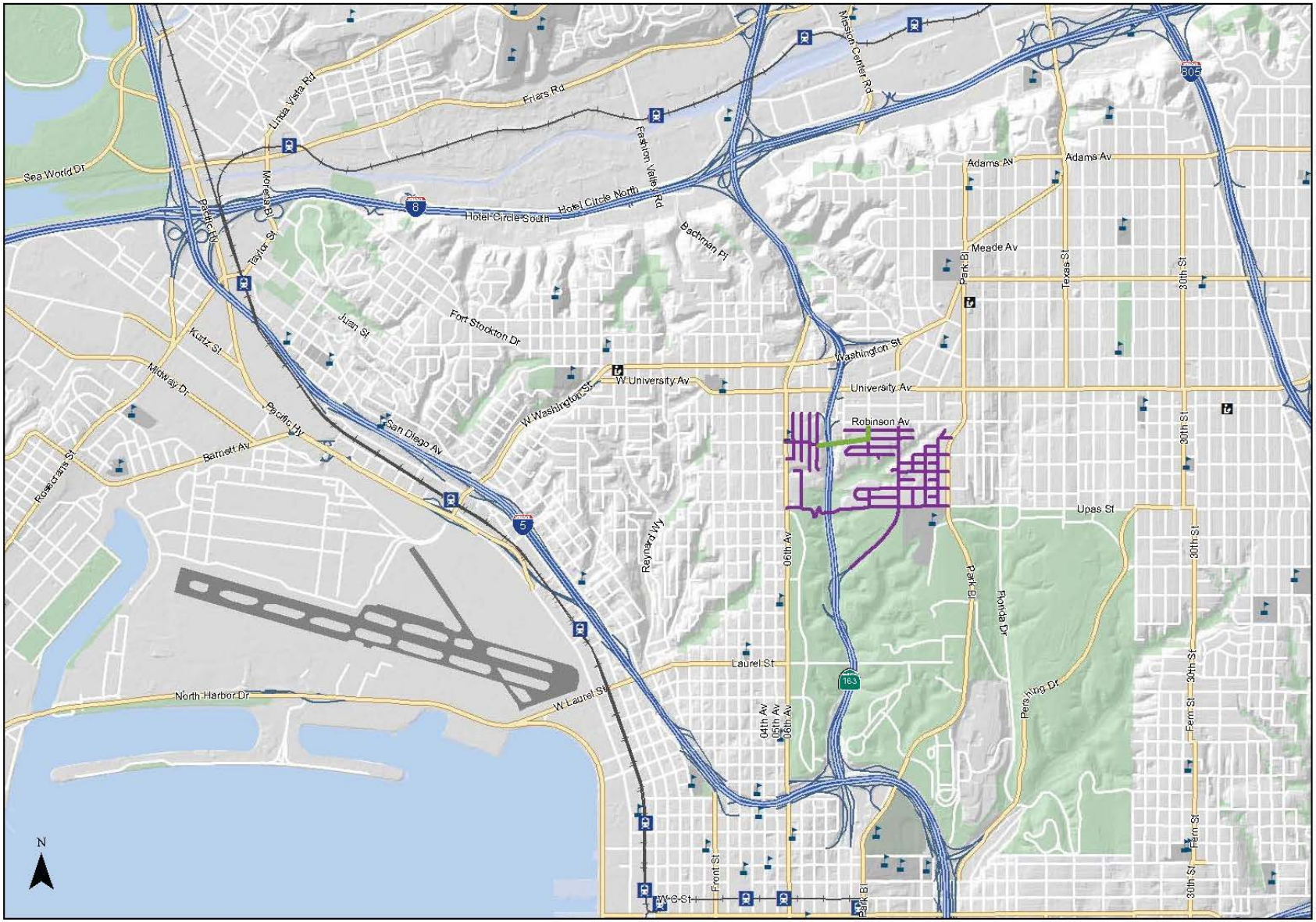
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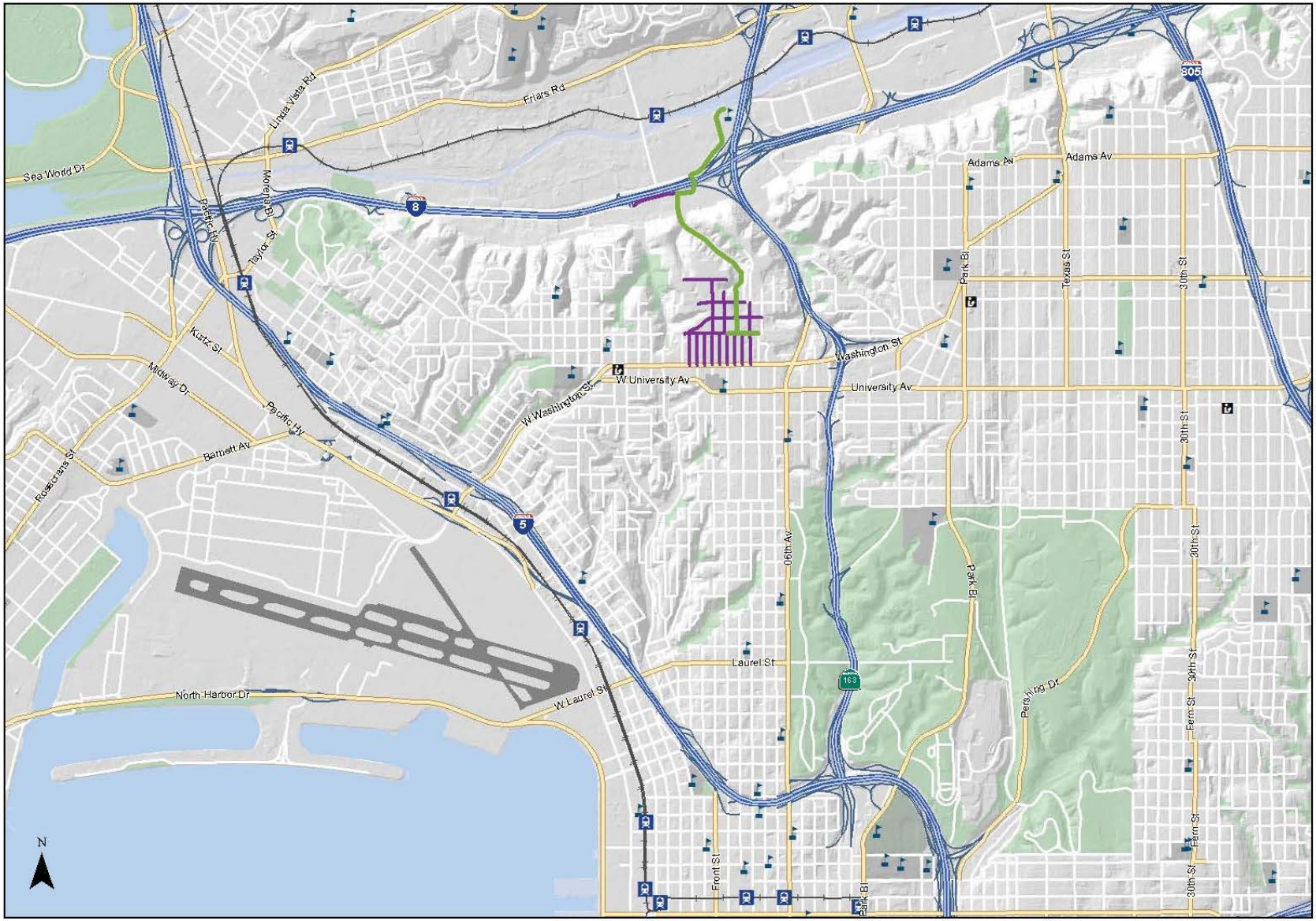

Mission Valley - Hillcrest Corridor
Hotel Circle/Bachman Pl Alignment

Roads Connected by Alignment

Park

Rail Road

Trolley Stop

School

Library

Uptown Regional Bike Corridor Project

Connected Population by Alignment

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Design Concept – Traffic Operations and On-Street Parking Measures

Criteria – How is vehicular LOS and on-street parking affected by the alignment and facility type?

Traffic Operations

Measured by likelihood of change in LOS; weighted by ADT and length.

Traffic Operations		
Corridor	**Alignment**	**Score**
Mission Valley - Hillcrest	Hotel Circle/Bachman Pl	Low
Hillcrest - Bankers Hill	1st	Medium
Hillcrest - Bankers Hill	3rd/Upas	Low
Hillcrest - Bankers Hill	4th	High
Hillcrest - Bankers Hill	5th	Low
Hillcrest - Bankers Hill	6th	High
Bankers Hill - Downtown	1st	Low
Bankers Hill - Downtown	4th	Low
Bankers Hill - Downtown	5th	High
Bankers Hill - Downtown	6th	Medium
Old Town - Five Points	Congress/San Diego Ave	Low
Five Points - Mission Hills	Washington	Low
Mission Hills - Hillcrest	Washington	Low
Mission Hills - Hillcrest	University Ave	Low
Hillcrest - Hillcrest	Washington	Low
Hillcrest - Hillcrest	University Ave	
	Constrained	Low
	Unconstrained	Low
Hillcrest - Hillcrest	Robinson Ave	
	Constrained	Low
	Unconstrained	High
Hillcrest - Hillcrest	Pennsylvania Ave	Low
Hillcrest - North Park	Washington	Low
Hillcrest - North Park	University Ave	
	Constrained	Low
	Unconstrained	Low
Hillcrest - North Park	Robinson Ave	
	Constrained	Low
	Unconstrained	Medium
Hillcrest - North Park	Pennsylvania Ave	Low
University Heights - Balboa Park	Park	
	Constrained	Low
	Unconstrained	Low
University Heights - Balboa Park	Georgia St	Low
University Heights - Balboa Park	Zoo Drive	Low

On-Street Parking

Measured by assumed levels of loss associated with sightlines at driveways and intersections (low), alignments with some sections of constrained right-of-way width (medium), and alignments with longer sections of constrained right-of-way width (high).

On-Street Parking		
Corridor	**Alignment**	**Score**
Mission Valley - Hillcrest	Hotel Circle/Bachman Pl	Low
Hillcrest - Bankers Hill	1st	Low
Hillcrest - Bankers Hill	3rd/Upas	Low
Hillcrest - Bankers Hill	4th	Low
Hillcrest - Bankers Hill	5th	Low
Hillcrest - Bankers Hill	6th	Low
Bankers Hill - Downtown	1st	Low
Bankers Hill - Downtown	4th	Low
Bankers Hill - Downtown	5th	Low
Bankers Hill - Downtown	6th	Low
Old Town - Five Points	Congress/San Diego	Low
Five Points - Mission Hills	Washington	Medium
Mission Hills - Hillcrest	Washington	Low
Mission Hills - Hillcrest	University Ave	Low
Hillcrest - Hillcrest	Washington	Low
Hillcrest - Hillcrest	University Ave	
	Constrained	High
	Unconstrained	High
Hillcrest - Hillcrest	Robinson Ave	
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	Unconstrained	High
Hillcrest - Hillcrest	Pennsylvania Ave	Low
Hillcrest - North Park	Washington	Low
Hillcrest - North Park	University Ave	
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	Unconstrained	High
Hillcrest - North Park	Robinson Ave	
	Constrained	Low
	Unconstrained	High
Hillcrest - North Park	Pennsylvania Ave	Low
University Heights - Balboa Park	Park	
	Constrained	Low
	Unconstrained	High
University Heights - Balboa Park	Georgia St	Low
University Heights - Balboa Park	Zoo Drive	Low

Appendix J
Tier III Community Input Synthesis and Supplemental Analysis

Tier III Community Input Synthesis Tables – June 2013 Community Advisory Group Meeting

Segment	Alignment		Directness	Centrality	Activity Center Proximity	Achievable LTS	Geometric Feasibility
Mission Hills - Hillcrest	Washington St	**Benefits**	Supports link to University Hts.	Serves Mis. Hills District neighborhood	Serves Mis. Hills District businesses	Separates from cars; Supports pedestrian design	
		Considerations	Requires connection to University	Less central to broader project area centrality		High traffic volume; Ramp access danger	Constrained space: bike/ped/car/transit
Mission Hills - Hillcrest	University Ave	**Benefits**	Best connectivity to regional project	Most central to project area	Links to proposed mini-park	Calms traffic for residential neighborhood	
		Considerations				Requires improved synchronization Washington signal lights; May gridlock Washington with added traffic	
Hillcrest - Hillcrest	Washington St	**Benefits**	Quality facility overrides lost directness			Good buffers for bikes from parked cars	Accommodates cycle tracks; Remove medians for placemaking at sidewalks
		Considerations	Less direct to heart of Hillcrest		Not as helpful for local users to access Mission Hills	Fast traffic; Onramp access dangers	Futher narrowing of median
Hillcrest - Hillcrest	University Ave	**Benefits**	Best connectivity to regional project; Most contiguous	Most central to project area	Best connection to local businesses; Amenities available	Safety with eyes on the street; Slows traffic from Front to 3rd; Attracts a broader demographic and age; Parked cars make a good buffer.	Provides for more landscaping
		Considerations				SR-163 bridge is poor bike/ped enviro; Conflict of cars backing out of parking spaces and hitting bikes; Important to maintain consistent design from Front/3rd; Concern of heavy volume of peds spilling into bike lane; More traffic calming not necessary 3rd to Front	
Hillcrest - Hillcrest	Robinson Ave	**Benefits**					
		Considerations					
Hillcrest - Hillcrest	Pennsylvania Ave	**Benefits**				Away from freeway access; Away from future streetcar on Univ	Low cost (fwy ramp interface)
		Considerations	Long route--less direct	Minimal attractiveness/reach to new riders		Not an exceptional experience	Expensive to build bridge
Hillcrest - North Park	Washington St	**Benefits**					
		Considerations					
Hillcrest - North Park	University Ave	**Benefits**	Best connectivity to regional project; creates more transportation options	Most central to project area	Reaches most businesses	Improved eyes on the street; Calms traffic	Median reduction effort can include more sustainable plantings
		Considerations			Requires coordination with Hillcrest Business Assoc		Change diagonal to parallel parking for more space; Medians loss are loss of local investment; Limits opportunity for streetcar on Univ.; Consider continuing east past Normal St.; Consider wider narrower buffer for wider cycle track; Address Potential removal of right on reds; Consider stop sign reductions; Consider eliminating parking on one side to create separate facility; [Herbert] Street is too quiet to require separation
Hillcrest - North Park	Robinson Ave	**Benefits**				Avoids potential streetcar conflict on University	
		Considerations			Disconnected to businesses	Already calm; Freeway ramps undesirable for bicycles	Consider moving freeway access elsewhere to allow for bike/ped only
Hillcrest - North Park	Pennsylvania Ave	**Benefits**					Provides creative design opportunities
		Considerations	Far off of direct route	Far from center of area			

Tier III Community Input Synthesis Tables – July 2013 Community Workshop

Segment	Alignment		Directness	Centrality	Activity Center Proximity	Achievable LTS	Geometric Feasibility
Mission Hills - Hillcrest	Washington St	**Benefits**	Good connection to Park Blvd		Accesses businesses	Separated lanes needed for bikes; Improves pedestrian experience	
		Considerations				Address unsafe turn on University toward Vons	Bus access limitations; Ramp designs
Mission Hills - Hillcrest	University Ave	**Benefits**	Best connectivity; provides continuous route		Closed ramps improve bike/ped access to International Row	Comfortable access to Hillcrest; Calms traffic; Diverts traffic to Washington; Closed ramps improve safety	
		Considerations	Consider one-way eastbound to 5th Ave		Improve bike access to businesses; no direct access to local businesses		School pickup zone and traffic restrictions are problematic; Requires Fire Dept design needs; Requires Goldfinch light synchronization
Hillcrest - Hillcrest	Washington St	**Benefits**	Provides connection for UCSD commuters; Good connection to Park Blvd.; Fewer lights compared to Univ				No [less] parking impacts
		Considerations	Needs transition to University	Does not serve heart of hillcrest	Improve bike access to businesses; Limited business access	Less quality experience; Potential slope issues	
Hillcrest - Hillcrest	University Ave	**Benefits**	Best connectivity; Attracts most users		Drives customers to businesses; Contains most destinations	Comfortable access to Hillcrest; Reduces car/bike conflicts; Traffic calming in business district; protects riders	Provides more landscaping at Front/3rd; Preserves buffered lane
		Considerations	Consider new bike bridge; may not attract most users			Increases potential bike/ped conflicts at Front/3rd; Bar activity conflicts	Study adding parking on side streets; consider one-lane each way
Hillcrest - Hillcrest	Robinson Ave	**Benefits**					
		Considerations			Improve bike access to businesses; Limited business access	Divert bike traffic to Pennsylvania	Redesign SR-163 ramps for safety
Hillcrest - Hillcrest	Pennsylvania Ave	**Benefits**				Alternative to Robinson; Away from freeway ramps	Affordable near 3rd; limited infrastructure needs
		Considerations	Low usage	Not serving local area	Improve bike access to businesses; Limited business access		Very costly bridge
Hillcrest - North Park	Washington St	**Benefits**	Good connection to Park Blvd.				
		Considerations	Connect to Lincoln and Howard		Limited business access		
Hillcrest - North Park	University Ave	**Benefits**	Best connectivity	More convenient	Drives customers to businesses; best access to businesses; Contains most destinations	Comfortable access to Hillcrest; Reduces car/bike conflicts; Traffic calming in business district	
		Considerations	Connect to Lincoln and Howard				Connect to NPMC project with green lane; Split lanes one way each: one on Robinson, another on Univ; Parallel parking for more space; Reduce width of curb buffer and add separation on Normal; add traffic calming options on Normal St.; Eliminate parking on one side of Herbert for separated facility; Address change of angled parking on cyclists; Study adding parking on side streets; consider one lane each way
Hillcrest - North Park	Robinson Ave	**Benefits**				Freeway access safety improved; Already calm with less traffic	
		Considerations	Connect to Lincoln and Howard		Improve bike access to businesses; Limited business access		Split lanes one way each: one on Robinson, another on Univ
Hillcrest - North Park	Pennsylvania Ave	**Benefits**					
		Considerations	Connect to Lincoln and Howard; too far off direct route	Too far from central area	Improve bike access to businesses; Limited business access		

East-West Alignment Supplemental Analysis

- Physical Constraints
  - Washington Street was designed as an arterial to accommodate east-west vehicle throughput; Washington Street functions as a primary route for people driving through the neighborhood.
  - On the east end the volume of traffic coming off the southbound State Route 163 (SR 163) to westbound Washington Street off ramp currently averages about 5,000 vehicles per day. The SR 163 off-ramp is considered to be a significant design constraint related to signalization and intersection conflicts for the target population (people interested in biking but concerned about safety).
  - On the west end there are conflicts with high-speed traffic merging on and off of the University Avenue access ramps. In both eastbound and westbound directions, people biking would have to cross over the path of cars traveling at high speeds entering or exiting the access ramps. There is no simple design solution for this, especially for our target population (people interested in biking, but concerned about safety).
  - Under the westbound ramp (which crosses over Washington Street) there is not enough pavement width for a protected bikeway due to the location of the footings of the west bound ramp. Ramp footings would potentially need to be moved and reconstructed along with the construction of retaining walls on both sides of Washington Street to accommodate a side path adjacent to the existing paved roadway. This would be cost prohibitive.
  - In order to construct the project on Washington Street, the 80-foot width from Goldfinch Street to 5th Avenue would necessitate narrowing of existing median to approximately six feet where there is no left turn pocket; this median narrowing is greater than the narrowing assessed for the median on University Avenue. At intersections where left turn pockets are desired, parking would likely need to be removed for the length of the left turn pocket.
  - The width of Washington Street from 5th Avenue to 8th Avenue does not accommodate a separated/protected bikeway without the removal of turn lanes or turn pockets.
  - Pedestrian bulb-outs and the bus pop-out at Washington Street and Goldfinch Street may need to be removed to accommodate a separated/protected bikeway.
  - Robinson Avenue is constrained in width west of SR 163 and has high traffic volumes between Sixth and Seventh Avenues; it is not possible to provide bike lanes without taking the center turn lane which would likely result in gridlock conditions.
  - A possible solution (conceptually) for the Robinson bridge over SR 163 is to convert the street to one-way; however, Caltrans's agreement is a significant unknown risk.

- Out of Direction Travel by Bike
  - On Washington Street, to avoid that conflict area associated with SR 163 and to keep the bikeway adjacent to more destinations (businesses, residences and cross streets), the bikeway would need to jog to University Avenue (at Fourth and Fifth Avenues, the proposed north/south project alignment). This affects the directness of the bikeway (more direct routes are more desirable and offer more likelihood of encouraging use of the bikeway), and it does not avoid parking loss on University Avenue between Fourth and Tenth Avenues.
  - Robinson Avenue is generally out of direction compared to the other two alignment options.

- Proximity to Businesses
  - One of the alignment analysis criteria was proximity to businesses. There is the gap in land uses and access to side streets along Washington between the SR163 and Lincoln Ave. The purpose of the project to get more people riding bikes and more people riding bikes also benefits businesses; people riding bikes are potential customers. A route that provides more direct access to destinations (in this case to businesses, residences and cross streets) is more desirable in order to leverage as many community benefits as possible.
  - There is redevelopment potential associated with a bikeway project and there is opportunity for most streets within the project area to benefit from this potential (whether residential or commercial streets). However, the project scope and budget is limited to one east/west alignment. Therefore, the analysis needs to inform the identification of the alignment that provides the most opportunity, given a combination of factors, to provide the most overall community benefit.
- On-Street Parking
  - Parking was considered in the most detail for the University Ave alignment. The preliminary assessment considered both on-street and off-street parking spaces were considered. A survey of on-street and off-street parking spaces and occupancy was conducted in August 2013. The study area included University from First to Normal and one block on both sides, and Normal between University and Lincoln and included 1,710 on-street spaces and 1,788 off-street spaces. On a weekend evening, with a hypothetical decrease in the number of on-street parking assumed, the change in availability of on-street parking changed only slightly while the availability of off-street parking remained greatly underutilized. This points to the need to increase the availability of on-street spaces and shows that there is a significant supply of off-street parking spaces that are available, yet under-utilized.
  - Due mainly to sight distances needed at curb cuts and intersections, parking loss on Washington Street between Hawk Street and 5th Avenue would be expected.
  - Parking loss along Robinson was not quantified west of the 163, but it would not be zero, due to width, sight distances needed at curb cuts and intersections.