



Marketplace District Vision Plan

Downtown Metrolink HQTA
Riverside, CA

HIGH QUALITY TRANSIT AREA
PILOT PROJECT

Southern California
Association of Governments

March 2019



Acknowledgments

City of Riverside

Al Zelinka, Assistant City Manager
 Jay Eastman, AICP, Principal Planner
 Dave Murray, Senior Planner
 Nathan Mustafa

RCTC

Sheldon Peterson, Rail Manager

RTA

Rohan Kuruppu, Director of Planning

Western Riverside Council of Governments

Andrea Howard

Southern California Association of Governments (SCAG)

Grieg Asher, AICP, Project Manager
 Jason Greenspan, AICP, LEED-GA, PP,
 Manager of Regional Sustainability
 Steve Fox, Senior Regional Planner

Gruen Associates (Prime Consultant)

Adam Maleitzke, AICP, Project Manager,
 Director of Planning
 Orlando Gonzalez, Senior Urban Designer
 Elaine Carbrey, AIA, AICP, Associate Partner
 Kamille Parks, Urban Designer/Planner

HR&A (Economics)

Amitabh Barthakur, Principal
 Judith Taylor, Principal
 Riddhi Chakraborty, Analyst

Iteris (Transportation)

Viggen Davidian, PE, Vice President
 Deepak Kaushik, PE, Senior Transportation
 Engineer

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The preparation of this report was financed in part through grants from the Federal Transit Administration, U.S. Department of Transportation. The contents of this report do not necessarily reflect the official views or policy of the U.S. Department of Transportation.

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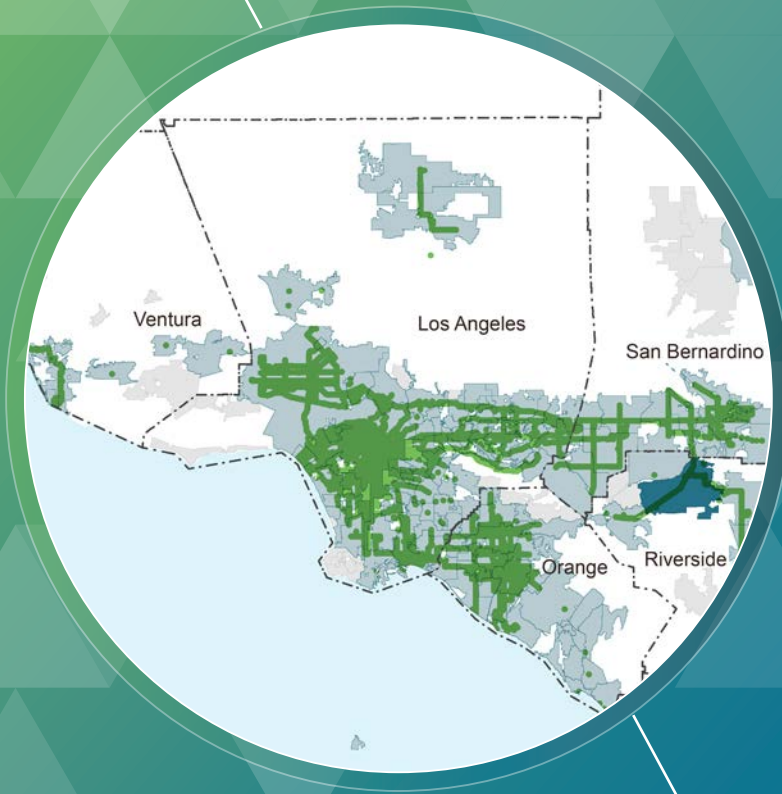
Part 1

Executive Summary

The Executive Summary provides background on the HQTA Pilot Program, the structure of the Vision Plan, and a brief summary of the project goals and proposed developments.

High Quality Transit Area (HQTA) Analysis Pilot Program

Riverside Marketplace HQTA - 2048 Vision



High Quality Transit Area (HQTA) Analysis Pilot Program

EXECUTIVE SUMMARY

Pilot Program Overview

The High Quality Transit Area (HQTA) Analysis program was created by SCAG in 2017 to help implement the goals and objectives of the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). The 2016 RTP/SCS, the 30-year plan for the Southern California Region, forecasts that 46% of future household growth will be located in HQTAs, which comprise just 3% of land area. HQTAs are areas within easy walking distance to current or anticipated transit service with 15-minute or better service. The three main goals of the HQTA Analysis program are as follows:

- Implement the RTP/SCS for future job and housing growth near high quality transit through actionable transit-oriented development (TOD) projects
- Promote higher-density development and active transportation within HQTAs
- Reduce Greenhouse Gases (GHG) and Vehicle Miles Traveled (VMT) by 21% over 2005 levels

Benefits of Transit-Oriented Development

Transit-Oriented Development (TOD) is a vibrant, mixed-use form of urban development that clusters a variety of housing types, employment opportunities, and community amenities at or near major transit stations. Integrated clusters of TODs establish a multi-modal network of public and private realm improvements that allow residents to walk, bike, or take transit to major attractions, which results in several environmental, economic, and social benefits:

Environment

- Increased transit ridership
- Reduced VMT
- Improved air quality through reduced GHG emissions
- Conservation of land and open space

Social

- Increased housing and employment choices
- Greater mobility choices
- Health benefits
- Enhanced sense of community
- Enhanced public safety
- Increased quality of life

Economic

- Catalyst for economic development
- Redevelopment of vacant and underutilized properties
- Increased property value
- Decreased infrastructure costs
- Revenue for transit systems
- Reduced household spending on transportation
- Increase in affordable housing

What is a Vision Plan?

The Vision Plan for each HQTA Pilot Project is an illustrative tool that provides city staff, elected officials, and community stakeholders with a high-level analysis of the HQTA's existing conditions, TOD opportunity sites, and potential public realm improvements that could catalyze future development activity. The plans include a long-term buildout scenario and a phasing and financial strategy for identified priority projects. HQTA Vision Plans are not regulatory documents and do not need to be adopted. Pilot Project Cities will use the Vision Plans to start discussions with SCAG and community stakeholders in future efforts to update adopted general and specific plans. The main sections of this Vision Plan are as follows:

Part 2: Station Area Profile

The Station Area Profile describes the current planning, urban design, socioeconomic, and transportation context within the Marketplace HQTA Study Area. The Profile also includes a summary of previous planning efforts.

Part 3: Outreach

Outreach efforts included public meetings and reoccurring correspondence with City of Riverside staff members.

Part 4: Opportunities & Constraints Analysis

This analysis includes a summary of urban design, land use, and mobility constraints and identifies potential investments that will support walking, biking, and the use of transit.

Part 5: Vision

The Vision presents a 30-year vision for a transit-supportive Marketplace HQTA. It includes a redevelopment strategy, specific infrastructure investments, active transportation projects, and placemaking amenities that will help to make the area more livable, walkable, and accessible to transit.

Part 6: Implementation Plan

Policies, programs, initiatives, and partnerships will be key to the success of the plan. In addition, a customized financial strategy is included that targets funding streams to specific projects outlined in the Vision Plan. SCAG will partner with the City to help secure funding for the projects. A Metrics Worksheet establishes a baseline and long-term targets for growth in jobs, housing, the modal shift to non-motorized forms of transportation, and other key metrics that will be tracked by SCAG and the City over the next several years.

HQTA Toolkit (Appendix)

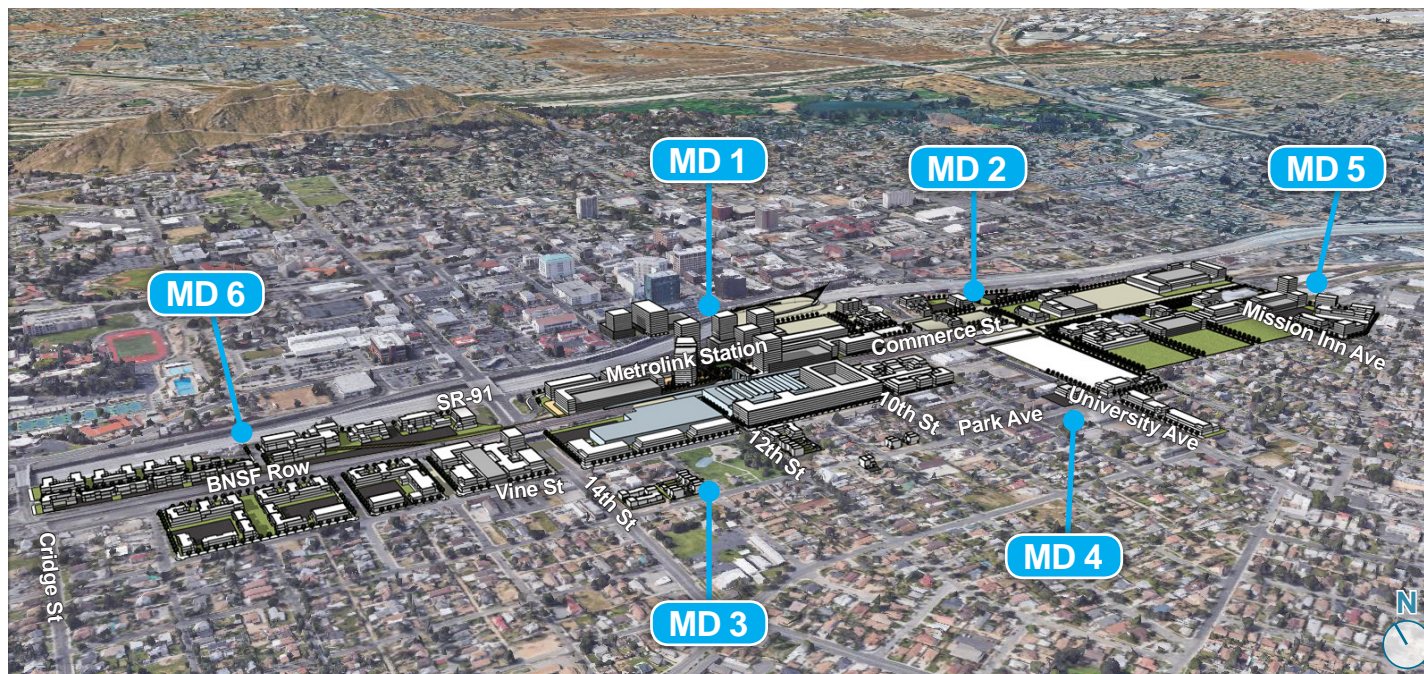
The development strategy and priority projects outlined in the Vision Plan are tied to the HQTA Toolkit, which will give the City a range of options for meeting the goals and objectives set forth in the Vision Plan. The Toolkit includes transportation investments with cost estimates, TOD precedent projects, open space typologies, and other components of an innovative HQTA.

Riverside Marketplace HQTAs - 2048 Vision

EXECUTIVE SUMMARY

Key Opportunities

- The Pilot Project Area's proximity to the Downtown Riverside Metrolink Station and to Downtown Riverside make the area accessible to major job and activity centers.
- Vacant lots and surface parking lots along major roadways have the potential for redevelopment to TOD projects and a mobility hub adjacent to the Metrolink station.
- Abandoned rail spurs could be re-imagined as a public promenade along Commerce Street.



For illustrative and visioning purposes only; the ultimate buildout will be determined through a specific plan update, further discussions with property owners, and interested developers.

Vision Plan Goals

- #1: Preserve and reinforce the unique industrial character that has defined the Marketplace District
- #2: Ensure access to affordable housing for residents of the Marketplace District and Eastside neighborhood
- #3: Promote an environmentally-sustainable TOD district that can become a laboratory for new technologies and best practices
- #4: Foster healthy and engaged residents through investments in active transportation infrastructure and programming
- #5: Promote a complete streets approach that balances the needs of all users
- #6: Establish a unique brand for the Marketplace District through placemaking improvements

Major Development Areas (MDA)

Major Development Areas contain clusters of complementary priority projects. An MDA phasing strategy is provided in Part 6 (Implementation).

- MD 1 Mobility Hub
- MD 2 North Park
- MD 3 Lincoln Park
- MD 4 University / Park
- MD 5 North Commerce Creative Hub
- MD 6 South Commerce

Priority Projects

Priority projects are targeted infrastructure or public realm improvements that could catalyze development and private investment in the Pilot Project Area. Funding sources for each priority project type and a priority project phasing strategy are provided in Part 6 (Implementation).

Bicycle Projects

- B 1 Mission Inn / Vine Protected Bicycle Intersection
- B 2 Mission Inn / Commerce Protected Bicycle Intersection

Pedestrian/Greening Projects

- PG 1 Transit Core Paseo
- PG 2 SR-91 Bicycle and Pedestrian Bridge
- PG 3 North Commerce Linear Park
- PG 4 North Commerce Complete Street Improvements
- PG 5 North Park Redesign
- PG 6 Riverside Canal Stormwater Management and Multi-use Path
- PG 7 12th Street Pedestrian Tunnel

Corridor Projects

- C 1 Vine Street
- C 2 Mission Inn Avenue
- C 3 Commerce Complete Street Reconstruction

Parking and Transit Projects

- PT 1 Mobility Hub and Plaza
- PT 2 Layover Facility
- PT 3 New Shared Public Parking Structures
- PT 4 Parking Management District

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Part 2

Station Area Profile

The Station Area Profile is a summary of some of the physical and regulatory conditions currently existing within the study area.

Overview

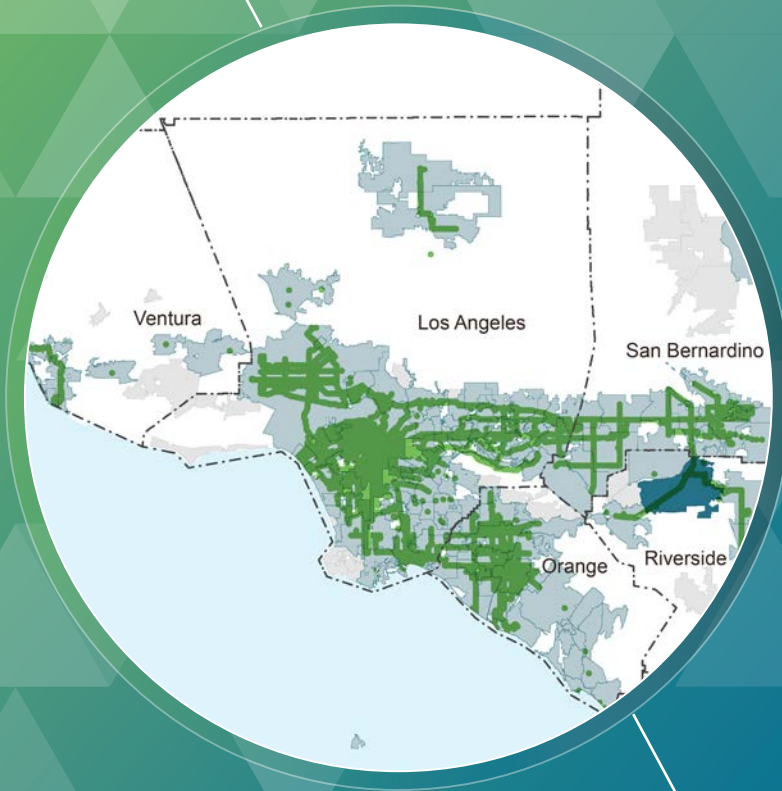
Riverside Marketplace High Quality Transit Area
Riverside - Downtown Metrolink Station

Socioeconomic Profile

Demographic Profile
Employment Profile
Employment Trends

Previous Planning Efforts

Marketplace Specific Plan (1991)
From Transit Station to Transit Village - Compass
Blueprint (2006)
Urban Land Institute Transit-Oriented Development
Marketplace (2010)
Eastside Neighborhood Plan (2009)
Downtown Specific Plan (2002)
University Avenue Specific Plan (1992)



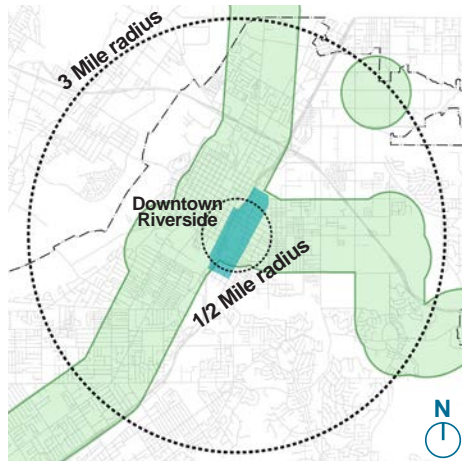
OVERVIEW

Riverside Marketplace High Quality Transit Area

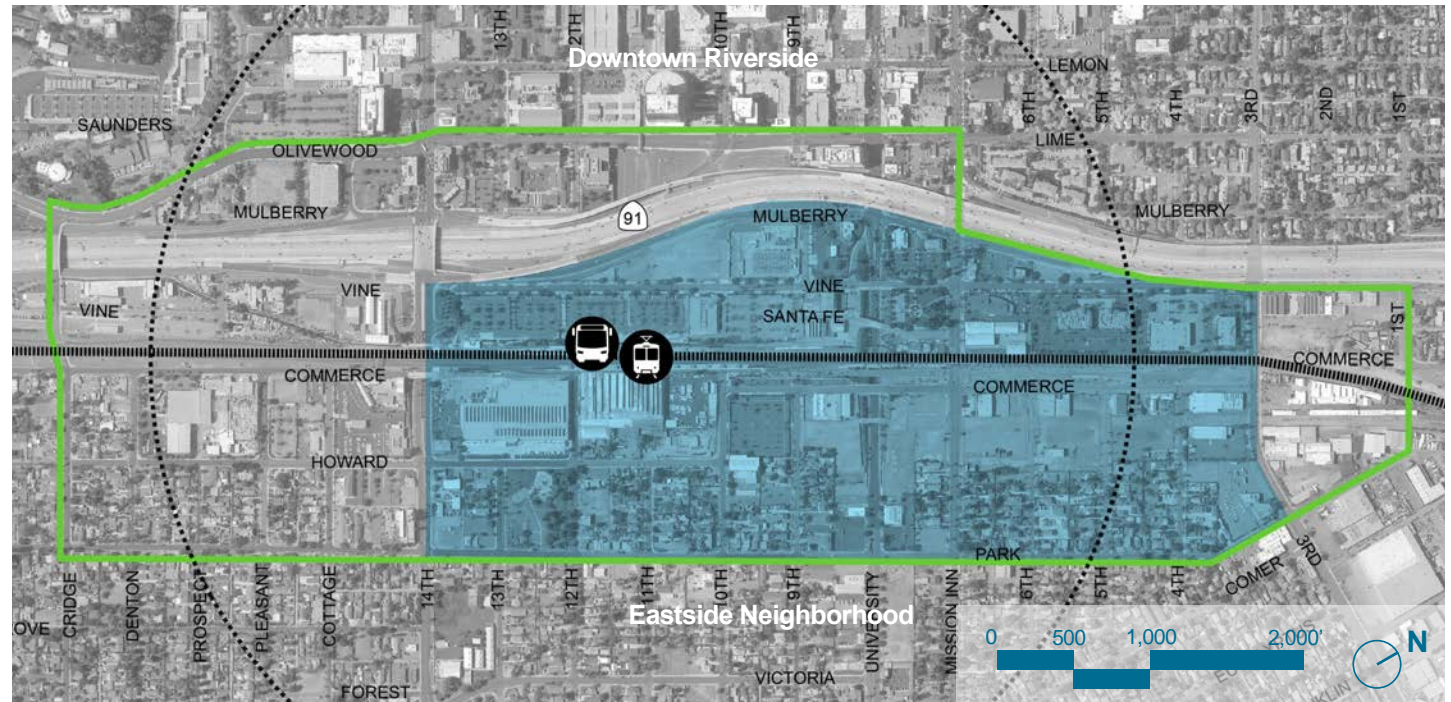
The City of Riverside’s High Quality Transit Area (HQTA) is located east of the I-91, adjacent to the freeway, and shares the same boundary as the Riverside Marketplace Specific Plan adopted in 1991. The HQTA includes the Downtown MetroLink station which is served by three commuter lines (Riverside, Inland Empire-OC, and 91/Perris Valley). The area is also served by several bus routes and is planned to be serviced by the future high-speed rail.

Although the HQTA is across the I-91 from Downtown Riverside, urban character of the latter is markedly different. Downtown Riverside predominantly consists of civic institutions such as Riverside City Hall, the County Superior Court, and the Court House whereas the HQTA contains a range of underutilized properties such as old abandoned industrial buildings, historic packing houses, and surface parking lots. The City’s aim is to create a multi-modal transit center with high quality transit-oriented development (TOD) in the HQTA.

Since the I-91 will remain a barrier separating the Pilot Project Area from the downtown, it is likely that the HQTA will maintain an urban character that is unique from Downtown Riverside, which can be advantageously leveraged by the City to create a TOD pilot project.



- Metrolink Station and Corridor
- Bus Station
- High Quality Transit Area (HQTA)
- Marketplace Specific Plan
- Pilot Project Area
- 1/2 Mile Radius: Typical comfortable walkable distance, not considering barriers



Riverside - Downtown Metrolink Station

OVERVIEW

The Riverside - Downtown Station (Riverside Transportation Center) is serviced by Metrolink and Amtrak commuter rail lines. The three Metrolink lines that pass through the station are the 91/Perris Valley Line, the Riverside Line, and the Inland Empire-Orange County Line. The Station is a connection point for Riverside Transit Agency (RTA) buses and CommuterLink Express.

Metrolink: Riverside Line



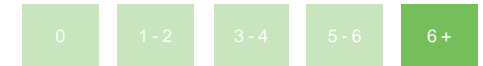
Service Type



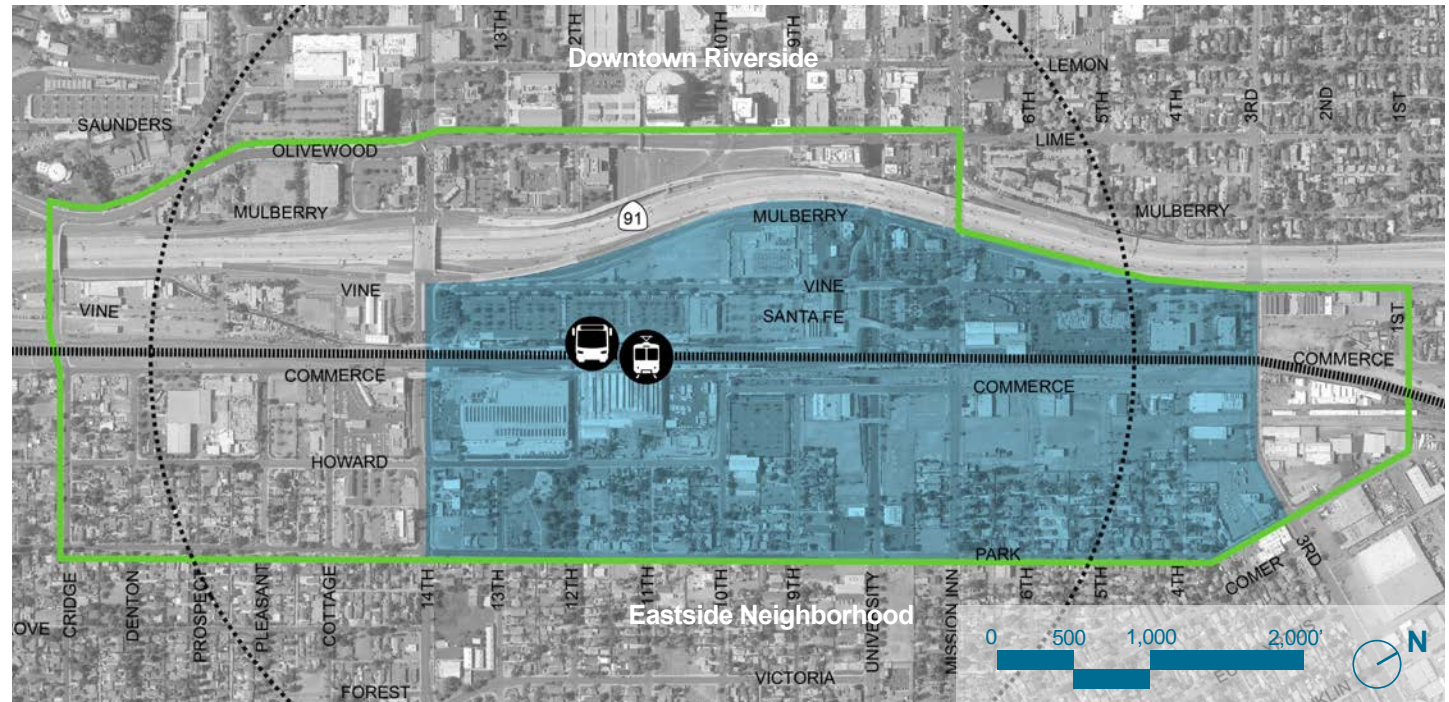
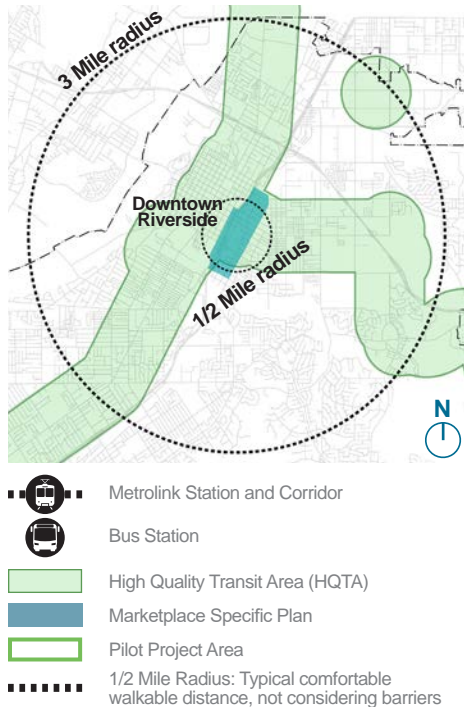
Average Peak Period Frequency (minutes)



Transit Routes within 1/2 mile



The Metrolink Station has a 1,115 stall surface parking lot east of the platform. On weekdays between 4:00 a.m. and 9:00 a.m. there are 8 inbound trains from Riverside - Downtown Metrolink Station to Los Angeles Union Station (LAUS).



Demographic Profile

SOCIOECONOMIC PROFILE

The City of Riverside has approximately 13 percent of the Riverside County's population and is expected to outpace the County in terms of population growth in the next ten years. Unemployment rates in the City and the County are comparable, as is the median household income, which characterizes both communities as fairly middle income. The City of Riverside has a more equal split between owners and renters; the County has a higher ownership rate and almost half of renters occupy single-family units in the County.

The Study Area*** has high population density and accommodates about 4,700 people, with median household income substantially lower than both the City and County. The Study Area is also predominantly renter-occupied, most of whom stay in multifamily dwelling units. The Study Area is predominantly Hispanic and has a higher percentage of high school dropouts.

The Study Area also has a very high number of jobs to households, which indicates that employees commute to the Study Area for work, but residents in the Study Area have a higher unemployment rate than the City and the County.

DEMOGRAPHICS (2017)	Study Area	City of Riverside	County of Riverside
Total Population	4,727	319,466	2,388,710
Pop. Density (Per Sq. Mile)	5,984	3,928	323
Annual Growth Rate			
Historic (2010-2017)	0.12%	0.72%	1.25%
Projected (2017-2027)	1.34%	2.33%	2.17%
Total Households	987	96,275	741,071
Average HH Size	3.73	3.21	3.18
Annual Growth Rate			
Historic (2010-2017)	0.52%	0.66%	1.10%
Projected (2017-2027)	1.31%	2.33%	2.34%
Median Age	29.6	30.0	34.6
0-17 years	24%	25%	27%
18-64 Years	65%	65%	60%
64 Years and Over	11%	10%	13%
Jobs per Household*	16.9	1.5	0.9
Unemployment Rate**	10.5%	8.1%	8.3%
Median Household Income	\$34,780	\$55,966	\$60,180

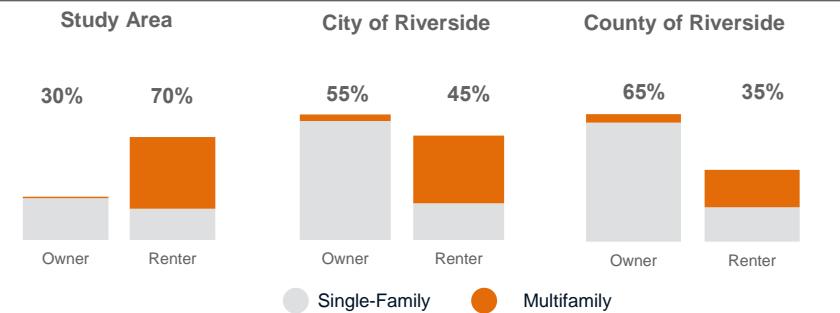
* HR&A Advisors, Inc.

**Percentage of population 16 years and over in the labor force.

*** Study Area is defined as a 5-minute drivetime from the Riverside Downtown Metrolink station and is not the typical half-mile radius around the station.

Sources: Social Explorer, ACS 2015 5-year estimates, SCAG Growth Forecast 2012, SCAG TAZ Forecast 2008, Dept. of Finance E5 2007.

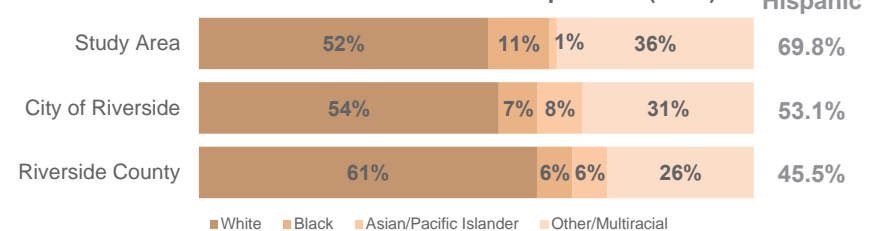
HOUSING TENURE (2015)



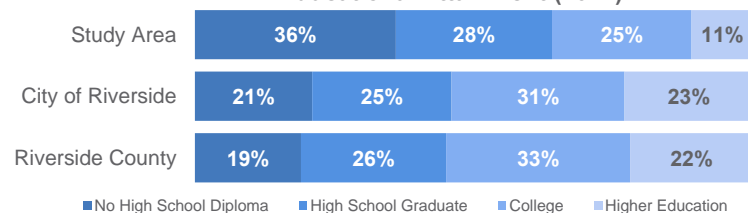
MOBILITY (2015)

	Study Area	City of Riverside	County of Riverside
Average Commute Time (in mins.)	26	29	32
Cars per Household*	NA	0.6	0.9
Public Transit Users	4%	3%	1%
Solo Drivers	71%	76%	77%
Others	25%	22%	22%

Racial and Ethnic Composition (2017)



Educational Attainment (2017)



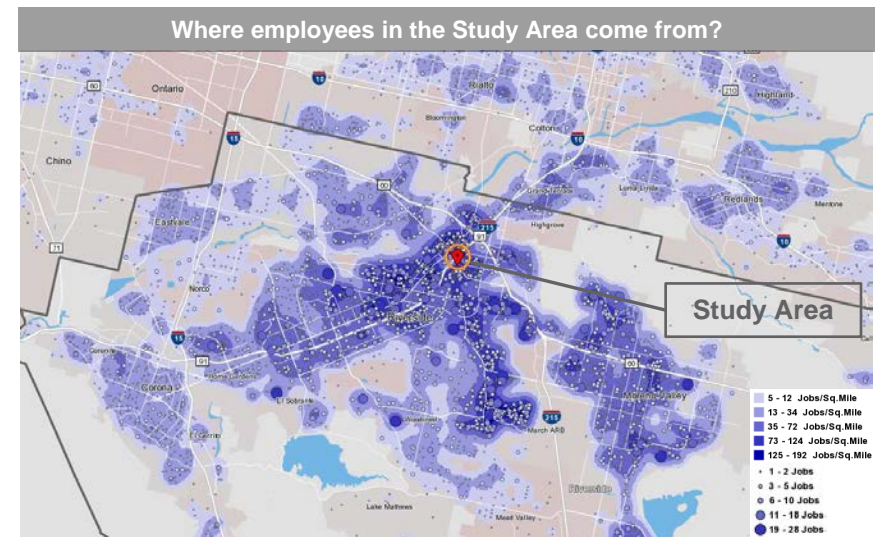
Employment Profile

SOCIOECONOMIC PROFILE

The Study Area is an important job center for the City of Riverside, with nearly 11 percent of jobs in the City. Almost 99 percent of the workers in the Study Area commute from other parts of the city and region. Average commute time for workers coming into the Study Area is about 26 minutes and only 4 percent of them are public transit users.

Although the employment density in the Study Area is high, overall employment has declined by nearly 6 percent between 2010 and 2015. However, SCAG forecasts anticipate an annual growth in jobs of nearly 1.5 percent over the next ten years. The City and County have both witnessed positive job growth between 2010 and 2015, and will continue to see growth in the next ten years.

Employment in the Study Area, the City, and the County is primarily driven by government jobs. Government jobs account for an overwhelming 76 percent of all jobs in the Study Area, followed by knowledge-based and entertainment related industry cluster which include hospitality and food services.



	Study Area	City of Riverside	County of Riverside
EMPLOYMENT (2015)			
Total Worker Population	16,632	144,686	649,800
Job Density (per sq. mile)	21,053	1,774	89
Annual Growth Rate			
Historic (2010-2015)	-5.9%	1.0%	2.8%
Projected (2017-2027)	1.5%	2.6%	2.8%
Average Earnings per Job*	\$50,857	\$52,566	\$52,332
Top Three Industry Clusters			
	Government 76.3%	Government 29.5%	Education & Medical 24.0%
	Knowledge-based 10.3%	Education & Medical 27.3%	Government 20.1%
	Entertainment 8.4%	PD&R 11.5%	PD&R 15.8%

* Includes wages, salaries, supplements (additional employee benefits), and proprietor income. Approximated by zip code.

Employment Industry Cluster Classification

The classification is based on Center for Transit-Oriented Development 2010 Report.

- **Natural Resources** includes agriculture and mining;
- **Production, Distribution, and Repair ("PD&R")** includes manufacturing, wholesale trade, transportation and warehousing;
- **Knowledge-based** includes information, finance and insurance, real estate, scientific, professional, and technical services, and management of companies;
- **Entertainment** includes arts, entertainment, and recreation, and accommodation and food services,
- **Government** includes utilities, administration and other services.

Sources: LEHD, Social Explorer, ACS 2015 5-year estimates, SCAG Growth Forecast 2012, SCAG TAZ Forecast 2008.

Employment Trends

Between 2010 and 2015, while the number of jobs in the City of Riverside increased by 5 percent, those in the County increased by 15 percent. Government sector jobs, in both the City and the County, have added the most number of jobs. Jobs in this sector have increased by 36 percent in the County and by 64 percent in the City. With the Inland Empire's rise as a PD&R hub, the City has added nearly 10 percent new jobs in PR&R related sectors and the County has added an overwhelming 35 percent.

Shifting demographic trends within the Inland Empire have triggered several changes in the employment composition of both the City and County of Riverside. While the County has added jobs to the Education and Medical-related industry cluster, both the City and the Study Area have lost jobs in this cluster. The 6 percent decline in annual employment rate in the Study Area almost entirely constitutes jobs lost in this industry cluster.

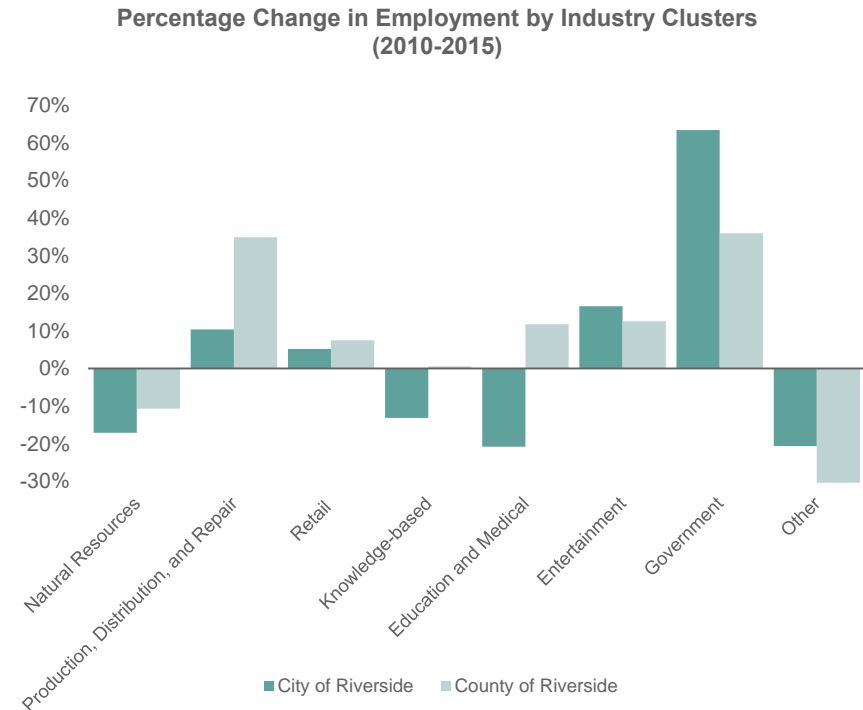
HQTA Opportunities

- The City of Riverside's "Urban Mixed-use" zoning, which will be applicable to the Study Area, allows higher density, mixed-use development. The zoning code will enable the City to absorb more households and jobs near the HQTA. Higher density codes are also important to ensure that the high cost of infill, transit-enabled land is offset by increasing the number of income-generating units.
- The Study Area also has several large underutilized parcels. These parcels can leverage proximity to transit infrastructure and develop high-density, mixed-use neighborhoods to support the City's effort in delivering a HQTA.
- The City is also developing a citywide Active Transportation Plan. Bike and pedestrian amenities are fundamental to the successful implementation of TOD principles in the Study Area. Combination of active transportation and high-quality public realm will be necessary to demonstrate the positive effects of TOD.
- The jobs to household ratio suggests that currently, most workers in the Study Area commute to work. Higher density development and access to transit could be critical in locating and retaining more workers in the area; and making more opportunities available to current residents.
- Although the University of Riverside is located farther east of the Study Area, connected only by the University Avenue, there is a potential for the TOD to leverage the existing innovation ecosystem created by the University.

SOCIOECONOMIC PROFILE

EMPLOYMENT TRENDS	Study Area	Riverside City	Riverside County
Employment Growth in Industry Clusters (2010-2015)			
Natural Resources	(2)	(158)	(1,625)
Production, Distribution, and Repair	6	1,562	26,627
Retail	(19)	760	5,592
Knowledge-based	(108)	(2,057)	286
Education and Medical	(12,734)	(10,357)	16,334
Entertainment	78	1,774	10,738
Government	6,791	16,532	34,558
Other	25	(988)	(8,265)

Negative numbers in parenthesis



Marketplace Specific Plan (1991)

The Marketplace Specific Plan was developed to revitalize the area bounded by SR-91 (west), 3rd Street (north), Park Avenue (east), and 14th Street (south). Completed in 1991, it aimed to revitalize an area left underutilized after the construction of the interstate highway, which created a district lacking the qualities necessary to attract investment. While the plan still presents a solid set of goals and a sound vision for the area, its overall strategy is now outdated and does not align with contemporary best practices for local land use, transportation planning, nor addressing regional issues and goals. Thus, in hindsight, the plan was emblematic of urban planning strategies of its time and provides minimal guidance for development of a vision today. Still, major elements from the plan include:

Key Elements

- **VISION:** Create incentive for redevelopment; preserve and enhance historic buildings and elements (especially along Mission Inn Avenue); beautify entrances to Downtown and University Avenue; provide commerce and employment opportunities for Eastside neighborhood; complement Downtown redevelopment
- **LAND USE:** Develop mixed land uses through eight sub-area each with individual standards and guidelines to reflect desired character (shown to right in Land Use Plan)
- **CIRCULATION:** Proposed reducing pedestrian and vehicle circulation network by establishing a few superblocks
- **URBAN DESIGN:** Urban character; pedestrian scale based on existing 400' block intervals; old and new architectural styles, "California Dream" landscape heritage
- **ZONING and DEVELOPMENT STANDARDS:** Permitted and conditional uses, minimum parcel size, maximum building height, maximum building coverage, minimum building and parking setbacks, landscape coverage / screen walls, parking standards
- **HISTORICAL/CULTURAL:** Adaptive reuse where possible, new structures designed to compliment context of older structures and historical period of the Central Marketplace

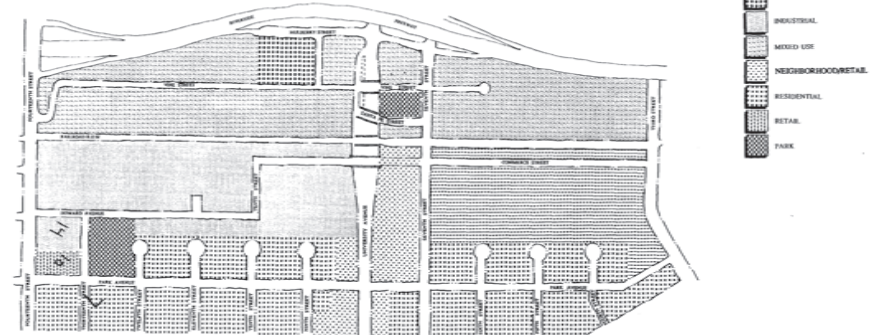
During the succeeding years, the following amendments were adopted:

- **Resolution No. 18837 (1996)** - Text amendment; moving a portion of land from sub-area 8 (Marketplace Industrial Park) to newly created sub-area 9 (Marketplace Urban Industrial); and changing land from Industrial Business Park land use designation to General Industrial.
- **Resolution No. 18887 (1996)** - Permitting an additional major street frontage pole sign adjacent to SR-91
- **Resolution No. 19033 (1997)** - Text amendments to establish sub-area development standards in order to require a conditional use permit to establish a bus terminal.
- **Resolution No. 20705 (2004)** - Text amendment to permit replacement of a freeway-oriented reader-board sign and to establish design standards.
- An update to the Marketplace Specific Plan was considered in 2010-2012 but was not adopted.

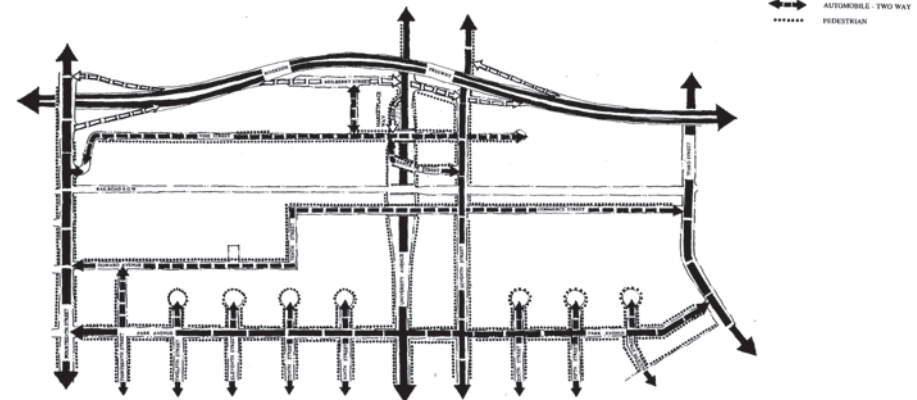
Riverside Marketplace District Vision Plan

PREVIOUS PLANNING EFFORTS

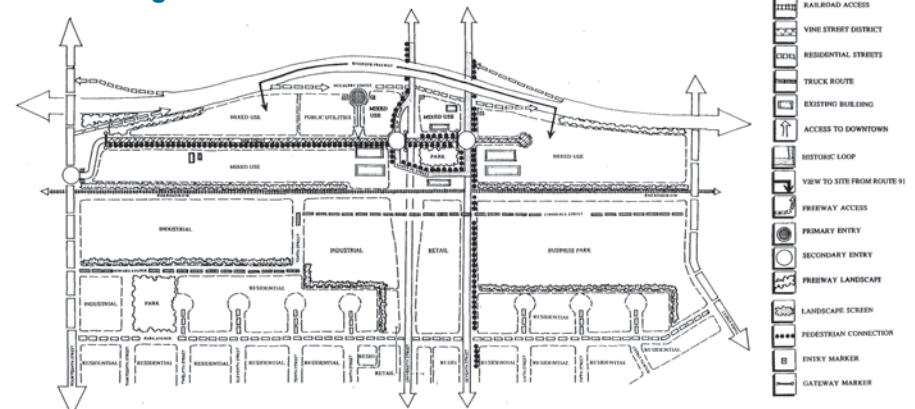
Land Use Plan



Circulation Plan



Urban Design



University Avenue Specific Plan (1992)

PREVIOUS PLANNING EFFORTS

The University Avenue Specific Plan was adopted in 1993. The Specific Plan divides its study area into four subdistricts: Small Business Opportunity Area, Community Shopping Center Area, Visitor Commercial and University-Related Use Area, and Mixed-Use Development Area. As this is one of the area's older plans, many of its envisioned changes have been implemented.

Issues

- **Focus of University Avenue as a Traffic Carrier**
- **Lack of Pedestrian Amenities and Consistent Design Quality**
- **Over-Concentration of Certain Land Uses**
- **Vacant Land**
- **Poor Private Property Maintenance**
- **Unattractive, Illegal and Non-Conforming Signs**
- **Small Parcel Sizes and Overabundance of Driveway Cuts**
- **Incentives Rather than Restrictions**
- **Investment Throughout the Corridor**
- **Future Planning**
- **Crime and Social Problems**

Visions by Subdistricts

- **Small Business Opportunity Area:** Community-serving uses, vacant lot redevelopment, and shared parking arrangements in the small business area between Park and Chicago Avenues are encouraged with incentives such as a facade improvement program and redevelopment programs. University Avenue, in this Subdistrict, is planned as an extensively landscaped corridor with pedestrian-friendly design.
- **Community Shopping Center Area:** The subdistrict includes the south side of University Avenue from Ottawa Avenue to approximately 600 feet east of Chicago Avenue and was envisioned to continue the shopping center uses as well as entertainment, office and restaurant uses in rehabilitated existing structures and completely new structures.
- **Visitor Commercial and University-Related Use Area:** The subdistrict was envisioned to continue the current trend of a mix of visitor-serving/retail commercial, restaurants, offices and University-related facilities and larger structures fronting on a tree-lined University Avenue. Streetscape improvements and design standards and guidelines will contribute to improving the architectural and landscaping environment.
- **Mixed-Use Development Area:** To attract students and the community, the University Village Center is planned to be a unique environment, with special uses, not a traditional shopping center typically found on a highway-oriented street. The proposed character is "village-like", with retail shops, restaurants, a theater and other entertainment facilities clustered around a series of outdoor courtyards

Downtown Specific Plan (2002)

The Downtown (DT) Specific Plan was first adopted in 2002 and was last amended in 2017. The plan divides the downtown into many districts, and provides development standard guidelines for each district.

Issues

- **VISION:** Lacking a clear vision for the downtown
- **ZONING and DEVELOPMENT STANDARDS:** Suited for suburban development
- **HISTORICAL/CULTURAL:** Incompatible existing zoning and development standards with historic preservation issues
- **PARKING:** Does not facilitate shared use, historic preservation and pedestrian friendly environments due to inconvenience and deterioration
- **CIRCULATION:** Lacking auto circulation in DT Mall due to confusing street closures and one-way streets
- **URBAN DESIGN:** Lacking well-defined and use districts, gateways and attractive streetscapes for pedestrian continuity
- **ECONOMIC PROFILE and STRATEGY:** Lacking a marketing approach to the potential of Downtown

Land Use Goals and Policies

- **RAINCROSS DISTRICT:** Pedestrian-oriented center of DT with a mix of uses focused on infill which is compatible with neighboring historic structures
- **JUSTICE CENTER DISTRICT:** High intensity district concentrated on civic, office and commercial uses compatible with neighboring historic structures
- **RESIDENTIAL DISTRICT:** Emphasis on single family residences mixed with multi-family uses compatible with neighboring historic structures (Heritage Square Historic Neighborhood)

PREVIOUS PLANNING EFFORTS

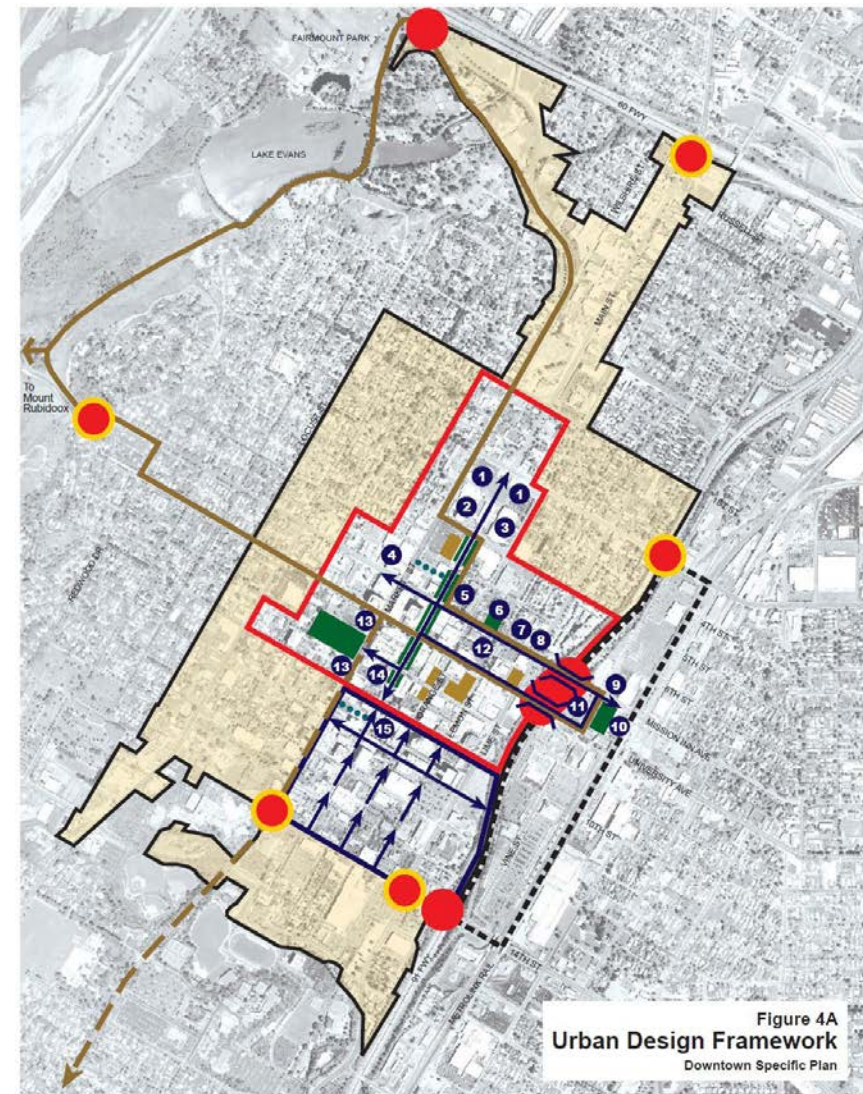
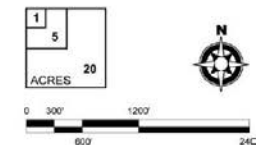


Figure 4A
Urban Design Framework
Downtown Specific Plan

LEGEND	
 	Raincross District
 	Justice Center District
●	Regional Entry Points
●	Local Entry Points
■	Major Open Spaces
→	Key Pedestrian Linkages
■	Strategic Parking Sites
	Freeway Underpass Connections
→	View Corridor - Courthouse from Market Street - Market Street to Mission Inn
→	Urban Hiking Trail
→	Historic Magnolia Street Corridor
●	Key Historic, Cultural, and Civic Elements
●	Convention Center and Hotel Expansion
●	Convention Center Hotel
●	Convention Center
●	Fox Theater
●	Mission Inn
●	Main Library
●	Municipal Auditorium
●	Riverside Art Museum
●	Packing House (Restaurant)
●	Santa Fe Railroad Station
●	Union Pacific Railroad Station
●	Municipal Museum
●	Proposed Performing Arts School
●	City Hall
●	County Courthouse



From Transit Station to Transit Village - Compass Blueprint (2006)

The Compass Blueprint Grant Program was established as an innovative vehicle for promoting local jurisdictional efforts to test local planning tools and was the precursor to SCAG's current Sustainability Planning Grant Program. The community visioning process and resulting document for the Riverside Downtown Metrolink Station was completed in 2006 with the intent to help facilitate the development of a transit village surrounding the Metrolink Station. In developing a design vision, tasks completed by the project included: a community workshop to provide information on transit villages, land use opportunities and constraints analysis, a full-day design charrette to develop strategies for creating a transit village, creation of contextual urban design strategies to intensify land uses, and a community open house presenting vision concepts.

Major issues and opportunities developed during the full-day design charrette for three different alternatives include:

Alternative A

- **Issues:** Expand recreational services for existing residents; enhance importance of Park Avenue as pedestrian street; improve substandard structures; maintain and enhance affordable housing; preserve Eastside as multi-generational neighborhood; pedestrian-oriented activities near Metrolink Station
- **Opportunities:** Expand Lincoln Park with new uses; create linear park between Commerce Avenue and Santa Fe Railroad; Park Avenue improvements such as bulb-outs, wider sidewalks, street trees, mixed-uses, and support existing businesses; locate senior housing near University Avenue; promote workforce housing with densities above 20 du/ac; mixed-use development with parking structure on existing park-and-ride

Alternative B

- **Issues:** Building condition along Park Avenue; limited shopping and job opportunities for residents; affordable housing availability; convenient access to Metrolink Station; noise; make alleys safer
- **Opportunities:** Park Avenue building facade improvements; incorporate mercado oriented towards existing residents; integrate increased art program at continuation school with developments; affordable and senior housing; increase bus routes to Metrolink Station; pedestrian connection between Metrolink and bus transfers; parking structures as noise buffers; green alleys; allowing accessory dwelling units along alley; promoting "eyes on the alley"

Alternative C

- **Issues:** Improve function and safety of Lincoln Park; neighborhood access to transit; large blocks of development limiting pedestrian connections; foster community interaction

PREVIOUS PLANNING EFFORTS

Consolidated Design Concept



- **Opportunities:** Front porches on homes overlooking Lincoln Park; additional community services (daycare, preschool, police substation, teen center homework club, pool); community involvement with new development; bus line with stops along Park Avenue; future development of Solarmax site should include internal "street"; promote pedestrian movement with paths and trails connected by gathering spaces (outdoor rooms)

Consolidated Design Concept

- **Issues:** SR-91 as barrier; limited connection between bus and Metrolink service; new development should complement the existing neighborhood
- **Opportunities:** Pedestrian and bus access bridge from Metrolink Station to Downtown with frequent bus shuttle; development of new bus center should provide pedestrian plaza to connect to Metrolink Station; higher density near the Metrolink station and along major arterials

Eastside Neighborhood Plan (2009)

The City of Riverside General Plan 2025 Land Use and Urban Design Element includes an Neighborhood Plan for each of the 28 neighborhoods within the City of Riverside. The first Eastside Community Plan was completed in 1974, which was, “primarily intended as a means of improving and protecting the quality of life for Eastside residents.” In 2009, the Eastside Neighborhood Plan was completed in response to changing conditions and additional planning efforts since adoption of the original community plan to provide a blueprint to enhance and improve quality of life within the neighborhood.

Based on community participation and feedback in developing the Eastside Neighborhood Plan, it is organized into eight sections, which address a different element of the neighborhood (as well as background and community participation). For each section, objectives, policies, and implementation tools were developed. Prominent objectives and polices for each section are summarized below:

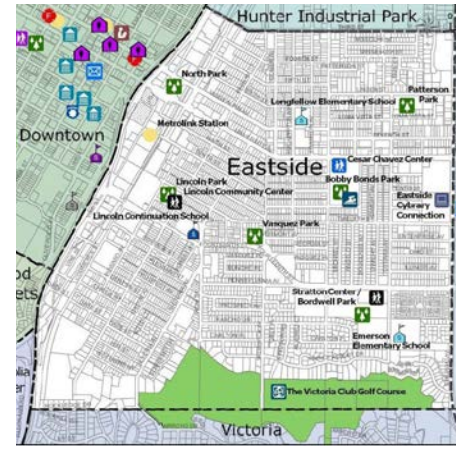
Objectives and Policies

- **Land Use / (Re)Development:** Protect and enhance existing residential areas; infill residential development; affordable housing; owner-occupied housing; new multi-family development of appropriate scale with street orientation for greater community interaction; reinvigorate commercial areas; attract mix of neighborhood-serving commercial (local to national); implement University Avenue Plan
- **Housing / Neighborhoods / Historic Preservation:** Increase home ownership through multiple programs and policies; identify historic preservation opportunities (new districts or expand existing); protect and preserve cultural resources
- **Parks / Recreation / Art / Culture:** Enhance quality of life through improvements to parks, recreation, arts and cultural facilities; increase organized sports; promote art and culture throughout neighborhood; after-school programs; life skill training fro residents; promote senior programs and organized activities
- **Traffic / Transit / Walkability / Parking:** Focus on all transportation modes; enhance walkability and bike routes; safe routes to school; improve parking and traffic problems; opportunities to enhance/expand transit routes, hours of operation, frequency, and station/stop locations to serve Eastside neighborhood; traffic calming in residential areas to reduce speeding; explore use and maintenance of alleys
- **Employment / Education / Job Training / Skill Development:** create employment opportunities for Eastside residents; expand and support programs for job training and skill building for residents to obtain high paying jobs; expand educational opportunities and access to educational facilities; work with RUSD to establish new schools or increase capacity of existing; financial assistance programs; support services
- **Health / Safety / Security:** Increase existing City-sponsored homeless programs in Eastside; proactive action towards keeping vacant properties safe; increase and enhance lighting at public areas; enhance or vacant alleys; increase healthy lifestyle programs

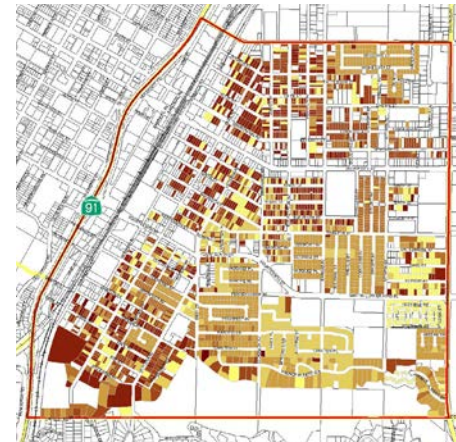
Riverside Marketplace District Vision Plan

PREVIOUS PLANNING EFFORTS

Eastside Neighborhood

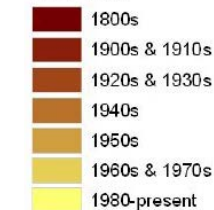


Year Built - Single-family Residential Units



Legend

Year Built



City of Riverside Parks



Legend



Urban Land Institute Transit-Oriented Development Marketplace (2010)

PREVIOUS PLANNING EFFORTS

The Urban Land Institute (ULI) Transit-Oriented Development (TOD) Marketplace initiative worked with teams of professionals from the private and nonprofit sectors (Technical Assistance Panel - TAP) to tour targeted TOD sites, evaluate the feasibility of existing city plans, and present recommendations for actions to increase private sector investment in TOD projects.

TOD Goals

- Established through interviews with public officials, city staff, transit agency staff, and community members
- **Goals:** Create vibrancy; integrate new and old development; create mix of uses, employment, and lifestyle opportunities; explore use of form-based codes; adaptive reuse of former Food Manufacturer's Complex (FMC); engage public by working with residents to develop long-term planning strategies; connection between Metrolink Station and Downtown; TOD supportive densities; think comprehensively

TAP Recommendations

- **Work with UCR to develop long-term Town and Gown Plan:** Town and Gown Plan would consider strategies for physical planning, economic growth, and cultural venues.
- **Use public realm to create sense of place:** Complete streets; visual elements such as signage, landscape, facade treatments, and light standards; human-scale design
- **Transportation framework connecting Metrolink to Downtown (bottom diagram):** Most direct connection via Vine Street or Commerce Street to Mission Inn Avenue; improve Vine and Commerce Streets to be focal points; improve University Avenue for all users; complete streets; design street hierarchy to promote traffic calming; trolley/shuttle with frequent service
- **Implement development strategies (top diagram):** Incremental density strategy with organic development; define a catalyst project; develop edges with strategic uses (softer on east side, denser edge on west side); mix of low-to-moderate rental and for-sale housing; shared parking opportunities; address vacant lots along park edges; designate area for urban agriculture or community gardens; sustainable design and green building
- **Secure funding and partnerships for TOD:** may need to subsidize development costs to jump-start development [2010 economic conditions stemming from great recession]; identify and apply for federal, state, and local funds; develop first-time home buyer program; establish special assessment districts to fund public infrastructure and maintenance; tax increment financing; revenue bonds
- **Identify and restore historical and cultural value of Riverside neighborhoods:** Lincoln Park and Park Avenue focal areas; use identifiable visual (Mission Inn bell) to create identify connection to Downtown; develop art program; punctuate Eastside with historical cultural art components; restore pieces of FMC structure; create recognizable visual cues; arcades and colonnades to support existing neighborhood



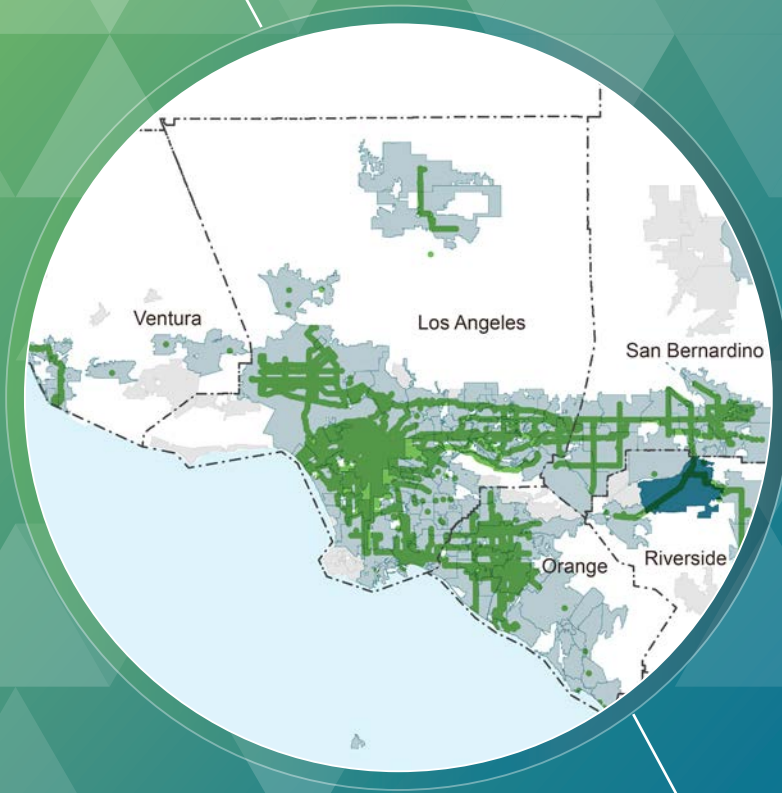
Part 3

Outreach

Input from key stakeholders was an essential component of the research and analysis presented in Part 4 (Opportunities and Constraints), and ultimately Part 5 (Vision).

A - Community Workshop

B - Stakeholder Interviews



Community Workshop

OUTREACH

Summary of Outreach

Public outreach completed for the City of Riverside HQT A Vision Plan builds upon the planning and public outreach completed for the planning documents summarized in the previous section of this document. The public outreach for this Vision Plan was aimed at the general public and stakeholders and had two primary objectives. One was to describe the Vision Plan planning process in the context of contemporary planning practices used to accomplish the overall goals and objectives of SCAG. The second was to summarize the area's previous planning efforts, and to receive feedback on these planning documents and insights into the local community. This feedback was used to develop a plan most appropriate to encourage improvement of the neighborhood and satisfy the desires of the community. This was accomplished through the specific public outreach events, summarized below and pictured to the right:

Community Workshop Wednesday, March 7th 2018; 6:30 pm - 9:30 pm; Cesar E. Chavez Community Center; 2060 University Avenue

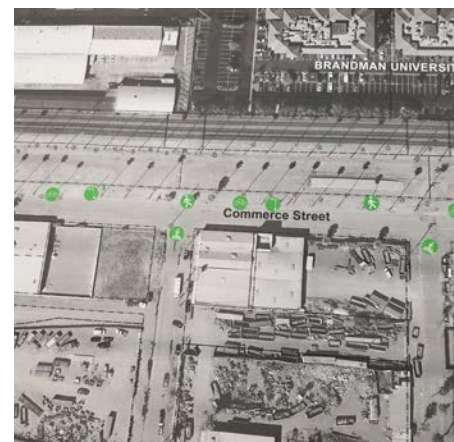
- **Presentation:** The community meeting began with a presentation on the opportunities and constraints for mobility, land use, and urban design based on the understood existing conditions. The second part of the presentation identified areas for investment and presented potential ideas and relevant precedents.
- **Visual Preference Boards:** Visual preference boards provided images of precedent projects for the following categories: Transit-oriented Developments, Housing, Parking Structures, Industrial Buildings, and Adaptive Reuse. Postcards were provided for the public to provide feedback on individual images that were liked (or disliked) or appropriate (or inappropriate).
- **Active Transportation Improvements:** Maps of the Study Area were paired with stickers of various transportation improvements (e.g. curb extensions, lighting, etc.). Participants placed stickers on the maps where they would like to see specific improvements.
- **Lego Modeling:** Maps of the Study Area were also paired with Lego blocks of varying colors, with each color representing a different land use, which could be arranged to form different building typologies. Participants combined individual Lego blocks to indicate massing and height that would be appropriate for locations of new development.

Key Themes

No displacement; New development should look and feel like Riverside; Open to new development that improves conditions for existing residents; Connection to Downtown

Stakeholder Interviews

Summary of interviews with individual stakeholders are provided on the following pages.



Stakeholder Interviews

OUTREACH

City of Riverside - 4/11/2018

The Consultant Team facilitated a meeting with representatives from the City's Parks and Recreation, Utilities, Public Works, and Planning Departments. A short presentation of the conceptual framework plan was followed by a discussion of opportunities and considerations for the vision plan. Notes from that discussion follow:

City of Riverside Introductory Comments

- Primary goal of this project is to set up future update of Marketplace Specific Plan
- Draft update of Marketplace Specific Plan from 2010-2012 (not adopted)
- This project will set up a vision and policy document, not a regulatory framework
- Reduced car use, net-zero development, new technologies, urban and walkable neighborhoods
- The eastside focus as an arts and culture district

Utilities

- The substation will remain

Parks and Recreation

- 3 acres/1,000 residential square feet of parkland is minimum goal but Parks and Recreation would like to be more aggressive
- Riverside County has a 5 acres/1,000 res. sq. ft. of minimum parkland requirement
- Parks and Recreation is also updating the trails master plan in addition to the parks master plan
- The Municipal Code allows a developer to provide park space in lieu of paying park fees
- It is important to define parkland
- Open space can be highly programmed
- The Highline in New York and the Transbay Transit Center in San Francisco, which has a park on its roof, both are considered parkland
- Shared spaces – streets, alleys, etc.
- Demographics are key to making decisions on parkland
- Parks and Recreation envisions open space that is integrated and cohesive in its connections
- North Park as an opportunity to be enhanced; currently gated due to homeless population; parking is limited. Add amenities, retail, and active uses to perimeter. There is a potential to create a P3 to invest in and maintain park
- There is a need to think of open space creatively, with non-traditional spaces such as dog parks, wide sidewalks, parks on roof, and Wi-Fi.
- Cap and Trade points are given for various components of open space amenities such as playgrounds, basketball courts, green space (park), seats

Transportation

- The future mobility hub will hold 18 bus bays; 14 at layover site south of substation in short term with 5 at station for transfers

Economic Development

- Economic Development is touring four cities in the U.S. to investigate the components of innovation districts
- The California Air Resources Board (CARB) will bring high-paying research jobs to Riverside and they are concerned about availability of housing, restaurants and other retail in the downtown/market place area
- The City would like to attract more tech/green/clean energy businesses for its Innovation District
- Clean Tech Incubator, Green Zone (reducing greenhouse gases)
- UCR Medical School is being advanced (research opportunities)
- The City recognizes the need to upgrade infrastructure for future growth including utilities and fiber data networks as a way to incentivize and attract businesses
- The City recognizes quality of life/placemaking as a priority focus for the Innovation District and that to attract businesses they will also need to attract their staffs and their staffs' families to Riverside.
- Cap and Trade funding could be an important component

Public Health, Education, and Displacement

- Public Health is interested in knowing what the impacts will be to the existing community as it relates to gentrification and environmental justice.
- The City will be adopting anti-displacement legislation in the coming weeks.
- See Fruitvale Station in Oakland, CA as a model for anti-displacement. Since its opening the existing adjacent Hispanic population has gone down only 1% while the African-American population has gone down only 4%.
- New school facilities are needed in the Eastside community
- The challenge of homelessness in an urban environment is to treat it as a health and safety issue

Stakeholder Interviews (cont.)

Riverside County Transportation Commission (RCTC) - 3/29/2018

The Riverside Downtown Metrolink Station is owned and operated by the RCTC, including the park-and-ride lots. Parking lots are located on both the east and west sides of the Metrolink Station; location and amount of existing parking is shown in the diagram and table below.

RCTC has indicated it is a willing partner for redevelopment that includes its properties. RCTC is currently updating its joint development policy.

Additionally, RCTC is planning an expansion of freight rail tracks through the Metrolink Station, potential relocation of the eastern Metrolink Platform, and extension of two rail spurs to 3rd Street. Current plans are not available, but these expansion plans will need to be considered as part of the Marketplace Specific Plan update.

West of Metrolink Station



East of Metrolink Station

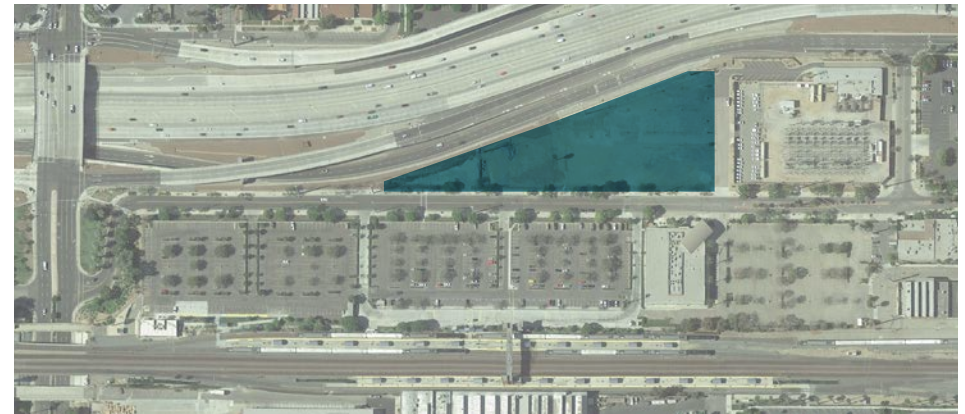


Parking Lot	# of Spaces
A	141
B	135
C	170
D	168
E	42
F	56
G	16 (Disabled Parking)
H	301
I	Pick-up / Drop-off
Total	1,029

Riverside Transit Agency (RTA) - 3/29/2018

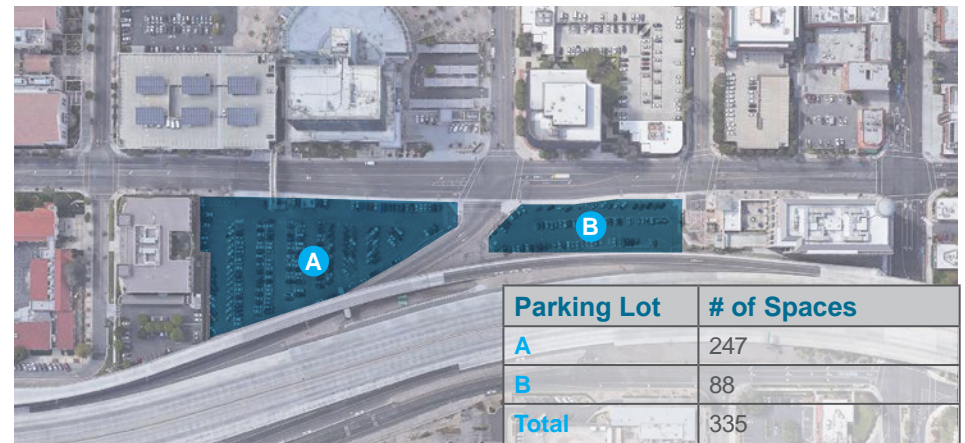
The RTA owns a vacant property west of the Downtown Metrolink Station adjacent to SR-91. This property is used as a temporary bus facility for the RTA.

RTA has indicated plans to develop a Mobility Hub on this property. This project will need to coordinate with RCTC in order to develop a project with maximum synergies for transit operations and equal to providing a quality public space for pedestrians through the design of structures and open space.



Riverside County - 3/30/2018

Riverside County owns two properties west of SR-91 along Lime Street between 10th and 12th Streets, which are used for employee parking serving Riverside County facilities in Downtown Riverside.



Parking Lot	# of Spaces
A	247
B	88
Total	335

Stakeholder Interviews (cont.)

OUTREACH

REALM - 4/11/2018

Realm is an Orange County-based developer of multi-family and mixed use housing projects. The company is currently developing Mission Lofts, a 212-unit housing development along the east side of the tracks. SCAG and the Consultant team met with the developer to learn about their perspective on transit-oriented development in the Marketplace District. The following is a summary of that discussion:

Challenges of Developing in the Riverside Marketplace area

- There are plenty of small development sites but not much where one can develop over 100 units – land assembly is critical in Riverside.
- Housing relocation specialists call developers to inquire about housing opportunities in their projects for their clients.
- Housing solutions (the need for more density/people) and placemaking (includes quiet zones/health and safety issues) are critical.

Positives of Developing in the Riverside Marketplace area

- The existing framework of local restaurants, bars and other attractive destinations in the downtown area is a good foundation.
- The historic building stock can be re-purposed.
- Opportunities for open space amenities include a linear park opportunity in the right-of-way owned by RCTC along Commerce.

Scrapworks Site(s) Phase II Vision

- 250-300 units
- Studios, 1- and 2-bedroom units
- Similar to Mission Lofts
- Primarily Multi-Family (Mission Inn Ave is a low traffic street)
- Live-work lofts
- All surface parking/Type V construction
- 500 units total between Phases 1 and 2
- Commerce corridor could become key complete street, new/innovative open space, etc.

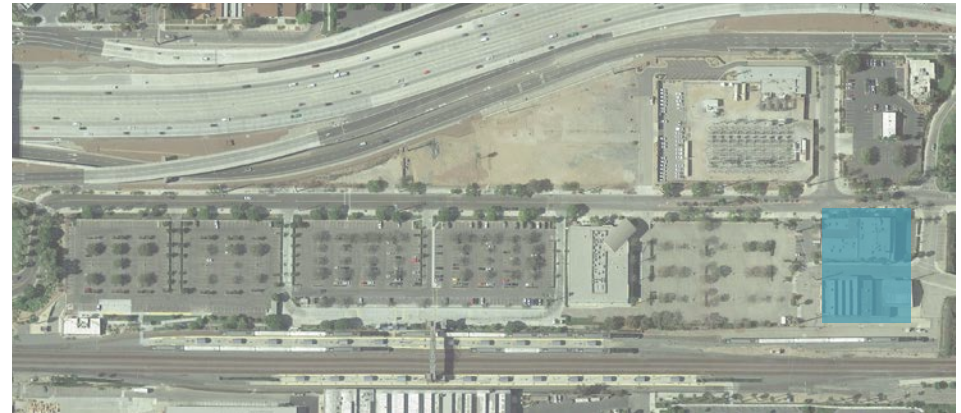
Lessons Learned

- Learned in that context that a larger critical mass of new residents was needed to create a demand for new retail and mass transit.
- Studios are the highest demand unit type.
- Monterrey Station TOD used a 1.3 parking ratio and the Riverside Mission Lofts used a 1.4 parking ratio. REALM plans to use 1.4 for the scrapyards site but believes they can go lower due to extra parking left over in the Mission Lofts.

Ironworks Site - 3/29/2018

The City and Consultant team also met with the owners of the Ironworks site, which consists of two historic buildings between Vine Street and the railroad tracks. The owners are interested in higher density, transit-oriented development, and discussed potential land assemblages and concepts that could be feasible. The Consultant team suggested converting the Santa Fe right of way to a pedestrian paseo that connects south to the RCTC Commuter Parking lots, serving as a walkable spine for eventual development along the length of the tracks. A project on the Ironworks site and adjacent office building parking lot could be a catalyst for this pattern of development.

Other suggestions included holding farmers markets, concerts, and other events to attract attention to the area and, potentially, future investment in transit-supportive retail as the area develops.



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Part 4

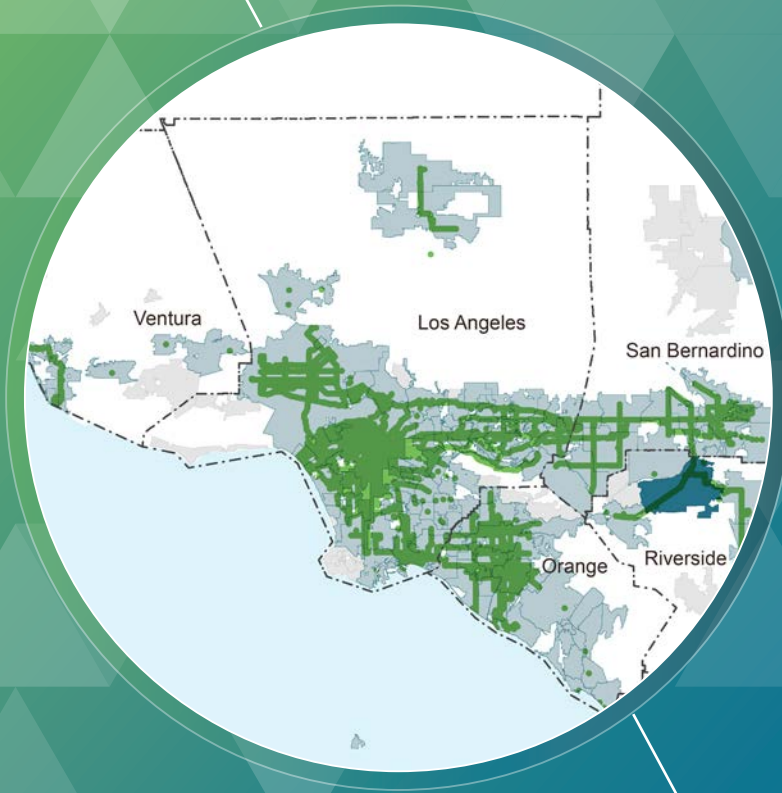
Opportunities and Constraints Analysis

The opportunities and constraints are viewed through the lens of High Quality Transit Areas and the principles of transit-oriented communities.

Mobility

Land Use

Urban Design



Constraints

MOBILITY

SR-91: SR-91 is the most significant physical feature within the Pilot Project Area, and most mobility constraints ultimately stem from the expressway and its current design. While allowing the movement of vehicles through the city, it produces significant negative impacts for local residents and workers including air pollution, noise pollution, and visual blight. In addition, it is a barrier to accessing downtown.

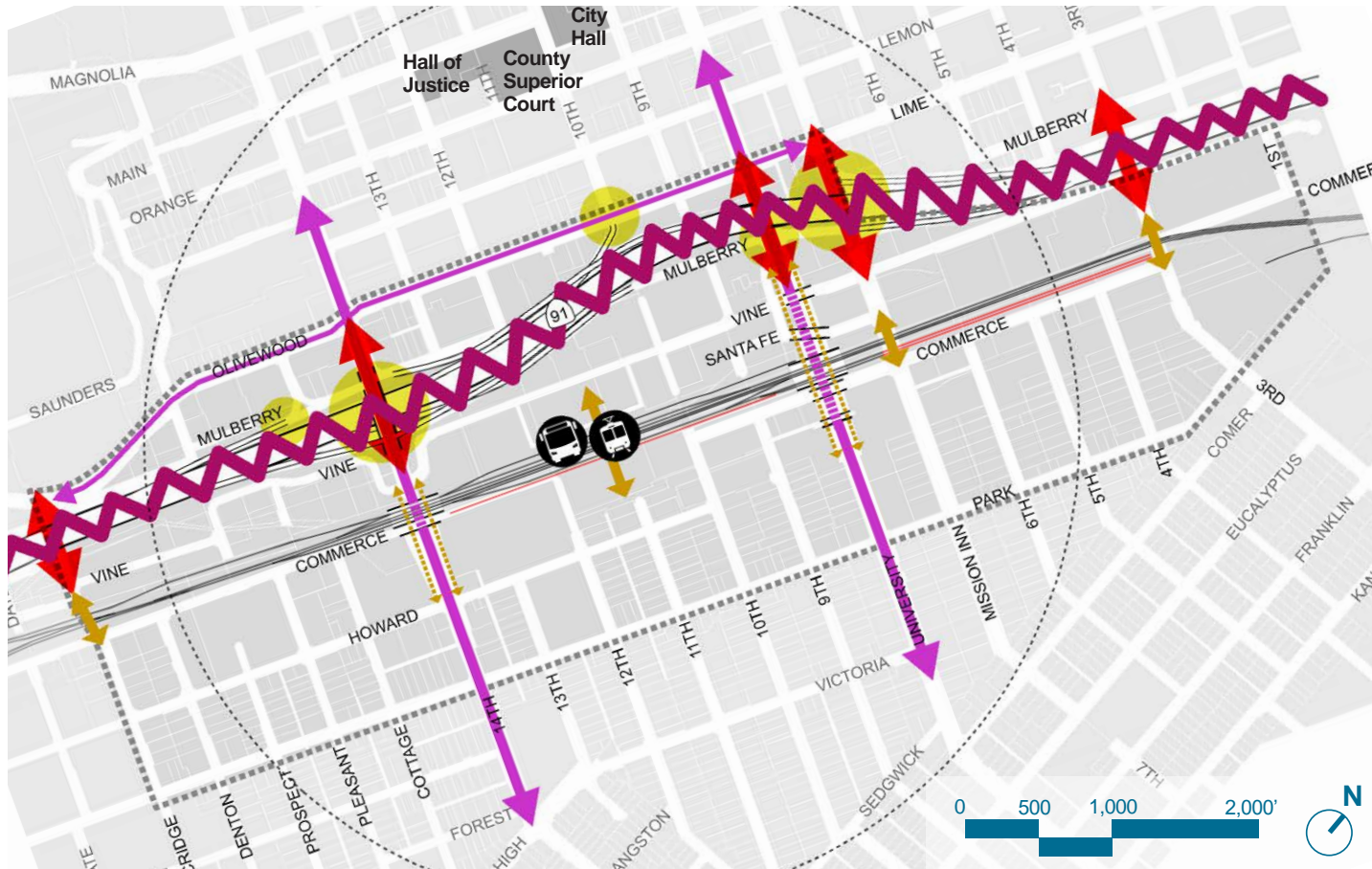
SR-91 Access: SR-91 on-/off-ramps produce traffic congestion, which can be hazardous for bicyclists and pedestrians. Poor visibility for pedestrians and bicyclists due to on-/off-ramps and highway over crossings.

Rail Corridor and Expansion: The potential expansion of rail corridor which includes two spur lines to 3rd Street, additional main line through the Pilot Project Area, and relocation of eastern platform reduces land available for redevelopment.

Vehicle-oriented Corridors: These roads have high traffic volumes and are structured to give priority to vehicle throughput over other modes. They act as barriers to cross, and are unpleasant for pedestrians and bicycles to travel along.

Limited Connectivity Across Rail Corridor: At grade crossings are located at Cridge Street, Mission Inn Avenue, and 3rd Street (solid). Pedestrian access across rail corridor at 14th Street and University Avenue are along roads depressed under rail corridor (dashed). There is a pedestrian bridge above the tracks located at Metrolink station along 11th Street corridor.

Limited Connectivity Across SR-91: Crossing SR-91 is limited to bridges at Cridge Street and 14th Street. Crossing SR-91 through freeway overpass at University Avenue, Mission Inn Avenue, and 3rd Street. Crossing SR-91 combined with freeway on-/off-ramps at 14th Street, University Avenue, and Mission Inn Avenue.



Opportunities

MOBILITY

Street Grid: The Pilot Project Area has a regular street grid with a hierarchy of street types (arterial to local) that allows easy orientation, multiple alternative routes to destinations, and the potential to reduce vehicle priority along some corridors. Parallel/perpendicular to rail corridor visual guide to Metrolink Station.

Connected Bicycle Network: Existing bicycle facilities were identified in Riverside Bicycle Master Plan (2007). Potential streets for protected/buffered bicycle facilities include Vine Street, Lime Street, Mission Inn, Commerce Street, and 3rd Street. Local streets such as 12th and 10th Streets would be good candidates for bicycle boulevards. Potential extension of Commerce Street between 10th and 12th Streets.

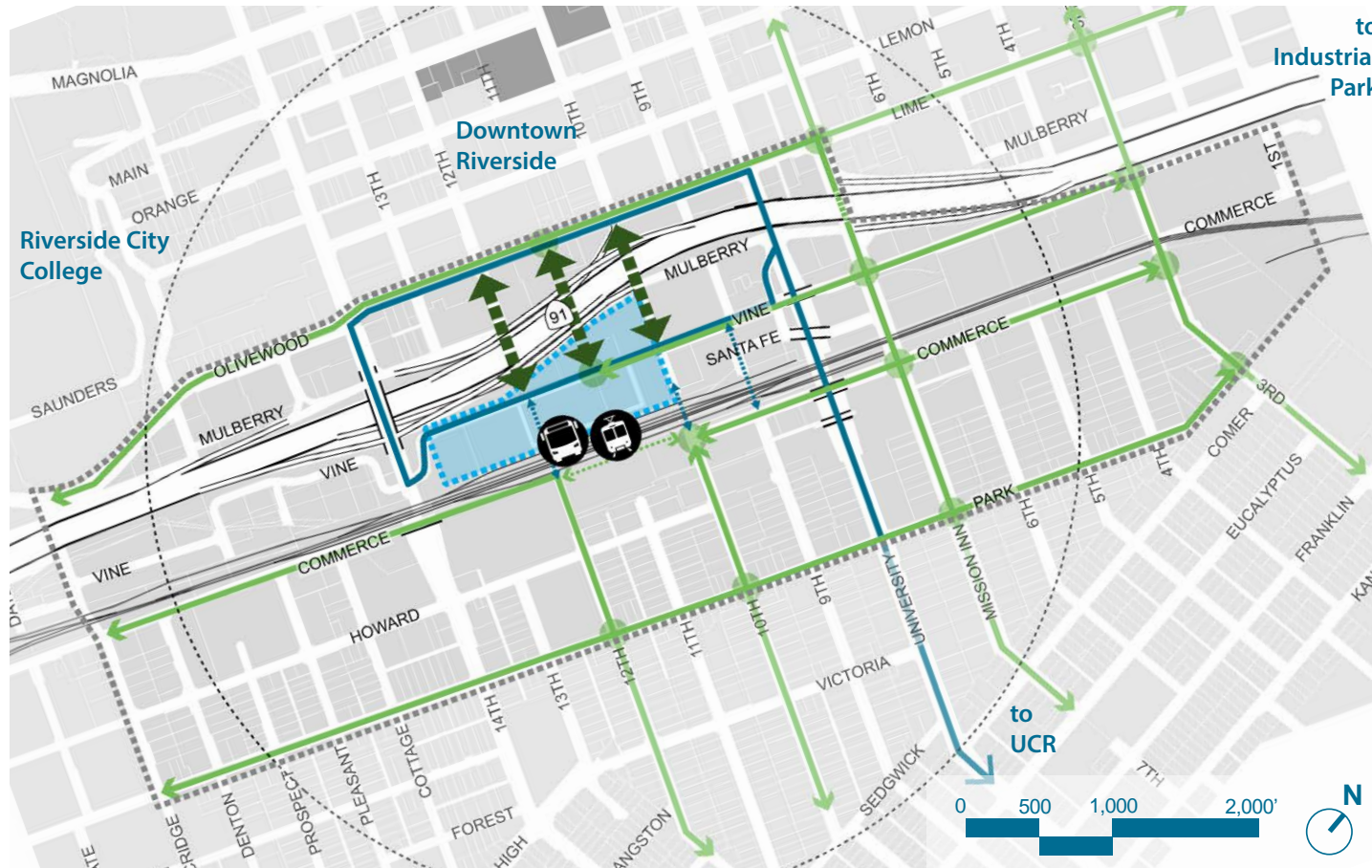
SR-91 Bicycle and Pedestrian Crossing: Multiple potential locations for an iconic bicycle/pedestrian bridge connecting Downtown Riverside to areas east of SR-91.

Transit Priority Corridors: Lime Street, Vine Street, University Avenue have potential for transit amenities (bus shelter) and priority (bus-only lanes) that raise the convenience and dignity of public transit over personal vehicle travel modes.

Transit Connectivity / Integration: Site for the potential development of a mobility hub at Metrolink Station (joint development opportunity).

Rail Corridor Crossings: Potential crossings (at-grade or undercrossing) between University Avenue and 14th Street.

Proximity to Job Centers: Downtown (west of SR-91), UC - Riverside (along University Avenue), Industrial Park (north along rail corridor), and Riverside City College are job centers that can be reached via non-vehicular transportation modes.

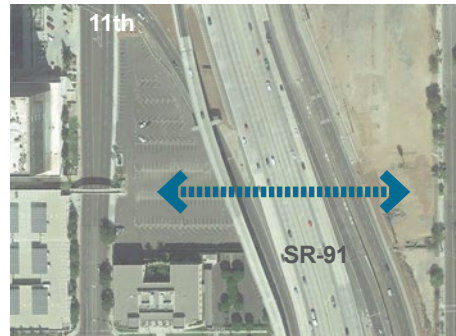


Opportunities

SR - 91 Pedestrian/Bicycle Bridge

The 91 Freeway presents a major barrier between the Marketplace District and Downtown Riverside. With the recent addition of a southbound flyway/offramp along the western edge of the freeway, the options for linking the two areas have become even more limited. The matrix at right explores the pros and cons of locating a pedestrian/bicycle bridge at three potential locations.

Based on this evaluation, the 11th Street option appears to be the best alignment. Further studies will be needed to explore the structural, urban design, agency coordination, and financial implications of a bridge at this location.



Alignment	Pros	Cons
12th Street	<ul style="list-style-type: none"> - Continuous path along 12th Street corridor on both sides of SR-91 	<ul style="list-style-type: none"> - Existing buildings located on both sides of 12th Street west of SR-91
11th Street	<ul style="list-style-type: none"> - Prominent visual terminus at former FMC Building - LA County property provides potential for bridge integrated with new public space and/or development - Existing pedestrian bridge across Lime Street at 11th - Center of Metrolink Platform 	<ul style="list-style-type: none"> - FMC Building breaks continuous path along 11th Street corridor across both sides of SR-91 - Highest point of SR-91 flyway off-ramp (though not significantly higher)
10th Street	<ul style="list-style-type: none"> - Continuous path along 10th Street corridor on both sides of SR-91 - LA County property provides potential for bridge integrated with new public space and/or development 	<ul style="list-style-type: none"> - Existing SR-91 southbound on-ramp located at 10th Street would need to be reconfigured

Constraints

LAND USE

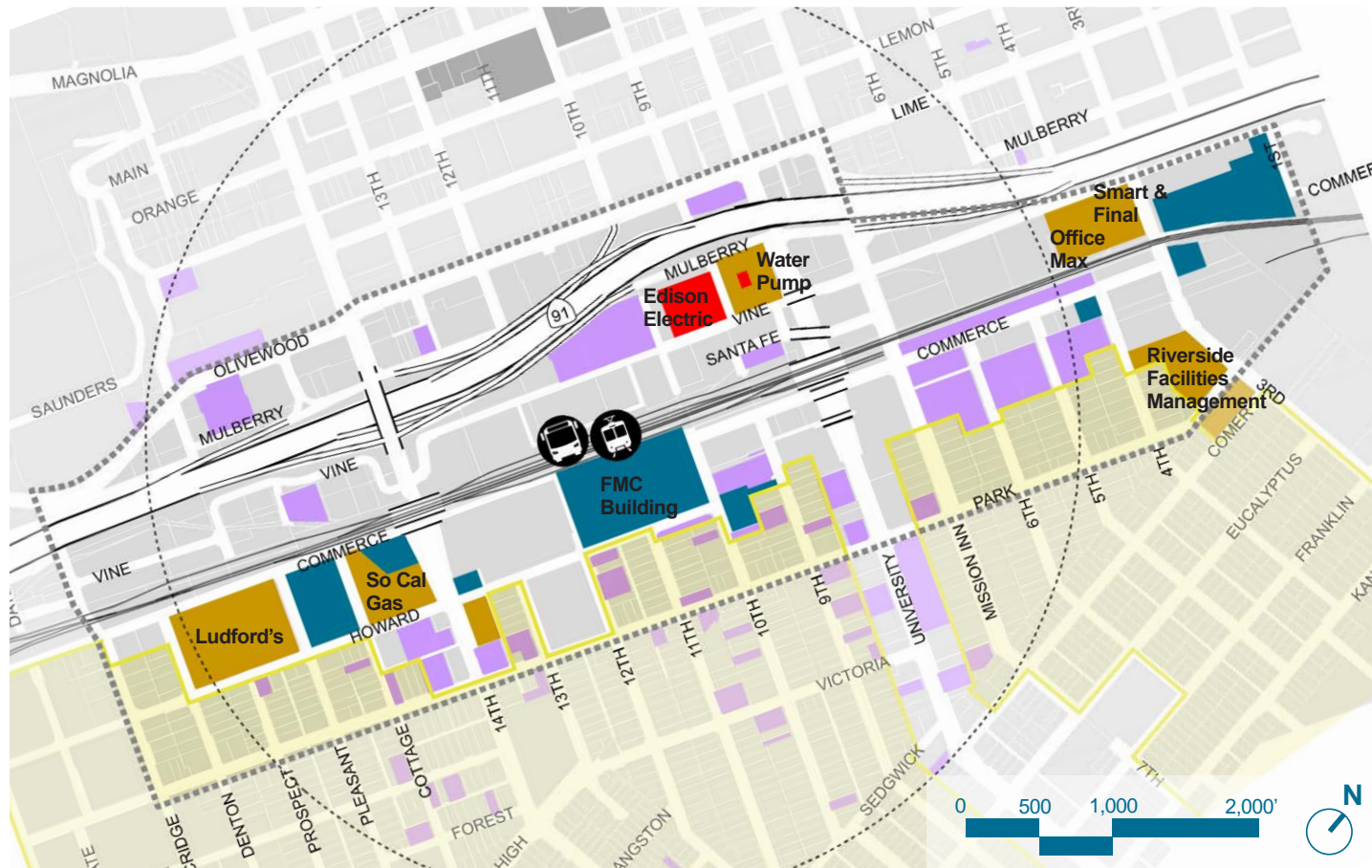
Underutilized Industrial and Transportation Uses: These areas include large parking areas and outdoor storage areas such as a scrapyards and are typically concentrated along Commerce Street, but found throughout the Pilot Project Area. Can include portions of properties that are underutilized or could be better organized.

Utilities: The Edison Electric utility substation and water pump are facilities that cannot be moved. Treatment of these facilities could involve screening through the use of vegetation, fences, or walls. A parking structure could be located to the south of the substation to serve as a barrier between it and the Mobility Hub.

Vacant Land: Vacant parcels reduce economic value of surrounding properties. These are spread throughout the Pilot Project Area, but mostly concentrated south of the rail corridor and include a mixture of larger parcels suitable for redevelopment and smaller parcels suitable for infill residential development.

Non-complementary Uses: These uses appear to be active businesses and generate jobs and activity in the short-term, but may not have employment densities or uses most appropriate for a transit-oriented community in the long-term. Marked properties include industrial and transportation facilities, as well as big box retail.

Eastside Neighborhood Proximity: Eastside neighborhood consists of lower-density single-family residential; any future development needs to complement this scale and density.



Opportunities

LAND USE

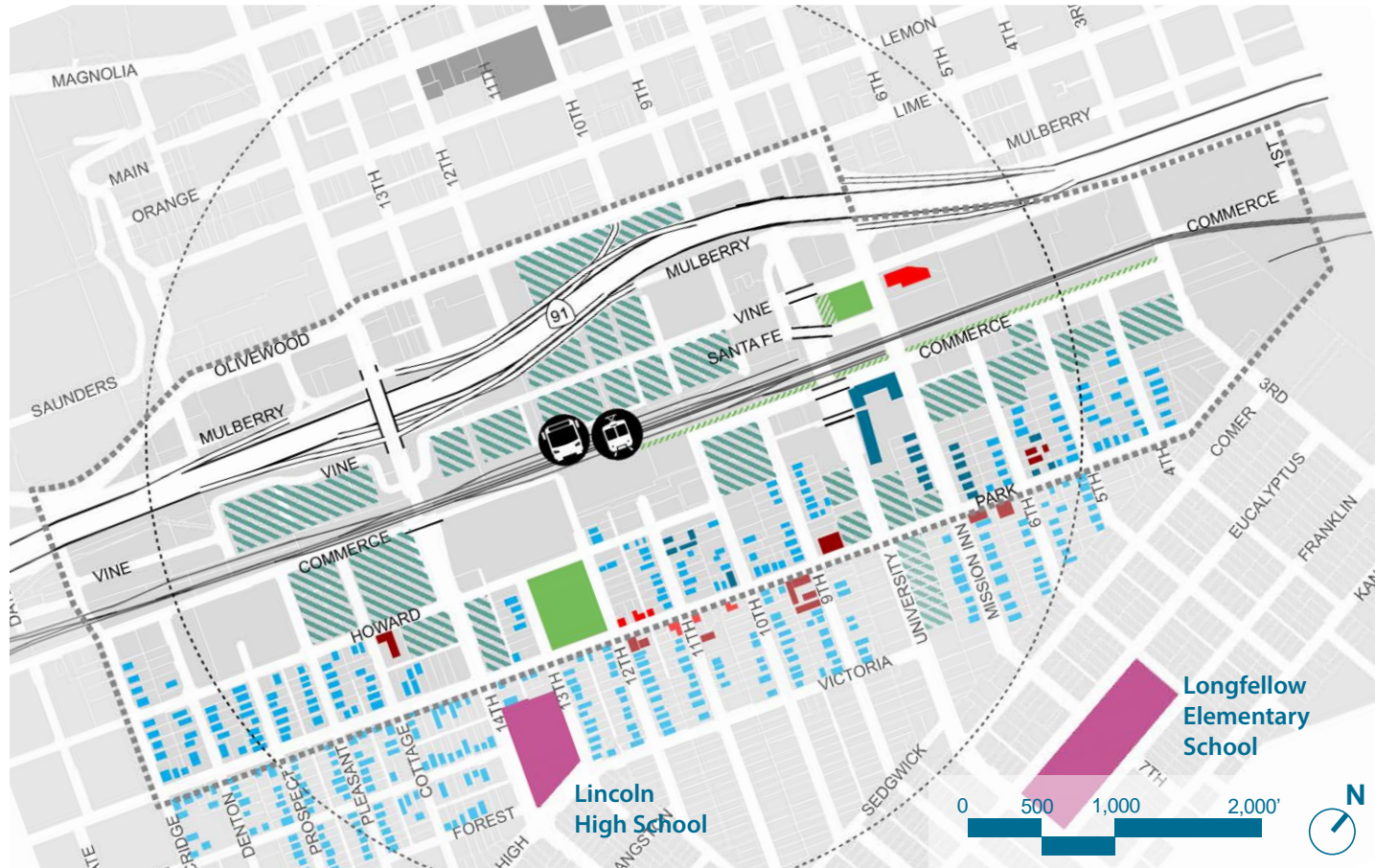
Single-family Residential: Eastside neighborhood has quality housing stock, variety of styles, affordable, and at transit-supportive densities. This mix provides the backbone for an engaged neighborhood, and starting point for building a more attractive neighborhood for families to live.

Multi-family Residential: The multi-family residential maintains a similar character to the single-family residential and provides housing types that accommodate residents other than families that can support a mixed-income and intergenerational neighborhood.

Park / Open Space: Existing parks provide neighborhood anchors and could be elevated in importance and use. Areas include a planned redesign of North Park on the existing surface parking lot and a potential Parkway along Commerce Street.

1 Community Institutions: Market properties include churches, schools, local shops and markets, and other organizations that increase the social capital of the Eastside neighborhood. Preserve existing neighborhood-serving uses. (1) Churches (2) Local Retail, and (3) Schools

Major Redevelopment Opportunities: Large vacant land properties and publicly-owned properties have the greatest potential for redevelopment. Development opportunities should plan for reestablishing the street grid through properties where applicable. There are several opportunities along Commerce, north of Mission Inn, and along Vine Street between 14th Street and University Avenue.



Opportunities

LAND USE

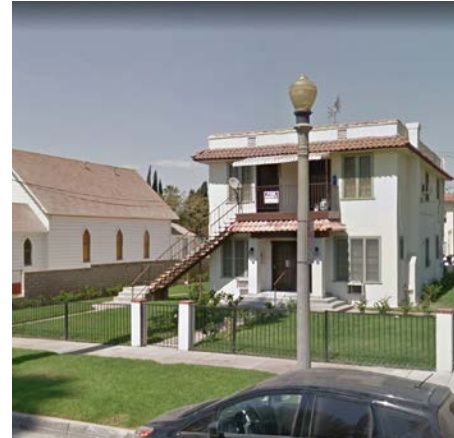
Single-family Residential

- Cottage
- Bungalow



Multi-family Residential:

- Duplex
- Fourplex
- Modified Dingbat



Community Institutions:

- Our Lady of Guadalupe Shrine
- Second Baptist Church
- Iglesia de Dios en Riverside
- Rehoboth Tabernacle Church
- Tony's Market
- El Trigo
- Chela's Bakery
- Orange Valley Lodge



Constraints

URBAN DESIGN

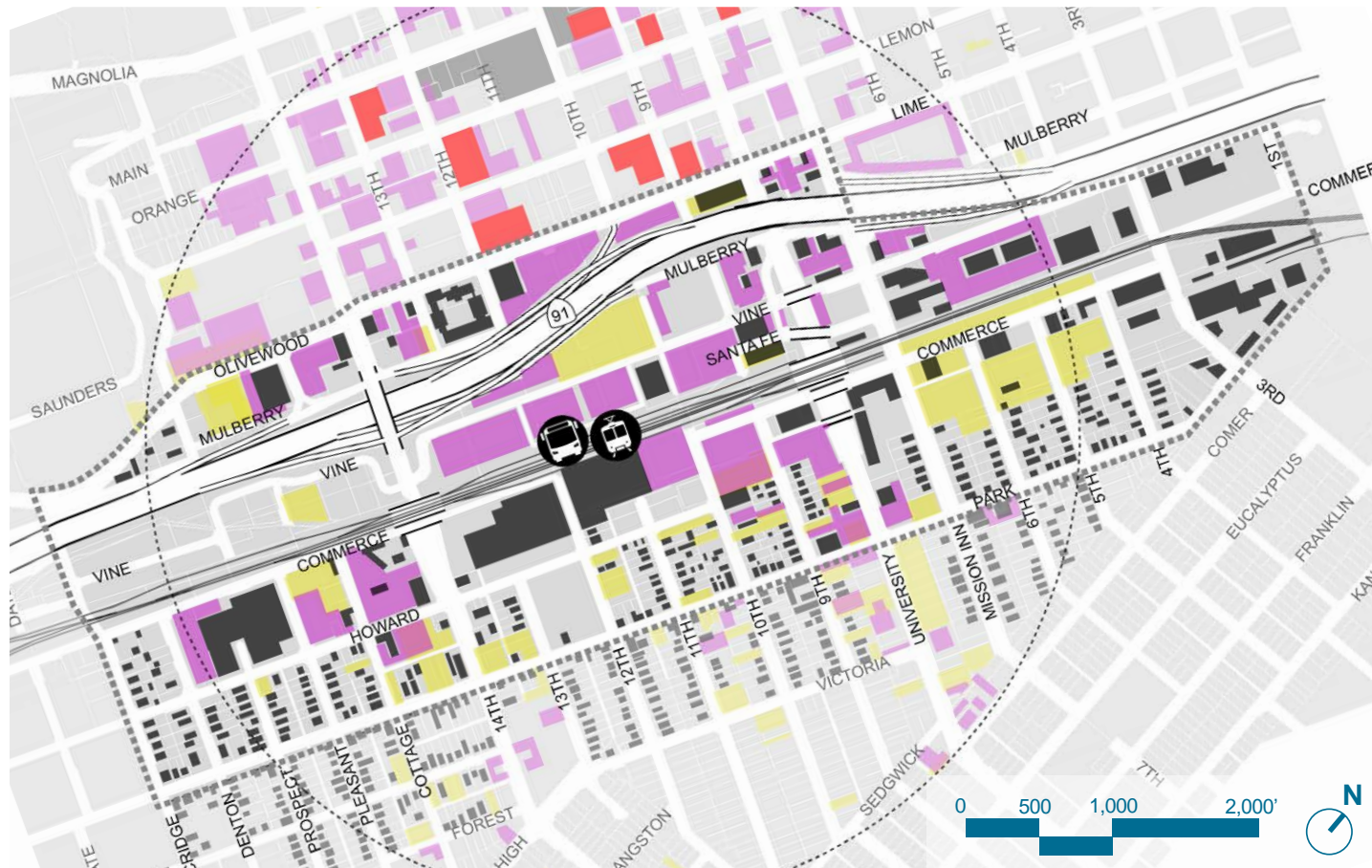
Reduction of the Urban Fabric: Continuous street facades and consistent walkable urban blocks have been reduced to accommodate vehicle uses, limiting the attractiveness and ability for pedestrians and cyclists to circulate through the area.

Vacant Land: There are several vacant sites located throughout the Pilot Project Area including parcels of all sizes from individual residential lots to full blocks.

Surface Parking: Surface parking lots are located throughout the Pilot Project Area with significant concentrations located along Vine Street near existing Metrolink Station.

Structured Parking: There are no parking structures in the Pilot Project Area; nearby structures are located in Downtown Riverside west of the SR-91.

Existing Building Figure - Ground: The strongest consistency of urban form occurs along local residential streets (6th, 9th, 10th, 11th, 12th, 13th, and Mission Inn) with single-family and multi-family housing set back from sidewalk line behind small front yards. No consistency of urban fabric along formerly industrial streets west of Howard Avenue (Commerce, Vine, Mulberry, Lime) or along commercial corridors of 14th Street and University Avenue.



Opportunities

URBAN DESIGN

Historic Resources: Spread throughout the Pilot Project Area with significant percentage of local landmarks along Mission Inn Avenue. Many buildings that contribute historic character that are not current landmarks, such as civic buildings, industrial buildings, packinghouse, residences, churches, and train depots.

Greening / Environmental Benefits: There is great potential for street trees and bioswales to fill the substantial street tree gaps along Lime Street, Commerce Street and Park Street. Other streets would also benefit from new street trees.

Open Space / Parks: These parks are neighborhood centers with potential for increased densities/intensities around them. Lincoln Park has more active and recreational uses and North Park is historic park of formal character. There is potential for an expansion of North Park on the existing surface parking lot to south.



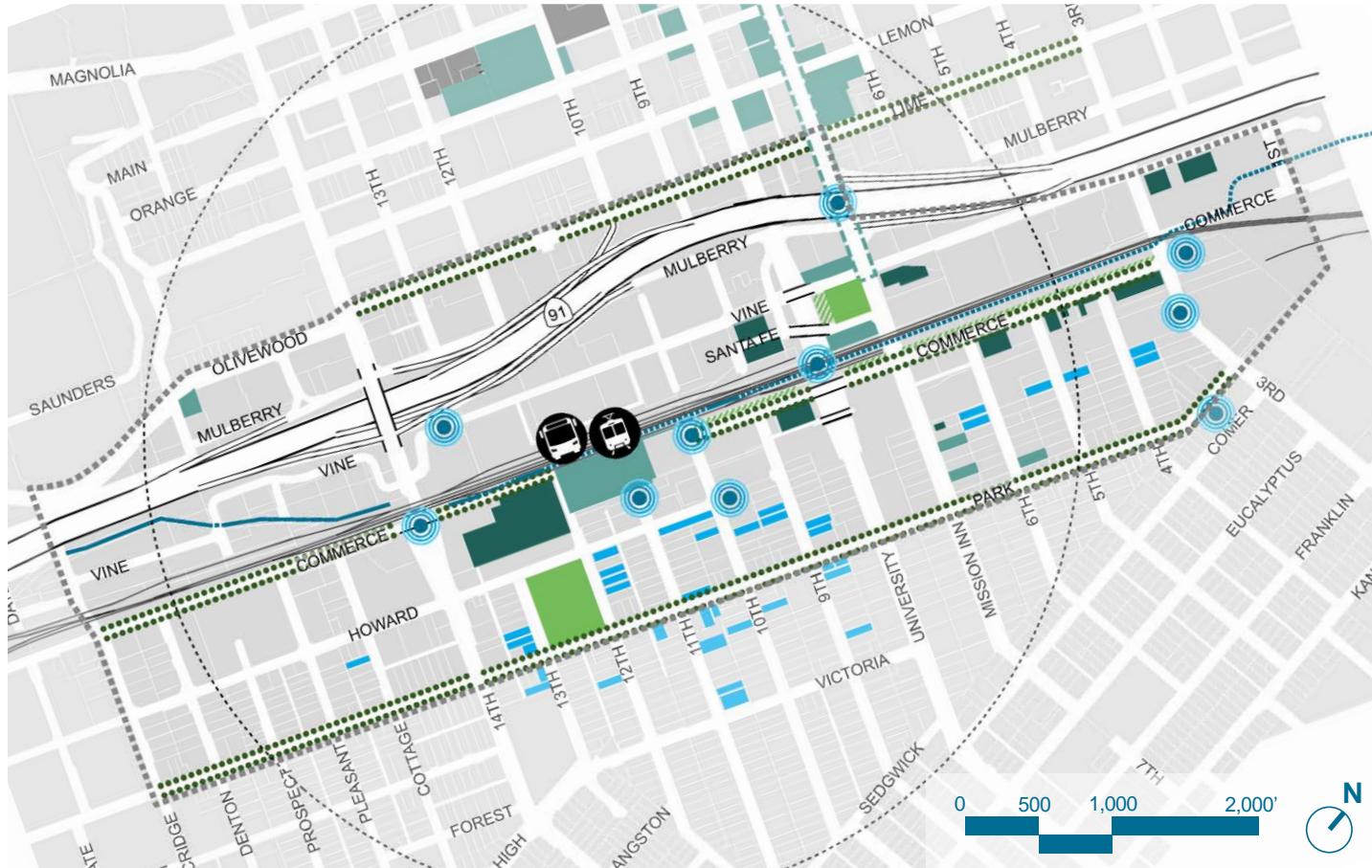
Vista Terminus: Points where streets end and shifts in the street grid provide opportunities for visual nodes such as architecturally significant / taller buildings, landmarks and/or open space. These vista terminus can indicate edges of or entrances into the Pilot Project Area to foster a more defined sense of place.



Minor Redevelopment Opportunities: Individual properties along residential streets with opportunities for small infill development (single-family or multi-family) that complements existing block fabric, or pocket parks with various programming to serve local residents.



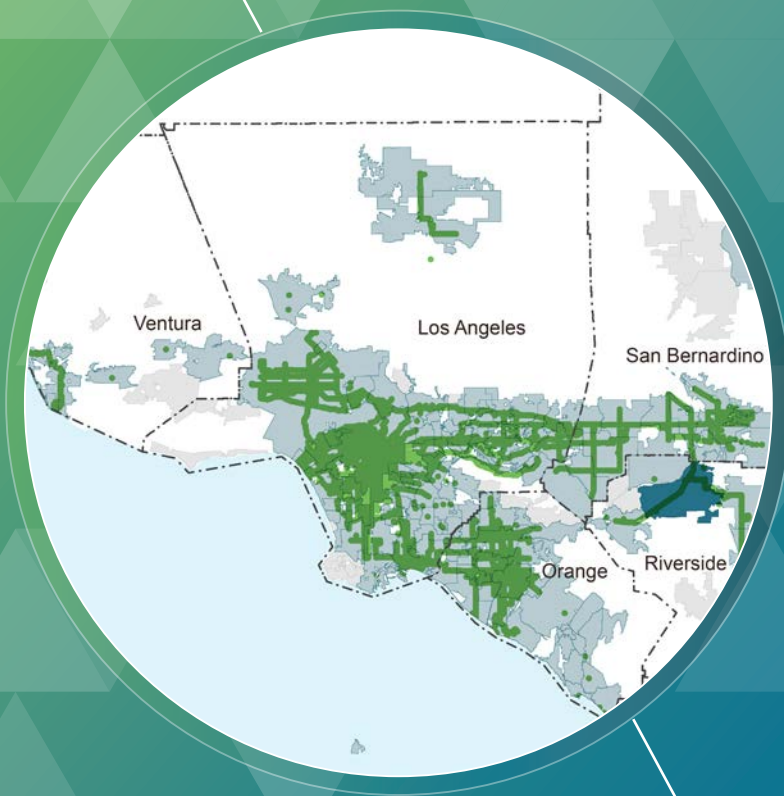
Riverside Canal: There is potential to daylight buried canal in some areas, which can be used as organizing design element for public space / green space.



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Part 5

Vision



A - Overview

- Vision Plan Goals
- Framework Plan
- Pilot Project Area - 2018
- Pilot Project Area - 2048 Potential Buildout
- Priority Projects

B - Land Use Strategy

- Opportunity Sites
- Regulating Concept Plan
- District Profiles

C - Infrastructure & Public Realm Strategy

- Network Plans and Projects
- Key Improvements
- Corridor Plans



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Part 5

Vision

A - OVERVIEW



Vision Plan Goals

Framework Plan

Pilot Project Area - 2018

Pilot Project Area - 2048 Potential Buildout

Priority Projects

Vision Plan Goals

OVERVIEW

The Marketplace HQTAs Vision Plan builds on the historic assets, transportation amenities, and unique character of the Marketplace District and Eastside community. To ensure the appropriate balance of neighborhood preservation, environmental sustainability, and promote walking, biking, and the use of transit, the plan is founded on the six goals described below. These goals were developed through a synthesis of adopted City initiatives, stakeholder interviews, and the opportunities and constraints analysis outlined in Parts 2 through 4 of this document. Initiatives and next steps that will help to carry through the goals of the plan are presented in Part 6 (Implementation Plan).

Goal #1: Preserve and reinforce the unique industrial character that has defined the Marketplace District

The Marketplace District has a rich collection of industrial warehouses, packinghouses, depots, and manufacturing facilities that are remnants of the area's historic use as a place for processing and transporting agricultural products. These structures are focused along North Commerce Street, North Park, and Howard Avenue. Unique in the City of Riverside, these can become important catalysts for new hospitality, creative office, and small manufacturing businesses, attracting new jobs and residents to the area. Moreover, these buildings help to contribute to the area's sense of place.

Goal #2: Ensure access to affordable housing for residents of the Marketplace District and Eastside neighborhood

A key ingredient of a robust, high quality transportation network is a large base of customers within easy walking distance, particularly those who rely on transit. Historically, the Eastside neighborhood has offered naturally-occurring affordable housing options to a tightly-knit and active community. As new market-rate housing is added to the Marketplace District, the City and its community partners should ensure that existing residents can continue to live in the neighborhood. The area should also include day care centers and preschools, job training facilities, a mix of retail appropriate for the residential population, and other key services. Further, new high-quality affordable housing should be part of the housing mix as the area continues to redevelop.

Goal #3: Promote an environmentally-sustainable TOD district that can become a laboratory for new technologies and best practices

Through policies and incentive programs, the City can demonstrate the environmental benefits of best practices in sustainability such as EV charging stations, photovoltaic panels, and LEED-Certified buildings. A tree planting and green infrastructure plan, if developed and implemented, can help to promote stormwater infiltration and groundwater recharge in the District's alleys and open spaces.



Commerce Street

Goal #4: Foster healthy and engaged residents through investments in active transportation infrastructure and programming

The County of Riverside is currently engaged in promoting healthy lifestyles through events and research. The Marketplace District can implement this vision by offering access to fresh produce and adding convenience retail and daily amenities within walking distance. New walkable and bikable streets and connections will encourage residents to make more trips without a car.

Goal #5: Promote a complete streets approach that balances the needs of all users

While the movement of traffic through the Marketplace District will be an important consideration when reinvesting in transportation infrastructure, other modes should be given equal priority. Traffic calming devices like those identified in the HQTAs Toolkit should be considered. Further, bike and carshare programs, transportation pass subsidies, and walking/biking campaigns in the district can incentivize residents and workers to travel using alternative modes of transportation.

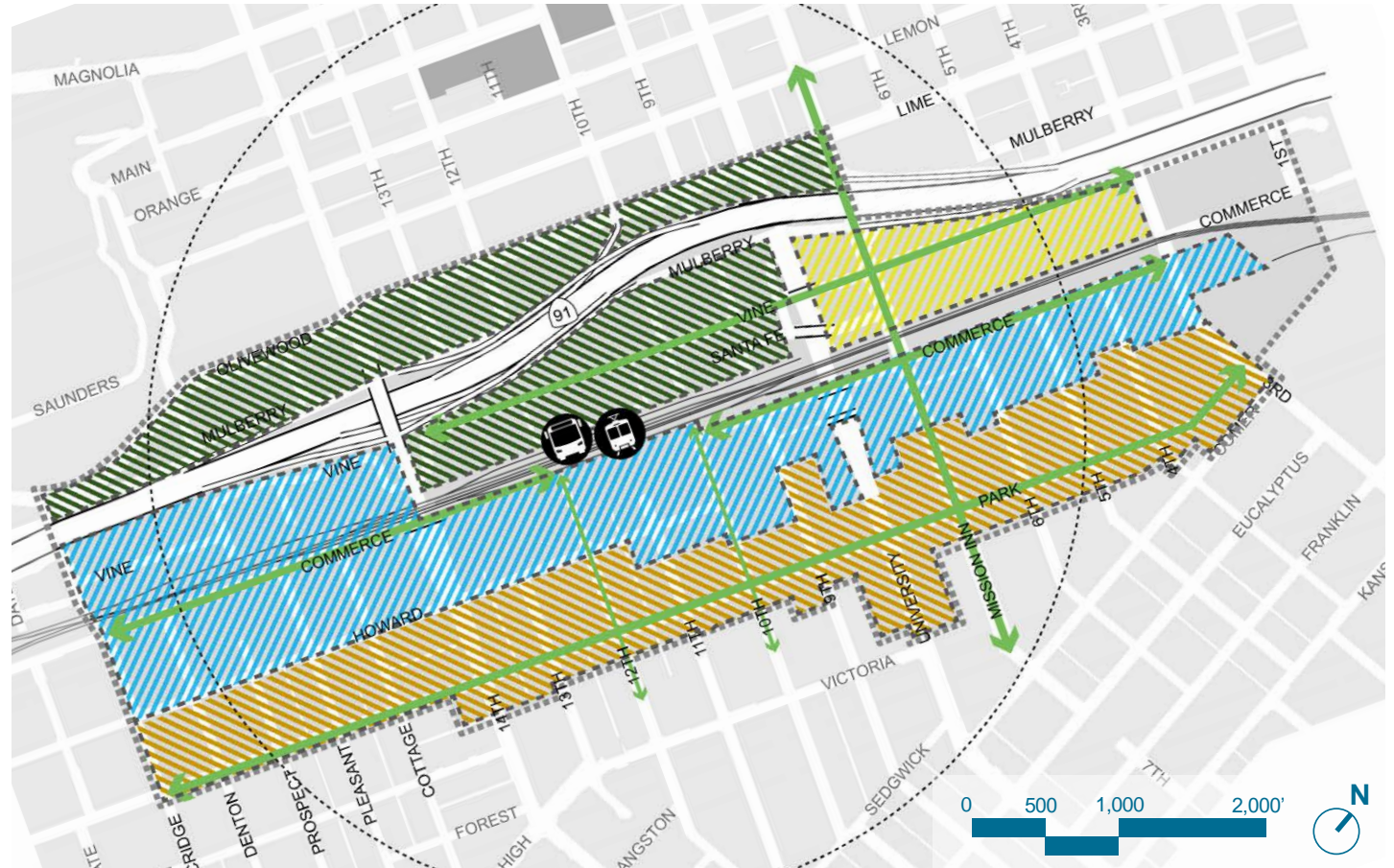
Goal #6: Establish a unique brand for the Marketplace District through placemaking improvements




Public art programs, high quality public spaces, and the restoration of historic buildings can attract new investment and enhance the economic potential of the area. A strong arts program can also help to build social capital among residents of all ages.




Framework Plan

OVERVIEW

The Framework Plan includes four districts and four major active transportation corridors that will serve as the guiding vision for the Marketplace area. The districts are informed by future land use patterns, densities, activity centers, placemaking opportunities, and other factors that contribute to the character and function of the Riverside HQT. The **Transit Core** will serve as the heart of the HQT, with a Mobility Hub, high intensity development, and supporting retail. Key connections to and from the Mobility Hub include the Vine Street corridor and a new pedestrian and bicycle bridge that will connect Amtrak, Metrolink, and RTA transit services to workers and residents west of the 91 Freeway. The **Commerce Street Corridor** will serve as a key connection to areas north and south of the Mobility Hub. New entertainment, art, and restaurant offerings can take advantage of historic industrial warehouse buildings along the east side of Commerce. The Eastside neighborhood will be largely preserved, with opportunities for low-medium density infill and bike facilities along Park Avenue.

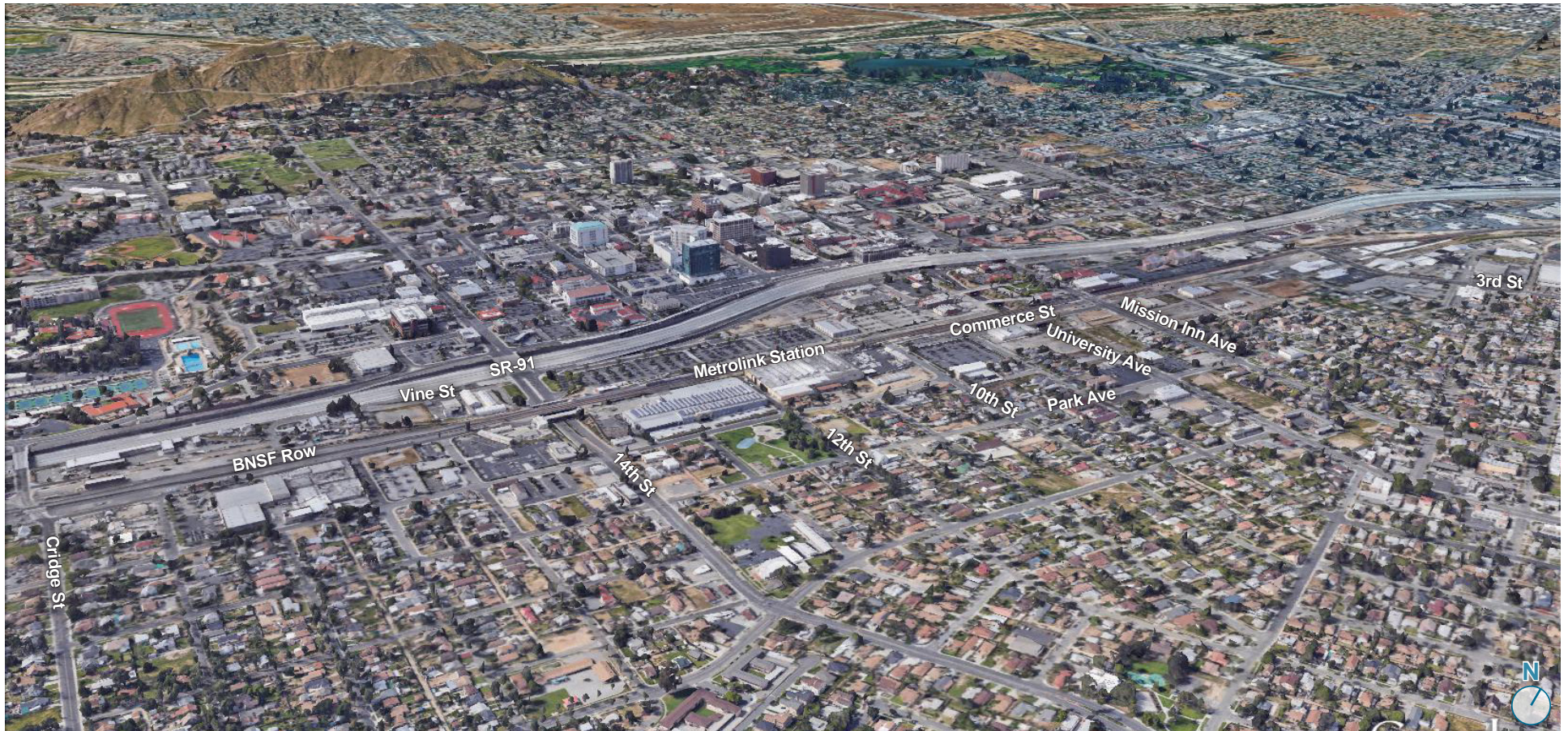


- 
Vine Street: Provides primary circulation route for bicyclists into Downtown Riverside along a cycle track connecting to Mission Inn Avenue. Multiple redevelopment opportunities on large properties with potential for high density/intensity.
- 
Commerce Street Corridor: Adaptive reuse of historic buildings as start-up and incubator space. First investments for office / development space and primary axis of innovation district. Medium density/intensity. Consider access across rail corridor.
- 
Park Avenue: Low density/intensity. Individual infill developments. Adaptable Standards. Mixed-use corridor. Adaptive reuse. Small, individual developments. Bicycle lane. Street trees, greening, parklets, and bioswales.

- 
Mission Inn Avenue: Protected bicycle lane and primary connection between Eastside and Downtown. Bioswales and greenway to create parkway between Main Street Pedestrian Mall (west) and Longfellow Elementary School (east).
- 
Transit Core: Joint development opportunities. Transit hub. Potential pedestrian and bicycle bridge spanning SR-91 from Riverside County land west of SR-91 to potential RCTC/RTA Mobility hub east of SR-91. Ability for development to occur with or without construction of the pedestrian and bicycle bridge.
- 
North Park: Mission Inn and Vine Street bicycle facilities intersection. North Park Redesign.

Pilot Project Area - 2018

OVERVIEW



Pilot Project Area - 2048 Potential Buildout

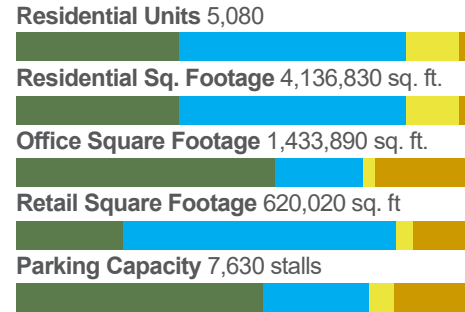
OVERVIEW

The Land Use Strategy details an illustrative development buildout scenario that takes into account adopted land use regulations and parking requirements, and modifies densities and typologies when necessary to achieve SCAG's TOD goals for HQTAs. This 30-year Vision Plan presents a buildout scenario that allows for flexibility and recognizes that a number of factors will affect type and location of future developments. The ultimate buildout will be determined through a specific plan update and further discussions with property owners and interested developers.

Cumulative Land Use Mix and Buildout Potential*

Districts are areas within the Pilot Project Area that are envisioned in the buildout scenario to contain similar building densities and typologies. The districts for this Vision Plan are listed below; the buildout scenario land use totals are summarized at right.

- Transit Core District**
- Commerce Street District**
- Park Avenue District**
- North Park District**

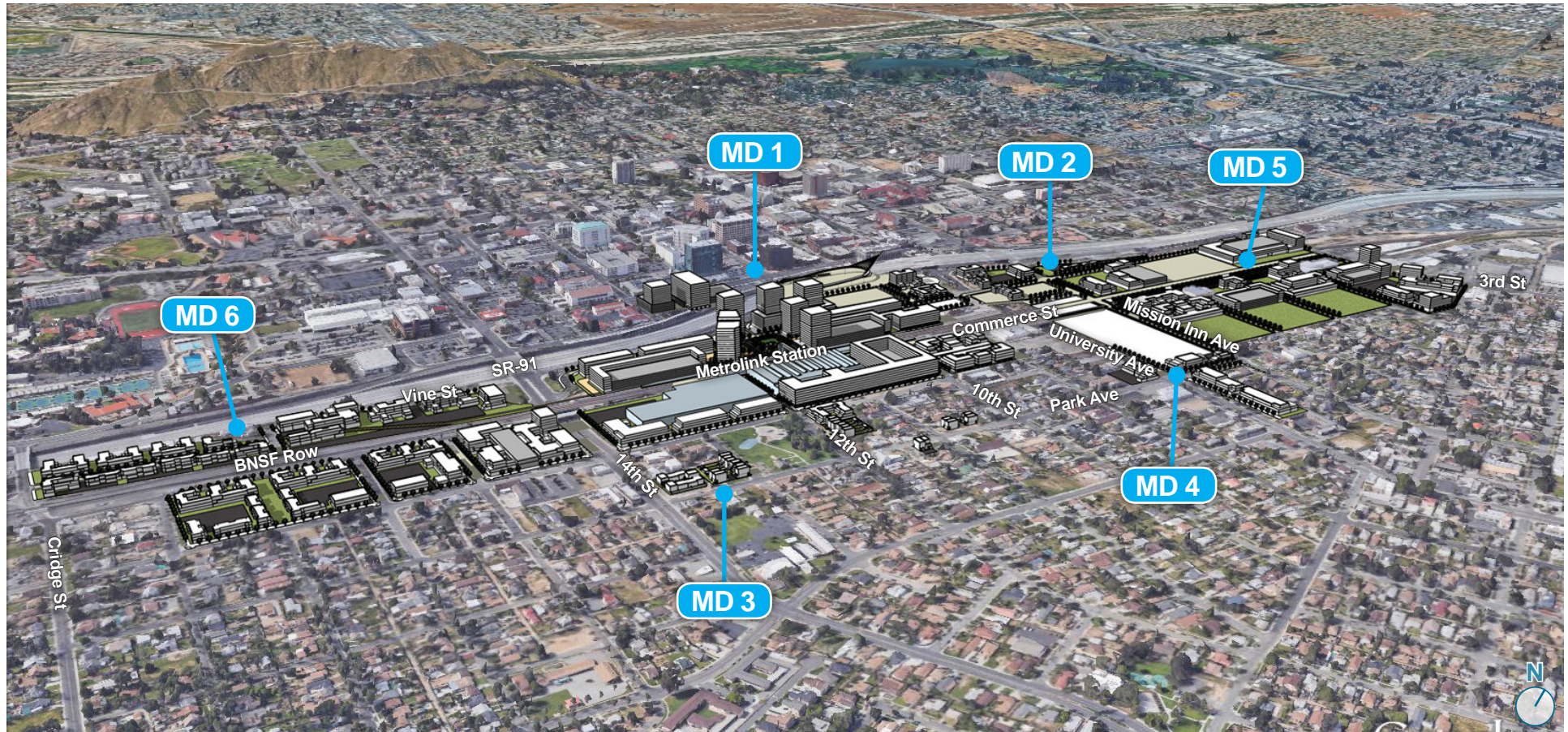


* These numbers represent the square footage and units proposed by this Vision Plan by the year 2048 and does not include existing square footages or units.

Major Development Areas (MDA)

Major Development Areas contain clusters of complementary priority projects which may catalyze the development envisioned by the buildout scenario. An MDA phasing strategy is provided in Part 6 (Implementation).

- MD 1 Mobility Hub
- MD 2 North Park
- MD 3 Lincoln Park
- MD 4 University / Park
- MD 5 North Commerce Creative Hub
- MD 6 South Commerce



Priority Projects

OVERVIEW

Corridor Projects

- C 1** Vine Street
- C 2** Mission Inn Avenue
- C 3** Commerce Complete Street Reconstruction

Bicycle Projects

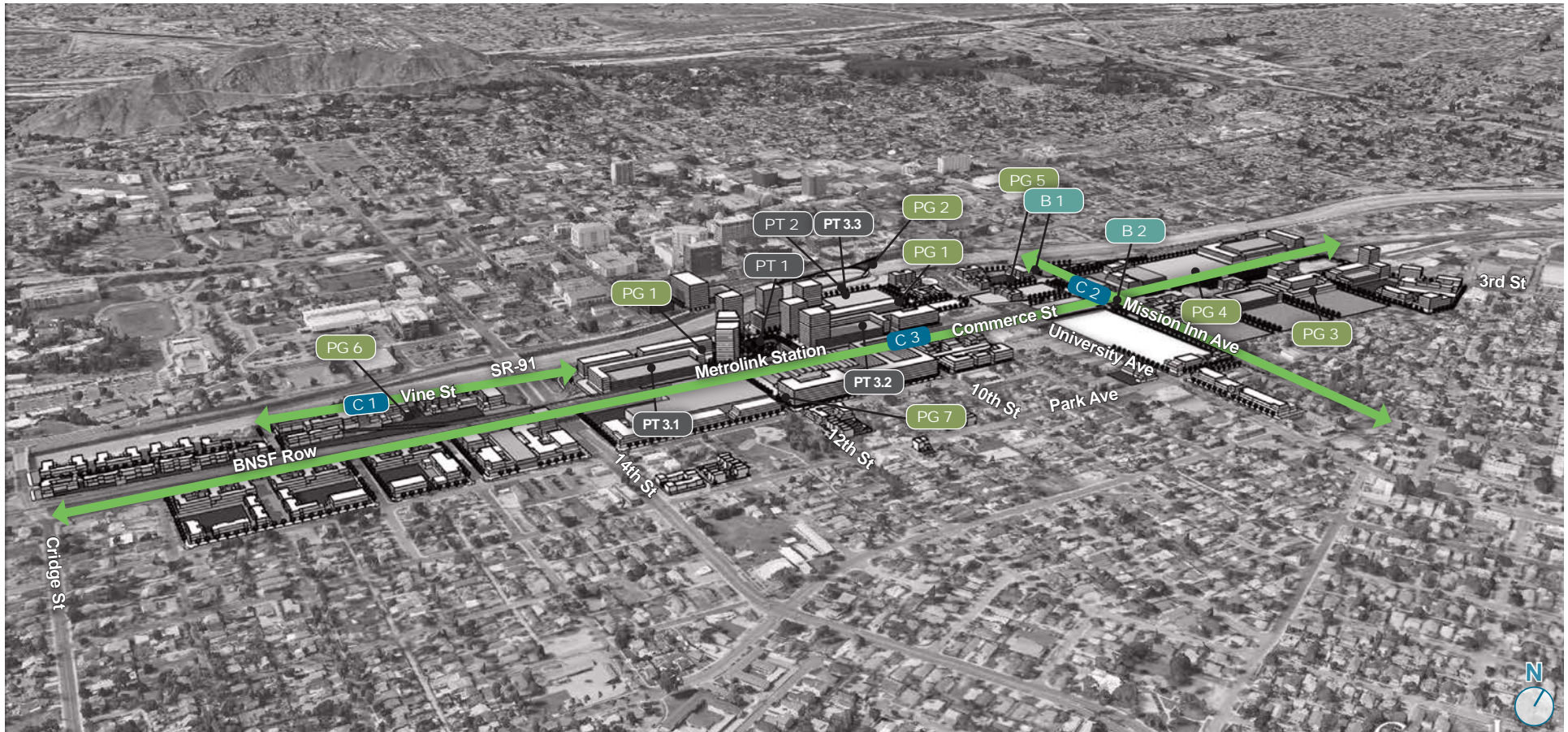
- B 1** Mission Inn / Vine Protected Bicycle Intersection
- B 2** Mission Inn / Commerce Protected Bicycle Intersection

Pedestrian/Greening Projects

- PG 1** Transit Core Paseo
- PG 2** SR-91 Bicycle and Pedestrian Bridge
- PG 3** North Commerce Linear Park
- PG 4** North Commerce Complete Street Improvements
- PG 5** North Park Redesign
- PG 6** Riverside Canal Stormwater Management and Multi-use Path
- PG 7** 12th Street Pedestrian Tunnel

Parking and Transit Projects

- PT 1** Mobility Hub and Plaza
- PT 2** Layover Facility
- PT 3** New Shared Public Parking Structures
- PT 4** Parking Management District



Part 5 Vision

B - LAND USE STRATEGY



Development Opportunity Sites

Major Development Areas

Regulating Concept Plan

 Transit Core District

 Commerce Street District

 Park Avenue District

 North Park District

Development Opportunity Sites

LAND USE STRATEGY

Due to the abundance of surface parking lots, vacant parcels, and underutilized, isolated properties, there are several redevelopment opportunity sites located throughout the Pilot Project Area. However, some sites present a number of constraints that currently limit the potential for transit-oriented development. Additional factors that contribute to the selection of opportunity sites include proximity to the Mobility Hub, connectivity, and noise and air pollution concerns caused by the 91 Freeway and heavy use of the rail line for freight traffic. Using these factors, opportunity sites are grouped into the following categories:

single family or commercial sites that are underutilized and may be appropriate for medium-density infill. The City could consider rezoning certain districts to allow for small-lot subdivisions, townhomes, courtyard apartments, or live-work buildings that sensitively blend into the existing fabric of the neighborhood.



There is near-term interest in redeveloping the Ironworks site, which consists of two historic buildings and an adjacent parking lot



The 1000-stall commuter parking lots owned by RCTC are a prime redevelopment opportunity. The land closest to the platform should be preserved for future high density development.

Primary Opportunity Sites

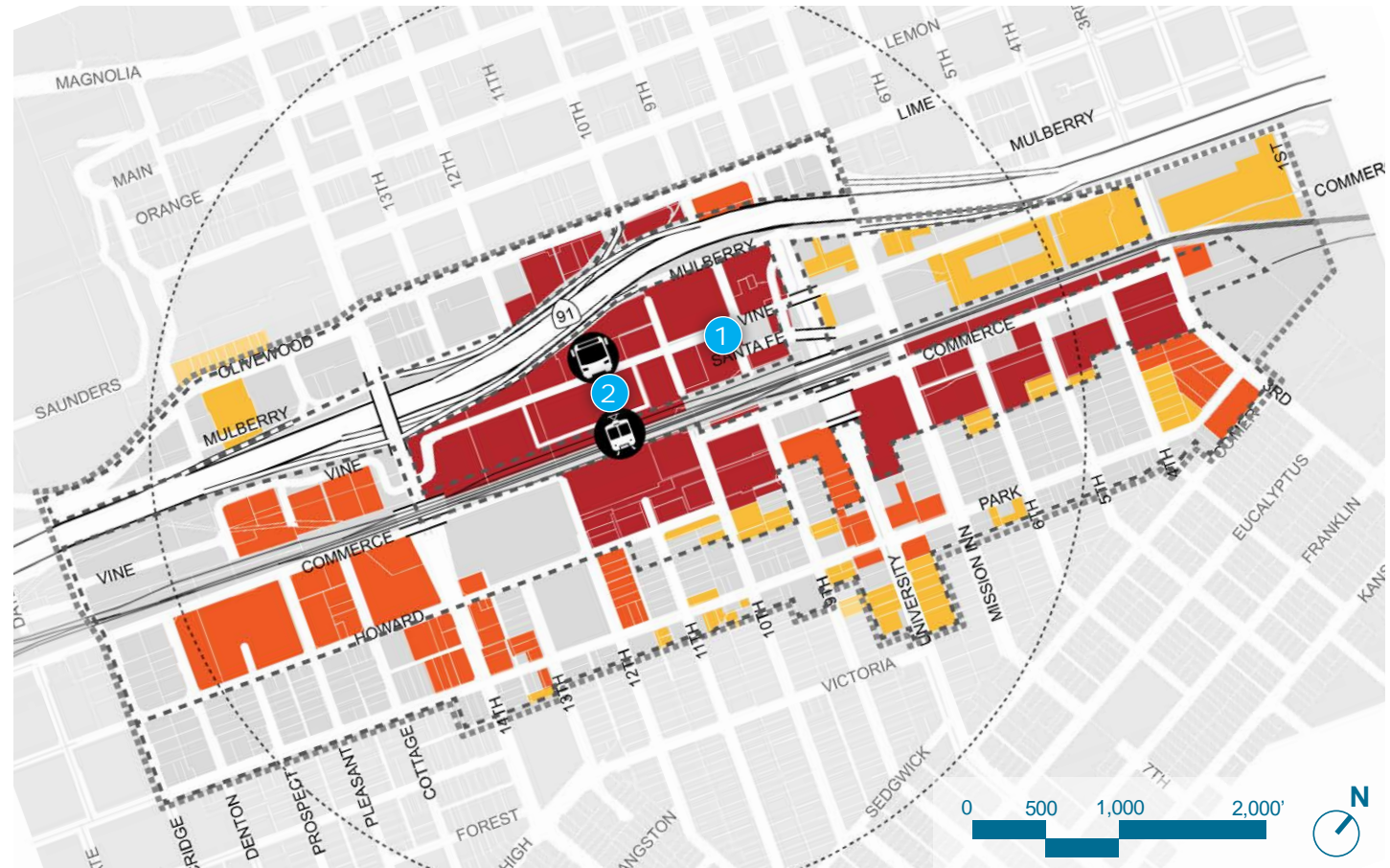
These commercial/industrial sites have the greatest potential for high-density TOD and are generally controlled by the City, RTA, or RCTC. With developer interest in the Scrapyard site and the historic Commerce Corridor, these parcels are also prime candidates for redevelopment.

Secondary Opportunity Sites

These sites are generally less well connected to the proposed Mobility Hub/Station, are under private ownership, or are comprised of several smaller parcels that may be difficult to assemble. These sites may require active marketing, support for cleanup efforts, and rezoning by the City to allow for transit-supportive uses. Generally, medium-high density uses are envisioned.

Tertiary Opportunity Sites

Located primarily in the Eastside neighborhood, these are lower-density



Regulating Concept Plan

LAND USE STRATEGY

The Regulating Concept Plan outlines the proposed height, density, intensity, and development guidelines for key redevelopment areas in the Pilot Project Area. Each of the building types below, keyed to the plan at right, has a more complete profile in the attached HQTAs Toolkit that shows a target range of building mass and intensities. Additional building types or different configurations of the illustrative plan not listed below may be appropriate, as long as the massing, design, and density targets listed below are satisfied.



The scale of Vine Street development north and south of the Mobility Hub

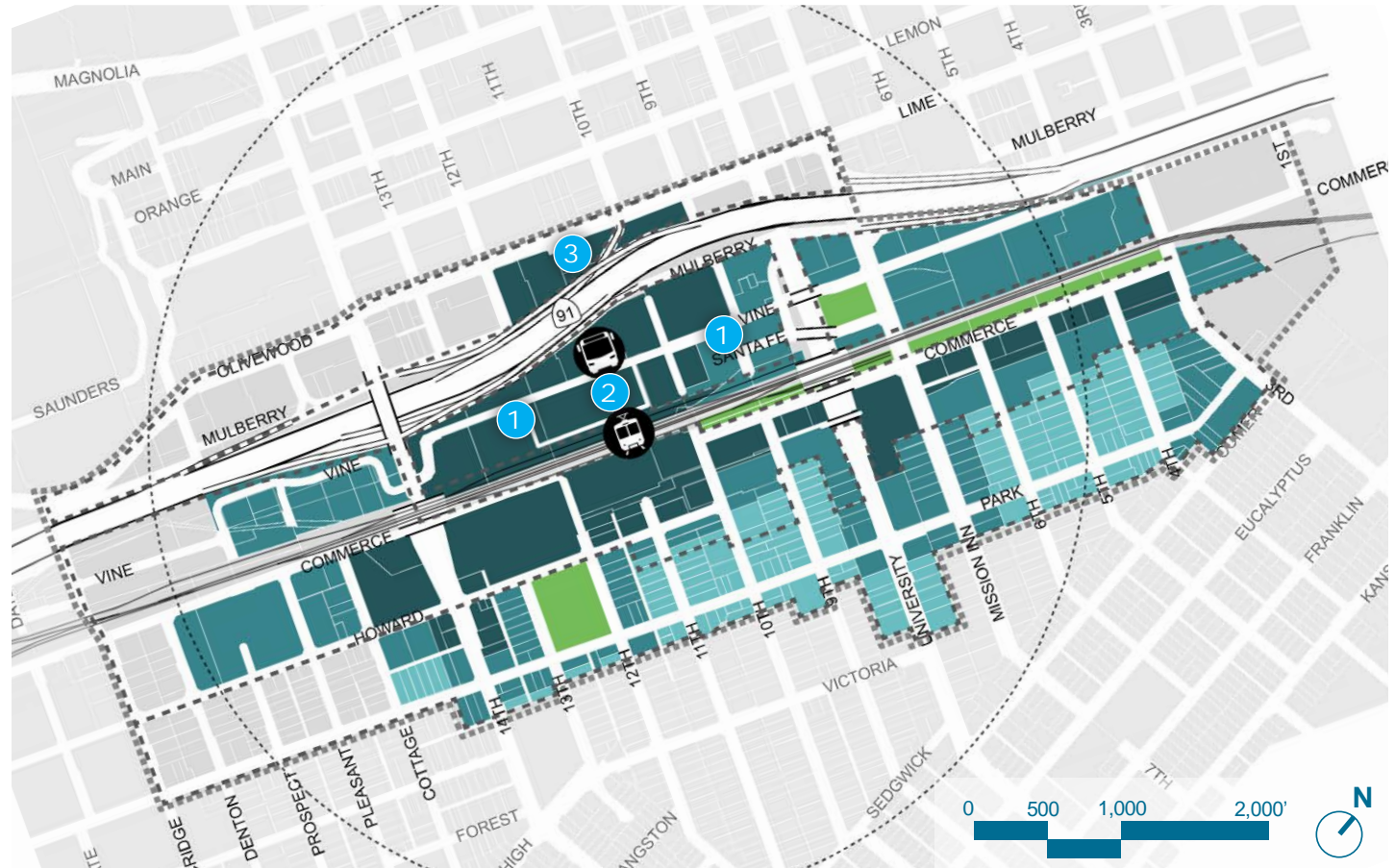


Towers are envisioned immediately adjacent to the Mobility Hub



A new pedestrian bridge across the SR-91 Freeway will leverage development in both the Downtown and HQTAs

Appropriate Building Types	Bldg. Height (stories)	Toolkit Page
View the Toolkit to learn more about the following building types. PDF: click to navigate.		
High Rise	15+	II-C-D-2
Podium Tower	10-15	II-C-D-2
Podium Mid-Rise	4-6	II-C-D-2
Flex/ Hybrid	4-6	II-C-C-3
Commercial Block/ Liner	1-3	II-C-C-3
Townhouse/ Small Lot Subdivision	up to 3	II-C-B-2
Live/ Work	up to 3	II-C-B-3



Major Development Areas

MD 1 Mobility Hub

Growth in the Transit Core will be catalyzed by a new freeway pedestrian/bicycle bridge and Mobility Hub. These infrastructure investments will define Major Development Area as the primary transit-serving asset for Downtown Riverside. Envisioned immediately adjacent to the Mobility Hub will be reserved for future residents and a major employment center.



Mobility Hub and Layover Facility



The mobility hub, developed in stages, will have an adjacent layover facility with access to the pedestrian bridge

Pedestrian Bridge



The envisioned bicycle and pedestrian bridge will cross the SR-91 and land at the layover facility

LAND USE STRATEGY

MD 2 North Park

Primarily reserved for future mixed-use office and residential uses, the North Park Major Development Area will enhance pedestrian activity around Downtown Riverside's Historic North Park. The influx of a critical mass of both residents and workers, along with proposed corridor improvements will revitalize a sense of place for this historic core and strengthen an essential link into Downtown Riverside.



Mixed-use Development around North Park



Mixed-use buildings fronting Thoreau Path, Boston, MA

Wide Sidewalks and Linear Parks



Santa Monica Boulevard, Los Angeles, CA



Linear Park, Mexico City, Mexico

Major Development Areas

MD 3 Lincoln Park

Infill along Park Avenue culminates at 3rd Street on the northern end and Lincoln Park on the southern end. Being adjacent to the Metrolink Station the Lincoln Park Infill Major Development Area will serve as an important transition from a higher mixed-use intensity to a more residential neighborhood scale in complementing the Lincoln Park single-family fabric.



MD 4 University / Park

Park Avenue serves as an important spine linking the residential neighborhood to Downtown Riverside. Although infill along Park Avenue will be primarily residential, there are critical nodes which call for higher intensities and a mix of uses to complement both Downtown, the Metrolink Station area and local residents. One of these nodes is at the intersection of University Avenue and Park Avenue where limited retail and office, and residential uses are envisioned to amplify University Avenue as vital link



to Downtown. This node will augment the development pattern begun by the Mission Lofts at the corner of Mission Inn Avenue and Commerce Street.

LAND USE STRATEGY

Multi-family Housing



Kalos Apartments, San Diego, CA



Small Lot housing



Martin Corner, Nashville, TN



East Beach Live Work apartments, Norfolk, VA



Duplex apartments



Terraces at Santiago, Santa Ana, CA



Takoma Central, Washington DC

Mixed-use Development along Major Streets

Major Development Areas

MD 5 North Commerce Creative Hub

Defined by a significant improvement in the public realm, the Commerce Street Rail Corridor Major Development Area seeks to integrate existing assets along this segment of Commerce Street. The Metrolink rail corridor, decommissioned rail spurs, and existing buildings of great historic character will contribute to a rich walkable atmosphere. A boardwalk and linear park will complement a pedestrian-driven mix of uses, including high-density residential, and serves to

Mixed-use Buildings Fronting Multi-use Path



Village Walk



Fruitvale Transit Village, Oakland, CA



welcome the rail corridor as its front door.



Takoma Central, Washington DC

MD 6 South Commerce

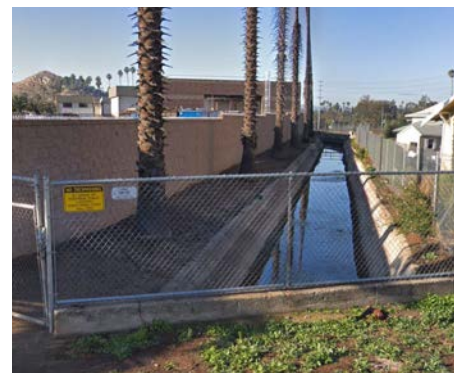
Framed by the Metrolink rail corridor and an existing canal, mixed-use courtyard buildings in small-scale residential patterns and more intense commercial form primarily make up the Commerce Street Canal Corridor Major Development Area, enhancing the existing industrial character by providing a valuable increase in open space. This surge in open space will buffer from and balance out the public and private realm from the freeway and rail corridor, and support an integrated environment for future residents and workers.

Courtyard Housing



Courtyard Apartments, Burlington, NC

Restored Canal



Riverside Canal, Riverside, CA

LAND USE STRATEGY



Lincoln Place, Venice, CA



Bioswale, Seattle, WA

Transit Core District

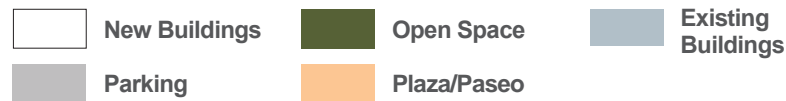
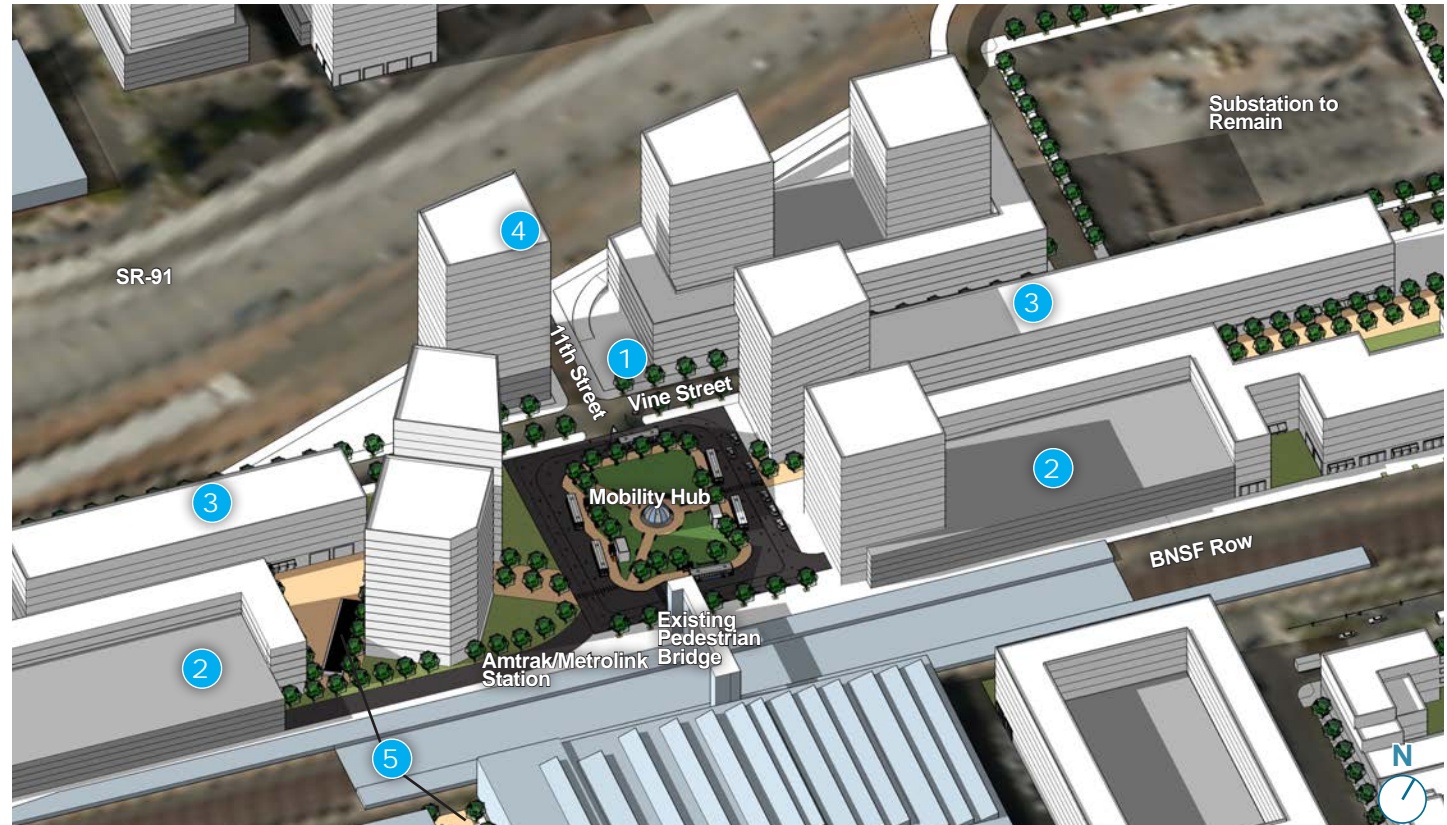
LAND USE STRATEGY

Illustrative Plan

The 2048 vision for the Transit Core is built upon key transit and infrastructure investments including a freeway pedestrian/bicycle bridge and a new Mobility Hub. These investments, among others, could help to catalyze a significant amount of growth in the Transit Core while linking Downtown Riverside to a significant transit asset. Land immediately next to the Mobility Hub should be reserved for very high density development as permitted by local market conditions, leading to an extension of Downtown Riverside and locating a critical mass of residents and workers near key transit asset.

Key Elements

- 1 Land banking for future high density/intensity development surrounding the Mobility Hub. Near-term development of a layover facility on land immediately south of the substation.
- 2 District-wide parking plan with shared parking and a parking monitoring and pricing scheme to encourage alternative first-last mile connections to the Mobility Hub.
- 3 Medium-density, 4-6 story development planned as part of earlier phases, wrapped around parking structures to buffer freight train noise.
- 4 High density office, retail, hospitality, and residential towers in the long-term, immediately adjacent to a new Mobility Hub at 11th and Vine.
- 5 New tunnel connection at 12th Street



Transit Core District

The Transit Core will evolve over time as the market for higher density/intensity development in Riverside matures. At present and for the foreseeable future, multi-family projects with Type V construction and surface parking are generally preferred by developers in the area, as evidenced by the Mission Lofts project. The presence of land owned by the City, RCTC and County in the Transit Core, however, presents a major opportunity to phase and catalyze very high intensity development near the Mobility Hub in the long-term. A phased approach, with a broad collaboration among the City of Riverside, RTA, RCTC, and other key partners, will be essential to realizing the transit-oriented vision of the HQT. These public partners can, over time, convert commuter parking lots to mixed-use development through the construction of shared parking facilities, offering an incentive to surrounding private owners to redevelop their properties for transit-supportive uses.



Santa Monica, CA (Rendering)



Cykelstangen; Copenhagen, Denmark



Denver, CO

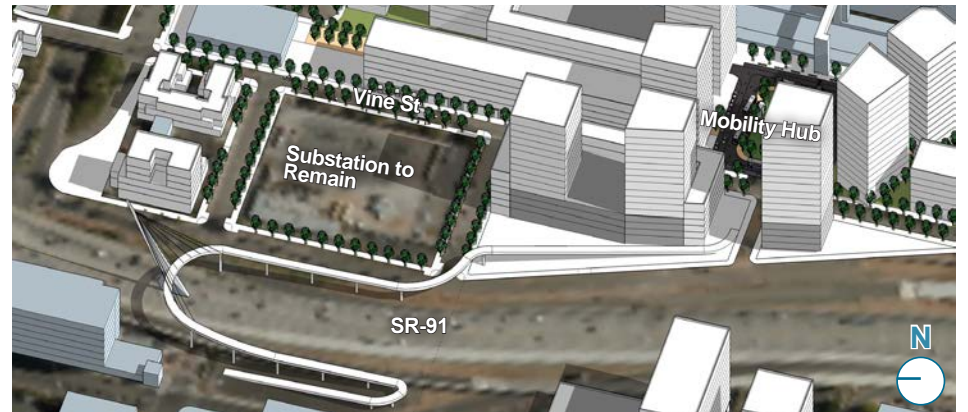
LAND USE STRATEGY



From Platform Looking West



From Platform Looking West



From Freeway Looking East

Transit Core District

LAND USE STRATEGY

Land Use Mix and Targets

While the area appears to be “landlocked” between the 91 Freeway and railway, there are ample opportunities to create a vibrant transit village along Vine Street. Since many of the key parcels are owned by public entities such as RTA and the City of Riverside, these agencies can make select infrastructure investments that will catalyze a mix of transit-supportive uses.

In the short-term, Type V or modified podium construction, up to six stories, will likely be supported by the market, provided there is ample surface parking. RCTC may want to consider building parking structures along tracks, both to serve as a visual and noise buffer for adjacent development, and to support shared parking for commuters and commercial/residential uses. The agency could also consider a similar type of development north of the Mobility Hub, which would require a partnership with the private owners of a two story office building and the Ironworks building. Most of the Vine Street frontage should consist of active uses such as neighborhood-serving retail, restaurants, and live/work units.

Residential uses should line the parking structures. Pedestrian paseos along the middle of these blocks can connect the north and south ends of the station area, with ample trees and vegetation, pocket parks, and some retail and live/work units to enliven the pedestrian experience. Over time, office and residential towers could cluster in and around the Mobility Hub and Pedestrian/Bicycle bridge, creating the necessary critical mass to support robust transit ridership.

Potential Buildout Land Use Mix*

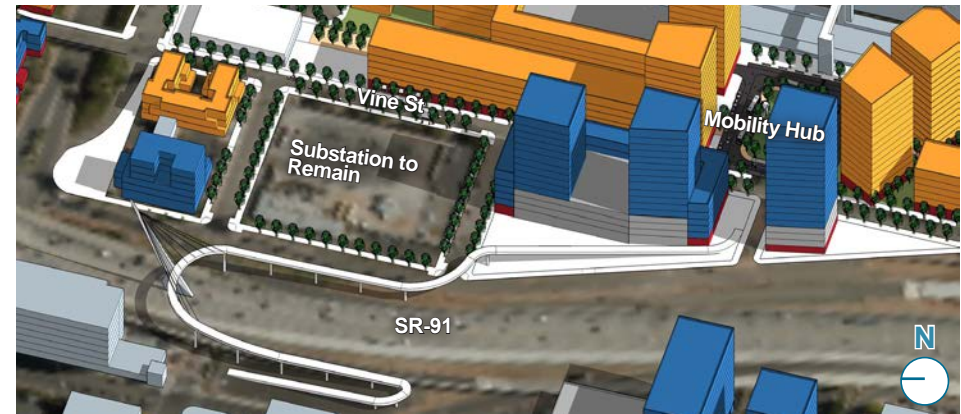
* These numbers represent the square footage and units proposed by this Vision Plan by the year 2048 and does not include existing square footages or units.

Residential Units 1,620
Residential Sq. Footage 1,478,960 sq. ft.
Office Square Footage 811,630 sq. ft.
Retail Square Footage 144,970 sq. ft.
Parking Capacity 4,150 stalls
Average Net Dwelling Units/Acre
80+ 51 - 80 30 - 50 < 30
Average Net FAR
4.0 + 3.0 - 3.9 2.0 - 2.9 < 1.9

- Multi-Family Residential
- Retail
- Office
- Parking Structure
- Public Open Space
- Private/Semi-Public Open Space
- Existing Buildings



From Platform Looking West



From Freeway Looking East



Vine Street Mixed Use



Pedestrian Paseo

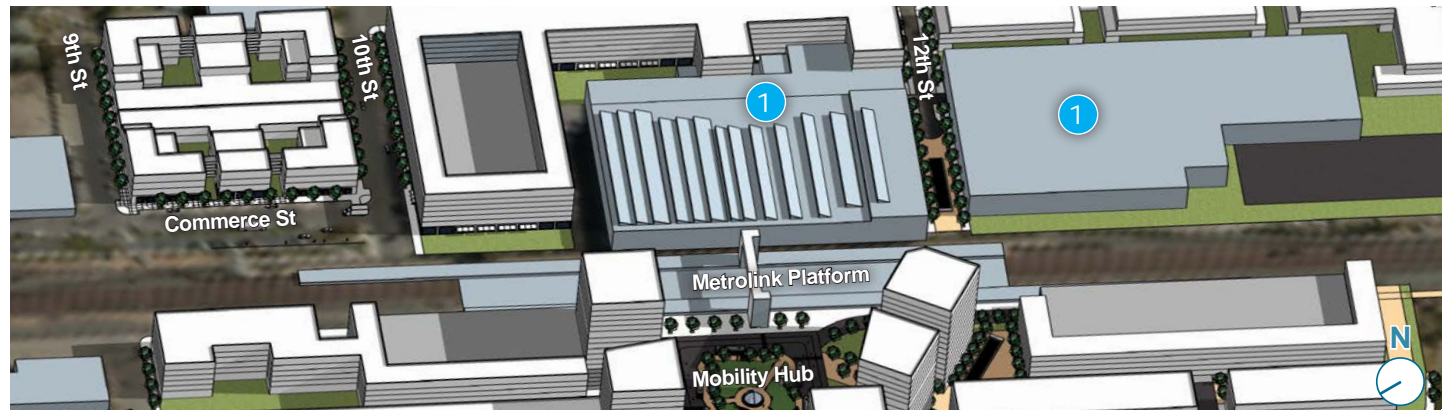
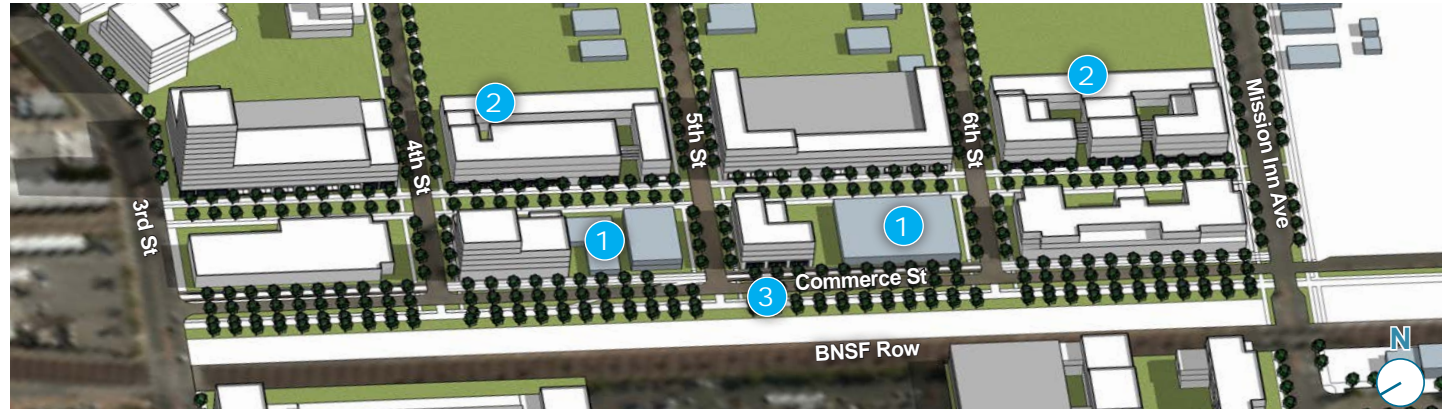
Commerce Street District

LAND USE STRATEGY

Illustrative Plan






North Commerce Street Corridor

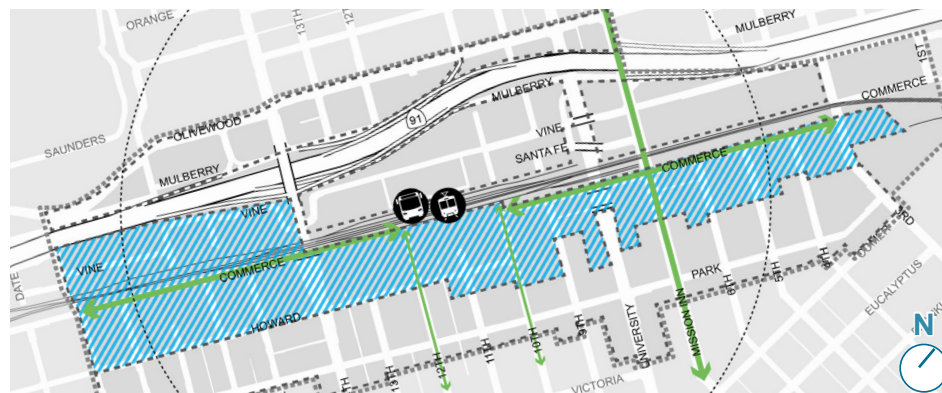
The section of the Commerce Street Corridor District between 14th Street and 3rd Street will see substantial increases in open space. Improvements to the streetscape and rail corridor will help anchor the district as a walkable and pedestrian-friendly neighborhood. Building heights in the district will be tallest along Commerce Street and will decrease closer to neighboring residential areas. Residential buildings along Vine Street will primarily be courtyard-style.



Key Elements

- 1 Adaptive reuse of historic warehouses for retail, hospitality, food halls, or creative office.
- 2 Transition height into Eastside Neighborhood.
- 3 New innovative Commerce Complete Street project with actively programmed and unique public spaces, re-purposed rail spurs, and bicycle facilities connecting to the station.

	New Buildings		Open Space		Existing Buildings
	Parking		Plaza/Paseo		



Commerce Street District

LAND USE STRATEGY

Illustrative Plan

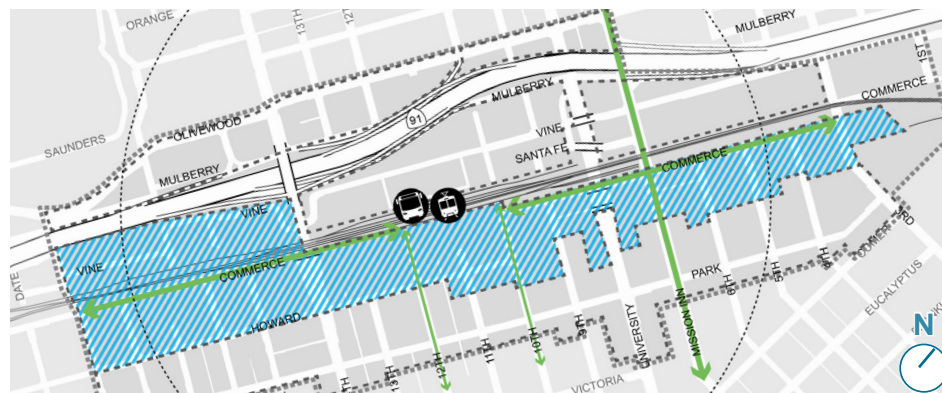
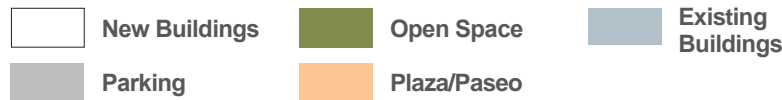
South Commerce Street Corridor

The area of the Commerce Street Corridor District south of 14th Street will see substantial increases in open space. Improvements to the streetscape and rail corridor will help anchor the district as a walkable and pedestrian-friendly neighborhood. Building heights in the district will be tallest along Commerce Street and will decrease closer to neighboring residential areas. Residential buildings along Vine Street will primarily be courtyard-style. The vision includes enhanced pedestrian connections from the district across the SR-91 on Cridge Street.



Key Elements

- 1 Privately built and managed district parking
- 2 Pedestrian/bicycle connection to the station



Commerce Street District

LAND USE STRATEGY



Source: NACTO



Los Angeles, CA



Commerce Street Residential Looking South



Source: NACTO



Pasadena, CA



From Platform Looking East



Pasadena, CA



Manhattan, NY



Residential and Mixed-Use Development Looking Northeast

Commerce Street District

LAND USE STRATEGY

Land Use Mix and Targets

The Commerce Street Corridor primarily consists of residential uses and contains nearly half of all proposed residential square footage. The district also contains approximately 60% of the Pilot Project Area's new retail space. Select buildings fronting on Commerce Street have ground-floor retail or office spaces.

North Commerce Street District

The proposed developments along Commerce Street north of 14th Street are envisioned to be occupied by hospitality, creative office, and other mixed uses. This area is relatively more dense than the southern portion of Commerce Street District.

South Commerce Street District

These lots are relatively more difficult to assemble than the lots in the north segment of Commerce Street District. As such, these parcels are envisioned as long-term development opportunities. The block along Commerce Street between Pleasant Street and 14th Street will be an office park with limited ground-floor neighborhood-serving retail fronting a linear green space. The use and typology of these buildings may change with updated information in the environmental review for the any future updates to Marketplace Specific Plan.

Potential Buildout Land Use Mix*

* These numbers represent the square footage and units proposed by this Vision Plan by the year 2048 and does not include existing square footages or units.

Residential Units 2,730
Residential Sq. Footage 2,051,180 sq. ft.
Office Square Footage 278,680 sq. ft.
Retail Square Footage 371,440 sq. ft.
Parking Capacity 1,750 stalls
Average Net Dwelling Units/Acre
80+ 51 - 80 30 - 50 < 30
Average Net FAR
4.0 + 3.0 - 3.9 2.0 - 2.9 < 1.9

- Multi-Family Residential
- Retail
- Office
- Transit Center
- Parking Structure
- Public Open Space
- Private/Semi-Public Open Space



Commerce Street Residential Looking South



From Platform Looking East



Activated street with sidewalk dining



Residential and Mixed-Use Development Looking Northeast

Park Avenue District

LAND USE STRATEGY






Illustrative Plan

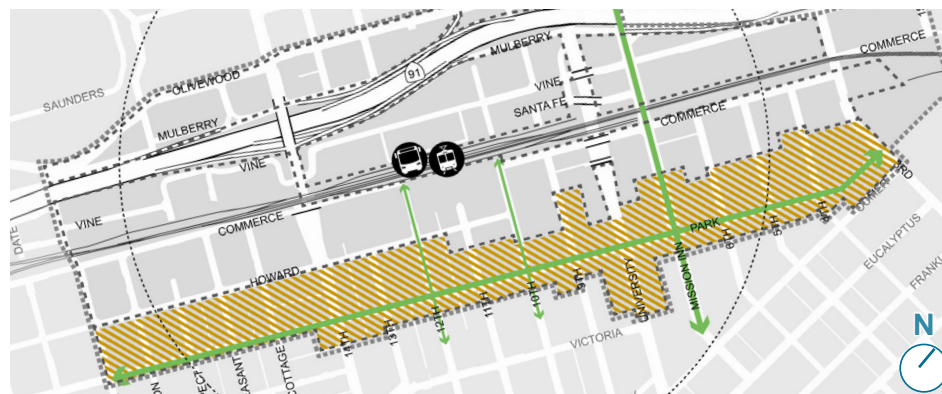
The Park Avenue Corridor introduces limited infill developments, primarily concentrated on 3rd Street. Residential uses are typically row houses and mixed-use towers line 3rd Street.



Key Elements

- 1 High-density residential closer to 3rd Street with district parking.
- 2 Infill town-home and small lot developments near major cross streets along Park Avenue.
- 3 Hybrid courtyard and shopfront housing along Park Avenue.

	New Buildings		Open Space		Existing Buildings
	Parking		Plaza/Paseo		



Park Avenue District

LAND USE STRATEGY



Source: NACTO



Buffalo, NY



From 3rd Street Looking West



Source: NACTO



Long Beach, CA



From Victoria Avenue Looking Northwest



University Avenue/Park Avenue Mixed Use

Park Avenue District

LAND USE STRATEGY

Land Use Mix and Targets

The Park Avenue Corridor will primarily consist of residential uses with limited office space and very limited retail space. Commercial and retail spaces are concentrated along Park Avenue and University Avenue.

Potential Buildout Land Use Mix*

* These numbers represent the square footage and units proposed by this Vision Plan by the year 2048 and does not include existing square footages or units.

Residential Units 590

Residential Sq. Footage 491,020 sq. ft.

Office Square Footage 36,030 sq. ft.

Retail Square Footage 24,410 sq. ft.

Parking Capacity 410 stalls

Average Net Dwelling Units/Acre

80+	51 - 80	30 - 50	< 30
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Average Net FAR

4.0 +	3.0 - 3.9	2.0 - 2.9	< 1.9
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- Multi-Family Residential
- Retail
- Office
- Parking Structure
- Public Open Space
- Existing Buildings



From 3rd Street Looking West



From Victoria Avenue Looking Northwest



University Avenue/Park Avenue Mixed Use

North Park District

LAND USE STRATEGY

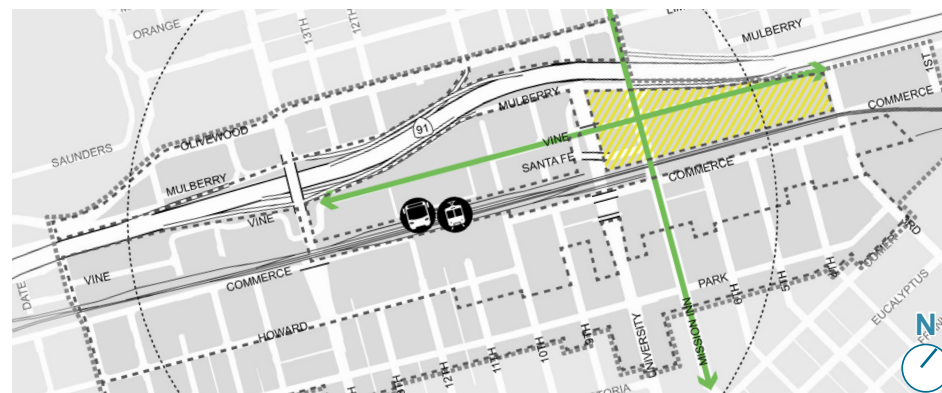
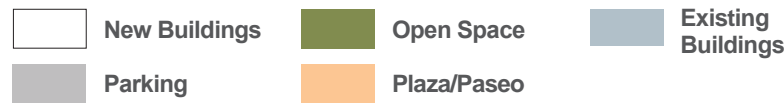
Illustrative Plan

Improvements to the North Park District include the addition of street trees where there are gaps.



Key Elements

- 1 Line North Park with retail to activate the town square; mixed-use residential above where feasible.
- 2 Infill residential with district parking north of Mission Inn Avenue.
- 3 Preserve some office buildings.



North Park District

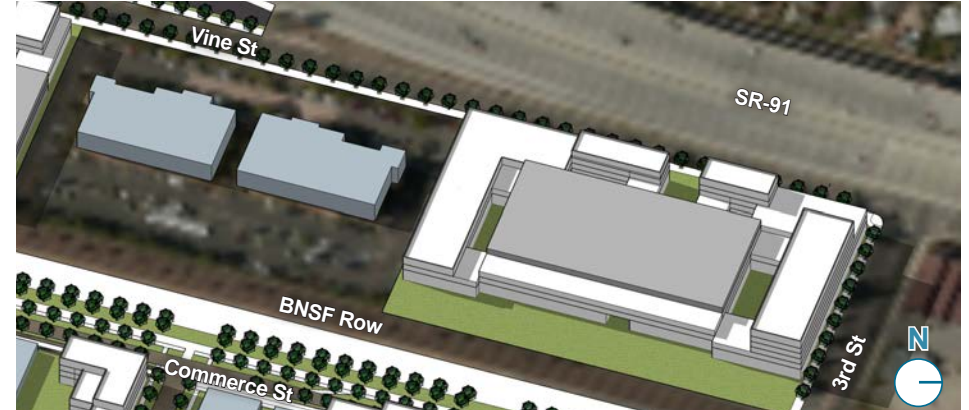
LAND USE STRATEGY



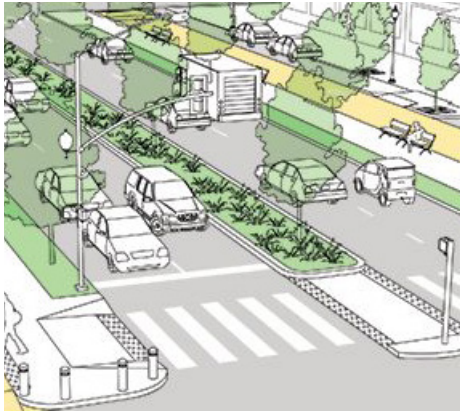
Source: NACTO



Rosemead Boulevard; Temple City, CA



Office Building at Commerce Street and 3rd Street



Source: NACTO



Chapin Parkway; Buffalo, NY



Potential Development Surrounding North Park



Source: NACTO



Houston, TX

North Park District

LAND USE STRATEGY

Land Use Mix and Targets

Additions to the North Park District will largely consist of office space and will introduce new parking structures to be shared amongst the proposed developments. In addition to the infill development shown at right, the county office building fronting North Park is another development opportunity for an adaptive reuse project. A large office complex is proposed at the corner of Commerce Street and 3rd Street. Mixed-use office/retail buildings are proposed along the 91 Freeway, while mixed-use retail/residential buildings are proposed fronting North Park.

Potential Buildout Land Use Mix*

* These numbers represent the square footage and units proposed by this Vision Plan by the year 2048 and does not include existing square footages or units.

Residential Units 140
Residential Sq. Footage 115,670 sq. ft.
Office Square Footage 307,550 sq. ft.
Retail Square Footage 79,200 sq. ft.
Parking Capacity 1,320 stalls
Average Net Dwelling Units/Acre
80+ 51 - 80 30 - 50 < 30
Average Net FAR
4.0 + 3.0 - 3.9 2.0 - 2.9 < 1.9

- Multi-Family Residential
- Retail
- Office
- Parking Structure
- Public Open Space
- Existing Buildings



Office Building at Commerce Street and 3rd Street



Potential Development Surrounding North Park

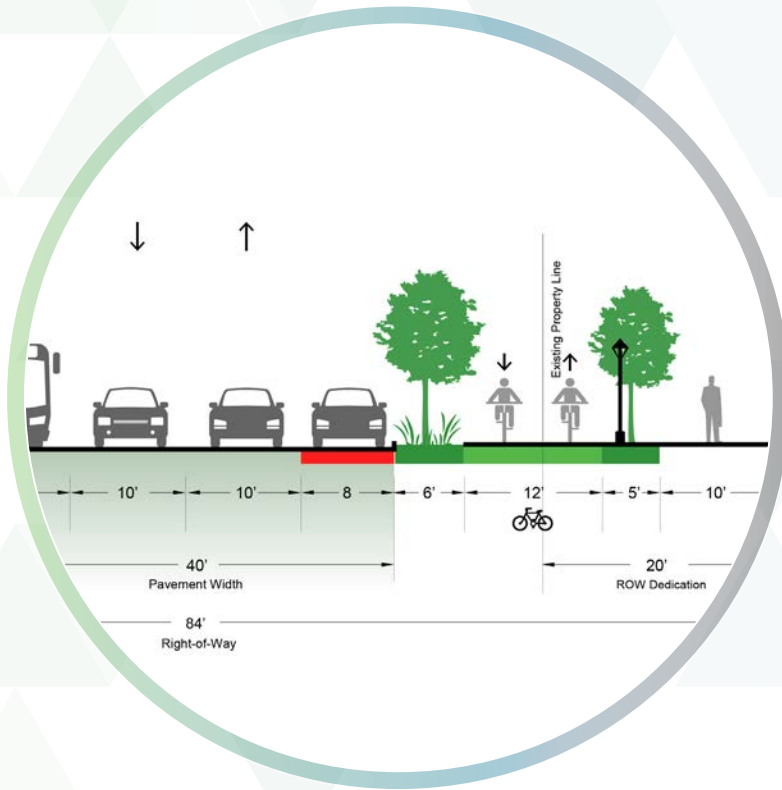
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Part 5

Marketplace District

Vision

C - INFRASTRUCTURE AND PUBLIC REALM STRATEGY



Priority Projects

Bicycle Network

Pedestrian/Greening Network

Parking and Transportation Network

Key Improvements

C 1 Vine Street

C 2 Mission Inn Avenue

C 3 Commerce Street

Priority Projects

INFRASTRUCTURE & PUBLIC REALM STRATEGY

Corridor Projects

- C 1** Vine Street
- C 2** Mission Inn Avenue
- C 3** Commerce Complete Street Reconstruction

Bicycle Projects

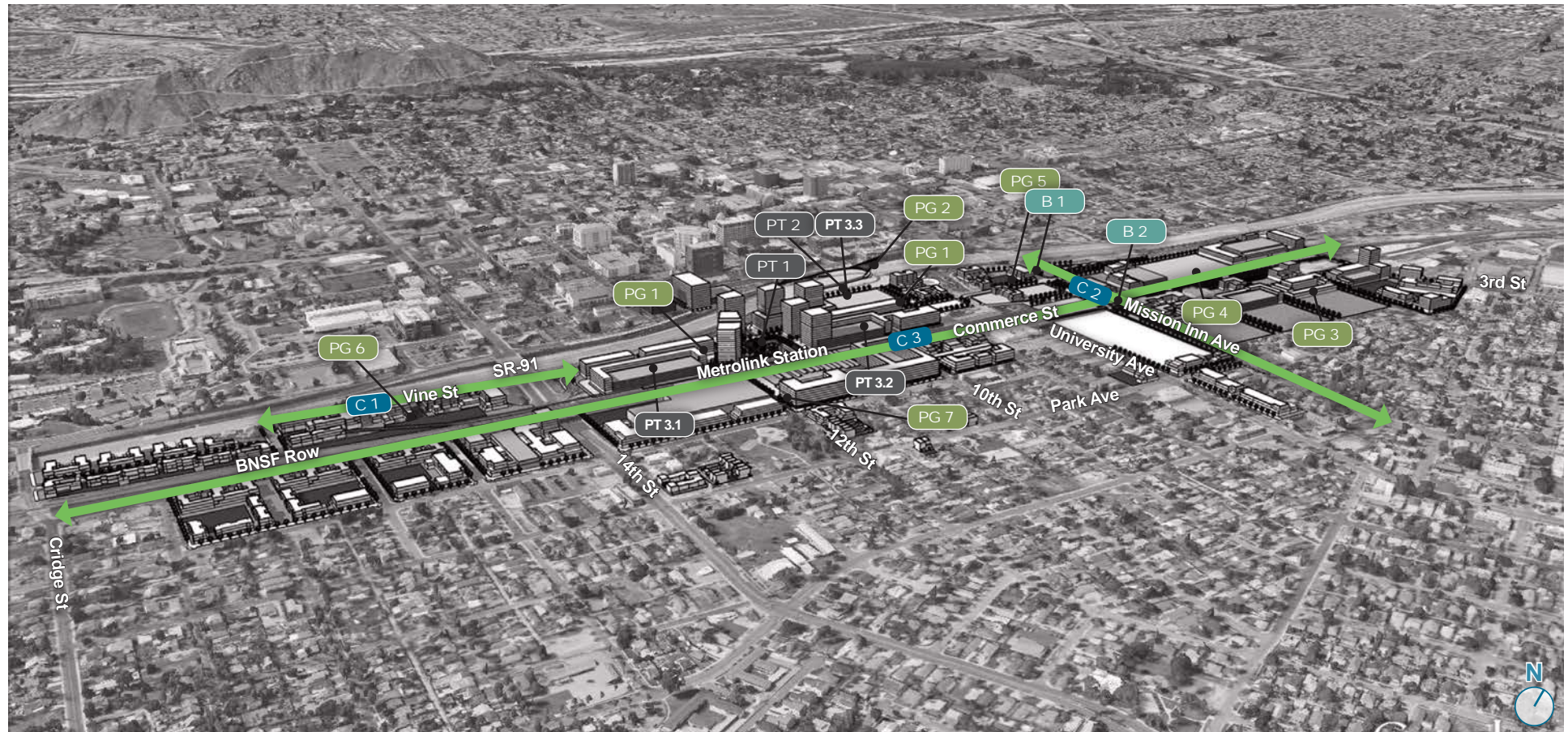
- B 1** Mission Inn / Vine Protected Bicycle Intersection
- B 2** Mission Inn / Commerce Protected Bicycle Intersection

Pedestrian/Greening Projects

- PG 1** Transit Core Paseo
- PG 2** SR-91 Bicycle and Pedestrian Bridge
- PG 3** North Commerce Linear Park
- PG 4** North Commerce Complete Street Improvements
- PG 5** North Park Redesign
- PG 6** Riverside Canal Stormwater Management and Multi-use Path
- PG 7** 12th Street Pedestrian Tunnel

Parking and Transit Projects

- PT 1** Mobility Hub and Plaza
- PT 2** Layover Facility
- PT 3** New Shared Public Parking Structures
- PT 4** Parking Management District



Bicycle Network

INFRASTRUCTURE & PUBLIC REALM STRATEGY

Bicycle improvements as part of the Vision Plan are proposed in order to create a connected network of protected bicycle facilities that serve many destinations and multiple neighborhoods surrounding the Pilot Project Area. A connected network of bicycle facilities will provide more benefits such as higher bicycle ridership and improved safety than a few (potentially unconnected) individual projects while creating a district that is easier, and more enjoyable to bike and walk than drive.

The proposed network includes a range of bicycle facilities, east-west and north-south routes, and is concentrated north of 14th Street due to physical conditions such as: lower traffic volumes, concentration of destinations, redevelopment potential, and connections between Downtown Riverside and the Eastside neighborhood. The primary east-west spine of the network is proposed to be Mission Inn Avenue, which could be improved with protected bicycle facilities and increased landscaping to create a beautiful parkway corridor leading into Downtown Riverside. Both Vine Street and pathways along the Commerce Street Corridor are proposed to act as primary north-south axes. Vine Street's importance is primarily within the Pilot Project Area and used to travel from the Metrolink Station to Downtown, while the Commerce Street rail spur corridor extends north beyond the Pilot Project Area connecting to other neighborhoods of Riverside. These main corridors of off-street or protected facilities will connect with existing bicycle lanes along 3rd Street, as well as proposed facilities along Lime, Park, 10th, 12th, and Commerce.

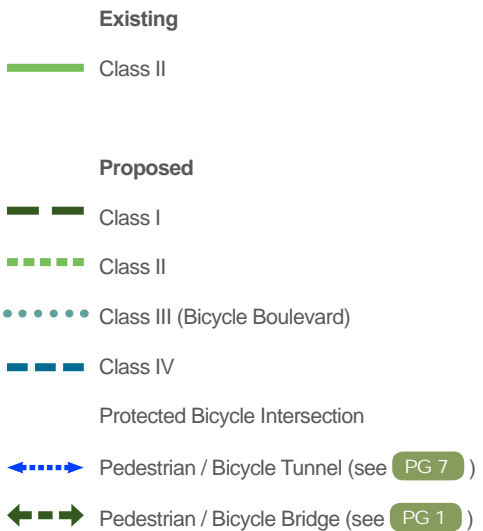
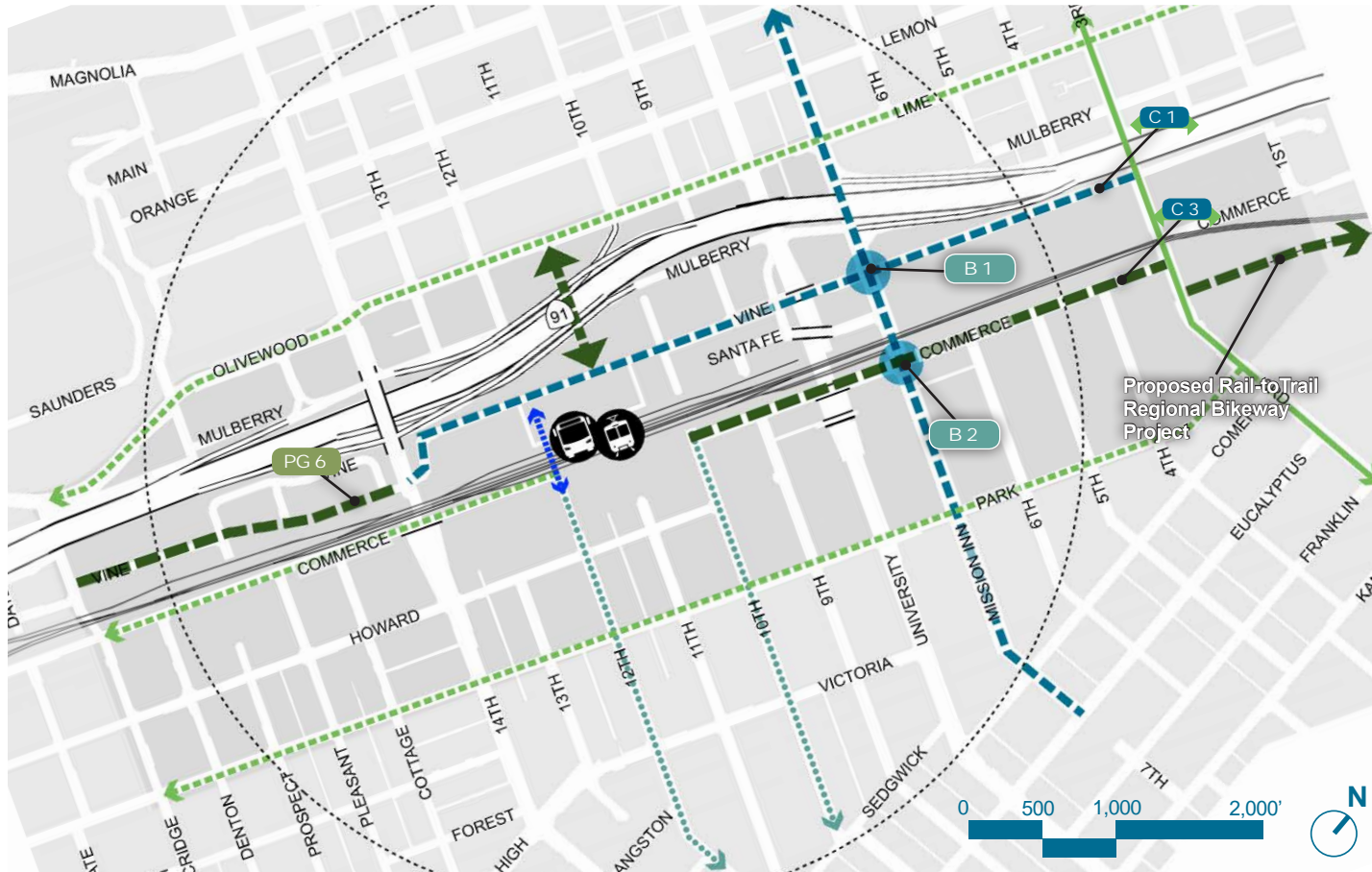
Priority Projects

- B 1** Mission Inn / Vine Protected Bicycle Intersection
- B 2** Mission Inn / Commerce Protected Bicycle Intersection

Related Projects

- PG 2** SR-91 Bicycle and Pedestrian Bridge
- PG 6** Riverside Canal Stormwater Management and Multi-use Path
- PG 7** 12th Street Pedestrian Tunnel

- Vine Street Cycle Track (see **C 1**)
- North Commerce Street Cycle Track (see **C 3**)
- Proposed Rail-to-Trail Regional Bikeway Project



Pedestrian / Greening Network

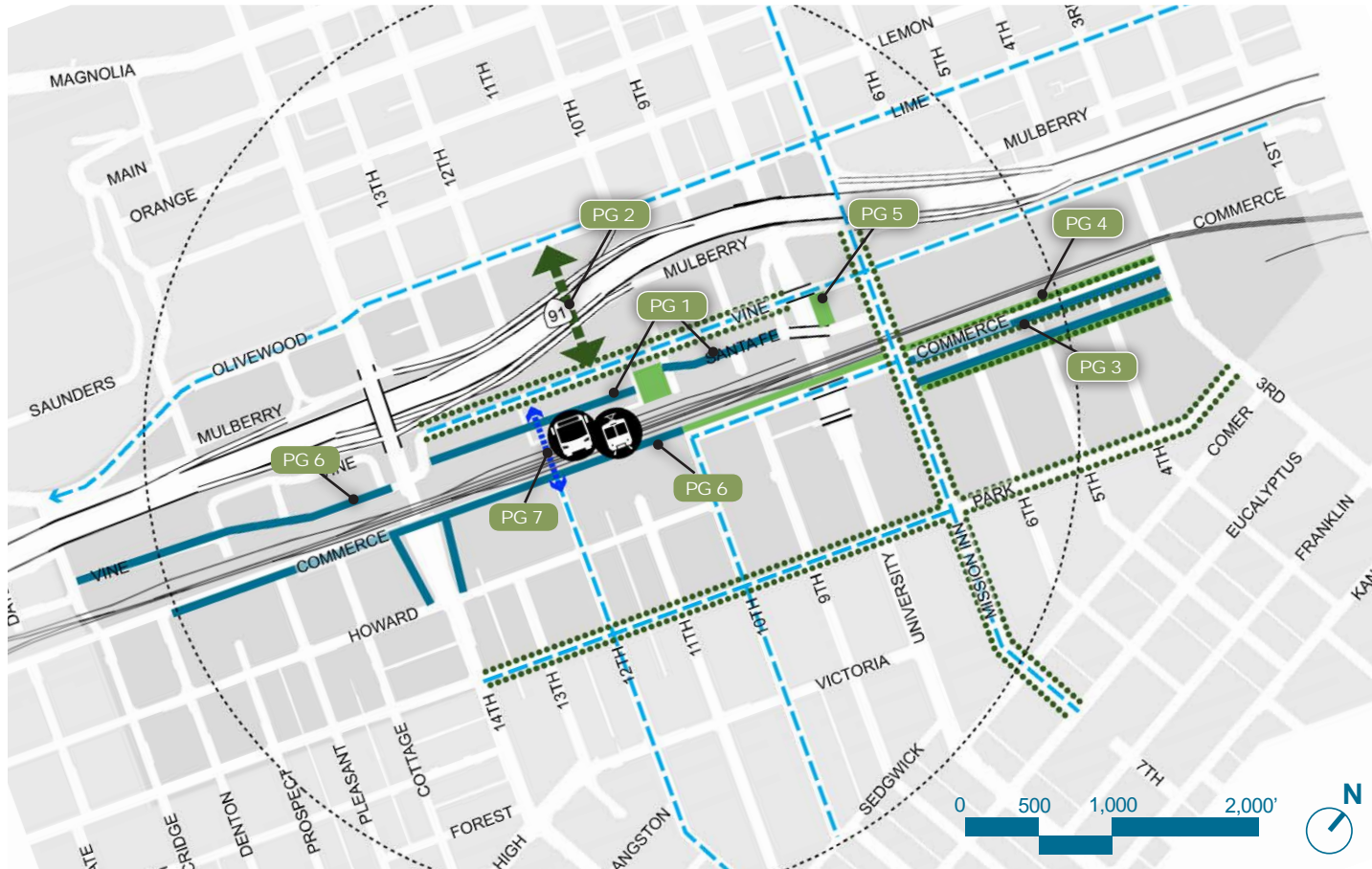
INFRASTRUCTURE & PUBLIC REALM STRATEGY

Green (landscaping and sustainability) and pedestrian improvements proposed in the Vision Plan not only complement, but are often associated with envisioned bicycle improvements.

As the existing residential streets within the Pilot Project Area already have many walkable characteristics, such as wide sidewalk greenways and low traffic volumes, green and pedestrian improvements are concentrated along the corridors of city-wide importance through the Pilot Project Area and non-residential streets to maximize the impact of improvements for increasing walkability and sustainability. Wherever possible, this Vision Plan will capitalize on these improvements as opportunities for stormwater filtration and recapture through the use of bioswales and other means, especially along the Riverside Canal, which runs parallel just west of the BNSF Row.

Priority Projects

- PG 1 Transit Core Paseo
- PG 2 SR-91 Bicycle and Pedestrian Bridge
- PG 3 North Commerce Linear Park
- PG 4 North Commerce Complete Street Improvements (see Project C 3)
- PG 5 North Park Redesign
- PG 6 Riverside Canal Stormwater Management and Multi-use Path
- PG 7 12th Street Pedestrian Tunnel



- Traffic Calming Elements
- New Pedestrian Path / Sidewalks
- Street Trees / Bioswales
- New / Expanded Park
- Pedestrian / Bicycle Tunnel
- Pedestrian / Bicycle Bridge

Parking and Transportation Network

The Parking and Transportation Strategy proposes a network of park-once districts. Shared parking is encouraged amongst neighboring properties, new structures are consolidated in dense pockets of the HQTAs, and additional connections to existing transit infrastructure are added. The strategy supplements the existing parking supply with new shared parking structures at and around the Metrolink station.

Parking in the HQTAs can be accommodated using a combination of shared facilities, which can be publicly owned, jointly-owned through a public/private partnership (P3), or privately owned. Several new public and private shared parking structures are proposed to support the envisioned development density for the Pilot Project Area. The table at right details the parking capacity at the three new public structures.

INFRASTRUCTURE & PUBLIC REALM STRATEGY

Parking Structure	Floors	Parking Stall Capacity	Assumptions
3.1	5	1,207	Parking to replace existing 1,000 RCTC stalls, plus an add'l 500, and parking for nearby development
3.2	5	700	
3.3	4	647	Public/private parking

Priority Projects

- PT 1 Mobility Hub and Plaza**
The Mobility Hub will have a passive park and capacity for five buses, temporary off-street parking for pick-up and drop-off, as well as access to shared parking structures nearby.
- PT 2 Layover Facility**
This is a 12 bus layover station along Vine Street to supplement the Transit Plaza Mobility Hub.

PT 3 New Shared Public Parking Structures

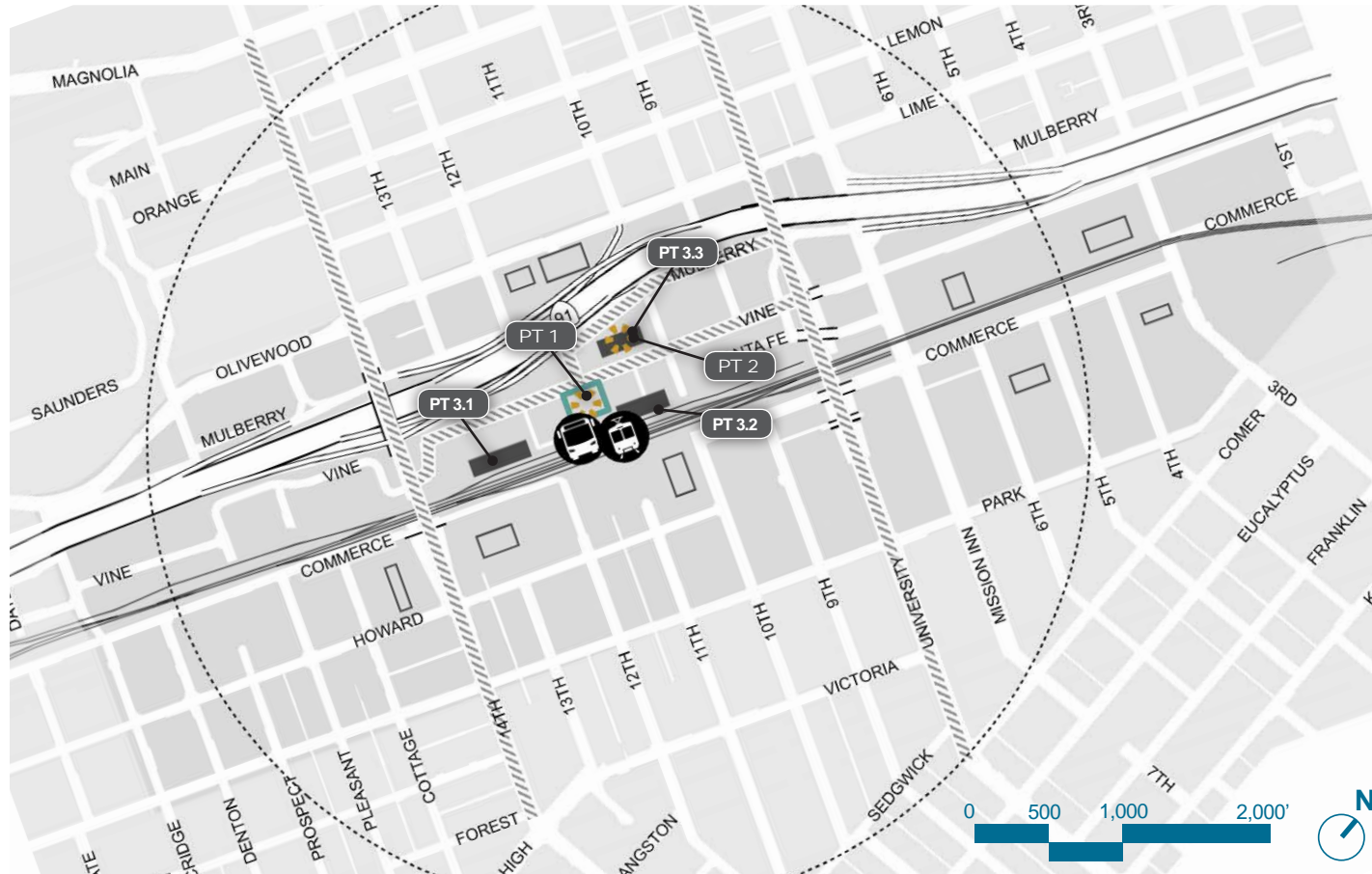
There are three proposed public parking structures, detailed in the table above.

PT 3.1 and 3.2: These two structures will accommodate the current 1,000 parking stalls provided for the Metrolink Station, an additional 500 stalls as requested by RCTC, and 400 stalls for the proposed development.

PT 3.3: This structure will house the Layover Facility on the ground floor and provide parking for new development.

- PT 4 Parking Management District**
These are potential new privately-owned and managed parking facilities shared with nearby uses. Sharing parking amongst private developments through a Parking Benefit District frees up land available for development and increases property values.

- Bus Layover Station
- Mobility Hub
- Transit Priority Corridor
- New Shared Private Parking Structure
- New Shared Public Parking Structure



Key Improvements

PT 1 Mobility Hub

During discussions with the City of Riverside, RTA, and RCTC, a preliminary program for a new layover facility was developed. These discussions will continue during the development of a new Marketplace Specific Plan. At present, RTA envisions a layover facility south of the existing substation along Vine Street, with up to 13 bus bays. A conceptual design for this facility is presented in the rendering below.

RTA and RCTC also expressed the need for up to five bus bays next to the Amtrak/ Metrolink platforms for easy transfers between bus and rail. To initiate discussions among key partners about a potential Mobility Hub design, Gruen Associates has developed a preliminary concept, presented in the renderings at right and below.

The proposed Mobility Hub includes a loop that frames a central town square. Within the town square, transit-supportive amenities such as bike racks, a bike hub, fix-it stations, boutiques and small retailers, and passive recreation could be incorporated into the design. The outside of the loop is intended for counter-clockwise circulation that would serve adjacent ground-level retail, on-street parking for customers, pick-up and drop off, and access to shared parking structures along the tracks. A clockwise loop would be used by buses for RTA and shuttle passenger boarding and alighting. Once bus-to-rail transfers are made, buses may drive across Vine Street to access the new layover facility. Over time, this layover facility can be incorporated into podium parking structures.



Mobility Hub - Birdseye Perspective

INFRASTRUCTURE & PUBLIC REALM STRATEGY

PT 2 Layover Facility



Layover Facility - Perspective from SR-91



Mobility Hub - Perspective from Vine Street

Key Improvements

PG 2 Bicycle/Pedestrian Bridge

The success of the Transit Core is critical to the success of Downtown Riverside due to the extensive transit offerings; likewise, the Transit Core will derive its success from key connections throughout the HQTAs and to Downtown. To make this critical link, the City of Riverside has explored the potential for a pedestrian and bicycle bridge that would span the 91 Freeway. While a bridge that directly crosses the Freeway at 13th Street is preferable, since it connects to an existing pedestrian bridge across Lime and into the Riverside County complex, an offramp flyover makes this crossing difficult.

Precedents on the following pages show bridges that use serpentine alignments, tensile structures, and other features to create context-sensitive, iconic structures.

The bridge should serve as a major gateway and make an architectural statement for the City of Riverside, calling attention to the 21st Century transit village just east of the Freeway. To that end, a conceptual alignment has been proposed that connects the Transit Core and Mobility hub to Downtown Riverside. The western end of the bridge connects directly to 9th Street, which provides a direct connection to City Hall and the Riverside Mall. This alignment avoids the freeway and makes use of land owned by Riverside County and the City, thereby avoiding the elevated Freeway offramp.

Additional concepts, as well as an in-depth feasibility study, should be explored as part of a potential Marketplace Specific Plan update.

INFRASTRUCTURE & PUBLIC REALM STRATEGY



Plan: Pedestrian/Bicycle Bridge



View of Pedestrian/Bicycle Bridge Looking South

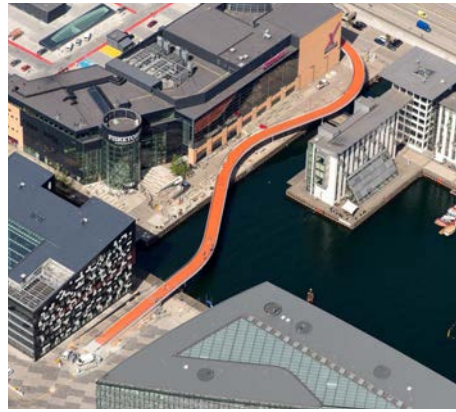


View of Pedestrian Bridge from City Hall/Riverside Mall, down 9th Street

Key Improvements

PG 2 Bicycle/Pedestrian Bridge Cykelslangen; Copenhagen, Denmark

- Transitions from higher elevation to lower elevation; approximately 600 feet long



Cykelslangen; Copenhagen, Denmark



Cykelslangen; Copenhagen, Denmark

Highland Bridge; Denver, CO

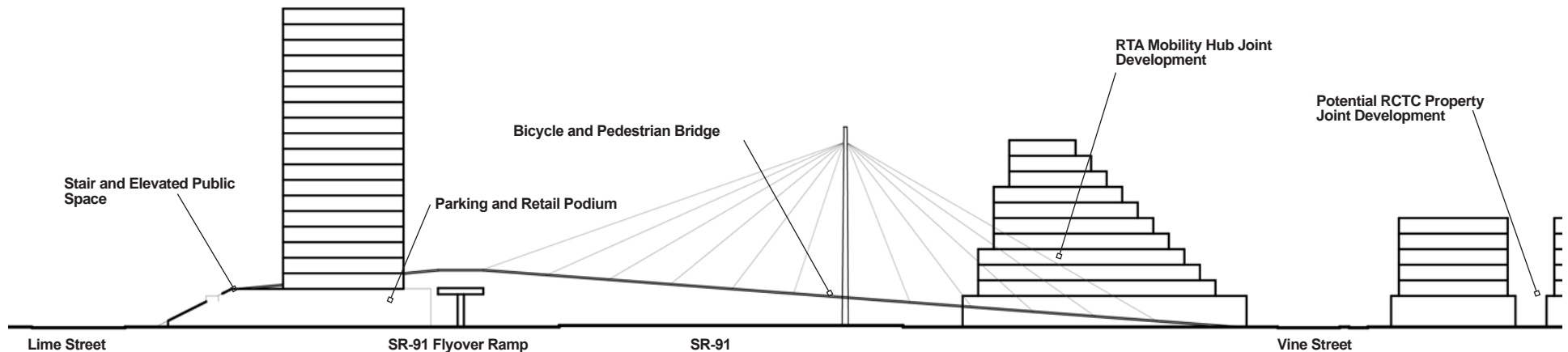
- Connects Downtown Denver with Highland Park residential and walkable, mixed-use neighborhood
- Spans I-25, approximately 300 feet



Bicycle Bridge; Xiamen, China



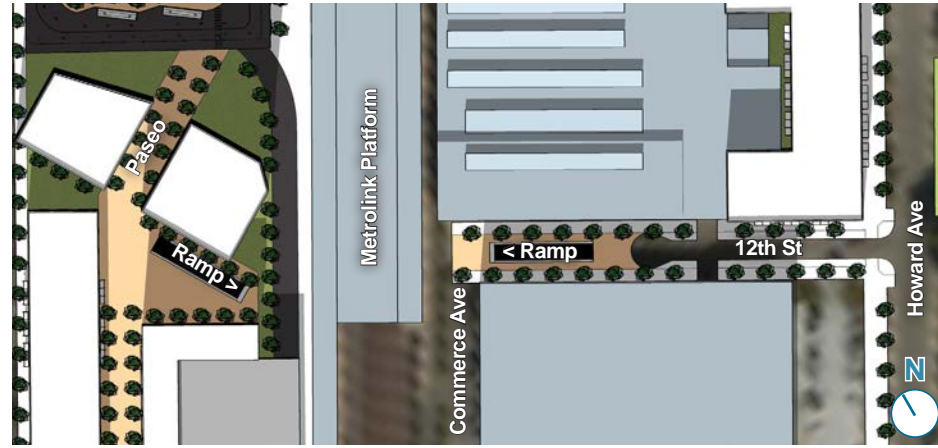
Hovenring; Denmark



Key Improvements

PG 8 12th Street Pedestrian Tunnel

Should the pedestrian bridge at the Metrolink Station be taken down, 12th Street can become a key bicycle and pedestrian corridor leading to the station by providing a pedestrian and bicycle tunnel underneath the existing rail corridor.



Oceanside, CA (at right):

- Publicly-accessible ramps and stairs allow pedestrians to move underneath Amtrak and freight rail corridor along a comfortable, well-lit, and gradually sloping tunnel.



Union Station; Los Angeles, CA (at right):

- Train platforms at LAUS are accessed from concourse below by using stairs or ADA accessible ramps
- This scheme could be adopted at Riverside if public pedestrian ramps are constructed across the rail corridor at 12th Street
- Would be able to remove the pedestrian bridge to improve ease of circulation, as well as remove long-term elevator operation and maintenance costs



C1 Vine Street

Vine Street, north to Mission Inn Avenue, is envisioned as the first part of the primary bicycle and pedestrian connection between the Metrolink Station and Downtown Riverside along with Mission Inn Avenue. As this primary connection, Vine Street is envisioned to prioritize a transit, bicycle, and pedestrian environment that complements new mixed-use development and a mobility hub on the current RTA site west of Vine Street. Reconfiguration of the corridor is anticipated to take advantage of publicly-owned land, and redevelopment of the former movie theatre site, to add a cycle-track, widened sidewalks, new greenway and landscaping while still preserving on-street parking (future pick-up / drop-off areas) and not increasing number of vehicle lanes. Finally, additional sustainability features such as permeable paving would be appropriate for a total street reconfiguration.

Cycle Track: New two-way cycle track along east side of Vine Street from 14th Street to Mission Inn Avenue, utilizing land dedication. May potentially require reconfiguration of sidewalk.

Bus-only Lane: Extend the existing bus-only lane the entire length between 14th Street and Jack B. Clarke Street.

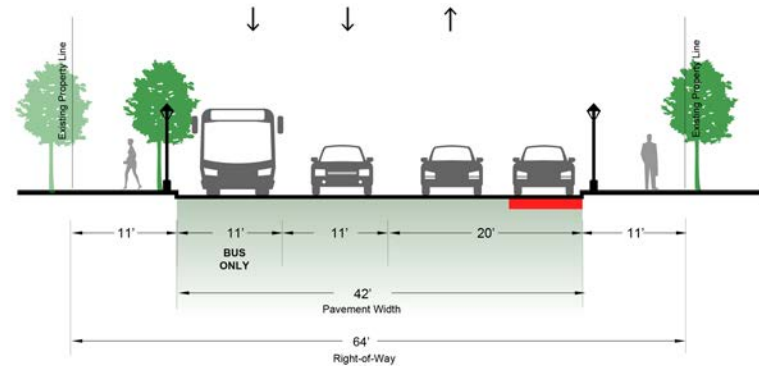
Curb Extension: Curb extensions at the 13th Street, 12th Street, 11th Street, 10th Street, and 9th Street intersections.

Greenway / Street Trees / Bioswale: Bioswales separating cyclists from on-street parking along Vine Street as well as street trees to fill landscaping gaps.

Transit Shelter / Plaza: Enhanced bus shelter between 11th Street and 10th Street.

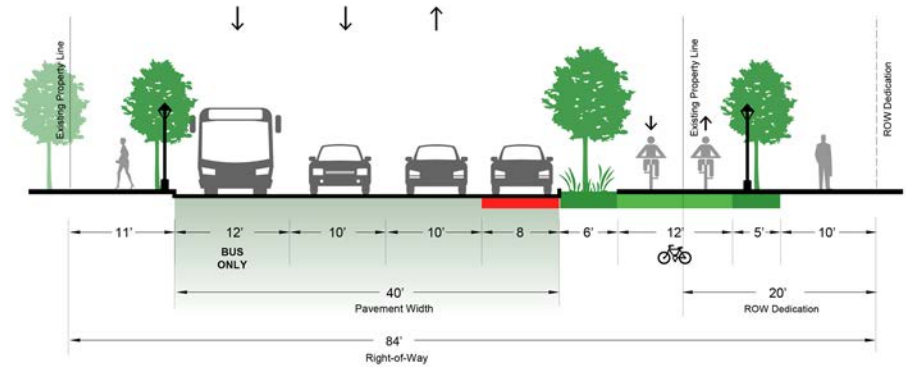
INFRASTRUCTURE & PUBLIC REALM STRATEGY

Existing - Typical Section

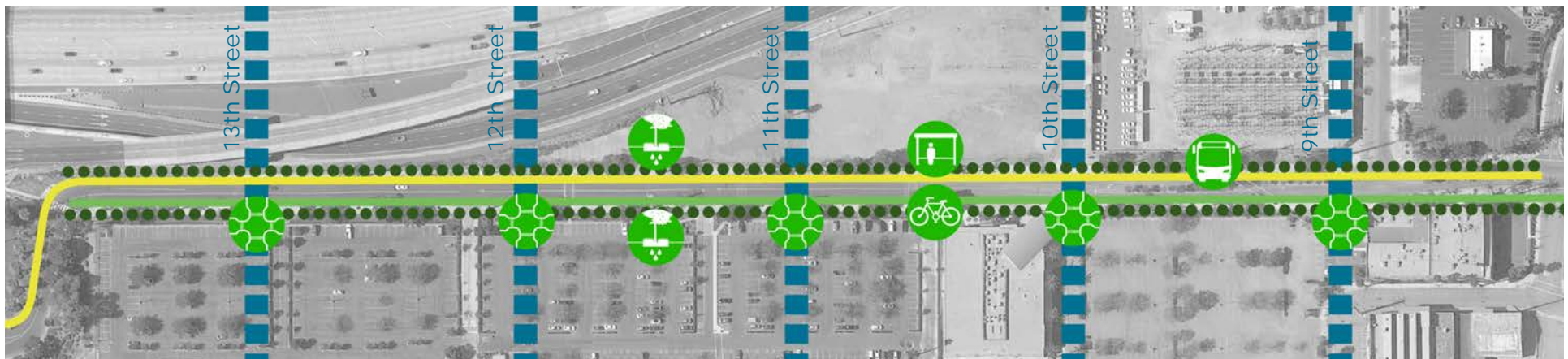


* Dimensions were estimated from aerial imagery. Official dimensions will require a street survey. Source: Google Maps.

Proposed - Typical Section







** All cross sections to be refined through public/city input.



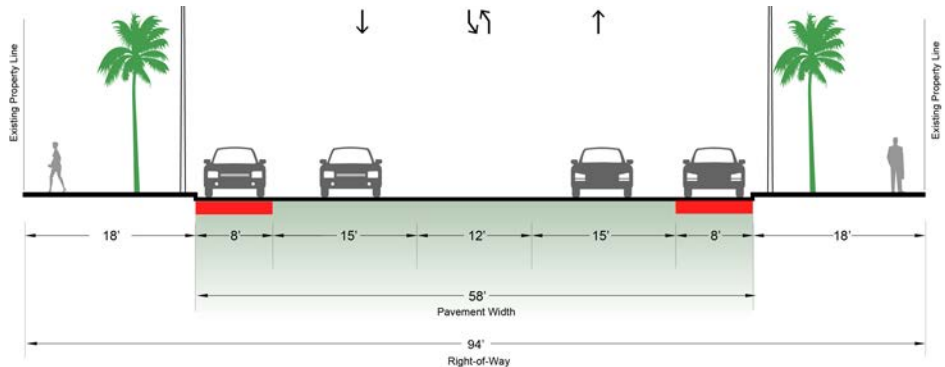
C 2 Mission Inn Avenue - Alternative 1

INFRASTRUCTURE & PUBLIC REALM STRATEGY

An alternative for the reconfiguration of Mission Inn Avenue introduces new protected bicycle lanes and other landscaping improvements such as shade trees and potential bioswales within the existing street and sidewalk right-of-way. In this scenario the protected bicycle lane would be located within the existing greenway, but reduction of travel lane widths would provide additional areas for landscaping on both sides of the street, which would preserve the existing greenway width. The double row of greenway and shade trees on both sides of the street would complement the new center landscaped median that would create a continuous tree canopy that protects bicyclists and pedestrians from the summer heat and serves as a parkway.

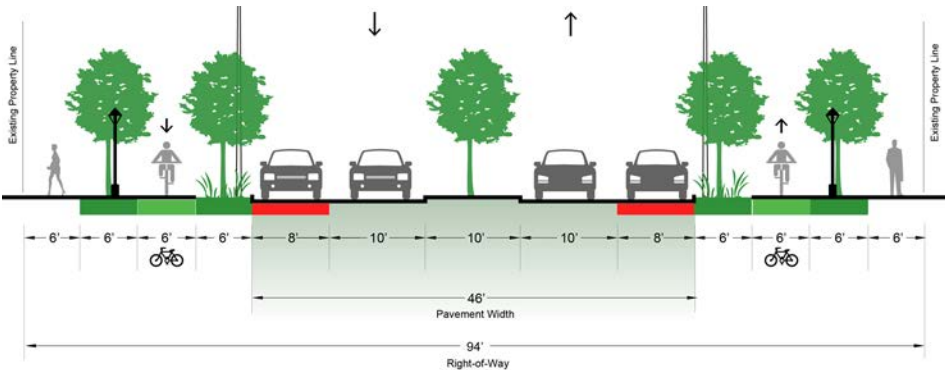
-  **Bicycle Lane:** Protected bicycle lanes on each side of Mission Inn Avenue would be buffered from parked vehicles and sidewalk by a greenway of shade trees on either side of the bicycle lane.
-  **Lane Width Reduction:** Existing travel lane widths can be reduced to 10' wide and parking lane widths can be reduced to 8' wide.
-  **Curb Extensions:** Curb extensions located at all intersections: Vine Street, Santa Fe Avenue, Commerce Street, Park Avenue, Comer Avenue and Eucalyptus Avenue.
-  **Greenway / Street Trees / Bioswale:** Replace existing palm trees with double row of shade trees on each side of Mission Inn Avenue. Replace existing center-turn lane with center landscaped median with additional shade trees.

Existing - Typical Section

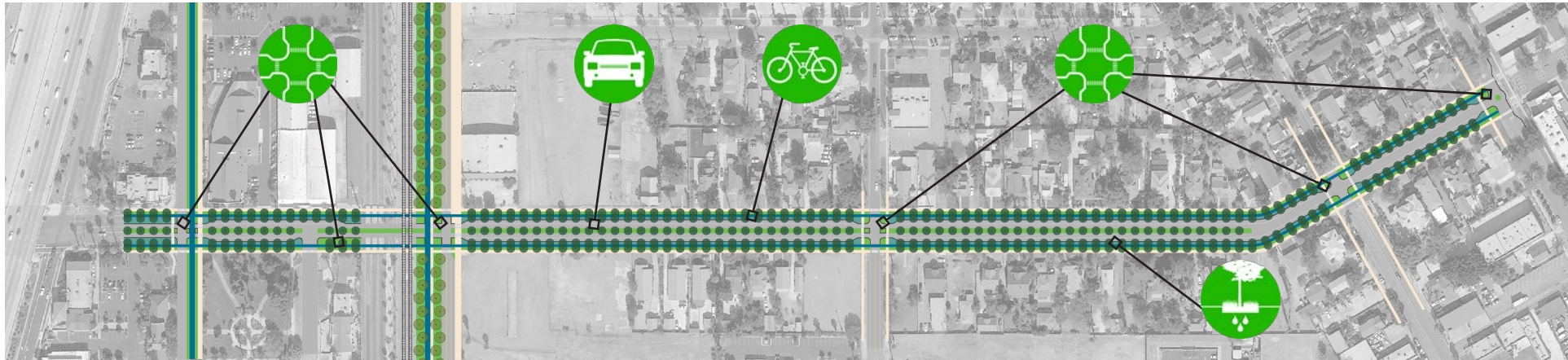


* Dimensions were estimated from aerial imagery. Official dimensions will require a street survey. Source: Google Maps.

Proposed - Typical Section



** All cross sections to be refined through public/city input.



C 2 Mission Inn Avenue - Alternative 2

INFRASTRUCTURE & PUBLIC REALM STRATEGY

A second alternative for the reconfiguration of Mission Inn Avenue has some of the same features such as: protected bicycle lane, double row of shade trees, potential bioswale, reduced lane widths, and curb extensions. However, this second alternative does not include a center landscaped median so there is no barrier between vehicle travel lanes. At each intersection a traffic circle is proposed to act as a traffic calming measure instead of the center landscaped median. By removing the center landscaped median, the existing landscaped parkway width can be preserved and a new greenway/bioswale can be added to each side as the buffer between the new protected bicycle lane and preserved vehicle parking lane.

Bicycle Lane: Protected bicycle lanes on each side of Mission Inn Avenue would be buffered from parked vehicles and sidewalk by a greenway of shade trees on either side of the bicycle lane.

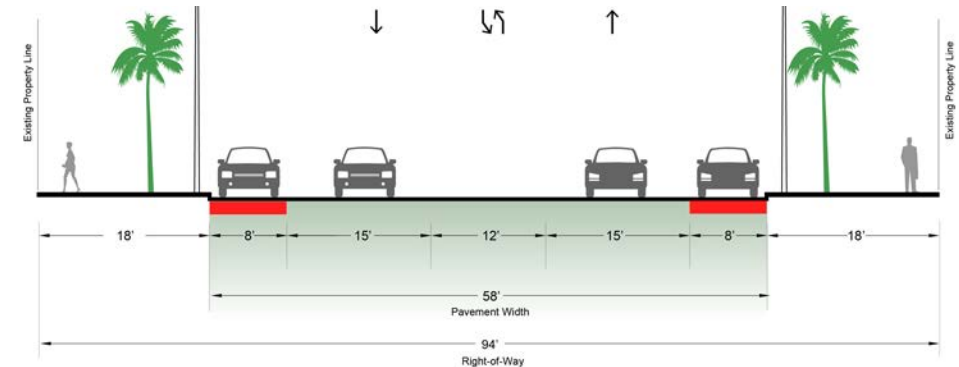
Lane Width Reduction: Existing travel lane widths can be reduced to 10' wide and parking lane widths can be reduced to 8' wide.

Curb Extensions: Curb extensions located at all intersections: Vine Street, Santa Fe Avenue, Commerce Street, Park Avenue, Comer Avenue and Eucalyptus Avenue.

Greenway / Street Trees / Bioswale: Replace existing palm trees with double row of shade trees on each side of Mission Inn Avenue. Replace existing center-turn lane with center landscaped median with additional shade trees.

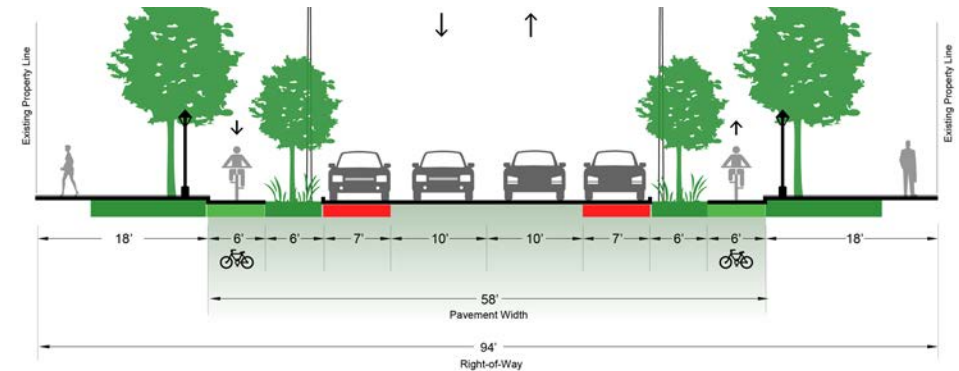
Traffic Circle: New traffic circles located at Mission Inn Avenue intersections with: Vine Street, Commerce Street, Park Avenue, Comer Avenue, and Eucalyptus Avenue.

Existing - Typical Section

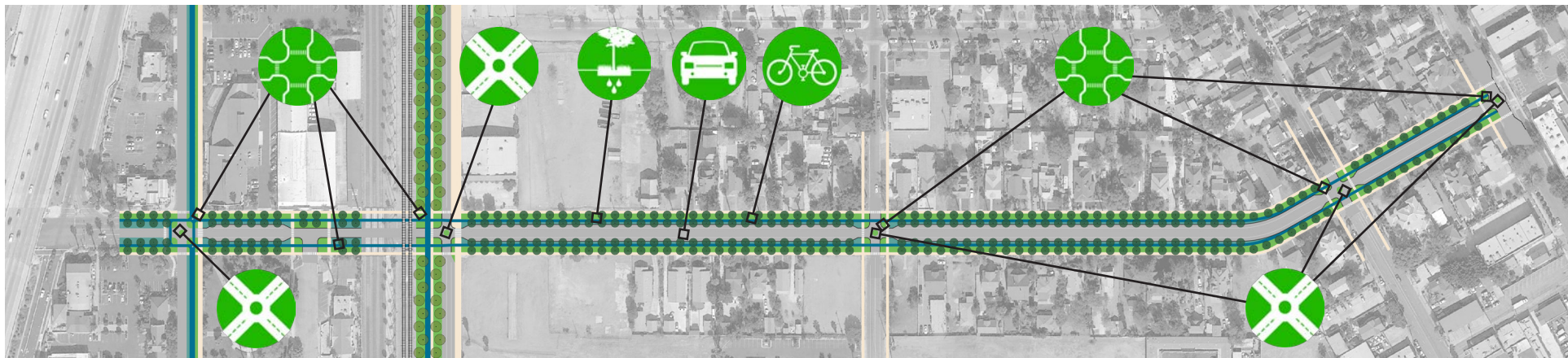


* Dimensions were estimated from aerial imagery. Official dimensions will require a street survey. Source: Google Maps.

Proposed - Typical Section



** All cross sections to be refined through public/city input.



C 3 Commerce Street

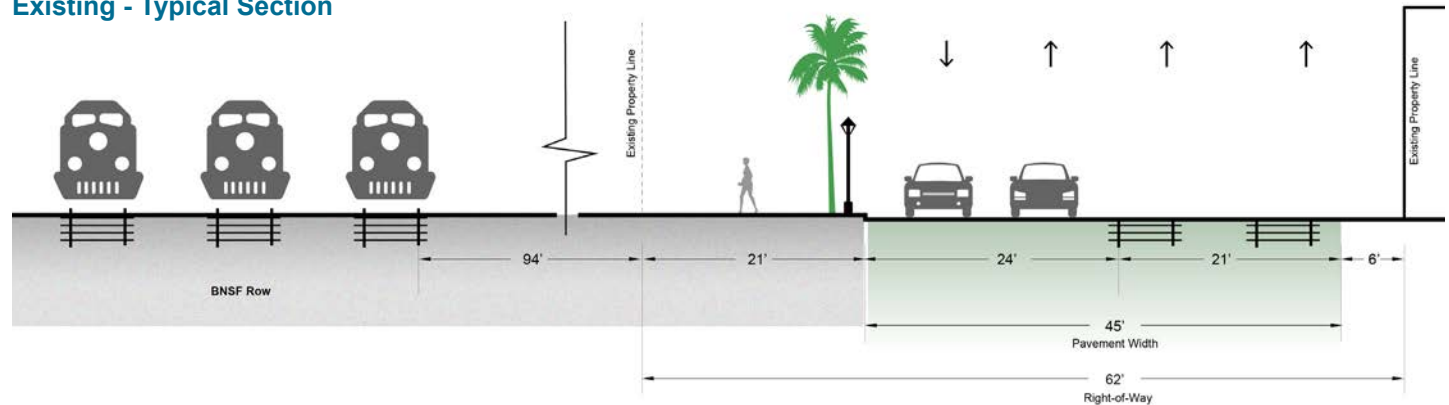
INFRASTRUCTURE & PUBLIC REALM STRATEGY

Commerce Street is envisioned as the showcase project for the Pilot Project Area. Commerce Street would be transformed into a multi-modal, complete street corridor that provides a enjoyable environment for pedestrians, cyclists, and vehicles. The primary element is conversion of existing right-of-way with abandoned rail spurs into a pedestrian promenade that incorporates unique urban design features. The existing rail spurs could be utilized as part of the new boardwalk to provide a mix of green space and pedestrian walkway similar to the approach utilized by the Highline Park in New York City, shown below.

A second major element could be the conversion of existing vacant land on the west side of Commerce Street into a linear park with green space, shade trees, and a multi-purpose path for pedestrians and bicycles. There may also be potential for expanding the linear park into the existing fenced rail corridor if there is any leftover land after extending two rail spurs to 3rd Street, and any other track improvements. Other elements include retaining existing vehicle travel lanes, new pedestrian-oriented lighting, and bioswales.

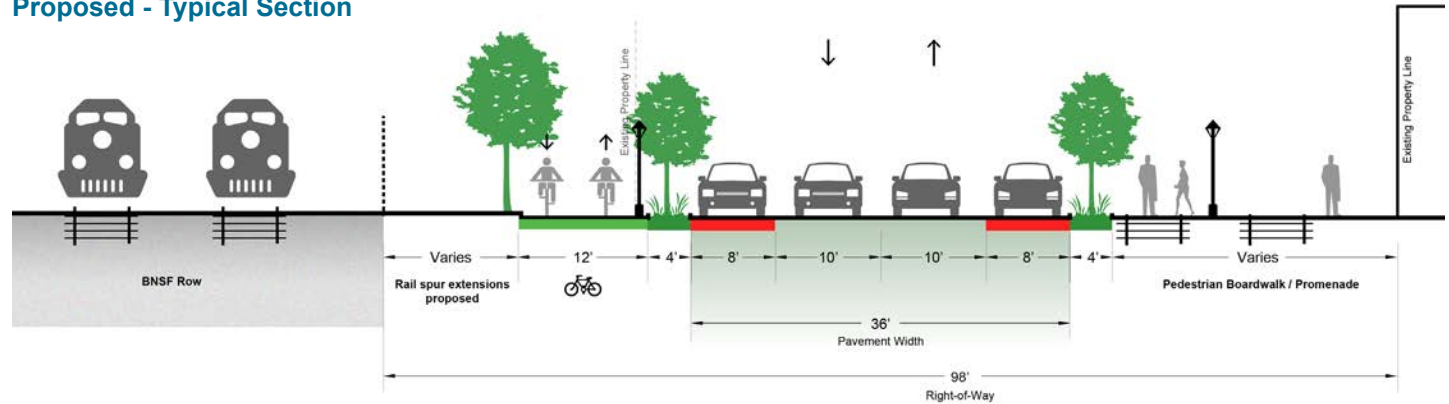
Existing buildings along Commerce Street are proposed to be adaptively reused for neighborhood serving uses, or new restaurants, coffee shops, brewpubs, or creative offices. Unique features of historic warehouses, such as raised loading docks, are proposed to highlight adaptive reuse of structures, like the Smack Shack Restaurant in Minneapolis, MN shown at right.

Existing - Typical Section

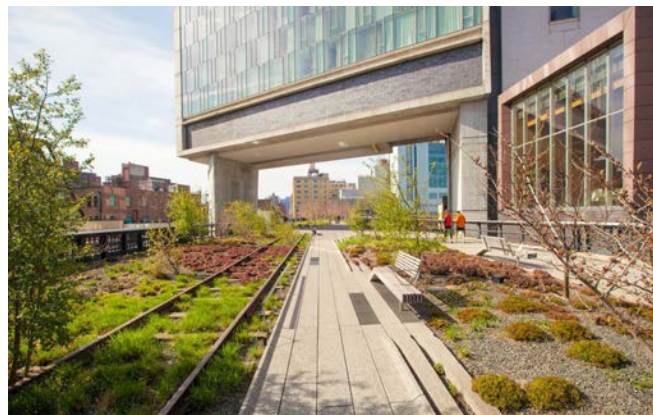


* Dimensions were estimated from aerial imagery. Official dimensions will require a street survey. Source: Google Maps.

Proposed - Typical Section



** All cross sections to be refined through public/city input.



Highline; New York City, NY



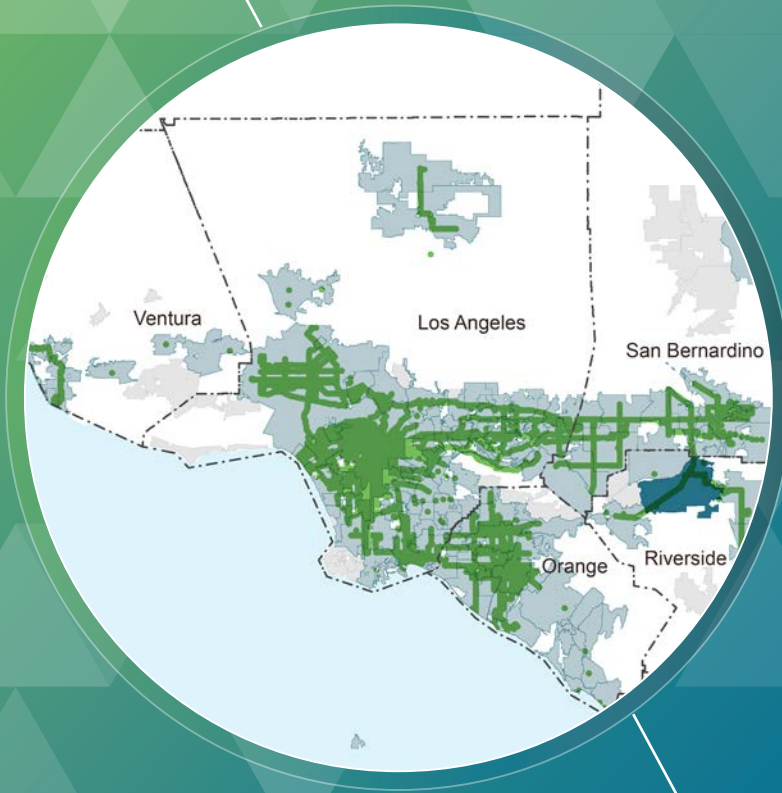
Smack Shack; Minneapolis, MN

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Part 6

Implementation Plan

Policies, programs, initiatives, and partnerships will be key to the success of the plan. A customized financial strategy is included that targets funding streams to specific priority projects outlined in the Vision Plan. In addition, the Vision Plan's full buildout is c



Phasing and Financial Strategy

Metrics



Overview

Phasing and Financial Strategy

Priority projects have been organized by Major Development Area (MDA). Projects that fall within multiple MDAs are summarized following the MDA profiles.

Phasing Strategy

The Implementation Plan generally identifies the order by which priority projects, grouped by MDA, can be approached between 2018 and 2048.

Cost Estimates

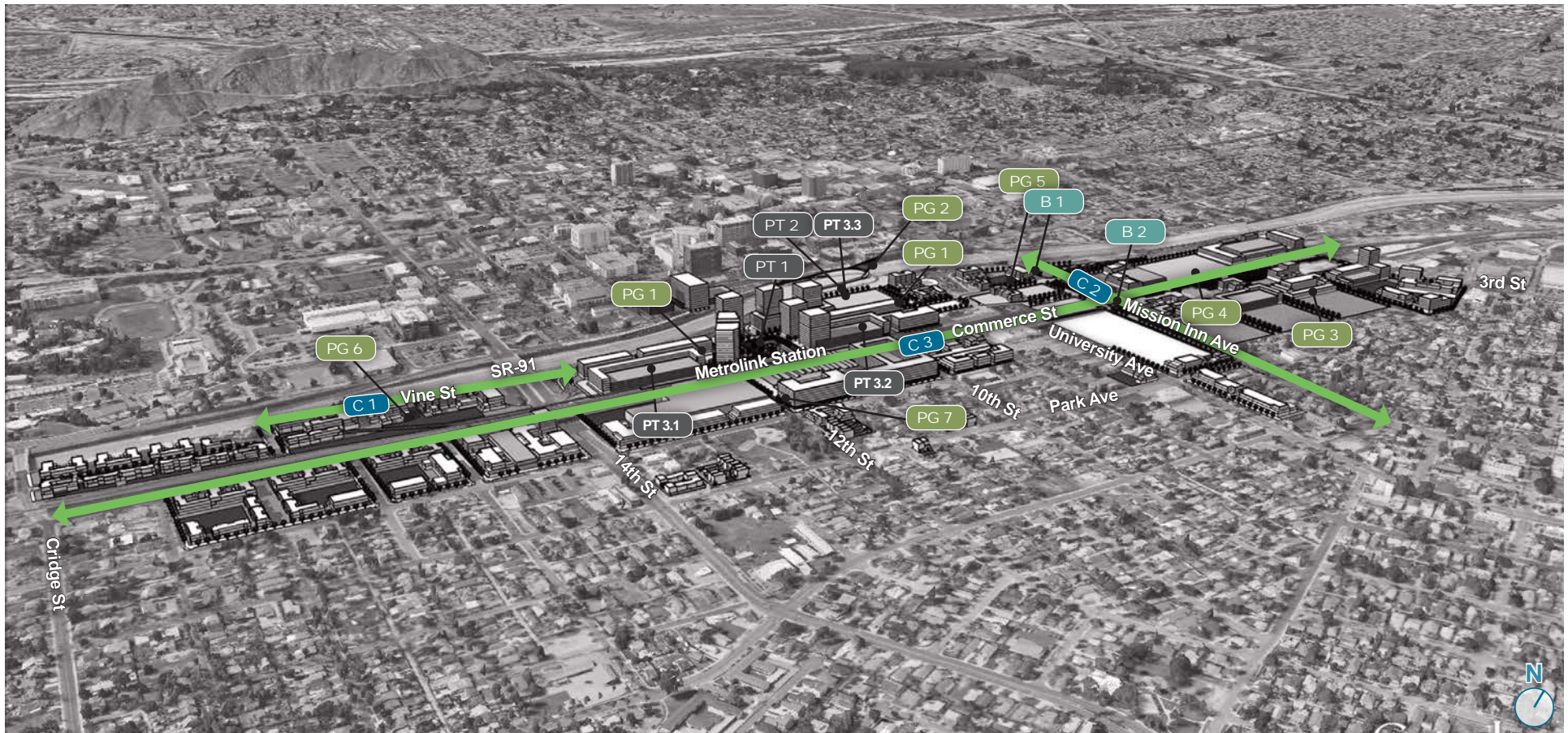
All order of magnitude cost estimates are conceptual and assume no modifications to utilities or escalation beyond 2018. Costs of Amenity Zones and other private property improvements have not been estimated.

Major street reconstruction cost estimates used an average per-mile cost of similar precedents. Other cost estimates used average unit costs for project elements in similar precedent projects.

Metrics

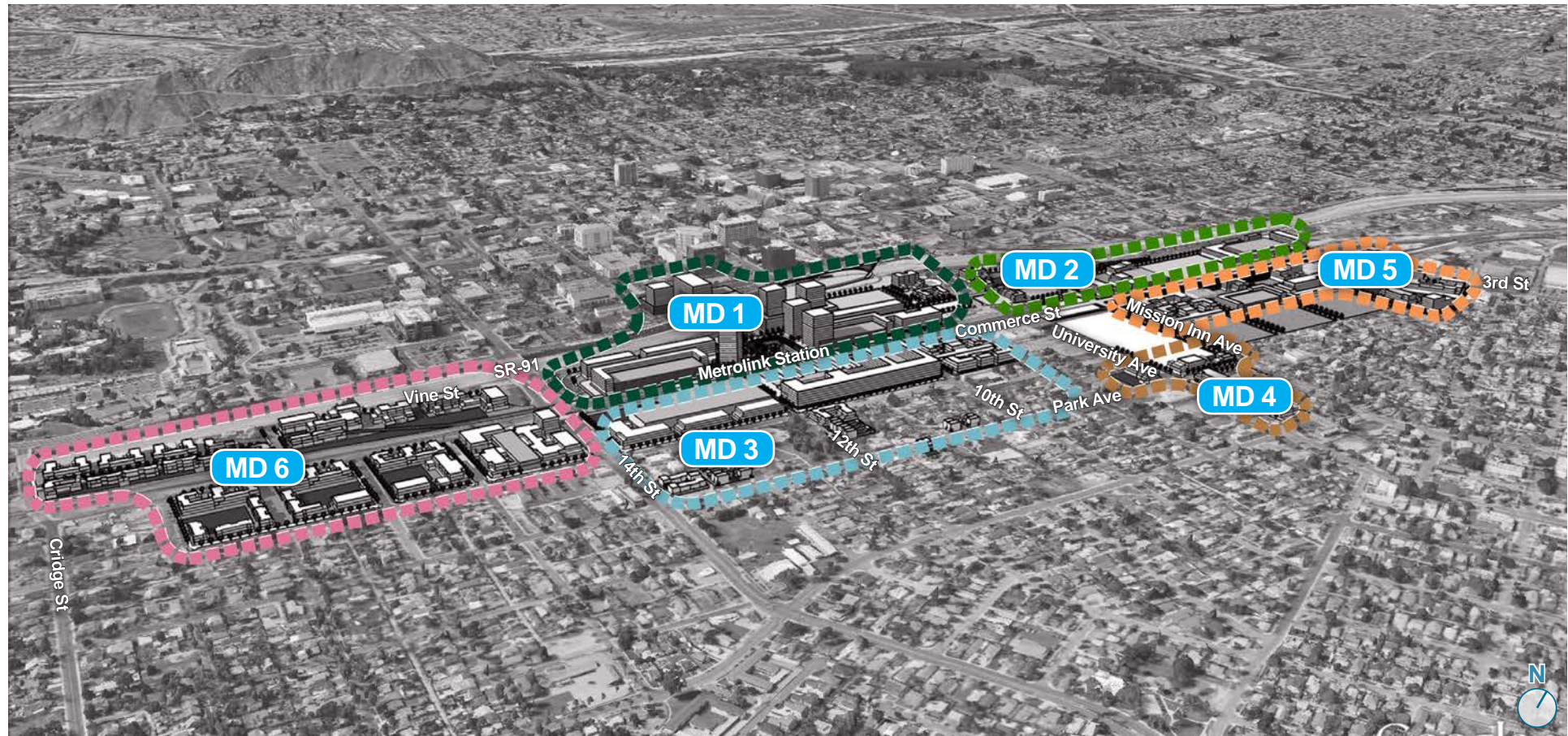
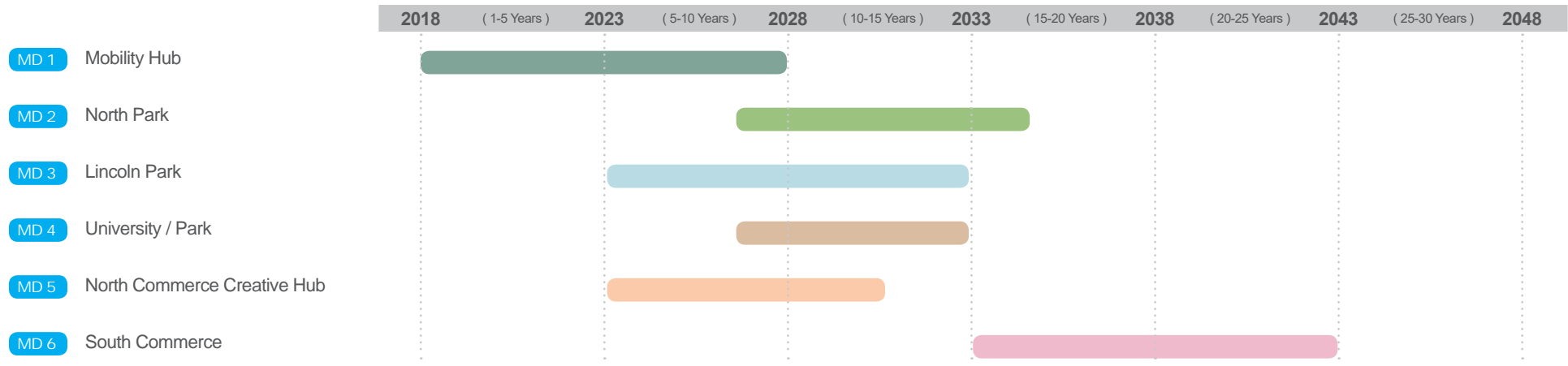
The Implementation Plan uses the SCAG 2016 RTP/SCS to establish baseline conditions and evaluates the impact of the Pilot Project Buildout through a series of metrics.

PHASING AND FINANCIAL STRATEGY



Prioritization of Major Development Areas and Associated Priority Projects

PHASING AND FINANCIAL STRATEGY



Priority Riverside Funding Sources

Based on the list of priority projects identified in the Vision Plan, this section identifies priority funding sources and value capture mechanisms, customized for the City of Riverside's HQTAs. The priority funding list is drawn from a larger master list of funding sources, which is included in the HQTAs toolkit. The master list contains additional information about each of the sources, including an overview of the funding source, eligibility criteria, description of the application process, and key considerations.

For the Vision Plan and its implementation strategy, the priority funding sources list, shown below, has been crafted to prioritize the resources that would be most applicable to projects identified within the Vision Plan based on ease of access to the funding resources, level of potential competition for the resources, and restrictive covenants associated with the resources.

Major Development Projects Funding Sources

- ER** Joint Development
- ER** CDBG – Community Development
- ER** New Market Tax Credits
- AF** Low-Income Housing Tax Credits
- AF** Affordable Housing and Sustainable Communities (AHSC)

Bicycle and Pedestrian Funding Sources

- BP** Active Transportation Program (ATP)
- BP** SB-821 – Bicycle and Pedestrian Facilities Programs
- BP** Safe Routes to School Programs
- BP** Surface Transportation Block Grant

Urban Greening & Environmental Funding Sources

- UG** Urban and Community Forestry Program
- UG** Urban Greening Grant Program
- UG** Infill Infrastructure Grant Program (IIG)

Parking and Transit Funding Sources

- PT** BEYOND Framework Funds Program
- PT** Cap and Trade – Transit and Intercity Rail Capital Program
- PT** SB-325 – Transit Assistance
- PT** Infrastructure State Revolving Fund
- PT** Capital Investment Grant

PHASING AND FINANCIAL STRATEGY

Funding sources have also been presented by implementation phase. It may be helpful to strategically pursue funding for multiple projects at once by implementation phase. There are also a number of value capture sources that could be used on a district-wide basis to support multiple projects within each phase or across implementation phases.

It should be noted that the funding sources presented here represent those resources the City could potentially utilize to support implementation. However, the City should carefully consider its ability to mobilize these funds based on its existing capital plans, citywide budget, and other existing funding commitments.

District-wide Value Capture Mechanisms

- VC** TIF/ EIFD
- VC** Parking Fees/ Congestion Pricing
- VC** Community Facilities/ Special Assessment District
- VC** Community Revitalization and Investment Authorities
- VC** Transportation Utility Fee
- VC** Bond/Debt Financing

MD 1 Mobility Hub MDA Priority Projects

PHASING AND FINANCIAL STRATEGY

Growth in the Transit Core will be catalyzed by a new freeway pedestrian/bicycle bridge and Mobility Hub. These infrastructure investments will define the Transit Core MDA as the primary transit-serving asset for Downtown Riverside. The development envisioned immediately adjacent to the Mobility Hub will have office space to form a major employment cluster as well as housing for future residents.



Priority Projects within MD 1	General Timeline	Stakeholders	Cost Estimate*	Cost Estimate Assumptions	Potential Funding Sources
PG 1 Transit Core Paseo At the center of the block between Vine Street and the BNSF Row will be a pedestrian paseo with attractive seating, lighting, and landscaping.	Start 2020 → End 2020	- City of Riverside - RCTC / RTA	<i>More detailed design documentation is required to provide accurate cost estimates</i>	N/A	(BP) Active Transportation Program (ATP) (BP) SB-821 – Bicycle and Pedestrian Facilities Programs (BP) Surface Transportation Block Grant (PT) BEYOND Framework Funds Program
PG 2 SR-91 Bicycle and Pedestrian Bridge A new pedestrian bridge crossing the SR-91 Freeway with protected bicycle lanes.	Start 2020 → End 2020	- City of Riverside - RCTC / RTA - Riverside County	\$48.29M - \$121.71M	Precedents: Universal Studios Pedestrian Bridge (2015) & Martin Olav Sabo Bridge (2007)	(BP) SB-821 – Bicycle and Pedestrian Facilities Programs (BP) Surface Transportation Block Grant (PT) BEYOND Framework Funds Program
PT 1 Mobility Hub The hub will have a central town square with transit-supportive amenities such as a bike hub, fix-it stations, small retailers, and passive recreation space. There will be a counter-clockwise loop for cars and a clockwise loop for bus and shuttle boarding.	Start 2020 → End 2020	- City of Riverside - RCTC / RTA	\$2.80M - \$4.20M	Precedent: UC Riverside Mobility Hub (2018)	(BP) SB-821 – Bicycle and Pedestrian Facilities Programs (BP) Surface Transportation Block Grant (PT) Capital Investment Grant (PT) SB-325 – Transit Assistance (VC) TIF/EIFD (VC) Parking Fees/ Congestion Pricing
PT 2 Layover Facility A 12-bay facility to be incorporated into podium parking structures over time.	Start 2020 → End 2020	- City of Riverside - RCTC / RTA	<i>More detailed design documentation is required to provide accurate cost estimates</i>	N/A	(PT) Capital Investment Grant (PT) SB-325 – Transit Assistance (VC) TIF/EIFD (VC) Parking Fees/ Congestion Pricing
PT 3 New Shared Public Parking Structures Three new shared public structures near the Mobility Hub will serve the Metrolink Station and new development.	Start 2020 → End 2020	- City of Riverside - Private Developers	\$76.62M - \$102.12M	2,554 stalls in 3 structures at \$30,000 - \$40,000 per stall	(VC) TIF/EIFD (VC) Parking Fees/ Congestion Pricing
Other Associated Projects (see page 89 for more detail)					
(C 1) Vine Street Corridor Improvements, (C 3) Commerce Street Corridor Improvements, (PT 4) Parking Management District					

* All rough order of magnitude cost estimates are conceptual and assume no modifications to utilities or cost escalation beyond 2018. The cost of Amenity Zones and other private property improvements have not been included.

MD 2 North Park MDA Priority Projects

PHASING AND FINANCIAL STRATEGY

Primarily reserved for future mixed-use office and residential uses, the North Park Major Development Area will enhance pedestrian activity around Downtown Riverside's Historic North Park. The influx of a critical mass of both residents and workers will revitalize a sense of place for this historic core and strengthen an essential link into Downtown Riverside. The redesign of North Park along with proposed corridor improvements will catalyze this development.



Priority Projects within MD 2	General Timeline	Stakeholders	Cost Estimate*	Cost Estimate Assumptions	Potential Funding Sources
B 1 Mission Inn / Vine Protected Bicycle Intersection Curb extensions to form a protected intersection at Mission Inn Avenue and Vine Street	Start 2020 → → → End 2020	- City of Riverside	\$75,000 - \$150,000		UG Urban and Community Forestry Program UG Urban Greening Grant Program
PG 5 North Park Redesign New landscaping, pavement, lighting, seating, signage, etc.	Start 2020 → → → End 2020	- City of Riverside	<i>More detailed design documentation is required to provide accurate cost estimates</i>	N/A	UG Infill Infrastructure Grant Program (IIG) PT BEYOND Framework Funds Program PT SB-325 – Transit Assistance

<p>Other Associated Projects (see page 89 for more detail)</p> <ul style="list-style-type: none"> C 1 Vine Street Corridor Improvements C 2 Mission Inn Avenue Corridor Improvements C 3 Commerce Street Corridor Improvements B 2 Mission Inn / Commerce Protected Bicycle Intersection PT 4 Parking Management District

* All rough order of magnitude cost estimates are conceptual and assume no modifications to utilities or cost escalation beyond 2018. The cost of Amenity Zones and other private property improvements have not been included.

MD 3 Lincoln Park MDA Priority Projects

PHASING AND FINANCIAL STRATEGY

Site with the potential for infill development along Park Avenue generally fall between 3rd Street on the northern end and Lincoln Park on the southern end. The Lincoln Park Major Development Area's adjacency to the Metrolink Station means it will serve as an important transition from a higher mixed-use intensity to a more residential neighborhood scale in complementing the Lincoln Park single-family fabric. A pedestrian tunnel may help connect this MDA to the Mobility Hub Hub.



Priority Projects within MD 3	General Timeline	Stakeholders	Cost Estimate*	Cost Estimate Assumptions	Potential Funding Sources
<p>PG 7 12th Street Pedestrian Tunnel</p> <p>A new pedestrian tunnel at the western terminus of 12th Street that runs underneath the rail line and resurfaces at the Mobility Hub paseo.</p>	<p>Start End</p> <p>2020 → 2020</p>	- City of Riverside	<i>More detailed design documentation is required to provide accurate cost estimates</i>	N/A	<p>BP Active Transportation Program (ATP)</p> <p>BP SB-821 – Bicycle and Pedestrian Facilities Programs</p> <p>BP Surface Transportation Block Grant</p> <p>PT Cap and Trade – Transit and Intercity Rail Capital Program</p>
<p>Other Associated Projects (see page 89 for more detail)</p> <p>PT 4 Parking Management District</p>					

* All rough order of magnitude cost estimates are conceptual and assume no modifications to utilities or cost escalation beyond 2018. The cost of Amenity Zones and other private property improvements have not been included.

MD 4 University / Park MDA Priority Projects

PHASING AND FINANCIAL STRATEGY

Park Avenue serves as an important spine linking the residential neighborhood to Downtown Riverside. Although infill along Park Avenue will be primarily residential, there are critical nodes which call for higher intensities and a mix of uses to complement both Downtown, the Metrolink Station area and local residents. One of these nodes is at the intersection of University Avenue and Park Avenue where limited retail and office, and residential uses are envisioned to amplify University Avenue as vital link to Downtown. This node will augment the development pattern begun by the Mission Lofts at the corner of Mission Inn Avenue and Commerce Street. Mixed use developments in this area may become even more desirable with the implementation of a parking management district.



Priority Projects within MD 4	General Timeline	Stakeholders	Cost Estimate*	Cost Estimate Assumptions	Potential Funding Sources
Other Associated Projects (see page 89 for more detail)					
PT 4 Parking Management District					

* All rough order of magnitude cost estimates are conceptual and assume no modifications to utilities or cost escalation beyond 2018. The cost of Amenity Zones and other private property improvements have not been included.

MD 5 North Commerce Creative Hub MDA Priority Projects

PHASING AND FINANCIAL STRATEGY

Defined by a significant improvement in the public realm, the Commerce Street Rail Corridor Major Development Area seeks to integrate existing assets along this segment of Commerce Street. The Metrolink rail corridor, decommissioned rail spurs, and existing buildings of great historic character will contribute to a rich walkable atmosphere. A boardwalk and linear park will complement a pedestrian-driven mix of uses, including high-density residential, and serves to welcome the rail corridor as its front door.



Priority Projects within MD 5	General Timeline	Stakeholders	Cost Estimate*	Cost Estimate Assumptions	Potential Funding Sources
<p>PG 3 Commerce Linear Park The partial conversion of an existing vacant lot into a linear park with landscaping, street furniture, and enhanced lighting.</p>	<p>Start 2020 → End 2020</p>	- City of Riverside	More detailed design documentation is required to provide accurate cost estimates	N/A	<ul style="list-style-type: none"> UG Urban and Community Forestry Program UG Urban Greening Grant Program UG Infill Infrastructure Grant Program (IIG)
<p>PG 4 Commerce Complete Street Improvements The conversion of existing right-of-way with abandoned rail spurs into a pedestrian promenade with landscaping, vendor space, street furniture, and enhanced lighting. For more details see Project C 3</p>	<p>Start 2020 → End 2020</p>	- City of Riverside - CalTrans	Cost of project included in cost estimation for Project C 3		<ul style="list-style-type: none"> BP Active Transportation Program (ATP) BP SB-821 – Bicycle and Pedestrian Facilities Programs PT BEYOND Framework Funds Program
<p>Other Associated Projects (see page 89 for more detail)</p> <ul style="list-style-type: none"> C 2 Mission Inn Avenue Corridor Improvements C 3 Commerce Street Corridor Improvements C 4 10th and 12th Street Corridor Improvements B 2 Mission Inn / Commerce Protected Bicycle Intersection PT 4 Parking Management District 					

* All rough order of magnitude cost estimates are conceptual and assume no modifications to utilities or cost escalation beyond 2018. The cost of Amenity Zones and other private property improvements have not been included.

MD 6 South Commerce MDA Priority Projects

PHASING AND FINANCIAL STRATEGY

Framed by the Metrolink rail corridor and an existing canal, mixed-use courtyard buildings in small-scale residential patterns and more intense commercial form primarily make up the Commerce Street Canal Corridor Major Development Area, enhancing the existing industrial character by providing a valuable increase in open space. This surge in open space will buffer from and balance out the public and private realm from the freeway and rail corridor, and support an integrated environment for future residents and workers.



Priority Projects within MD 6	General Timeline	Stakeholders	Cost Estimate*	Cost Estimate Assumptions	Potential Funding Sources
PG 6 Riverside Canal Stormwater Management and Multi-use Path Canal greening with landscaping, including bioswales, and other methods to reduce the amount of stormwater discharge.	Start 2020 → → → 2020 End	- City of Riverside	<i>More detailed design documentation is required to provide accurate cost estimates</i>	N/A	
Other Associated Projects (see page 89 for more detail)					
PT 4 Parking Management District					

* All rough order of magnitude cost estimates are conceptual and assume no modifications to utilities or cost escalation beyond 2018. The cost of Amenity Zones and other private property improvements have not been included.

Priority Projects in Multiple Major Development Areas

PHASING AND FINANCIAL STRATEGY

Priority Projects	General Timeline	Stakeholders	Cost Estimate*	Cost Estimate Assumptions	Potential Funding Sources
C 1 Vine Street Corridor Improvements Cycle Track, Bus Only Lane, Curb Extension, Greenway / Street Trees / Bioswale, Transit Shelter / Plaza	Start 2020 → End 2020	- City of Riverside	\$1.03M - \$1.34M	Moderate interventions from Cridge St to Mission Inn Ave	BP Active Transportation Program (ATP) BP SB-821 – Bicycle and Pedestrian Facilities Programs BP Safe Routes to School Programs
C 2 Mission Inn Avenue Corridor Improvements Lane Width Reduction, Bicycle Lanes, Curb Extensions, Greenway / Street Trees / Bioswale	Start 2020 → End 2020	- City of Riverside	\$6.28M - \$8.57M	Major street reconstruction from Vine St to Eucalyptus Ave	UG Urban and Community Forestry Program UG Urban Greening Grant Program UG Infill Infrastructure Grant Program (IIG) VC TIF/ EIFD
C 3 Commerce Street Corridor Improvements Reconstructed Median, Enhanced Bus Stop / Shelter for BRT, Gateway Element / Wayfinding Signage, Scramble Crosswalk, Refuge Islands	Start 2020 → End 2020	- City of Riverside	\$11.47M - \$15.64M	Complete street reconstruction from 3rd St to Cridge St	VC TIF/ EIFD
B 2 Mission Inn / Commerce Protected Bicycle Intersection Curb extensions to form a protected intersection at Mission Inn Avenue and Commerce Street.	Start 2020 → End 2020	- City of Riverside	\$75,000 - \$150,000	Cost of project included in cost estimation for Project C 2	BP Active Transportation Program (ATP) BP SB-821 – Bicycle and Pedestrian Facilities Programs
PT 4 Parking Management District Several potential new privately owned and managed parking structures shared with nearby uses.	Start 2020 → End 2020	- City of Riverside - Private Developers - RCTC / RTA - Riverside County	Further study required to estimate cost.	N/A	BP Safe Routes to School Programs BP Surface Transportation Block Grant PT BEYOND Framework Funds Program VC Parking Fees/ Congestion Pricing

* All rough order of magnitude cost estimates are conceptual and assume no modifications to utilities or cost escalation beyond 2018. The cost of Amenity Zones and other private property improvements have not been included.

Metrics Overview

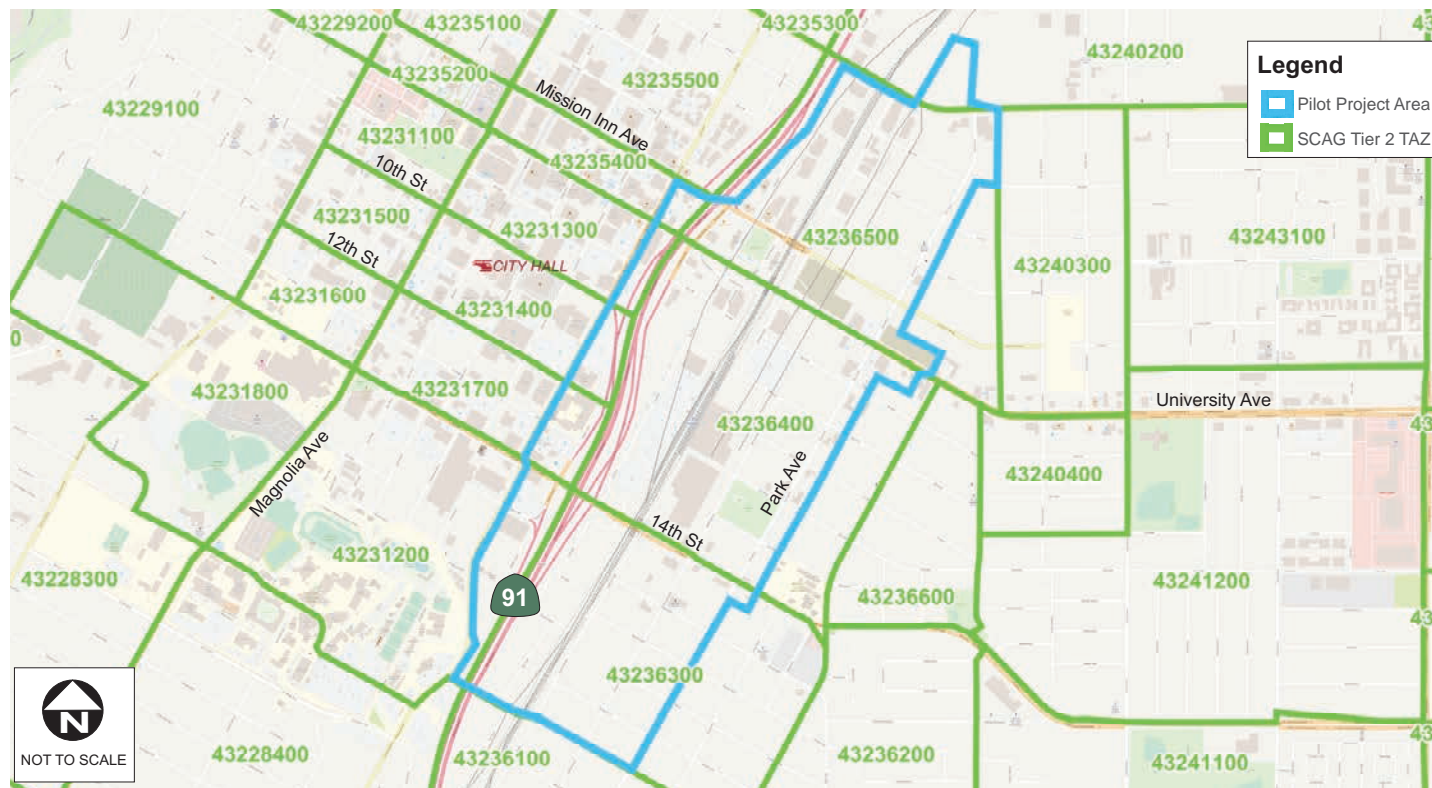
METRICS

The Riverside Marketplace HQTa Pilot Project Vision Plan is made up of four districts: Transit Core District, Commerce Street District, Park Avenue District, and North Park District. The districts consist of or overlap with eight SCAG Model TAZ's (Tier 2 level).

The current 2040 SCAG Model scenario Socio-economic data (SED) is considered as the "No Build" (i.e., business as usual) condition for the purposes of evaluating the effectiveness of the HQTa Vision Plan on transportation metrics. The HQTa Vision Plan land use was converted to SED (households, population, employment) for use in the model, using industry standard factors. Residential dwelling units were used to calculate the estimated population, and office and retail square footage was used to calculate employment. The Vision Plan SED was then proportionally added to the appropriate TAZ's based on the district, thus creating a 2040 With Vision Plan scenario, considered the "Build" scenario.

The following pages compare the No Build scenario to the HQTa Vision Plan using the following metrics: vehicular delay (in hours), transit mode share (in % of total travel trips), public transit usage, vehicular miles traveled (VMT), and vehicular hours traveled (VHT).

SCAG 2016 Tier 2 TAZ Boundaries



Source: Iteris, SCAG 2016-2040 Regional Transportation Plan/ Sustainable Communities Strategy (2016 RTP/SCS)

Vision Plan Outcomes

As described, with the increased density resulting from buildout of the Vision Plans in the Riverside Marketplace HQTa Pilot Project Area, several long-range transportation benefits enumerated in the 2016 RTP/SCS have the potential to be achieved.

A comparison of the 2040 "Build" versus "No Build" model results show the following anticipated projections for the HQTa with full buildout of the Vision Plan:



in non-freeway vehicular delay (per capita)



in transit mode share (as a percentage of total travel trips)







in vehicular miles traveled (VMT) (per capita)



in vehicular hours traveled (VHT) (per capita)

SCAG Model Output Data

Socio Economic Data (input)

	 Households	 Population	 Retail Employment	 Non-Retail Employment
2016	1,218	5,783	345	11,173
2040 (No Build)	1,078	5,428	557	11,582
2040 (Vision Plan)	5,798	18,644	1,801	16,318

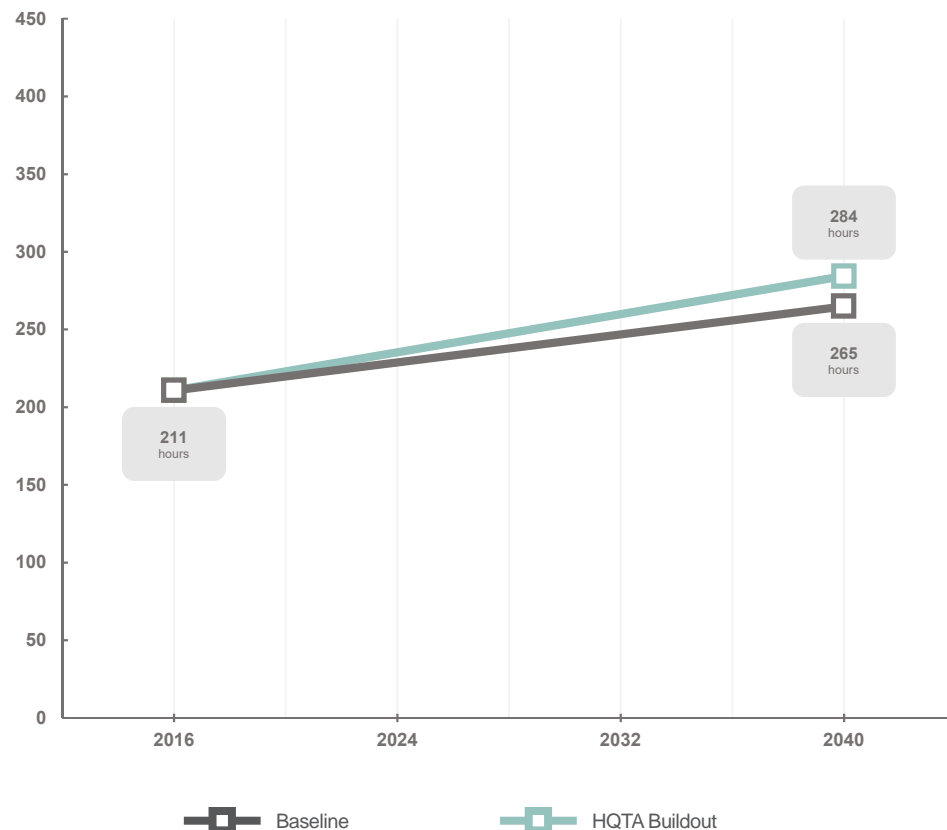
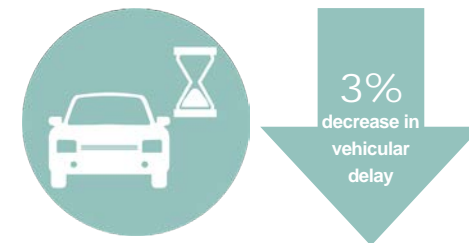
Additional Factors which may Affect Outcomes

The estimates provided in the Implementation Plan are estimates, and actual numbers may increase or decrease due to a variety of factors. Additional investments in transit infrastructure, for instance, may increase public transit usage and decrease vehicular miles traveled.

METRICS

Non-freeway Vehicular Delay

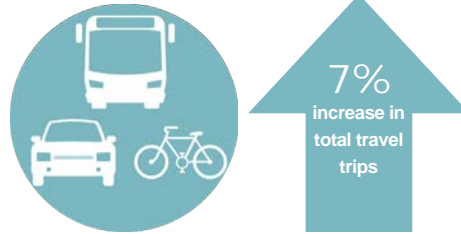
Non-freeway vehicular delay is measured in total hours, limited to the Pilot Project Area. The Riverside Marketplace Pilot Project Area can potentially achieve a 3% decrease in non-freeway vehicular delay in hours total, and a 72% decrease in non-freeway vehicular delay per capita by the year 2040 compared to baseline delay projections.



SCAG Model Output Data

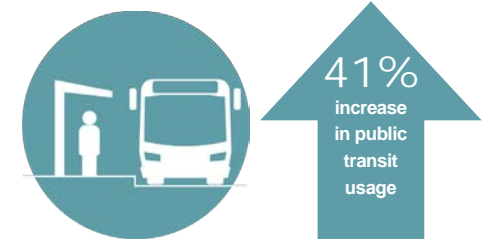
Transit Mode Share

Transit usage estimates are limited to the Pilot Project Area boundary. The Riverside Marketplace Pilot Project Area can potentially achieve a 7% increase in the proportion of travel trips by public transit to other modes by the year 2040 compared to baseline transit usage projections.

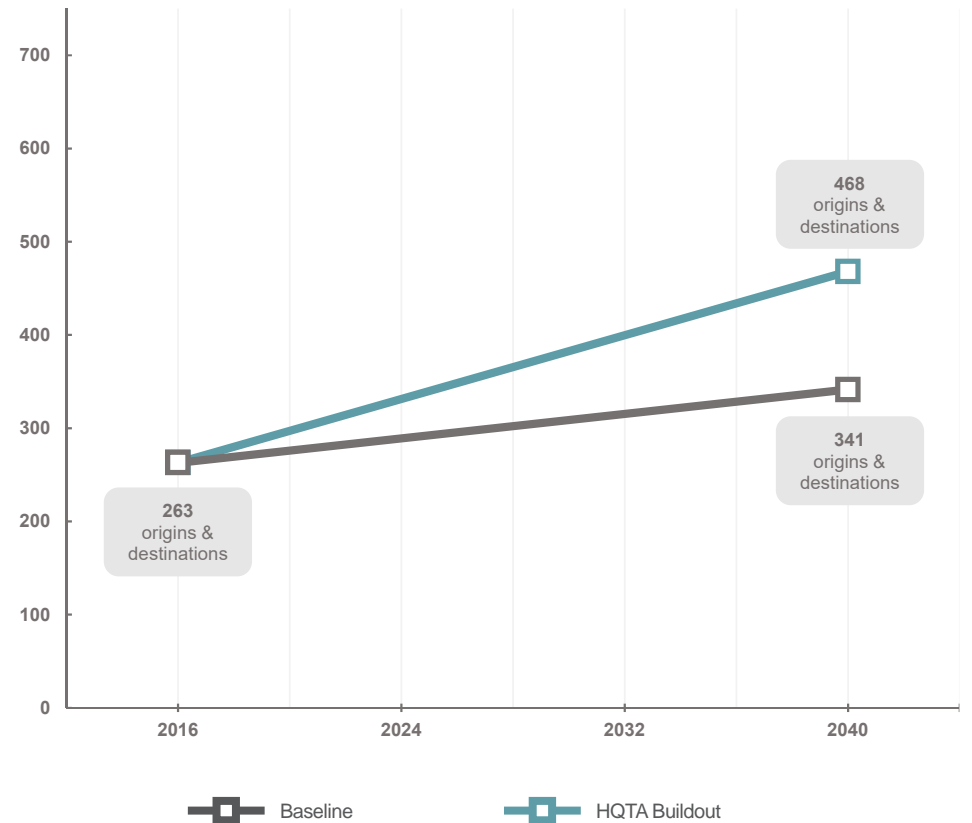
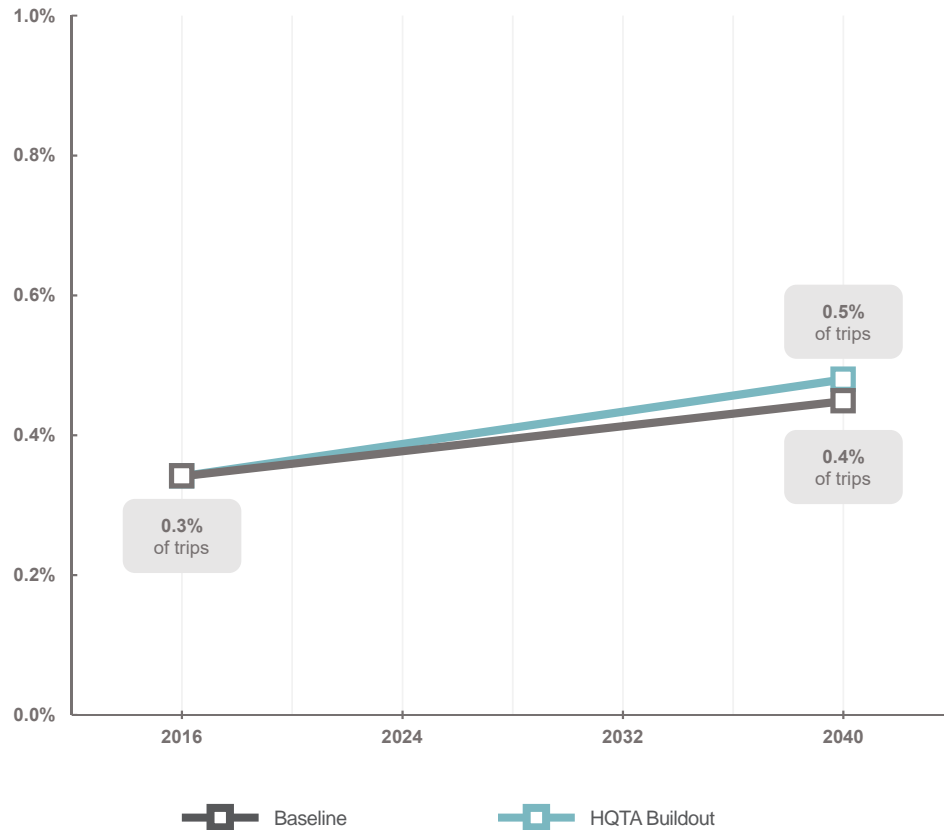


Public Transit Usage

Transit usage estimates are limited to the Pilot Project Area boundary. The Riverside Marketplace Pilot Project Area can potentially achieve a 41% increase in public transit origins and destinations by the year 2040 compared to baseline transit usage projections.



METRICS

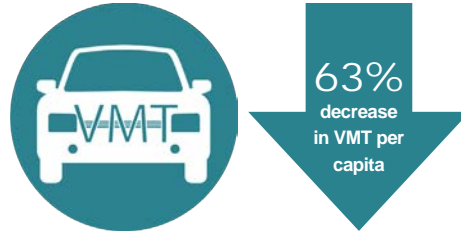


SCAG Model Output Data

METRICS

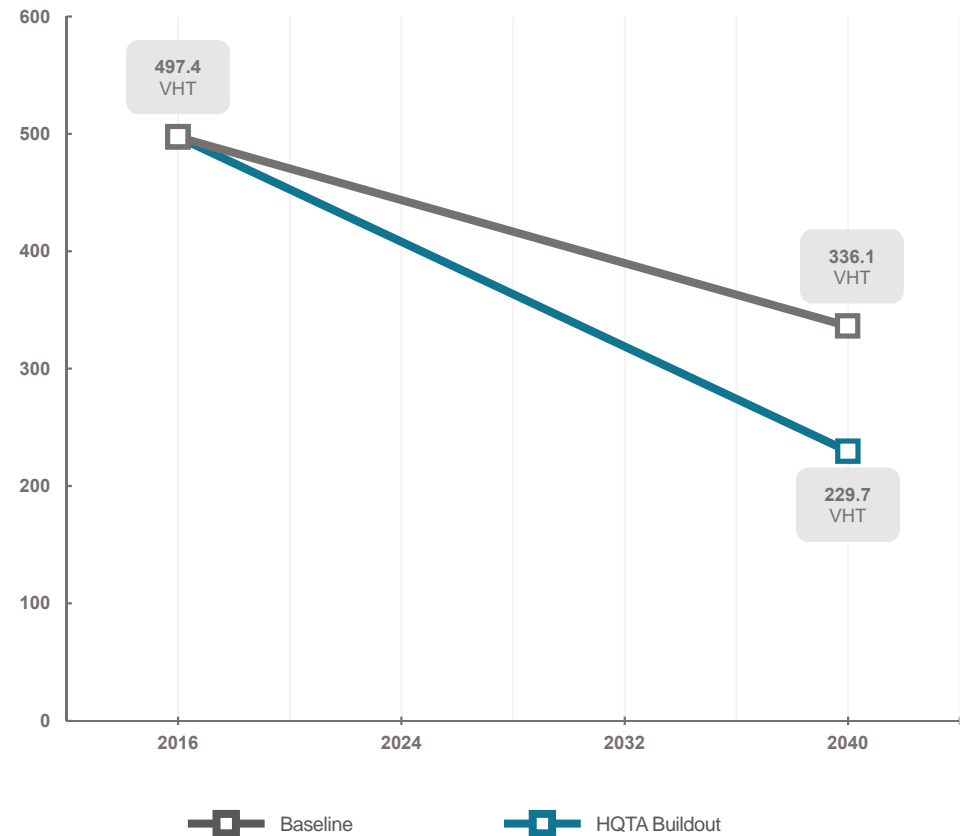
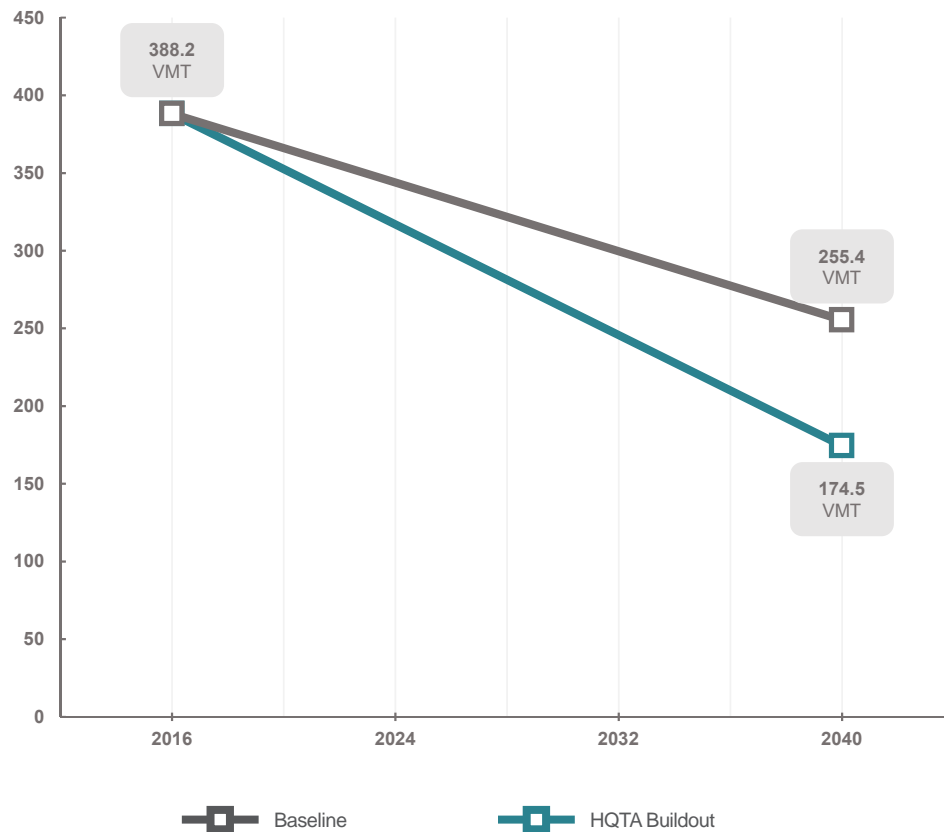
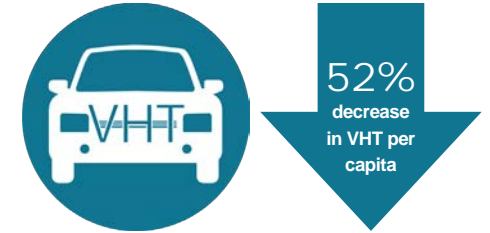
Vehicular Miles Traveled (VMT)

VMT is measured in miles per capita. The Riverside Marketplace Pilot Project Area can potentially achieve a 63% decrease in vehicle miles traveled per capita by the year 2040 compared to baseline VMT projections.



Vehicular Hours Traveled (VHT)

VHT is measured in miles per capita. The Riverside Marketplace Pilot Project Area can potentially achieve a 52% decrease in vehicle hours traveled per capita by the year 2040 compared to baseline VHT projections.

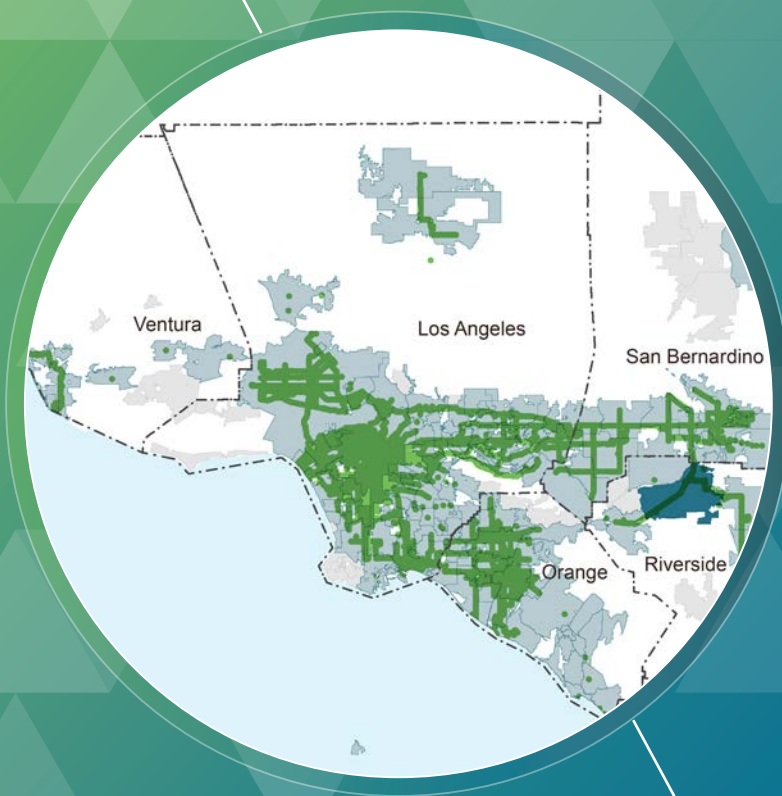


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Appendix

A - Existing Conditions Inventory

B - HQTA Toolkit

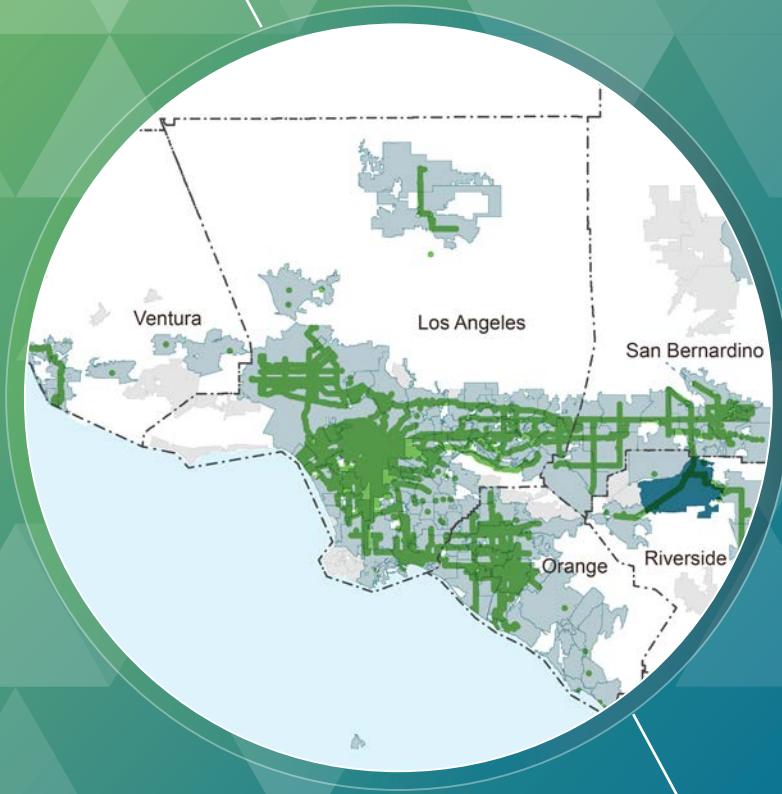


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Appendix A

Existing Conditions





Inventory

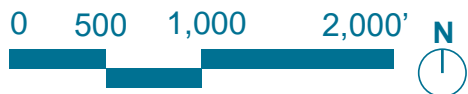


Project Area

EXISTING CONDITIONS INVENTORY

- A** Amtrak / Metrolink Downtown Station
- B** City Hall
- C** Convention Center
- D** Riverside Superior Court
- E** Main Street Pedestrian Mall

-  **Metrolink Route and Station**
-  **1/2 mile area**
-  **Study Area**
-  **Marketplace Specific Plan Area**



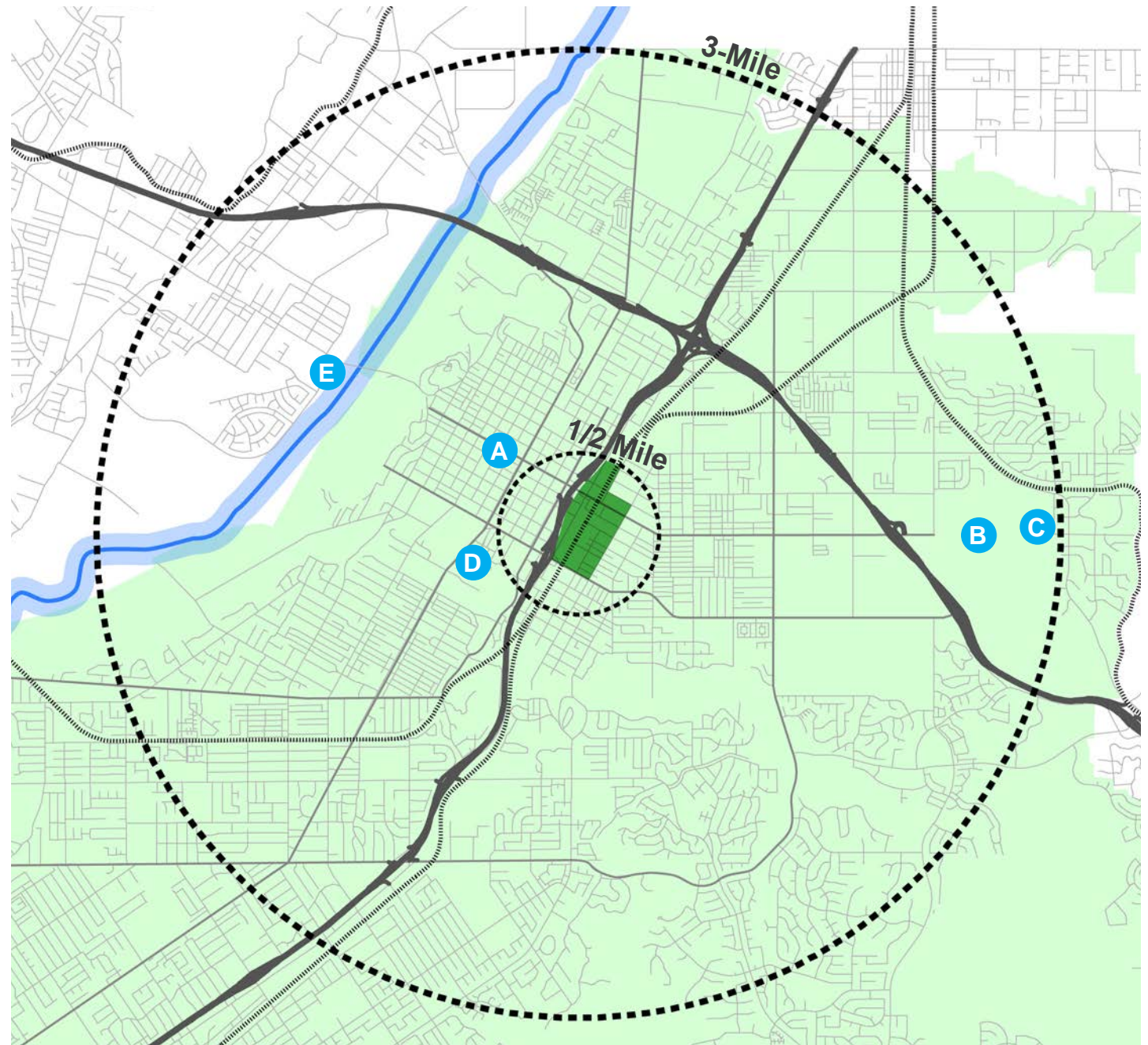
Source: ESRI

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, US

Activity Centers

EXISTING CONDITIONS INVENTORY

- A** Downtown Riverside
- B** University of California - Riverside
- C** UC Riverside Botanic Gardens
- D** Riverside City College
- E** Santa Ana River Trail










Source: Google Maps

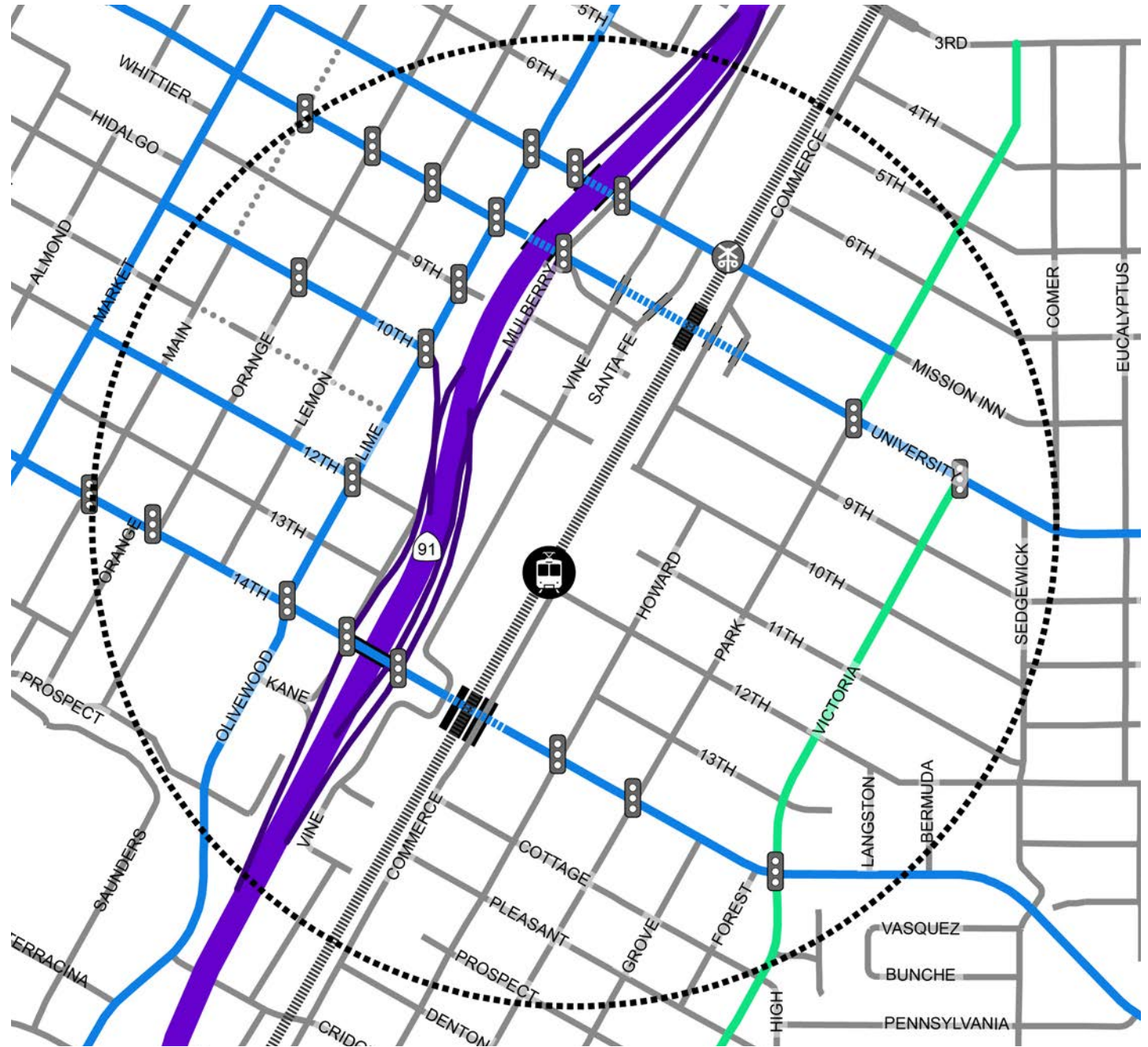
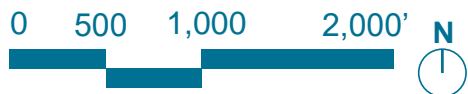
Street Classification and Traffic Signals

EXISTING CONDITIONS INVENTORY

Arterials

- University
- Mission Inn
- Lime
- 14th
- 12th (west of SR-91)
- 10th (west of SR-91)

-  Street signal
-  Rail crossing signal
-  Highway
-  Arterial
-  Collector
-  Local Street
-  Bridge



Source: City of Riverside General Plan (Classification), Google Maps (Signals)

Access and Barriers

SR-91 on- / off- ramp Vehicle Access





- 14th
- Mission Inn
- 10th Street (on-ramp)

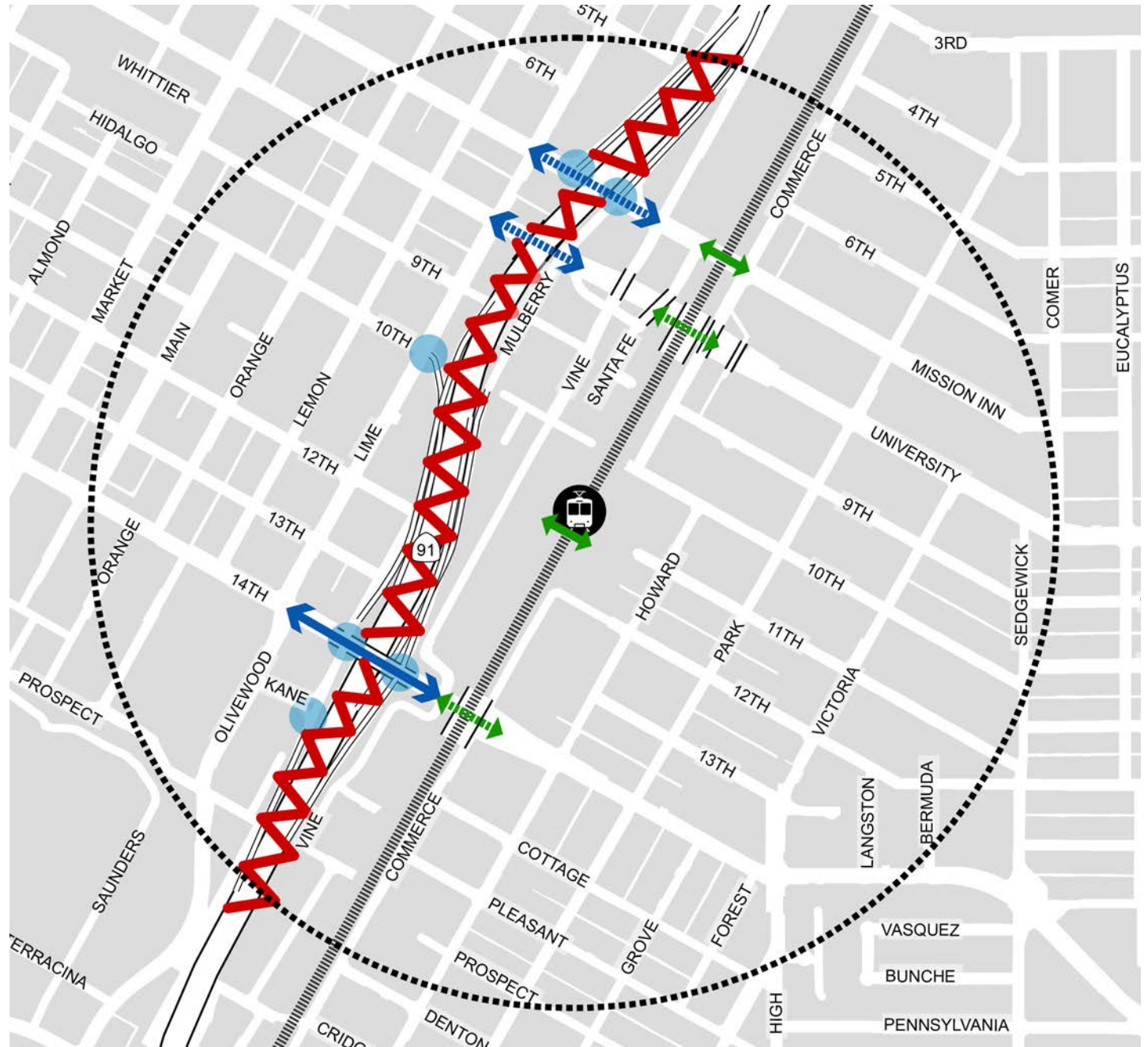
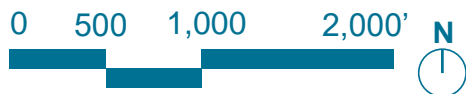
SR-91 Crossings

- Mission Inn
- University
- 14th

Metrolink Corridor Crossings

- Metrolink station
pedestrian bridge
- Mission Inn

-  Pedestrian rail crossing
-  SR-91 crossing
-  Barrier
-  Highway Access



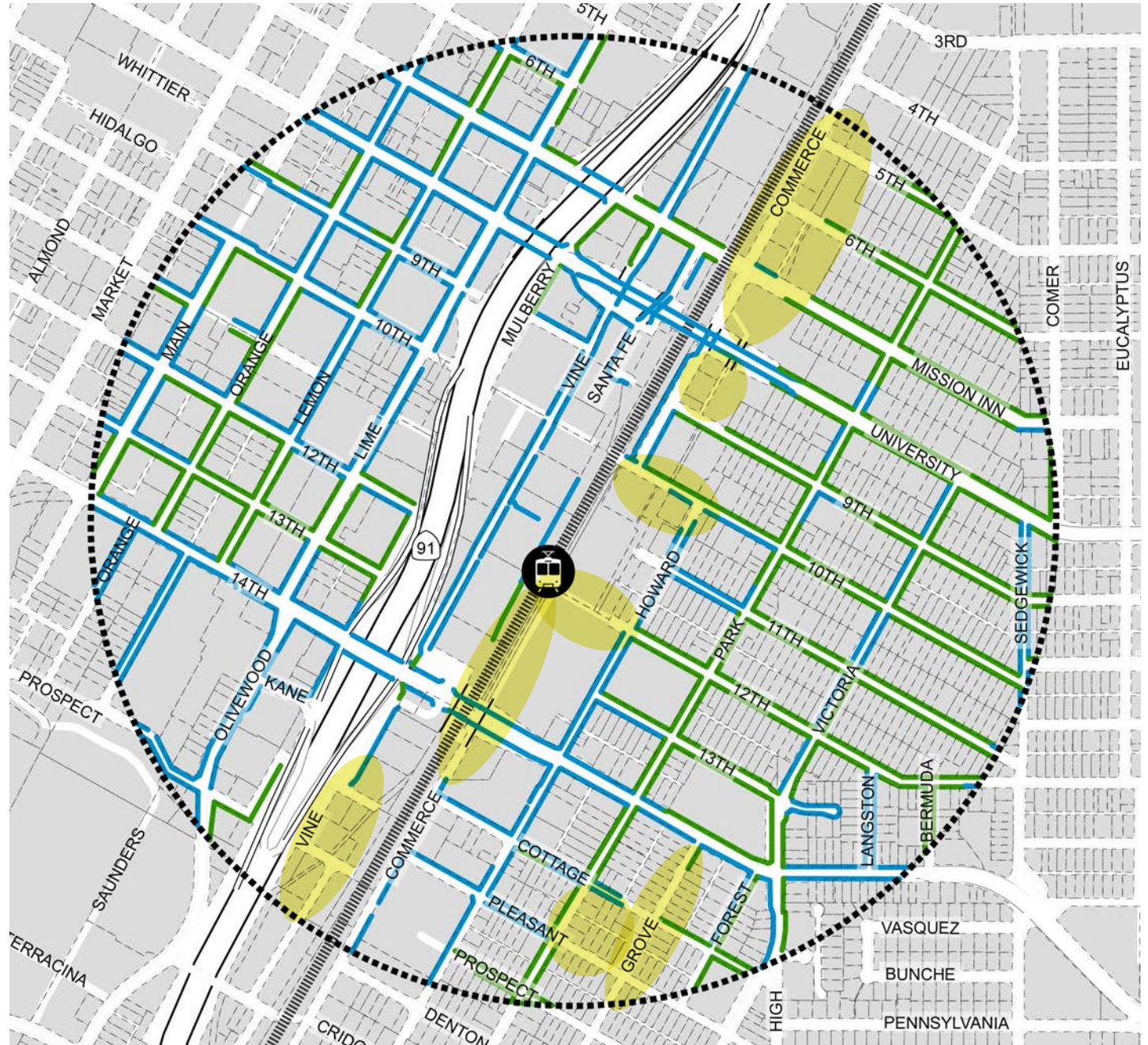
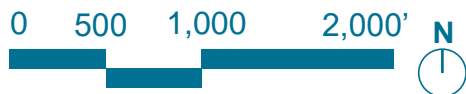
Source: Google Maps

Sidewalks

Sidewalk Gaps

- Commerce
- Mission Inn
- 6th
- 5th
- Connecting Metrolink corridor to residential neighborhood to east

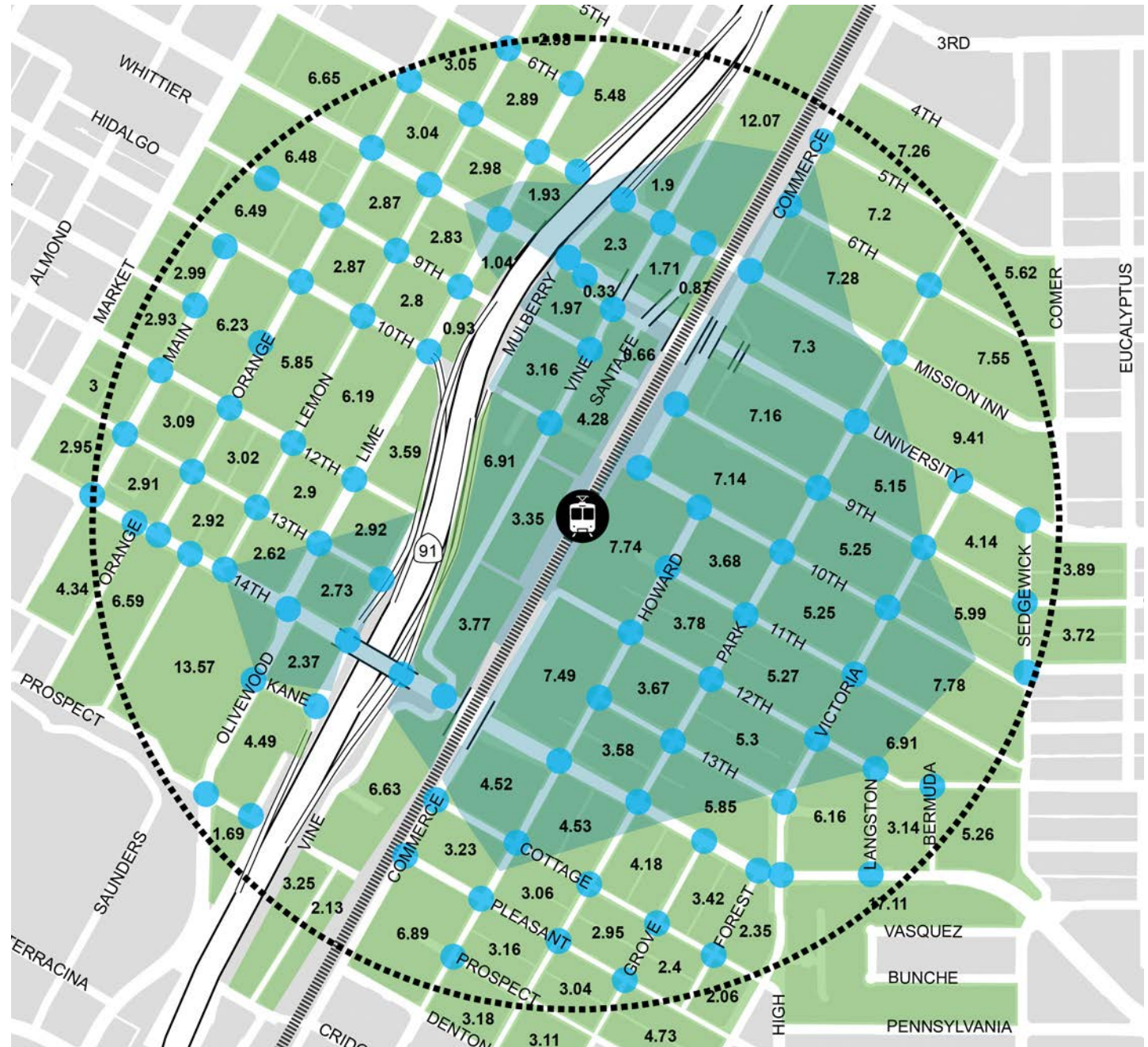
-  Sidewalk Gap
-  Parkway
-  No Parkway



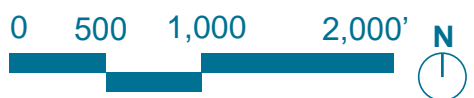
Source: Google Maps

Walkshed and Connectivity

- Average block size: **4.49 acres**
- Number of intersections: **89**
- Limited access to Downtown within 10-minute walk



10-minute Walkshed
 Block
 Intersection

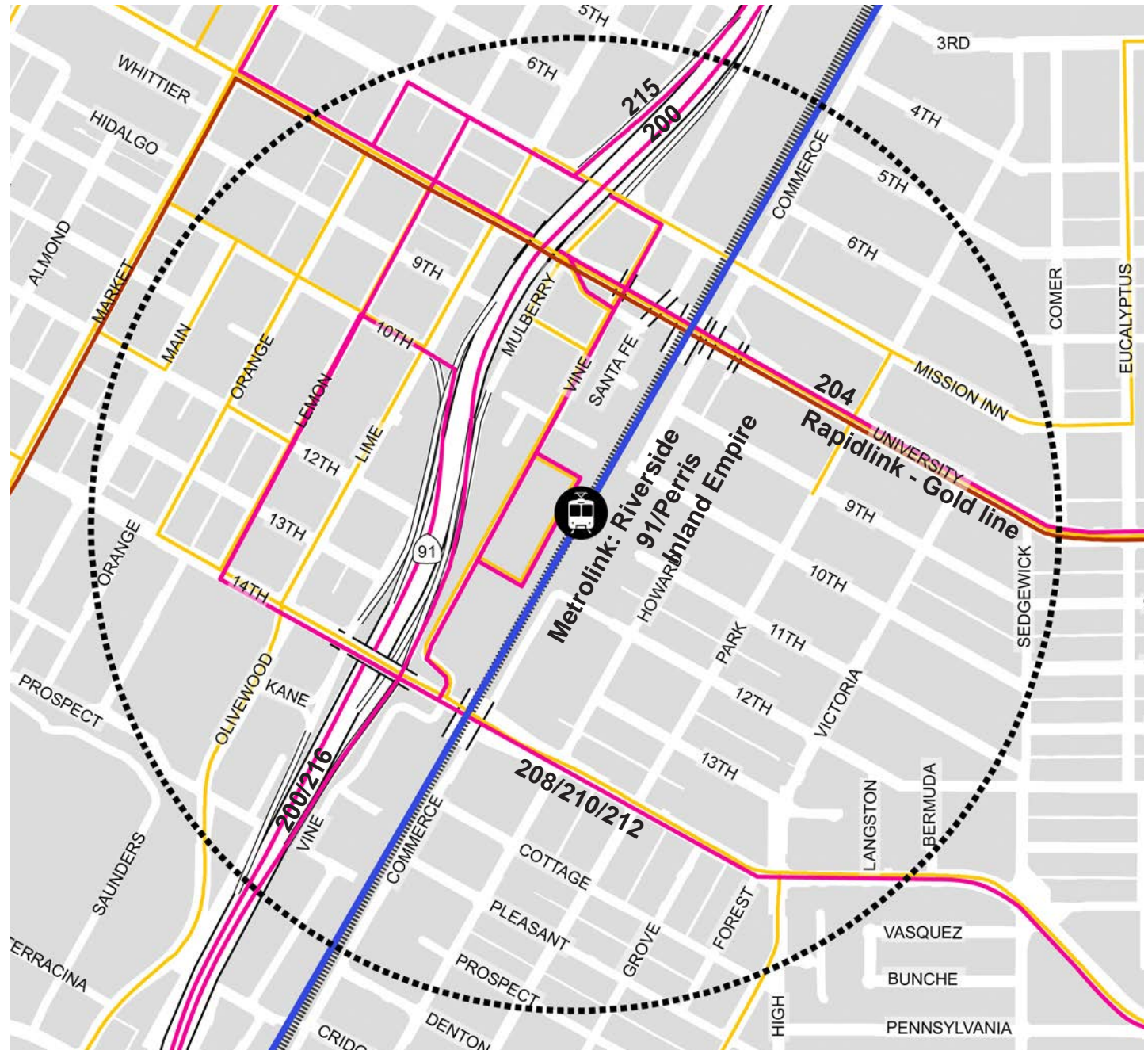
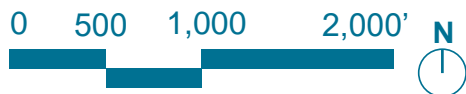


Source: ESRI

Public Transportation

- Transit classification based on SCAG 2040 RTP/SCS
- Multiple bus lines follow Lemon/Lime - University - Vine - 14th Loop
- Multiple bus lines with stop at Metrolink Station (1, 15, 29, 49, 54, 208, 210, 212, 220)

-  Commuter Rail
-  Express Bus
-  Rapid Bus
-  Local Bus



Source: SCAG

Bicycle Facilities

Proposed class II (bicycle lane):

- Park
- Lime / Olivewood

Proposed bicycle route:

- 14th
- University (existing gaps in bike lanes)
- RTA First/Last Mile Mobility Plan

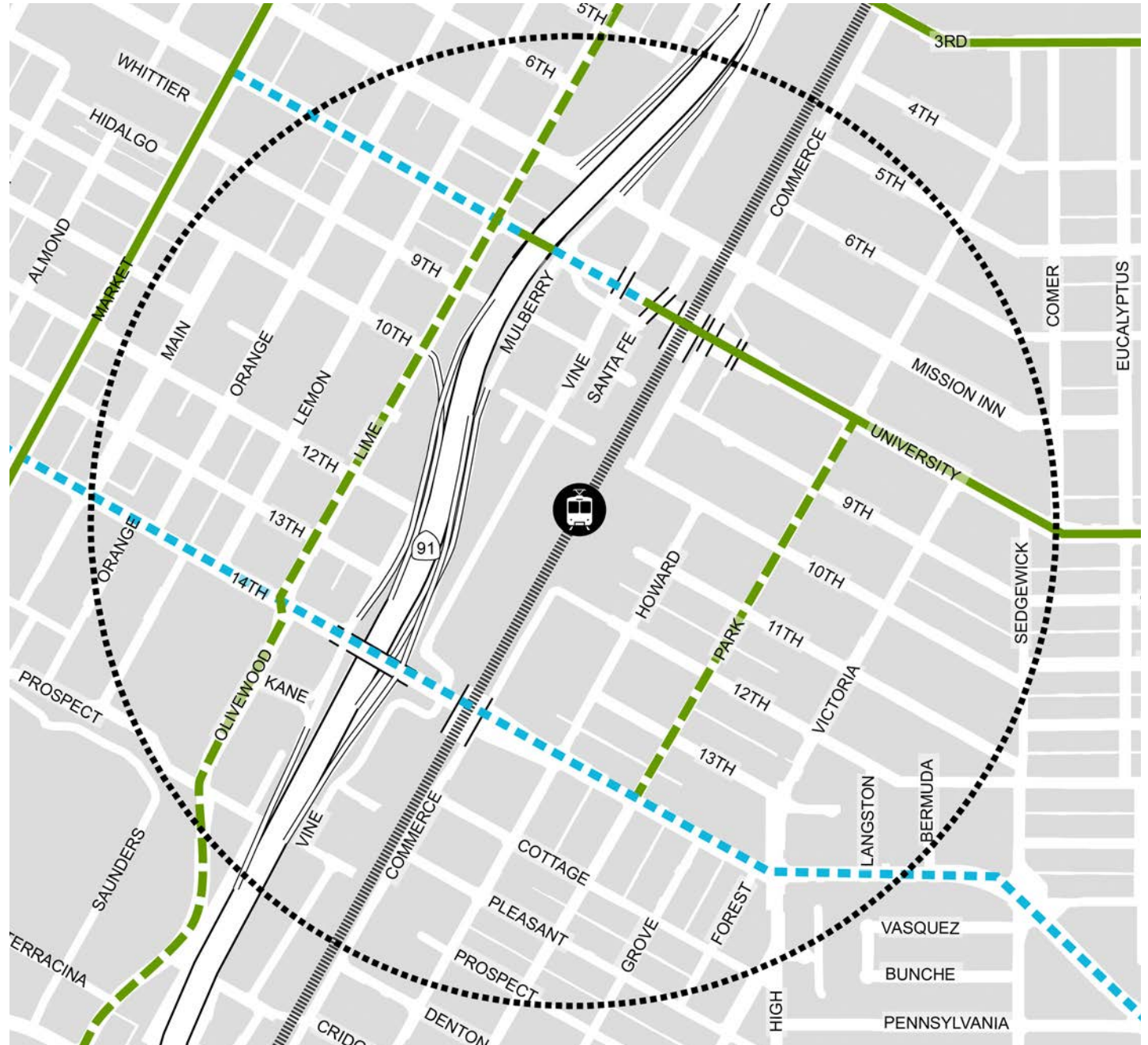
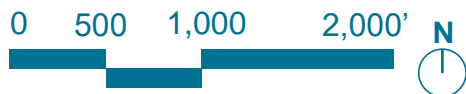
Existing

 Bicycle Lane

Proposed

 Bicycle Lane

 Bicycle Route



Source: Riverside Bicycle Master Plan, 2007

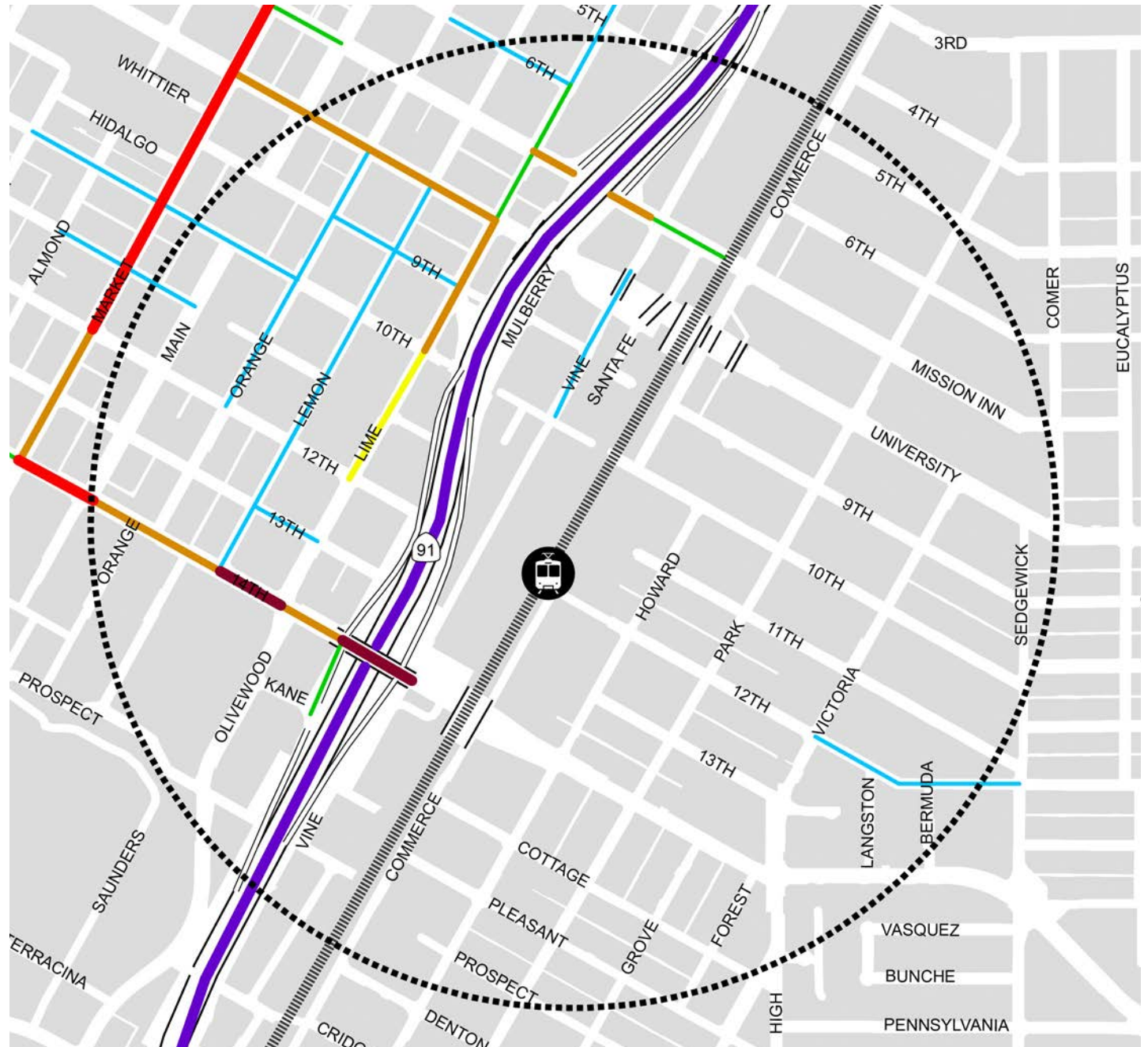
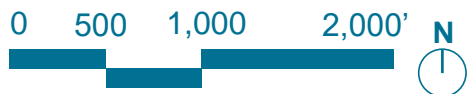
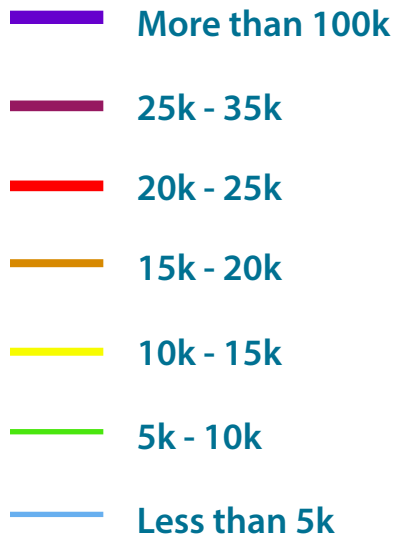
Traffic Volumes

EXISTING CONDITIONS INVENTORY

- No traffic count information found for streets east of Metrolink corridor within study area (excluding 12th)

Traffic volume concentrations:

- 14th
- University
- Market



Source: City of Riverside, 2003 - 2008.

Vehicle - Bicycle / Pedestrian Collisions

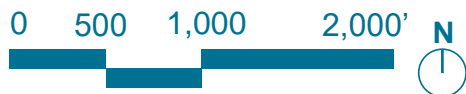
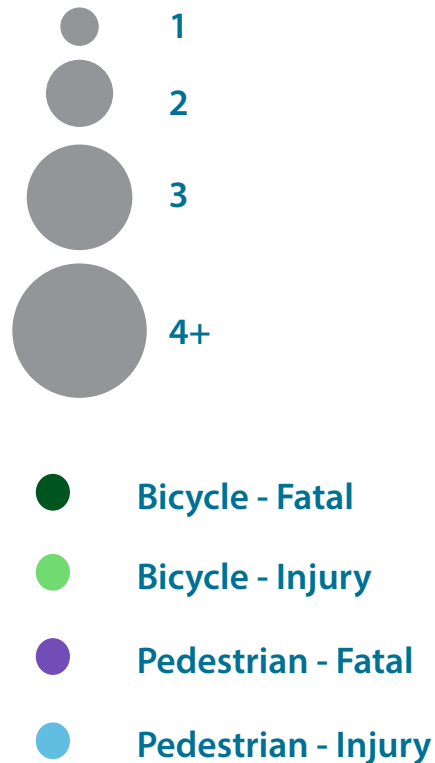
EXISTING CONDITIONS INVENTORY

Collision concentrations:

Number of Crashes

- 14th
- University
- Mission Inn
- 14th / Victoria

Collision Types

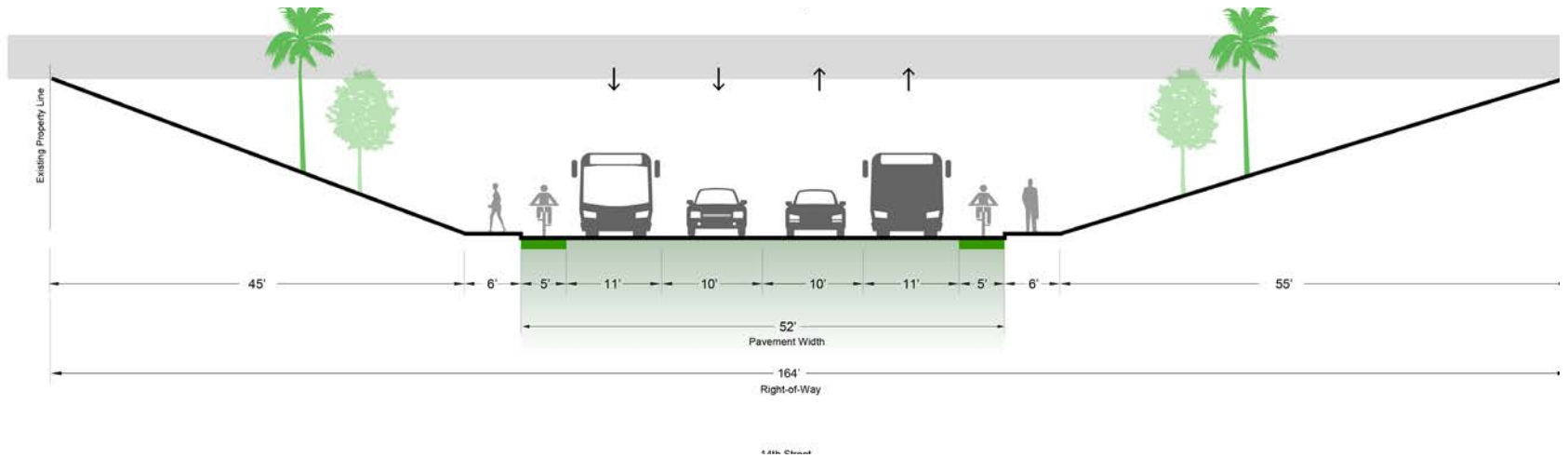


Source: SWIRTS

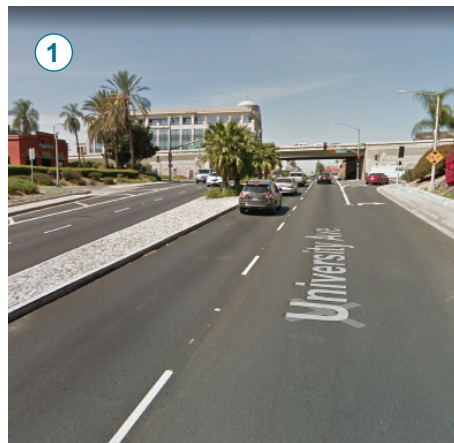
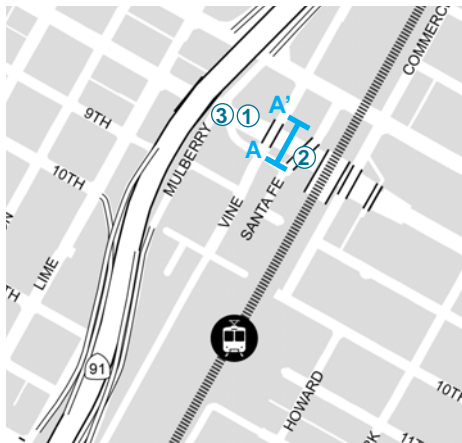
University Avenue

EXISTING CONDITIONS INVENTORY

Section A - A'



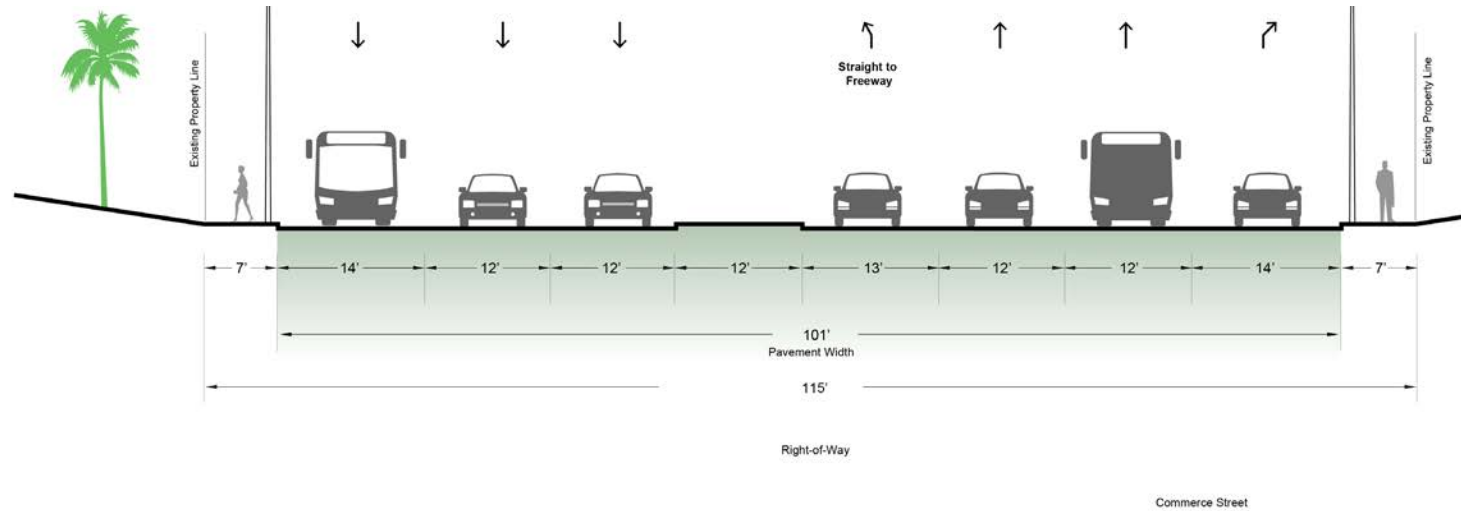
- 4 travel lanes
- Bus corridor
- On-street bicycle lanes
- Narrow sidewalks
- Additional turn lanes at intersections and freeway access points
- Depressed between Mulberry Street and Park Avenue



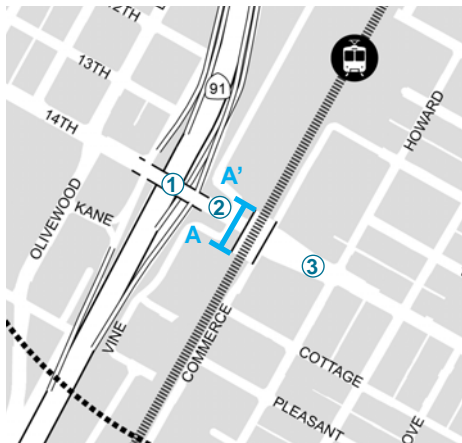
14th Street

EXISTING CONDITIONS INVENTORY

Section A - A'



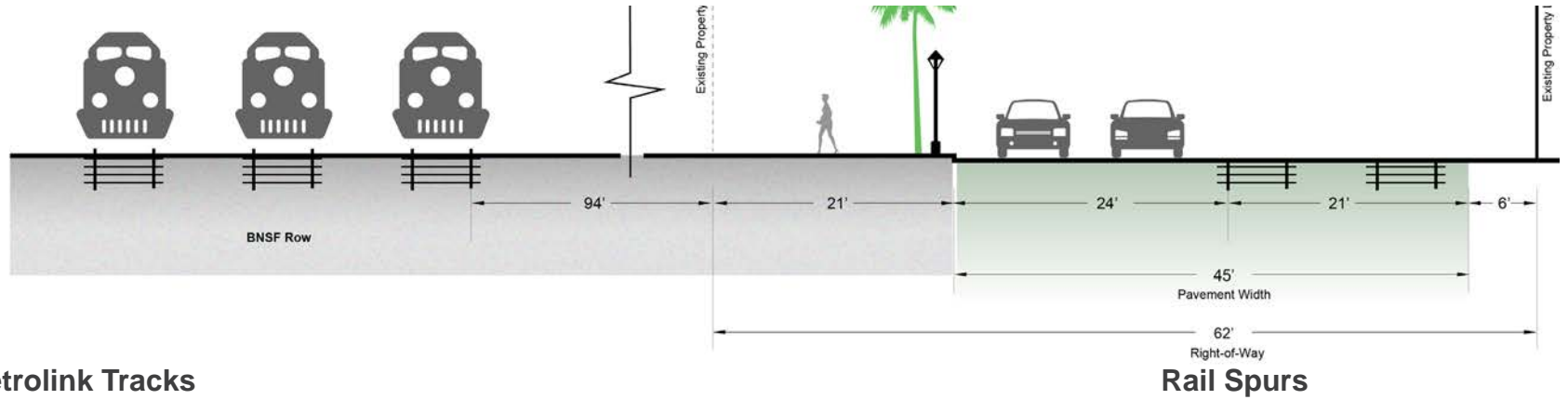
- 4 travel lanes
- Bus corridor
- On-street bicycle lanes
- Narrow sidewalks
- Additional turn lanes at intersections and freeway access points



Commerce Street

EXISTING CONDITIONS INVENTORY

Section A - A'

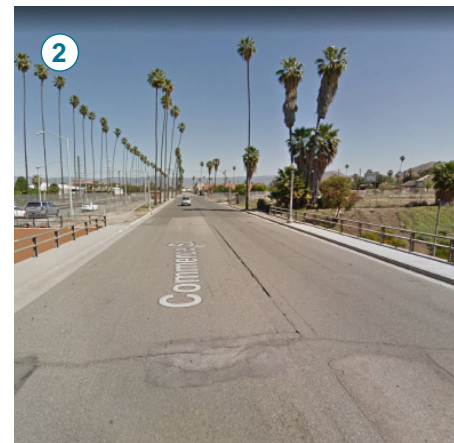
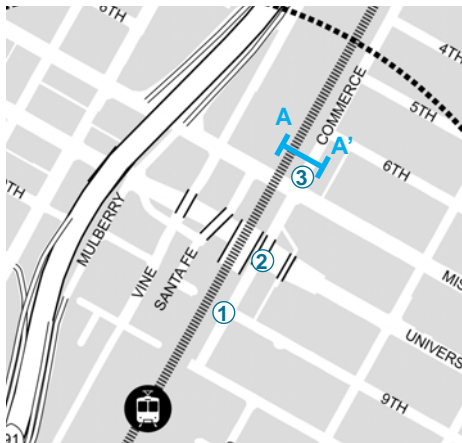


Metrolink Tracks

Rail Spurs

- Utilization of rail spurs
- Use of Metrolink ROW

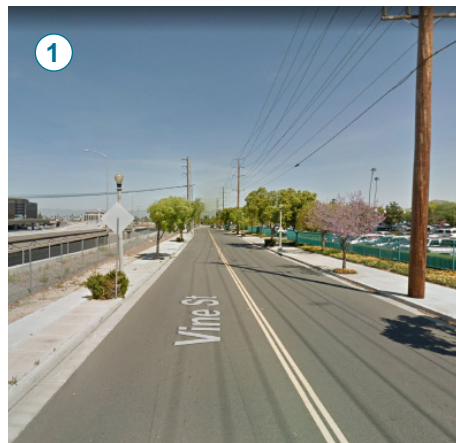
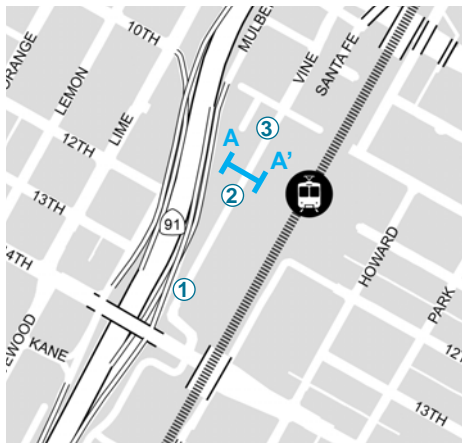
Vine Street - West



Vine Street

- Sufficient Capacity for Buses and Traffic?

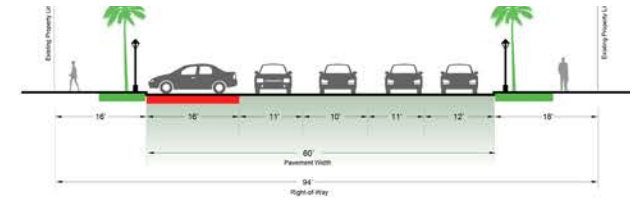
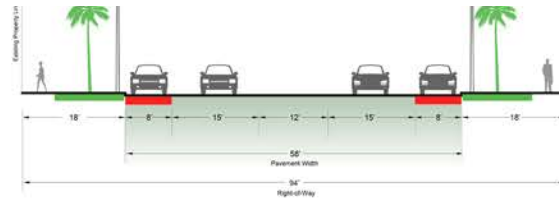
Section A - A'



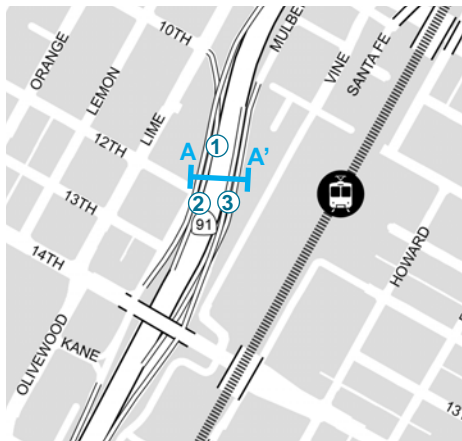
SR - 91

Section A - A'

EXISTING CONDITIONS INVENTORY

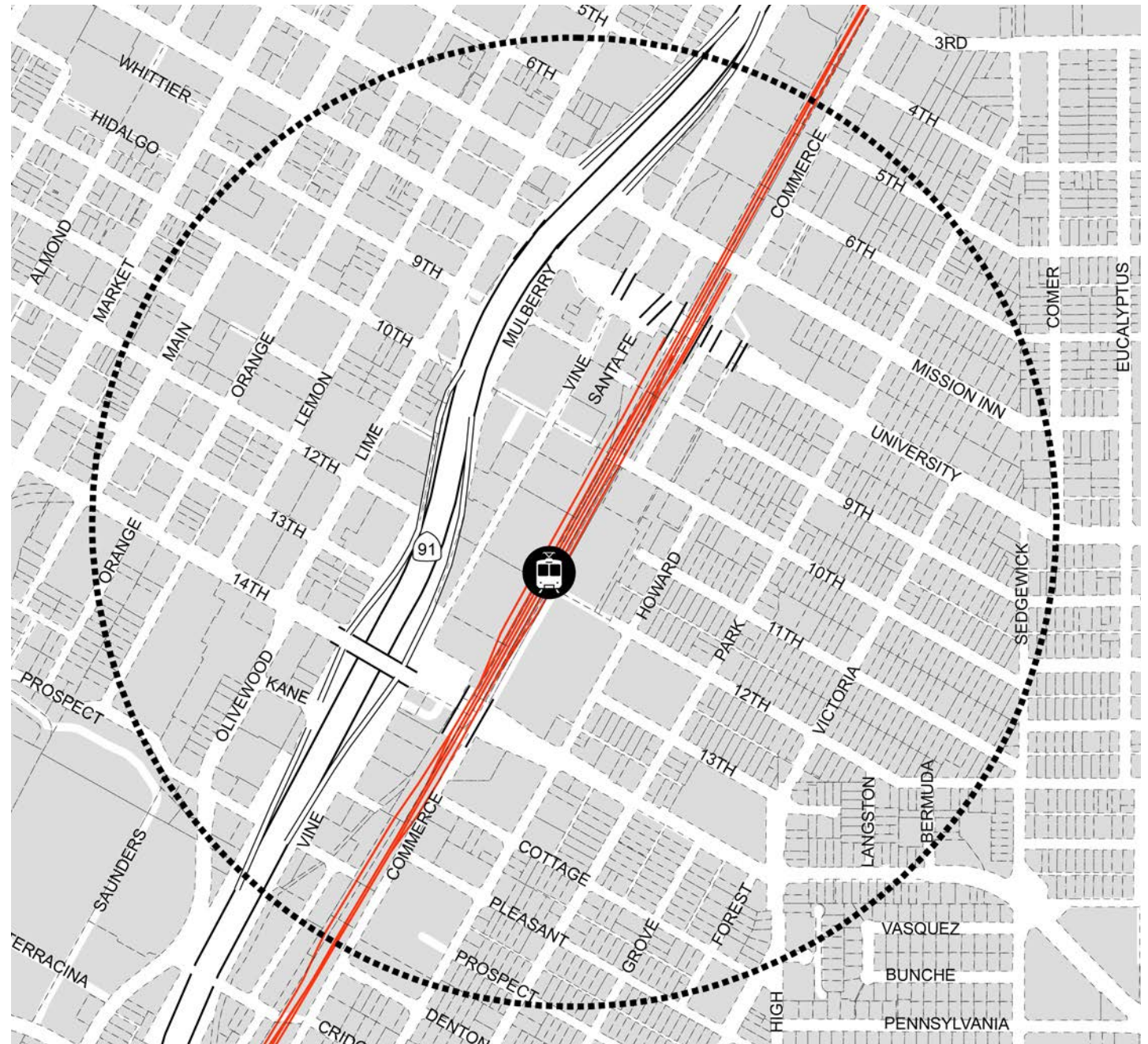


- Pedestrian Bridge or Deck Park?
- Use Publicly-owned land west of 91 Freeway

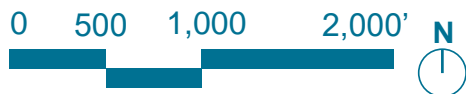


Rail Lines and Truck Routes

- No specific truck routes identified in General Plan
- SR-91 and access points to SR-91 mentioned as truck circulation routes



== Bridge
— Rail line



Source: ESRI

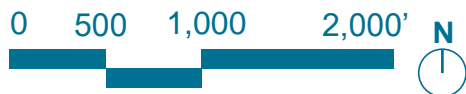
Open Space and Street Trees

- Two open spaces within the 1/2 mile area

Street tree coverage concentration:

- Vine Street
- East of Park Avenue
- Downtown Riverside

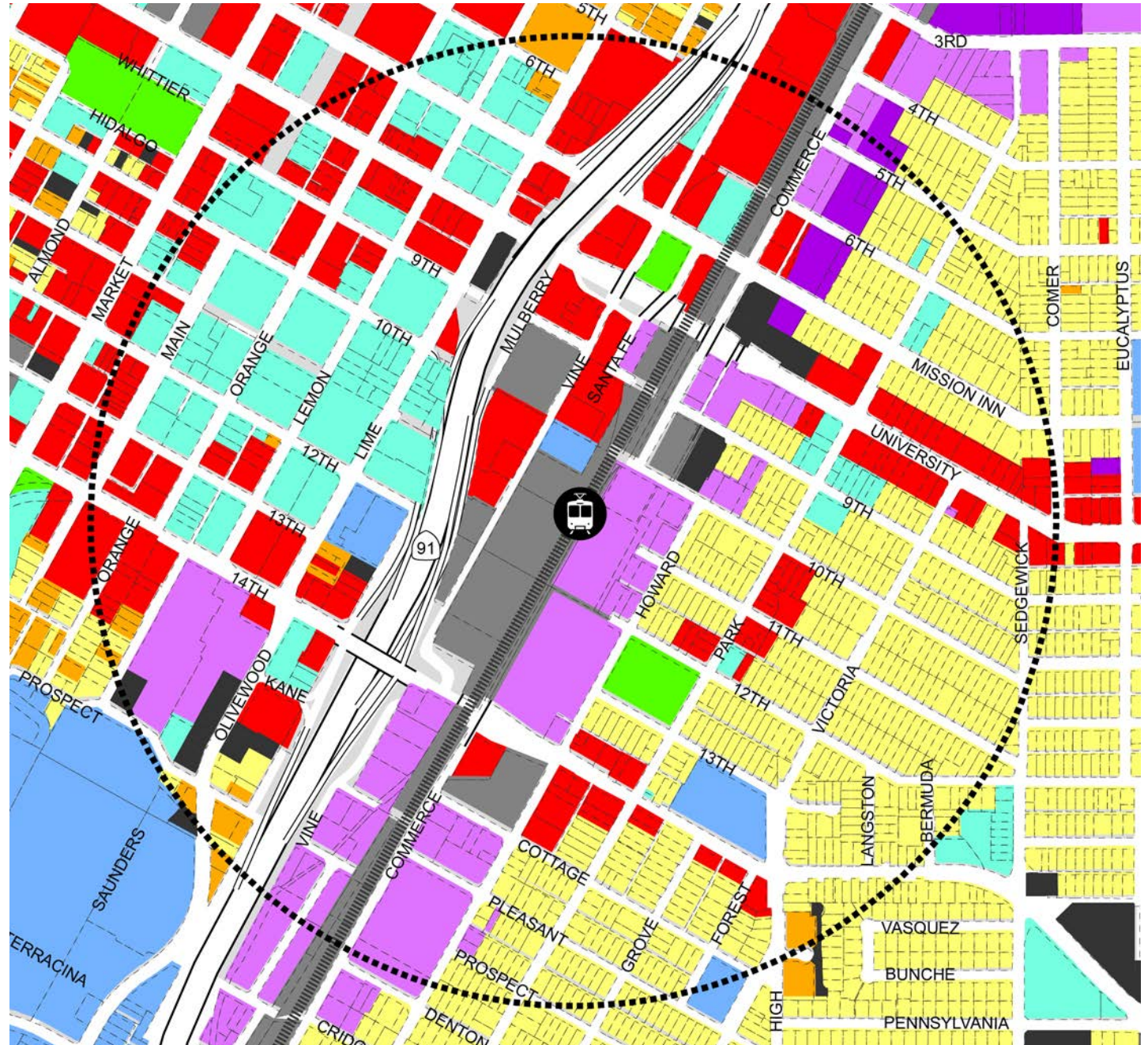
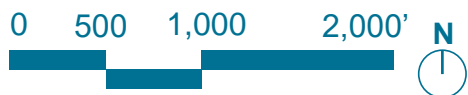
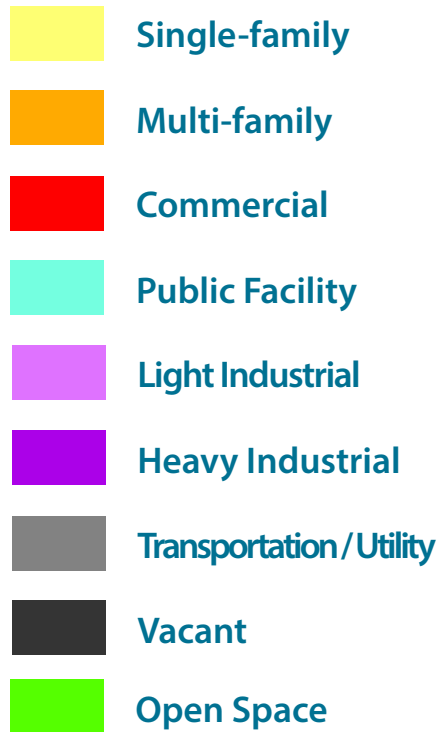
- Condition, size, age, and species of street trees varies considerably



Source: Google Maps

Existing Land Use

- Light industrial immediately east of Metrolink corridor
- Single family located east of Metrolink corridor

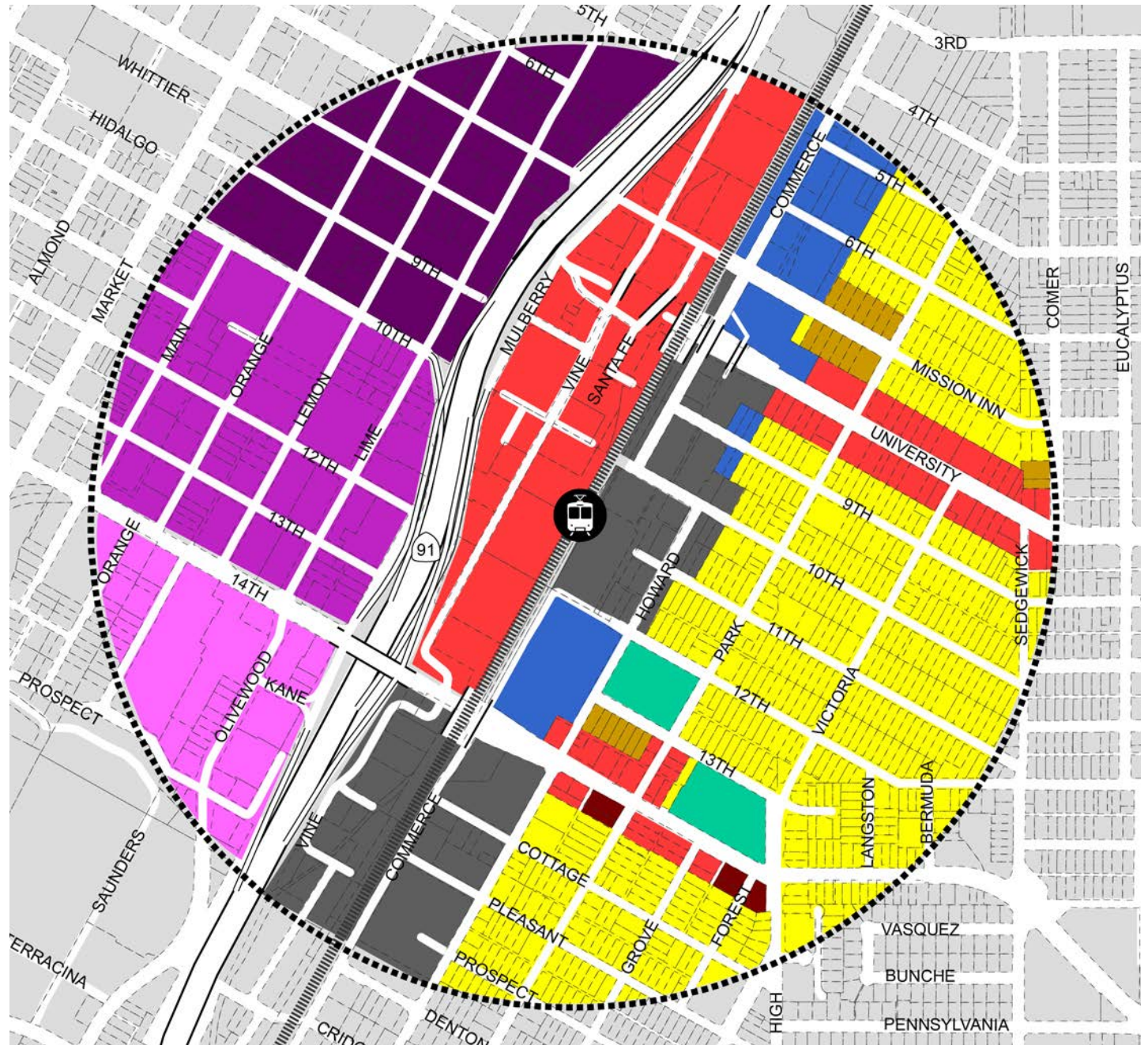
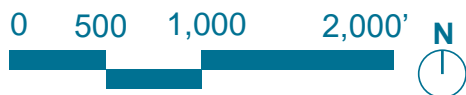


Source: SCAG, 2012.

General Plan Zoning

EXISTING CONDITIONS INVENTORY

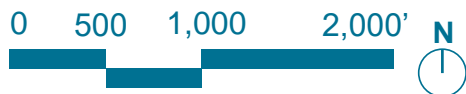
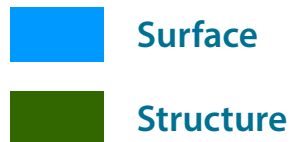
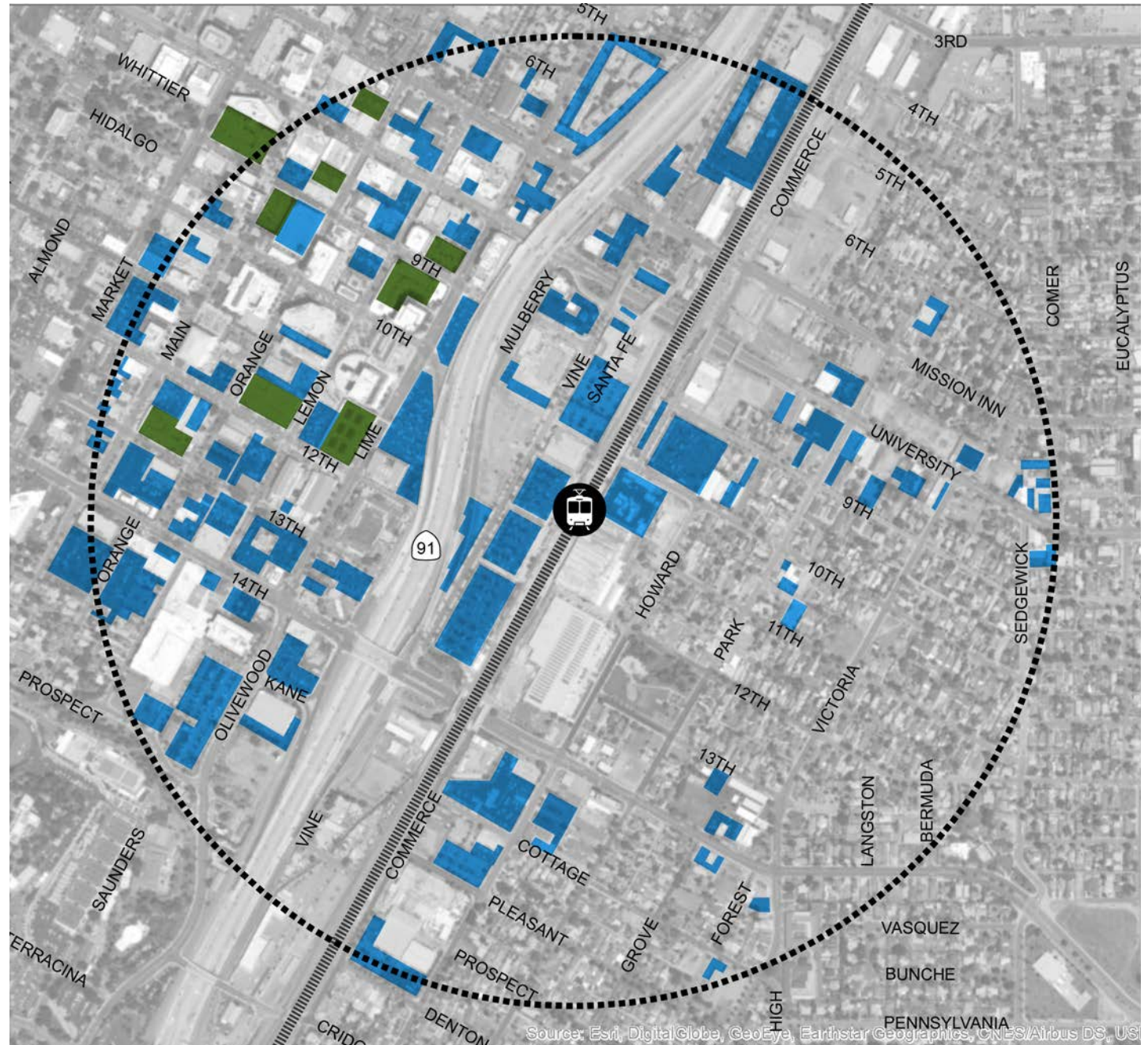
- Desired Parking ratios, Height, Density?



Source: City of Riverside General Plan - 2025, 2007

Parking

- Significant concentrations of surface parking within 1/2 mile area

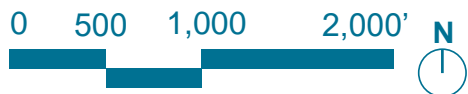
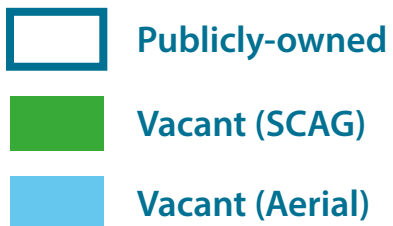
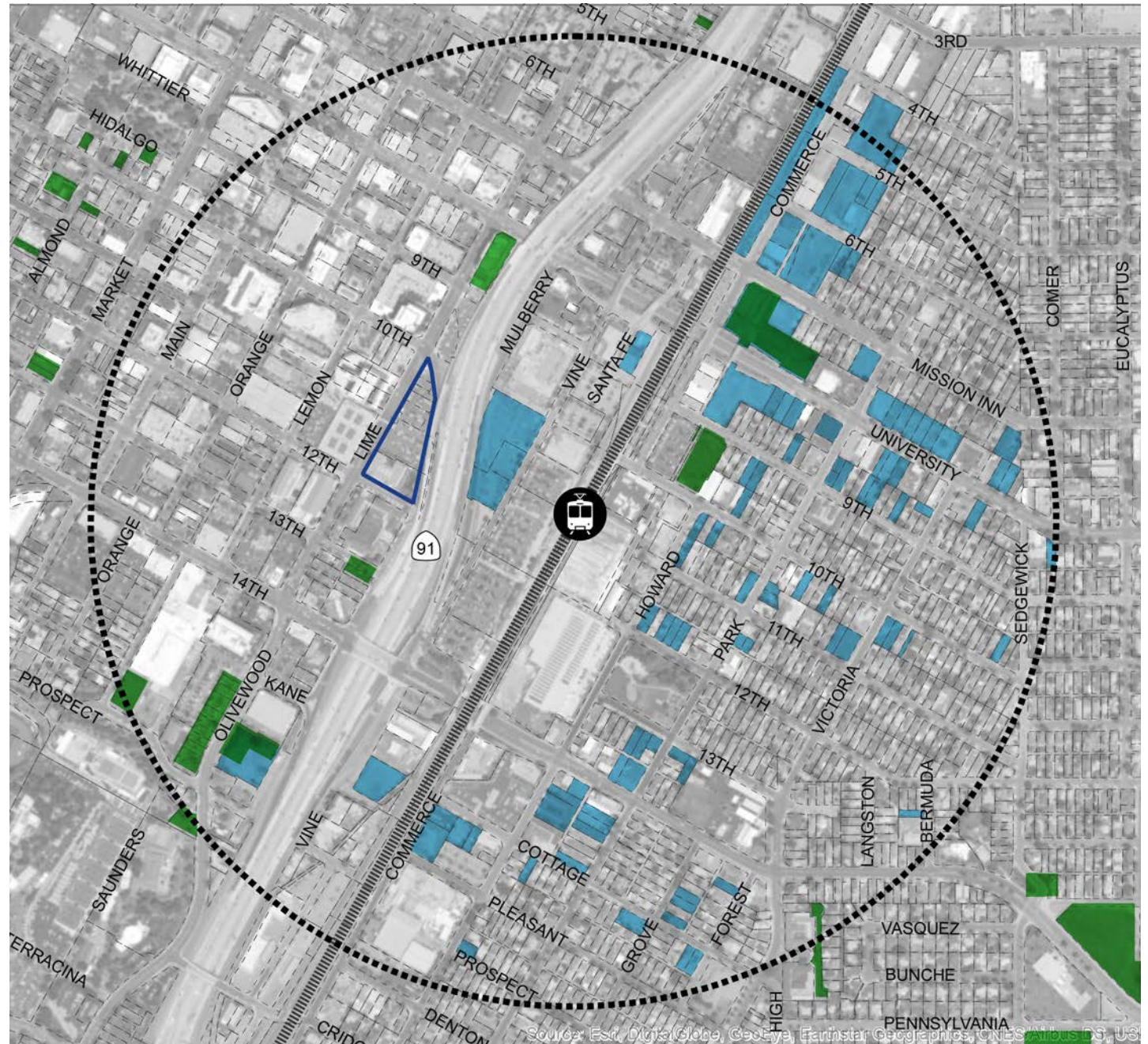


Source: Google Maps

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, US

Vacant and Publicly-Owned

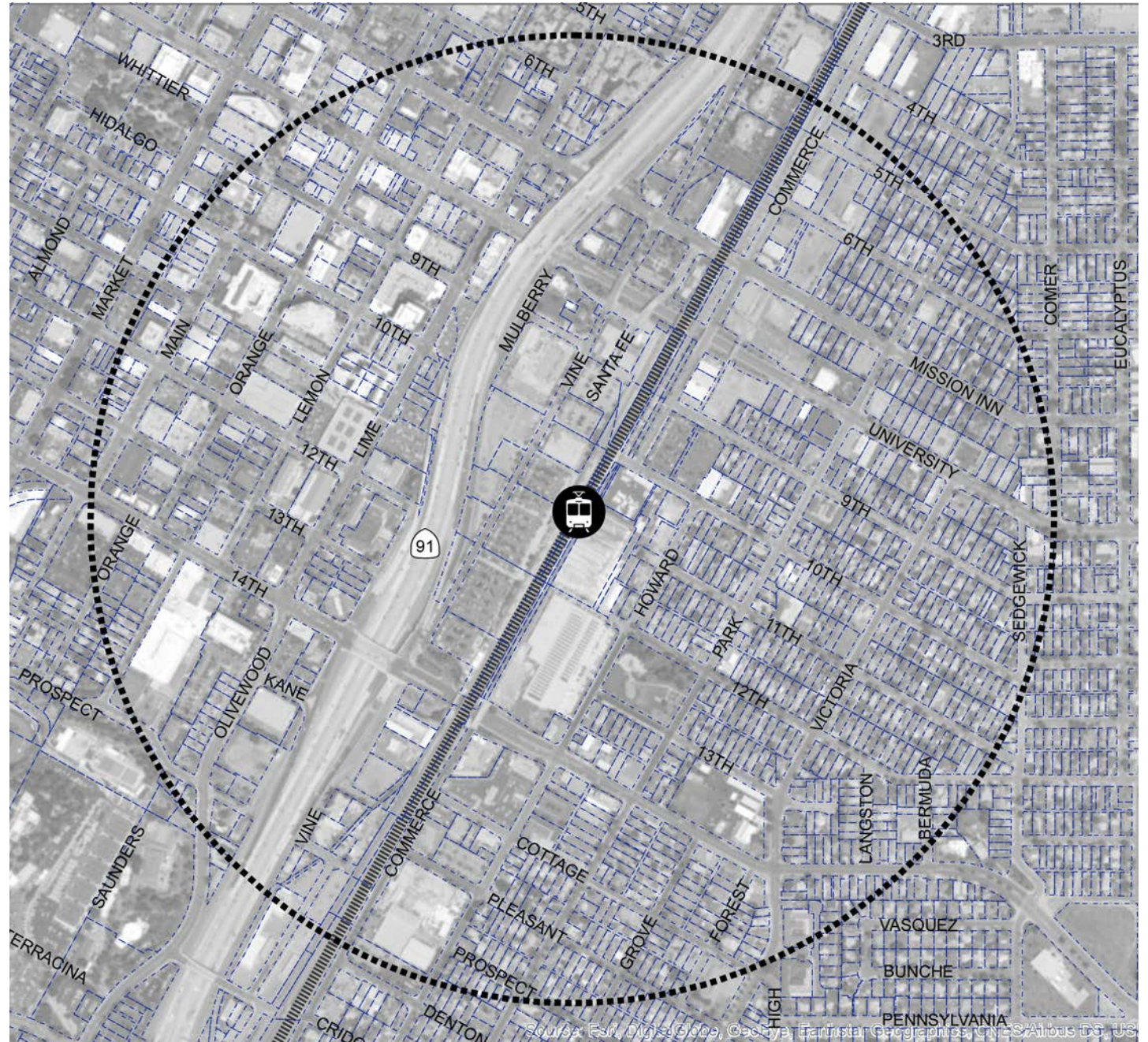
- Most vacant sites located around periphery of 1/2 mile area



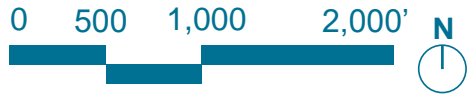
Source: Google Maps, SCAG

Ownership

- Important stakeholders / ownership?



 Parcel







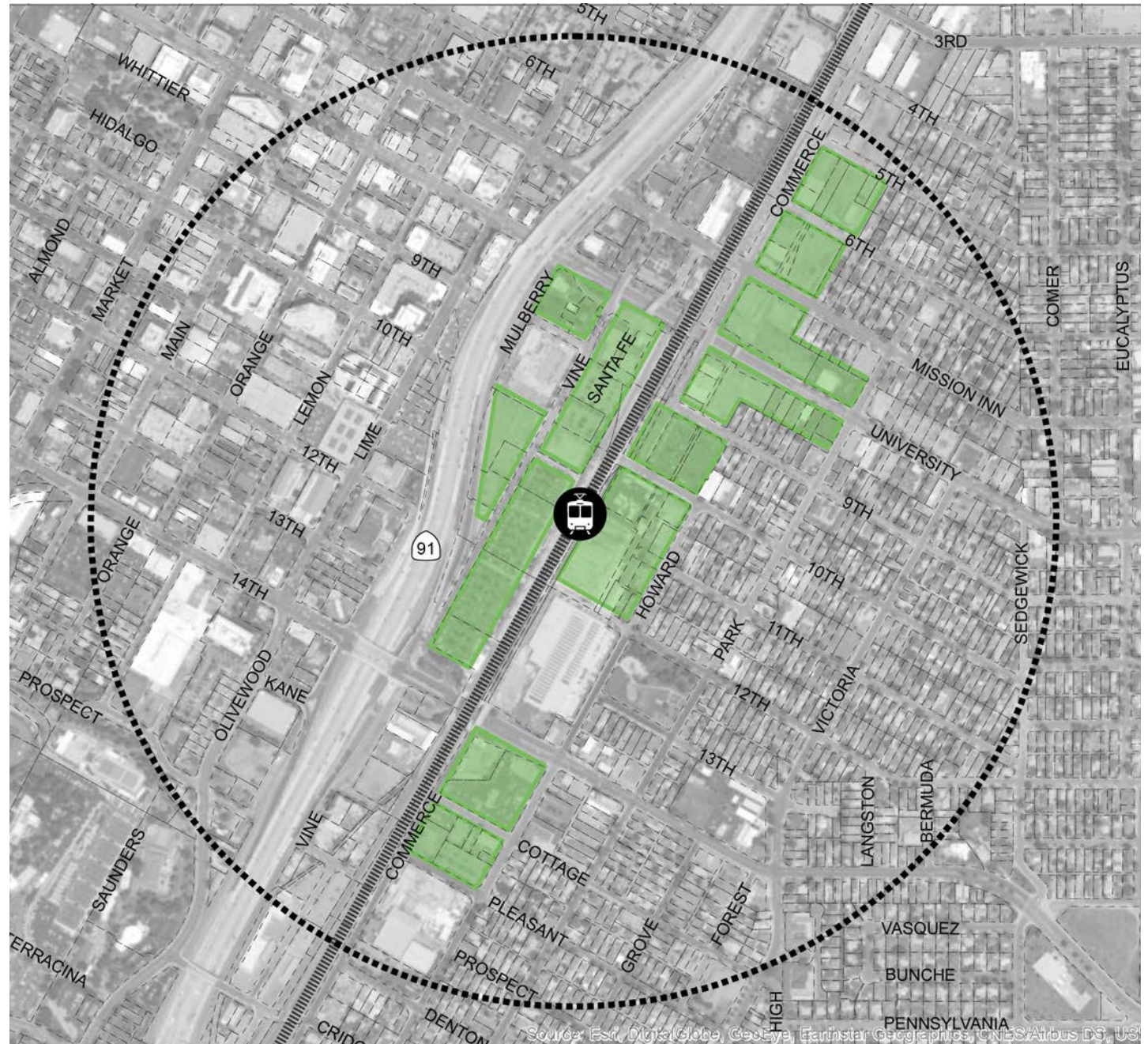
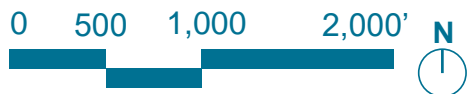
Source: Google Maps, SCAG

Potential Development Opportunities

Factors for identifying potential development sites:

- Surface parking
- Vacant
- Underutilized
- Located along commercial / industrial corridors
- Multiple contiguous parcels / large single parcel

 **Station**
 **Metrolink Corridor**
 **Parcel**
 **Potential Development Site**



Source: Google Maps

Architecture and Photo Inventory

EXISTING CONDITIONS INVENTORY

- Contemporary industrial showroom / manufacturing facility
- Contemporary non-contributing buildings
- Adaptive reuse of historical buildings
- Vacant historical buildings
- Commercial storefronts
- Single-family historic tract / cottage / bungalow homes



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HQTA Toolkit

HIGH QUALITY TRANSIT AREA
PILOT PROJECT

Southern California
Association of Governments

March 2019



Acknowledgments

Southern California Association of Governments (SCAG)

Grieg Asher, AICP, Project Manager
Jason Greenspan, AICP, LEED-GA, PP,
Manager of Regional Sustainability
Steve Fox, Senior Regional Planner

Gruen Associates (Prime Consultant)

Adam Maleitzke, AICP, Project Manager,
Director of Planning
Orlando Gonzalez, Senior Urban Designer
Elaine Carbrey, AIA, AICP, Associate Partner
Kamille Parks, Urban Designer/Planner

HR&A (Economics)

Amitabh Barthakur, Principal
Judith Taylor, Principal
Riddhi Chakraborty, Analyst

Iteris (Transportation)

Viggen Davidian, PE, Vice President
Deepak Kaushik, PE, Senior Transportation
Engineer

HQTA Toolkit

HIGH QUALITY TRANSIT AREA PILOT PROJECT

Southern California Association of Governments

March 2019



The preparation of this report was financed in part through grants from the Federal Transit Administration, U.S. Department of Transportation. The contents of this report do not necessarily reflect the official views or policy of the U.S. Department of Transportation.

Additionally, the contents of this report reflect the views of the author who is responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of SCAG or DOT. This report does not constitute a standard, specification, or regulation.

In this Toolkit

The HQTA Toolkit is designed to implement Transit-Oriented Development (TOD) within the Region’s HQTAs. An outline for the Toolkit is presented below:

PART 1 Introduction

The HQTA Pilot Project offers technical assistance and planning services to station areas that have a high potential for transit-supportive development patterns and future growth.

PART 2 Toolkit

The Toolkit includes contemporary best practices for TODs, open space, and complete street projects that are tailored to the desired place types for a HQTA. Those toolkit options are organized as follows:

PART 3 Additional Resources

Federal, regional, and local funding sources for complete street, open space and placemaking, and TOD projects are provided in addition to other resources Cities may find useful in evaluating their own HQTAs.

Purpose and Introduction to HQTAs

pg. I-2



A - Complete Streets

pg. II-A-1



A - Funding Sources

pg. III-A-1



SCAG Region Issues, Goals, and Objectives

pg. I-4



B - Open Space / Placemaking

pg. II-B-1

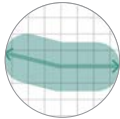


B - Additional Resources

pg. III-B-1

Benefits and Components of TODs

pg. I-6



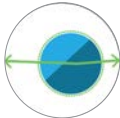
C - Building Types & Precedents

pg. II-C-1



HQTA Place Types

pg. I-9



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Introduction

Implementation of the Station Area Vision is accomplished through specific physical improvements. The HQTAToolkit provides a collection of individual elements (infrastructure and policy) based on contemporary best practices that can be combined to improve the public realm for people who walk, bicycle, and take public transit.

How to Use this Toolkit

Purpose

Issues, Goals, and Objectives for the SCAG Region

Benefits and Components of TODs

HQTA Place Types



Purpose

Vision

In the 2016 Regional Transportation Plan / Sustainable Communities Strategy (RTP/SCS), the Southern California Association of Governments (SCAG) established a vision for future investment in the communities of the Southern California region: **to develop sustainable communities where people enjoy increased mobility, greater economic opportunity, and a higher quality of life.** This vision was developed through years of community planning, incorporating all the diverse physical forms and individual perspectives of the region. The core physical elements of that vision include:

- Compact and walkable communities, seamlessly connected with public transportation, that allow people to live active and healthy lifestyles;
- Well maintained transportation networks that effectively utilize public tax dollars;
- Sustainable, multi-modal transportation system that improves air quality and reduces the region’s climate change contribution; and,
- Housing supply that is sufficient to meet the needs of a growing population, affordable, and provides equal economic opportunity to diverse neighborhoods across the region.

Implementing the Vision within High Quality Transit Areas

At the heart of this vision is to concentrate transit-oriented development (TOD) within High Quality Transit Areas (HQTAs). A HQTA is defined as an area along transit corridors or near major transit stations that have, or will have in place, 15 minute service, or better, during peak commuting hours; SCAG identified these areas through the development of the 2016/2040 RTP/SCS. Between 2016 and 2040, 46 percent of new housing and 55 percent of new employment within the six county SCAG region is expected to be developed within HQTAs. Though well-served by transit, an HQTA may not necessarily be a transit-oriented community (TOC). TOCs are based on the principles of TODs, but place greater emphasis on significant changes in land use patterns, socioeconomic outcomes, and travel patterns at the neighborhood scale. To achieve the regional vision, communities must make infrastructure investments that support walkable, compact communities that integrate land use and transportation planning for a better functioning built environment.

These investments in active transportation and higher density development should be made through sensitive design that responds to existing physical conditions of the surrounding context - focusing TOD investments to make areas more walkable while complementing existing community character. Sensitive designed TODs can preserve existing development patterns and neighborhood character while providing a balance of modes and housing choices.

Purpose of the Toolkit

In 2017, SCAG launched the first round of the HQTA Pilot Project. The Pilot Project offers technical assistance and planning services to station areas that have a high potential for transit-supportive development patterns and future growth. Once Station Area Vision Plans are created, SCAG will work with Pilot Project jurisdictions to track the progress towards meeting a variety of regional objectives, such as lower greenhouse gas emissions and increased transit ridership.

Generally, this Toolkit is a tool for guiding the development of Station Area Vision Plans and their implementation. It includes strategies and investments for people who walk, bike, and take public transportation, while balancing considerations for drivers and other modes. Specifically, this document provides a range of physical investments and strategies to construct, and measure the impacts of well-designed TODs. The individual physical elements addressed by this document are identified in a typical

half-mile station area diagram shown on the following page.

This Toolkit is meant to be used as a resource for SCAG, municipalities, and individual developers to build quality TOD within the region’s HQTAs in order to address a number of regional issues and achieve a number of regional goals and objectives; these issues, goals, and objectives are enumerated on the following pages.

The HQTA Toolkit is a “living document” and is designed to be regularly updated with additional TOD amenity precedents over time.



High Quality Transit Areas

The first step in planning for TOD is to determine the location and limits of the HQTAs. A HQTAs is defined in the RTP/SCS generally as a walkable transit village or corridor, within one half-mile of a well-serviced transit stop or a transit corridor with 15-minute or better service frequency (headways) during peak commute hours. This definition of a HQTAs is based on the following Senate Bill (SB) 375 language, which provides the legal framework for funding of active transportation, TOD, and other infrastructure projects oriented towards reducing GHGs:

Major Transit Stop: A site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods.

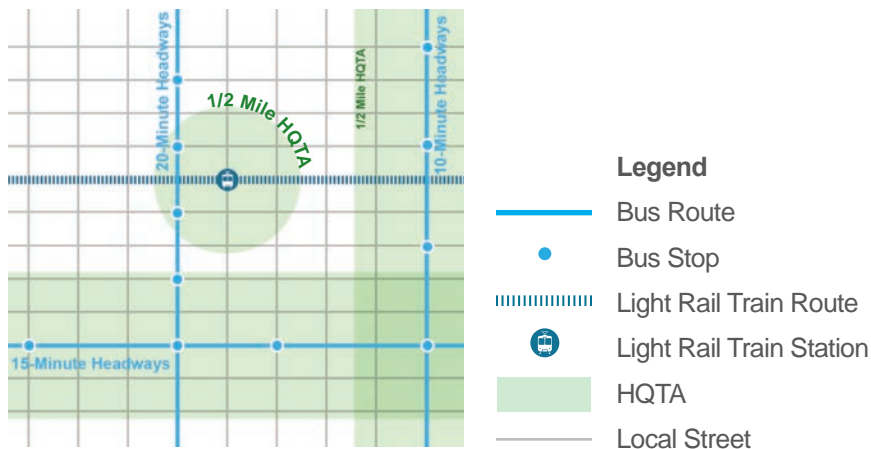
High Quality Transit Corridor (HQTAs): A corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours.

The figure below shows hypothetical HQTAs based on the SB 375 language for various transit route frequencies.

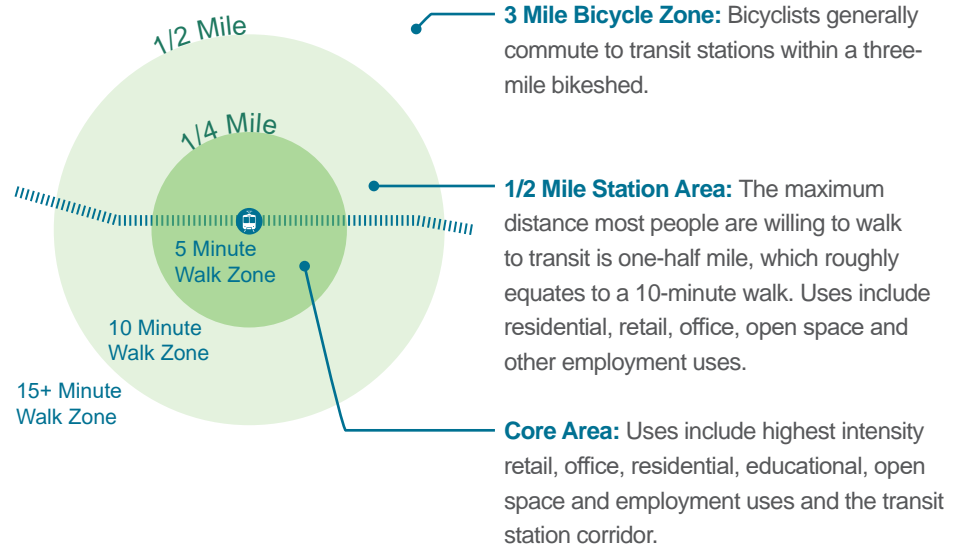
Within the HQTAs, there are individual zones that have implications for TOD planning. The HQTAs station/stop is surrounded by relatively high-intensity development, with intensity of development gradually reducing outwards to be compatible with lower-density uses as shown in the figure at right top.

The figure at right shows the location of all HQTAs within the SCAG region by 2040, which is based on the expected build-out of scheduled public transportation projects.

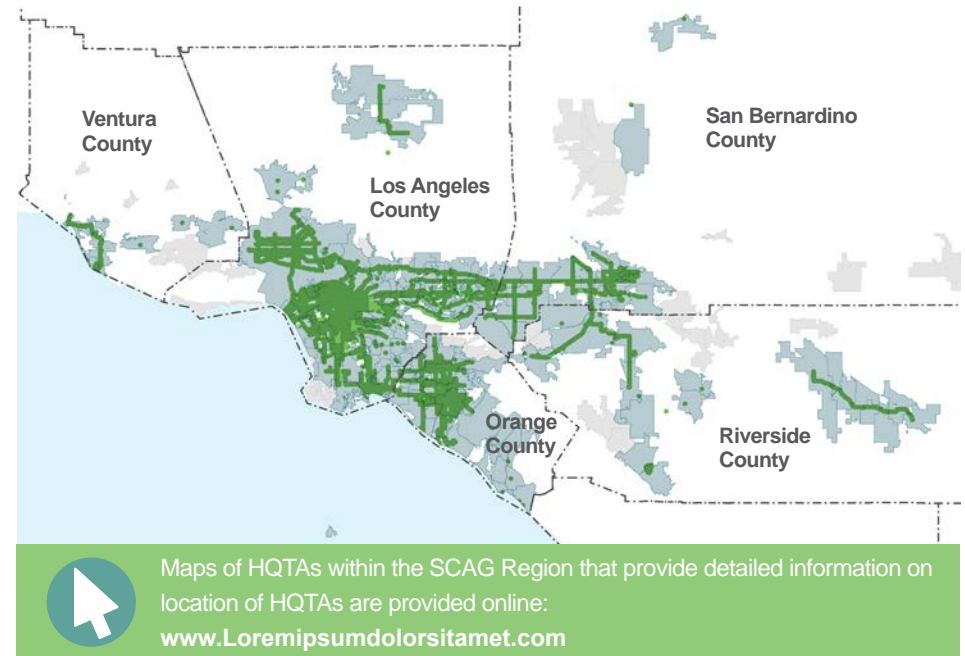
Qualifying HQTAs based on Transit Frequencies



HQTAs Zones



Location of HQTAs in the SCAG Region



Note: Per the 2016/2040 RTP/SCS, there are no HQTAs identified for Imperial County.

Issues in the SCAG Region

The vision set forth in the RTP/SCS addresses major issues facing the SCAG Region today:

- Environmental justice
- Affordability
- Population growth and displacement
- Air quality
- Economic development
- Transportation access and safety
- Goods movement
- Public health
- Climate change

All these issues facing the Region are interconnected. They are the consequence of past investments in sprawling development and auto-centric transportation infrastructure when land use and transportation planning were isolated disciplines. In hindsight, the auto-centric development patterns were made without consideration for the potential impacts to air quality, public health,

neighborhood fabric, and other factors. The new vision for the SCAG Region, centered on TODs within HQTAs integrates transit-supportive land uses with a variety of transportation options. A new urban development pattern applies the context and technologies of the 21st Century to produce walkable, affordable, healthy, sustainable, safe, and equitable communities.

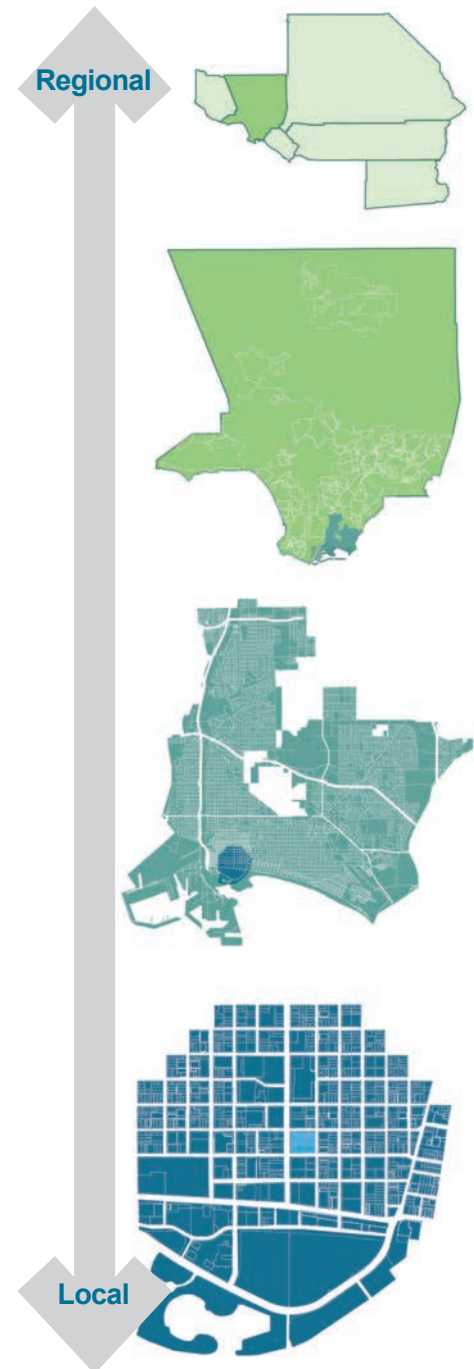
Geographic Scales of TOD Planning

While major issues are perceived regionally, it is the individual parcels, blocks, and neighborhoods that produce the physical conditions that influence regional outcomes; they form the individual tiles of the regional mosaic. The same applies for the goals and objectives of the region. TODs occur at the individual scale where localized issues can match or be contrary to regional trends, but they are not isolated from its context. Understanding the value of how studying every scale impacts the success of TOD is

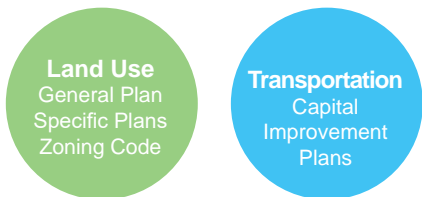
demonstrated through research from Center for Transit-Oriented Development (CTOD),

“Planning for TOD occurs at the scale of the region, the corridor, the station area, and the land parcel, and these separate levels of planning should be coordinated to achieve the most successful outcomes. Planning at the regional scale serves to integrate regional goals, such as decreasing traffic congestion and improving public health, with regional contexts, such as a consideration of population growth and the location of major employment centers. Planning for TOD most often takes place at the station area level, and this is where it’s easiest to understand local benefits such as reduced transportation costs for residents, and the creation of a sense of place and community. Development projects are planned at the scale of the [individual] land parcel.”

This Toolkit will provide the tools to implement individual projects both public and private that improve both local and regional livability.



Traditional Planning



New Approach to Planning



Goals and Objectives for the SCAG Region

Goals

The following are the broad goals of the 2016/2040 RTP/SCS designed to address the primary issues facing the SCAG Region, which also apply to this Toolkit:

- Align plan investments and policies with improving regional economic development
- Maximize mobility and accessibility for all people and goods in the region
- Ensure travel safety and reliability
- Preserve and ensure a sustainable regional transportation system
- Maximize productivity
- Protect the environment and health of the region’s residents by improving air quality and encouraging active transportation
- Actively encourage and create incentives for energy efficiency
- Encourage land use and growth patterns that facilitate transit and active transportation
- Maximize security of the regional transportation system



Objectives and Metrics

The Pilot Project Vision Plans, guided by the strategies and investments contained in the Toolkit will help achieve the following 2016/2040 RTP/SCS objectives:

- 8 percent reduction in GHG emissions per capita by 2020, 18 percent reduction by 2035, and a 21 percent reduction by 2040 - compared to 2005 levels
- Improve regional air quality
- 4 percent increase in commute trips made by carpooling, active transportation (walking and biking) and public transit from current single occupant vehicle trips
- 7 percent reduction of vehicle miles traveled (VMT) per capita
- 17 percent reduction of vehicle hours (VHT) per capita for automobiles and light/medium duty trucks
- 1/3 increase in daily travel by public transit
- 39 percent reduction of delay on roadways per capita
- Create more than 351,000 jobs annually
- Reduce the amount of undeveloped (greenfield) lands by 23 percent
- Reduce the regional obesity rate from 26.3 percent to 25.6 percent in areas with land use changes

Once the Vision Plans are developed, SCAG will work with pilot project jurisdictions to track the progress of pilot projects towards meeting regional objectives through a set of metrics. Pilot projects that successfully reduce GHGs or meet other objectives will be held up as models for other station areas with similar characteristics. Taken together, successful pilot projects will help to address the major issues facing the SCAG Region today.

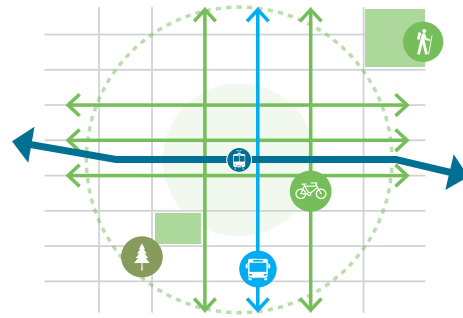
Benefits of TODs

Transit-Oriented Development (TOD) is a form of urban development that is different than urban development that occurred during the sprawl that ensued after WWII. The postwar population boom led to a sprawling development pattern that was enabled by the construction of freeways and inefficient infrastructure and land use investments. TOD can accommodate inevitable future population and job growth that addresses the issues we face today, and focuses that new urban development in HQTAs that preserve and improve the quality of existing communities.

A new population boom offers the opportunity to reshape how the region grows. According to estimates by SCAG, Los Angeles County alone will add up to 1 million new residents by 2030. TODs are equipped to accommodate future growth while largely preserving existing neighborhood character.

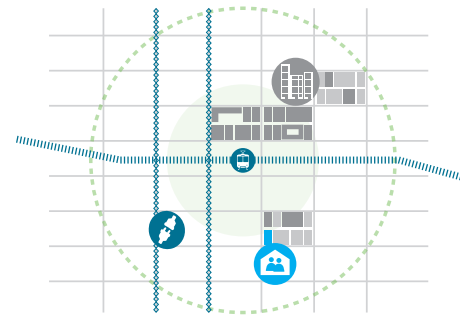
The illustration at right lists the numerous benefits of TODs, which have been grouped into the categories of environment, economic, and social.

ENVIRONMENT



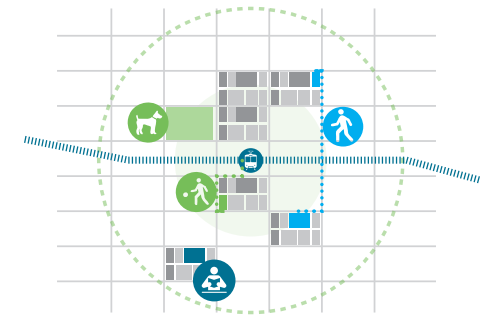
- Increased transit ridership
- Reduced VMT
- Reduced GHG
- Improved Air Quality
- Conservation of land and open space

ECONOMIC



- Catalyst for economic development
- Redevelopment of vacant and underutilized properties
- Increased property value
- Decreased infrastructure costs
- Revenue for transit systems
- Reduced household spending on transportation
- Increase in affordable housing

SOCIAL



- Increased housing and employment choices
- Greater mobility choices
- Health benefits
- Enhanced sense of community
- Enhanced public safety
- Increased quality of life

Components of TODs



A typical HQTAs should include a mixture of housing, office, retail and/or other commercial development and amenities integrated into a walkable neighborhood and located within a half-mile of quality public transportation.

- 1 Mix of Land Uses / Higher Densities and Intensities**
GOAL: Encourage transit-supportive uses at higher densities and intensities in walking distance to transit stations/stops
 Design for flexibility to allow for future conversion to other uses
 Provide for convenience retail that serves transit commuters
- 2 Street Design / Active Transportation**
GOAL: Balance the provision of pedestrian, cyclist, transit, and single-occupancy vehicles (SOVs) infrastructure by promoting “complete streets”
 Design amenities for all modes (shelters, storage, etc.)
 Design streets with pedestrian and cyclist safety in mind
 Employ traffic-calming devices to reduce collisions
- 3 Buildings / Urban Design**
GOAL: Promote attractive, pedestrian-friendly buildings that contribute to the character of a district and have active ground floor uses
 Promote building articulation and variety
 Use a diverse palette of materials
 Locate parking behind buildings and retail along streets
 Design for flexibility to allow for future conversion to other uses
- 4 Parking: Strategies**
GOAL: Reduce reliance upon SOVs by managing the supply and demand of parking
 Shared, district-wide parking
 Reduced parking supply
 Reliance upon multiple modes to address mobility needs
 Appropriately-priced parking to manage demand
 Car-share, transit and cycling incentive programs
- 5 Open Space: / Placemaking**
GOAL: Design for active and passive recreational opportunities
 Privately-owned, publicly-accessible public spaces (POPs)
 Publicly-owned civic spaces for passive + active recreation
 Public spaces of a wide variety of types and programming

TOD Performance Metrics

Baseline conditions for each HQTAs are established using the most recent version of the SCAG model (2016 RTP/SCS). Evaluation of the Pilot Project Buildout conditions includes modification to the SCAG model's Transportation Analysis Zones (TAZs) to represent the land use forecast to be built.

Each analysis of the Pilot Project Buildout proposed by the HQTAs Vision Plan used the **number of jobs, housing units, and population** to estimate the following metrics:

Vehicle Miles Traveled (VMT) per capita is a measurement of the number of vehicle trips multiplied by the distance of those trips (in terms of miles traveled). The total VMT (generated by the TAZ's within the HQTAs) is divided by the population within the HQTAs area to determine the VMT per capita. Data from all TAZ's within, or overlapping with, the HQTAs boundaries is included in the calculation.

Vehicle Hours Traveled (VHT) per capita is a measurement of the number of vehicle

trips multiplied by the duration of those trips (in terms of hours traveled). The total VHT (generated by the TAZ's within the HQTAs) is divided by the population within the HQTAs area to determine the VHT per capita. Data from all TAZ's within, or overlapping with, the HQTAs boundaries is included in the calculation.

Travel mode share within the HQTAs is calculated by obtaining the total origins and destinations (auto and transit) for each zone within the HQTAs, and calculating the travel

mode share based on raw model output data.

Public transit usage is calculated as the number of daily transit trips within the HQTAs.

Vehicular delay is calculated as the total daily vehicle delay on all roadway links within the HQTAs.

Number of Jobs



Transit-oriented communities have active local businesses and attract new economic development.

Housing Units




A higher density of housing units along transit routes increases residents' access to alternative modes of travel.

Population




Cities with population densities concentrated along transit routes are healthier, more economically stable, and produce less carbon emissions.

Vehicular Delay




A reduction in vehicular delay can reduce GHG emissions from idling cars.

Travel Mode Share




Streets designed for all modes of travel can reduce occurrences and severity of traffic collisions.

Public Transit Usage




An increase in public transit ridership reduces the number of single-occupancy vehicles on the road and provides revenue for cities.

Vehicular Miles Traveled (VMT)



A reduction in VMT eases traffic congestion, promotes active transportation, and reduces GHG emissions.

Vehicular Hours Traveled (VHT)



A reduction in VHT promotes mental health in commuters by reducing commute fatigue.

HQTA Place Types

During the generation of growth scenarios for the 2016 RTP/SCS, SCAG developed a set of 35 place types that are based on observations of station areas in California and throughout the United States. Each place type is embedded with assumptions for density/intensity, land use type and mix, built form, and connectivity, each of which can be quantified and compared across many different stations. Place types are organized into “urban,” “compact,” and “standard.”

These place types recognize the rich diversity and wide variety of communities in the SCAG region. The goal of the HQTA program is not to replicate the same TOD model for each community, but rather to build upon the unique attributes of each city. Through this approach, each community can identify its strengths and opportunities to create compact, livable, walkable communities. Communities can refer to these place types as they define the current conditions and desired qualities of their HQTA.

Progress towards meeting these goals will be tracked through a series of targets and metrics identified in each Vision Plan. These targets include density, connectivity, primary mode of travel, and greenhouse gas reductions, among others. Of the 35 place types identified by SCAG, 17 meet or exceed density thresholds that will promote the use of high quality transit. These are listed in **bold** below. A more complete profile of each of the 17 place types is presented on the following pages. A summary table of metrics for each place type can be found in the “Additional Resources” section of this Toolkit.

Urban

- **Urban Mixed Use**
- **Urban Residential**
- **Urban Commercial**
- **City Mixed Use**
- **City Residential**
- **City Commercial**

Compact

- **Town Mixed Use**
- **Town Residential**
- **Town Commercial**
- **Village Mixed Use**
- **Village Residential**
- **Village Commercial**
- Neighborhood Residential
- Neighborhood Low

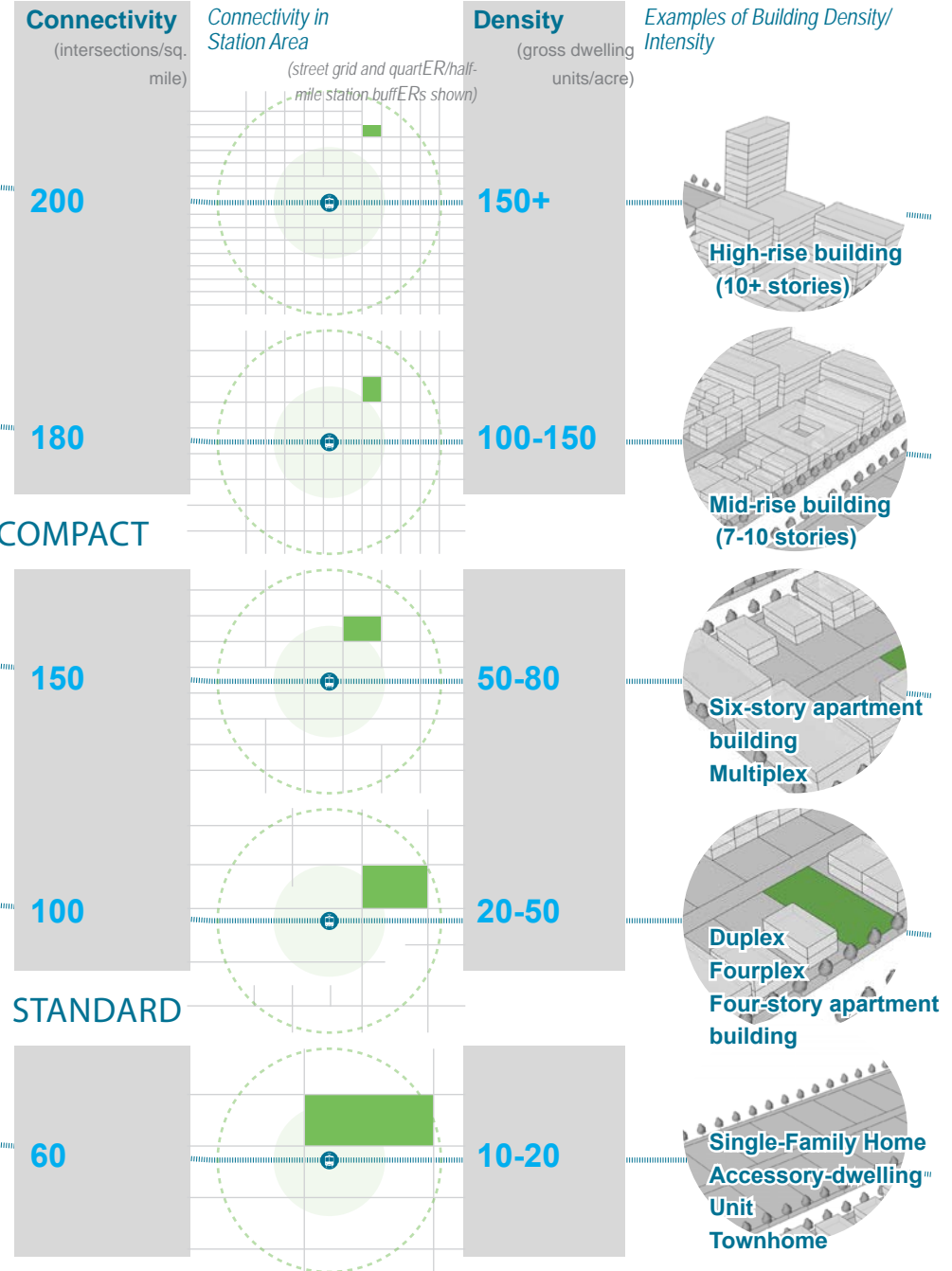
Other

- **Campus / University**
- Institutional

Standard


- **Office Focus**
- Mixed Office and R&D
- Office / Industrial
- Industrial Focus
- Low-Density Employment Park
- **High Intensity Activity Center**
- Mid Intensity Activity Center
- Low Intensity Retail-Centered Neighborhood
- Retail: Strip Mall / Big Box
- **Industrial / Office / Residential Mix High**
- Industrial / Office / Residential Mix Low
- **Suburban Multi-family**
- Suburban Mixed Use Residential
- Residential Subdivision
- Large Lot Residential Area
- Rural Residential
- Rural Ranchettes
- Rural Employment
- Open Space

URBAN



HQTA Place Types


Urban Mixed Use



Land Use Mix		Residential Mix	
Residential	18%	SF Large Lot	0%
Employment	16%	SF Small Lot	0%
Mixed Use	45%	Townhome	0%
Open Space/Civic	21%	Multifamily	100%
Built Environment		Employment Mix	
Intersections per mi ²	200	Office	80%
Average Floors	23	Retail	20%
Floors Range	15 – 100	Industrial	0%
Total Net FAR	9.0		
Gross Density Range (per acre)		Average Density (per acre)	
Household	40-500+	Household	85
Employee	50-500+	Employee	266

Description
Urban Mixed Use districts are exemplified by a variety of intense uses and building types. Typical buildings are between 10 and 40+ stories tall, with offices and/or residential uses and ground-floor retail space. Parking is usually structured below or above ground. Workers, residents, and visitors are well served by transit, and can walk or bicycle for many of their transportation needs.

City Mixed Use



Land Use Mix		Residential Mix	
Residential	28%	SF Large Lot	0%
Employment	17%	SF Small Lot	0%
Mixed Use	35%	Townhome	3%
Open Space/Civic	20%	Multifamily	97%
Built Environment		Employment Mix	
Intersections per mi ²	200	Office	60%
Average Floors	7	Retail	40%
Floors Range	3 – 40	Industrial	0%
Total Net FAR	3.4		
Gross Density Range (per acre)		Average Density (per acre)	
Household	10-75	Household	44
Employee	25-165	Employee	85

Description
City Mixed Use areas are transit-oriented and walkable, and contain a variety of uses and building types. Typical buildings are between 5 and 30 stories tall, with ground-floor retail space, and offices and/or residences on the floors above. Parking is usually structured below or above ground.

Urban Residential



Land Use Mix		Residential Mix	
Residential	64%	SF Large Lot	0%
Employment	4%	SF Small Lot	0%
Mixed Use	12%	Townhome	0%
Open Space/Civic	21%	Multifamily	100%
Built Environment		Employment Mix	
Intersections per mi ²	200	Office	22%
Average Floors	18	Retail	78%
Floors Range	5 – 60	Industrial	0%
Total Net FAR	9.0		
Gross Density Range (per acre)		Average Density (per acre)	
Household	75-500+	Household	131
Employee	0-50+	Employee	44

Description
The most intense residential-focused type, Urban Residential areas are typically found within or adjacent to major downtowns. They include high- and mid-rise residential towers, with some ground-floor retail space. Parking usually structured below or above ground. Residents are well served by transit, and can walk or bicycle for many of their daily needs.

City Residential



Land Use Mix		Residential Mix	
Residential	65%	SF Large Lot	0%
Employment	4%	SF Small Lot	0%
Mixed Use	11%	Townhome	3%
Open Space/Civic	20%	Multifamily	97%
Built Environment		Employment Mix	
Intersections per mi ²	200	Office	40%
Average Floors	7	Retail	60%
Floors Range	5 – 40	Industrial	0%
Total Net FAR	2.9		
Gross Density Range (per acre)		Average Density (per acre)	
Household	35-75	Household	58
Employee	0-17	Employee	14

Description
An dense residential-focused type, City Residential is dominated by mid- and high-rise residential towers, with some ground-floor retail space. Parking is usually structured, below or above ground. Residents are well served by transit, and can walk or bicycle for many of their daily needs.


Urban Commercial



Land Use Mix		Residential Mix	
Residential	1%	SF Large Lot	0%
Employment	4%	SF Small Lot	0%
Mixed Use	12%	Townhome	0%
Open Space/Civic	21%	Multifamily	100%
Built Environment		Employment Mix	
Intersections per mi ²	200	Office	93%
Average Floors	15	Retail	7%
Floors Range	15 – 100	Industrial	0%
Total Net FAR	6.0		
Gross Density Range (per acre)		Average Density (per acre)	
Household	0-40	Household	8
Employee	250-500+	Employee	402

Description
Urban Commercial areas are typically found within major Central Business Districts. They are exemplified by mid- and high-rise office towers. Typical buildings are between 15 and 40+ stories tall, with ground-floor retail space, and offices on the floors above. Parking is usually structured below or above ground; workers tend to arrive by transit, foot or bicycle in large numbers.

City Commercial



Land Use Mix		Residential Mix	
Residential	1%	SF Large Lot	0%
Employment	82%	SF Small Lot	0%
Mixed Use	4%	Townhome	0%
Open Space/Civic	14%	Multifamily	100%
Built Environment		Employment Mix	
Intersections per mi ²	200	Office	77%
Average Floors	7	Retail	23%
Floors Range	5 – 40	Industrial	0%
Total Net FAR	3.1		
Gross Density Range (per acre)		Average Density (per acre)	
Household	0-10	Household	4
Employee	90-250	Employee	200

Description
The central business districts of most cities contain areas exemplary of City Commercial, with many mid- and high-rise office towers and government buildings. Typical structures are between 4 and 40 stories tall, with ground-floor retail space, and offices on the floors above. Parking is usually structured, though many workers arrive by transit, foot, or bicycle.

HQTA Place Types

Town Mixed Use



Land Use Mix	Residential Mix
Residential 26%	SF Large Lot 0%
Employment 20%	SF Small Lot 0%
Mixed Use 29%	Townhome 0%
Open Space/Civic 25%	MultiFamily 100%

Built Environment	Employment Mix
Intersections per mi ² 200	Office 75%
Average Floors 4	Retail 25%
Floors Range 2-8	Industrial 0%
Total Net FAR 1.9	

Gross Density Range (per acre)	Average Density (per acre)
Household 7-35	Household 21
Employee 25-70	Employee 50

Description
Town Mixed Use areas are walkable mixed-use neighborhoods, such as the mixed-use core of a small city or transit oriented development, with a variety of uses and building types. Typical buildings are between 3 and 8 stories tall, with ground-floor retail space, and offices and/or residences on the floors above. Parking is usually structured, above or below ground.

Village Mixed Use



Land Use Mix	Residential Mix
Residential 43%	SF Large Lot 15%
Employment 14%	SF Small Lot 15%
Mixed Use 14%	Townhome 29%
Open Space/Civic 28%	MultiFamily 41%

Built Environment	Employment Mix
Intersections per mi ² 220	Office 42%
Average Floors 3	Retail 58%
Floors Range 2-6	Industrial 0%
Total Net FAR 1.0	

Gross Density Range (per acre)	Average Density (per acre)
Household 5-12	Household 10
Employee 5-40	Employee 14

Description
Village Mixed Use areas are the walkable and transit accessible mixed-use cores of traditional neighborhoods. Typical buildings are between 2 and 6 stories tall, with ground-floor retail space, and offices and/or residences on the floors above. Parking is typically structured, tucked under, or placed behind buildings so that it does not detract from the pedestrian environment.

Town Residential



Land Use Mix	Residential Mix
Residential 68%	SF Large Lot 0%
Employment 0%	SF Small Lot 0%
Mixed Use 10%	Townhome 47%
Open Space/Civic 22%	MultiFamily 53%

Built Environment	Employment Mix
Intersections per mi ² 220	Office 47%
Average Floors 3	Retail 53%
Floors Range 2-8	Industrial 0%
Total Net FAR 1.2	

Gross Density Range (per acre)	Average Density (per acre)
Household 12-35	Household 18
Employee 0-25	Employee 12

Description
Containing a mix of townhomes, condominiums and apartments (and occasionally small-lot single family homes), Town Residential is characterized by dense residential neighborhoods interspersed with occasional retail areas. Typical buildings are 2-5 stories tall, with limited off-street parking; residents tend to use transit, walking and bicycling for many of their transportation needs.

Village Residential



Land Use Mix	Residential Mix
Residential 74%	SF Large Lot 26%
Employment 0%	SF Small Lot 26%
Mixed Use 1%	Townhome 49%
Open Space/Civic 26%	MultiFamily 0%

Built Environment	Employment Mix
Intersections per mi ² 180	Office 100%
Average Floors 3	Retail 0%
Floors Range 2-5	Industrial 0%
Total Net FAR 0.9	

Gross Density Range (per acre)	Average Density (per acre)
Household 8-12	Household 10
Employee 0-5	Employee 2

Description
Containing a mix of single-family homes on small lots and townhomes, Village Residential is characterized by traditional neighborhoods, designed to be supportive of transit service, walking and bicycling. Typical buildings are 2-3 stories tall, with small yards and an active focus on the public realm.

Town Commercial



Land Use Mix	Residential Mix
Residential 1%	SF Large Lot 0%
Employment 69%	SF Small Lot 0%
Mixed Use 17%	Townhome 0%
Open Space/Civic 14%	MultiFamily 100%

Built Environment	Employment Mix
Intersections per mi ² 200	Office 68%
Average Floors 3	Retail 32%
Floors Range 2-8	Industrial 0%
Total Net FAR 1.8	

Gross Density Range (per acre)	Average Density (per acre)
Household 0-7	Household 5
Employee 60-90	Employee 75

Description
Equivalent to the center of a traditional town, or a more employment-focused transit-oriented development, Town Commercial contains a mix of commercial buildings set in a walkable context. Typical structures are between 2 and 8 stories tall, with ground-floor retail, and offices, services, and some residential uses on upper floors.

Village Commercial



Land Use Mix	Residential Mix
Residential 0%	SF Large Lot 0%
Employment 61%	SF Small Lot 0%
Mixed Use 7%	Townhome 0%
Open Space/Civic 32%	MultiFamily 100%


Built Environment	Employment Mix
Intersections per mi ² 230	Office 49%
Average Floors 2	Retail 51%
Floors Range 0	Industrial 0%
Total Net FAR 1.2	

Gross Density Range (per acre)	Average Density (per acre)
Household 0-5	Household 2
Employee 1-60	Employee 40

Description
Equivalent to the center of a small town or district, or a lower-intensity employment-focused transit-oriented development, Village Commercial contains a mix of buildings set in a walkable context. Typical structures are between 2 and 5 stories tall, with some ground-floor retail, and offices, services, and some residential on upper floors.

HQTA Place Types

Suburban Multifamily



Land Use Mix		Residential Mix	
Residential	87%	SF Large Lot	0%
Employment	0%	SF Small Lot	0%
Mixed Use	0%	Townhome	11%
Open Space/Civic	13%	MultiFamily	89%
Built Environment		Employment Mix	
Intersections per mi ²	90	Office	85%
Average Floors	3	Retail	15%
Floors Range	2-5	Industrial	0%
Total Net FAR	1.2		
Gross Density Range (per acre)		Average Density (per acre)	
Household	18-150+	Household	32
Employee	0-6	Employee	2

Description
Predominantly containing apartments, condos, and town homes, Suburban Multifamily represents developments that may have internal walking paths but are set in an automobile-oriented context. While densities can be high enough to support bus transit, residents are likely to drive for most trips. Typical buildings are 2-5 stories tall, surrounded by surface parking lots.

High Intensity Activity Center



Land Use Mix		Residential Mix	
Residential	14%	SF Large Lot	0%
Employment	37%	SF Small Lot	0%
Mixed Use	41%	Townhome	6%
Open Space/Civic	8%	MultiFamily	94%
Built Environment		Employment Mix	
Intersections per mi ²	130	Office	20%
Average Floors	5	Retail	80%
Floors Range	5 - 40	Industrial	0%
Total Net FAR	2.5		
Gross Density Range (per acre)		Average Density (per acre)	
Household	0.5-200+	Household	24
Employee	3-250+	Employee	69

Description
High Intensity Activity Centers include a mix of moderate to intense densities of retail, office, and residential uses. They are often anchored by major regional retail centers or office parks, and while they can contain a robust mix of uses, they are most often oriented within an auto-oriented and non-walkable street and land use pattern. Parking can be structured and/or provided on surface lots.

Industrial/Office/Residential Mixed High



Land Use Mix		Residential Mix	
Residential	58%	SF Large Lot	0%
Employment	36%	SF Small Lot	0%
Mixed Use	0%	Townhome	4%
Open Space/Civic	6%	MultiFamily	96%
Built Environment		Employment Mix	
Intersections per mi ²	60	Office	73%
Average Floors	4	Retail	16%
Floors Range	1 - 17	Industrial	11%
Total Net FAR	2		
Gross Density Range (per acre)		Average Density (per acre)	
Household	18-200+	Household	45
Employee	3-250+	Employee	42

Description
Industrial/Office/Residential Mixed High is characterized by a wide-ranging, intensely developed mix of uses located in close proximity and set in an automobile-oriented context. Building heights can range from 1 to 15+ stories, and uses can include but are not limited to industrial, warehouses, offices, residential, and retail.

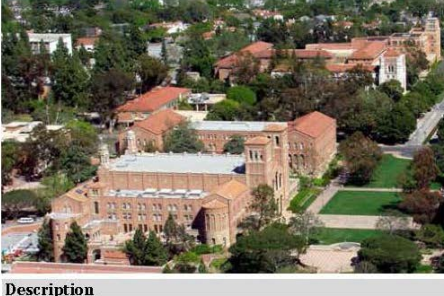
Office Focus



Land Use Mix		Residential Mix	
Residential	0%	SF Large Lot	0%
Employment	82%	SF Small Lot	0%
Mixed Use	0%	Townhome	0%
Open Space/Civic	18%	MultiFamily	0%
Built Environment		Employment Mix	
Intersections per mi ²	45	Office	93%
Average Floors	4	Retail	2%
Floors Range	2 - 9	Industrial	5%
Total Net FAR	1.1		
Gross Density Range (per acre)		Average Density (per acre)	
Household	0	Household	0
Employee	35-150+	Employee	65

Description
Representing the most intense auto-oriented single-use office areas, Office Focus is characterized by mid and high-rise office towers. Typical buildings are between 2 and 9 stories tall. Parking can be either structured or provided on surface lots. Workers tend to arrive by auto, though densities are high enough to support suburban transit service.

Campus/University



Land Use Mix		Residential Mix	
Residential	32%	SF Large Lot	0%
Employment	2%	SF Small Lot	0%
Mixed Use	0%	Townhome	0%
Open Space/Civic	67%	MultiFamily	100%
Built Environment		Employment Mix	
Intersections per mi ²	150	Office	64%
Average Floors	8	Retail	36%
Floors Range	3 - 17	Industrial	0%
Total Net FAR	1.7		
Gross Density Range (per acre)		Average Density (per acre)	
Household	1-50	Household	31
Employee	10-100	Employee	22

Description
College/University areas tend to be internally walkable, though they can be located in either a walkable or auto-oriented context. Buildings can range from 1 to 20+ stories, depending on the design of the campus. Parking may be plentiful or restricted; housing may be provided on-site in large amounts, or students may commute from homes in other locations.

Source: 2016 RTP/SCS

Toolkit

Implementation of the Station Area Vision is accomplished through specific physical improvements. The HQTa Toolkit provides a collection of individual elements (infrastructure and policy) based on contemporary best practices that can be combined to improve the public realm for people who walk, bicycle, and take public transit.

A - Complete Streets

B - Placemaking

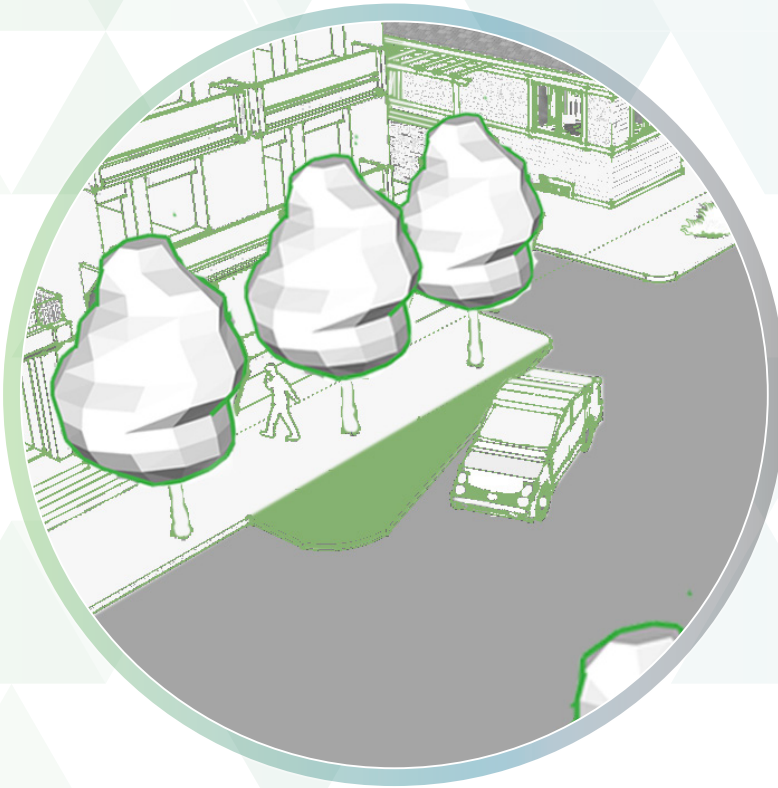
C - Building Types & Precedents



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Toolkit

A - COMPLETE STREETS



Street Design

Intersections

Infrastructure

Amenities

Other

Complete Streets

Complete streets are designed and constructed to serve all users of streets regardless of age or ability or whether they are driving, walking, bicycling, or taking transit.¹ In many areas of the SCAG region, vehicular travel lanes have been given priority within the public right-of-way over other forms of transportation leaving little space for sidewalks, bicycle paths, and transit. In HQTAs within the constrained street right-of-way, the challenge is to create a network of complete streets where tree-lined walkways, bicycle paths, pedestrian/ bicycle amenities and transit connections are balanced with the requirements of automobiles. The two diagrams illustrate an example of transforming a major corridor into a more walkable, bicycle friendly, and transit-supportive street.

Benefits

- Safety – Designing streets that consider safe travel for all modes can reduce occurrences and severity of vehicular collisions with pedestrian and bicycles.
- Health – Promotes a healthy lifestyle by encouraging physical activity.
- Greenhouse Gas Emission reduction – Developing an integrated land use and transportation pattern in a HQTA can reduce VMT and greenhouse gas emissions.
- Economic Development – Multi-modal transportation networks can improve economic activity of local business and attract new economic development.

Street Design

- Lane Width and Re-purposing
- Transit Lanes
- Bicycle Lanes and Paths
- Sidewalks
- Bus Bulbs
- Speed Table

Intersections

- Traffic Circle
- Diverter
- Median Refuge Island
- Curb Extension
- Protected Bicycle Intersection
- Enhanced crosswalk
- High-intensity Activated Crosswalk (HAWK) Beacon
- Scramble Crosswalk
- Curb Ramp

Infrastructure

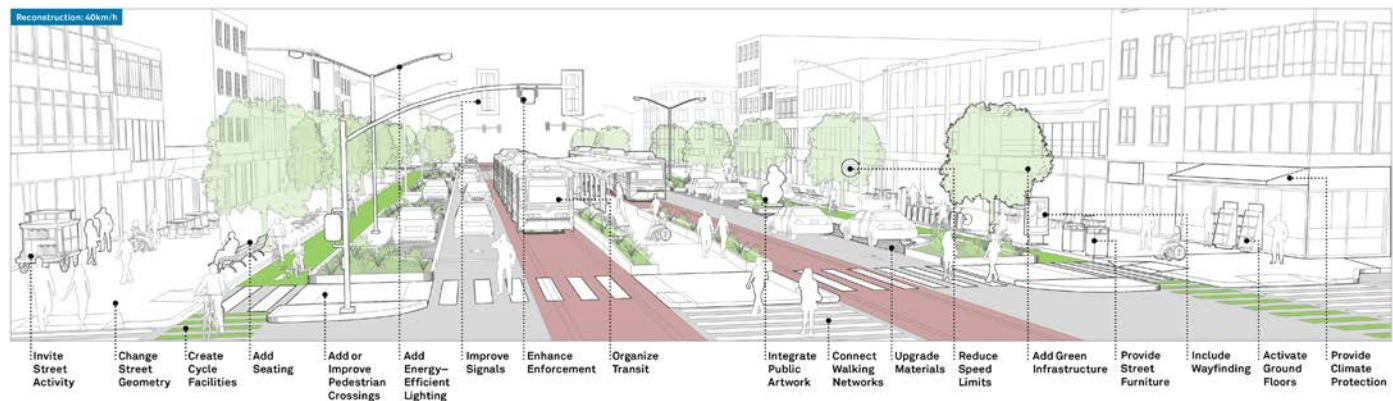
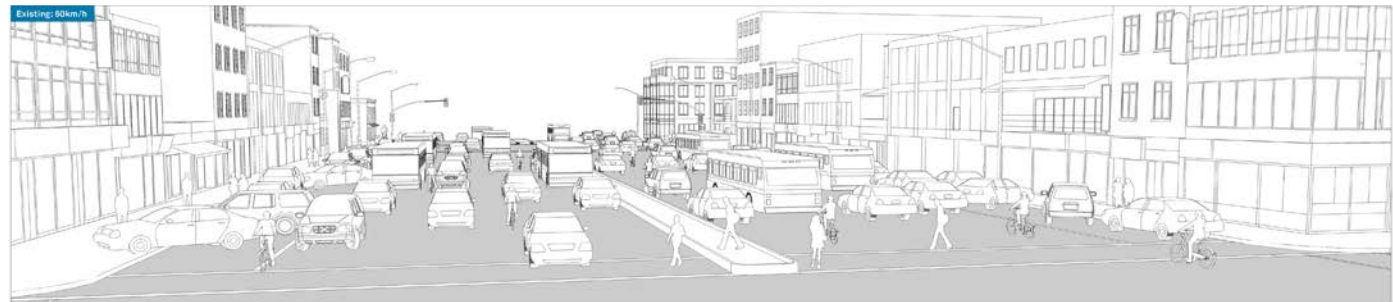
- Chicane
- Street trees
- Treelet
- Greenway Planters / Bioswales
- Permeable Paving
- Lighting

Amenities

- Wayfinding
- Street Furniture
- Transit Shelter

Other

- Demonstration Projects



¹State of California OPR, General Plan Guidelines: Complete Streets and the Circulation Element, 2010.

Source: NACTO

Complete Streets

ROUGH ORDER OF MAGNITUDE (ROM) COST ESTIMATES FOR COMPLETE STREET AMENITIES (2019)

The table at right lists an estimated cost range for the complete street elements profiled in the HQTA Toolkit. These estimates can be used as cities develop more detailed complete street plans as priority projects move forward.

Costs for contingencies (design and construction), general contractors, contractor overhead and project, bonds and insurance, and escalation are factors which may increase the cost estimates provided at right. These factors vary by city, and should be added to the estimates on a case-by-case basis.

The Toolkit is a living document meant to be updated over time. These cost estimates should be updated periodically to reflect the average costs for the complete street amenities described herein.

Complete Street Treatments		Lower Limit (\$)	Upper Limit (\$)	Unit
Street Design	Street Reconstruction to achieve transit lanes or protected bike lanes, new curbs, wider sidewalks, new street/pedestrian lighting, street trees, street furniture, storm water management	\$15,000,000	\$28,000,000	/ mile
	Transit Lanes (re-stripping only, no new curb, no color)	\$25	\$30	LF
	Bicycle Lanes (re-stripping only, no new curb)	\$25	\$30	LF
	Sidewalks (new paving)	\$25	\$80	SF
	Bus Bulbs (at intersection)	\$25,000	\$32,000	each
	Speed Table	\$50,000	\$100,000	each
Intersections	Raised Crosswalk	\$8,000	\$15,000	each
	Traffic Circle	\$50,000	\$100,000	each
	Diverter	\$25,000	\$50,000	each
	Median Refuge Island	\$15,000	\$30,000	each
	Curb Extension (each corner)	\$12,000	\$16,000	each
	Curb Extension: Mid-block	\$7,000	\$12,000	each
	Protected Bicycle Intersection	\$75,000	\$150,000	each
	Enhanced Crosswalk	\$2,500	\$5,000	each
	High-intensity Activated Crosswalk (HAWK) Beacon	\$50,000	\$150,000	each
	Scramble Crosswalk	\$15	\$20	SF
	Curb Ramp	\$3,000	\$5,300	each
Infrastructure	Chicane	\$10,000	\$25,000	each
	Street Trees: General	\$1,500	\$2,500	each
	Street Trees: Palms	\$4,000	\$5,000	each
	Treelet	\$3,000	\$10,000	each
	Greenway Planter / Bioswale	\$50	\$60	SF
	Permeable Paving	\$25	\$50	each
	Lighting: Street (30' tall)	\$30,000	\$50,000	each
	Lighting: Pedestrian (15' tall)	\$5,000	\$6,000	each
Amenities	Wayfinding Signage (excludes monument signage)	\$2,000	\$3,000	each
	Street Furniture: Benches	\$1,200	\$3,200	each
	Street Furniture: Waste Receptacle	\$1,500	\$2,500	each
	Street Furniture: Bicycle Racks	\$600	\$1,800	each
	Street Furniture: Bicycle Fix-it Station	\$3,500	\$4,000	each
	Transit Shelter (new custom)	\$25,000	\$50,000	each
	Demonstration Projects: Bollards	\$6,000	\$2,500	each
Demonstration Projects: Planters	\$3,000	\$4,000	each	

Complete Streets

LANE WIDTH AND REPURPOSING

- Amenities
- Infrastructure
- Intersections
- Street Design**

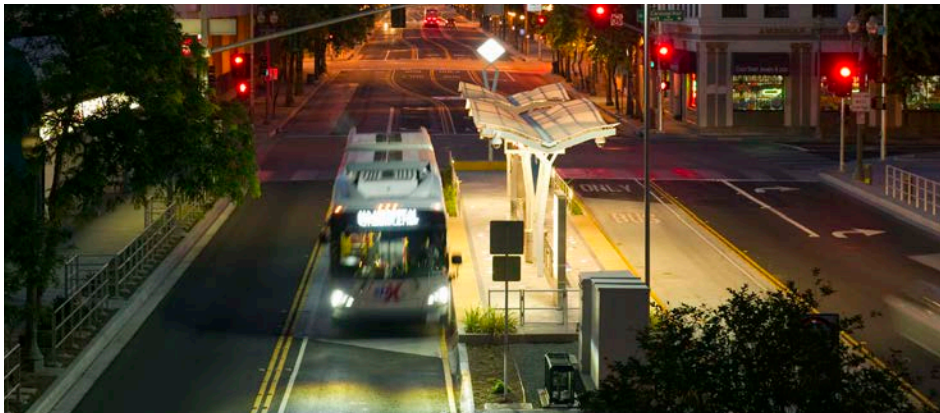
In HQTAs reducing the width of vehicular travel lanes will allow more space to be devoted to other mobility modes including pedestrian. In addition, narrowing lane widths act as traffic calming by reducing vehicular speeds which can decrease pedestrian-auto collisions. Repurposing a vehicular travel lane to a bus only lane can increase the number of people being moved along the street in less space. The example shown illustrates a street with four vehicle lanes of 12' to 13' width repurposed for two vehicular travel lanes, a bus only lane, a parking lane, and a one way buffered bike lane. There are many ways streets can be reconfigured to accommodate multiple transportation modes. The key is to determine for each street which modes are to be given priority if there is not space for all. Many cities define in their plans which streets should have transit priority, pedestrian priority, vehicle enhanced or be bike enhanced streets and apply these categories to address constrained right-of-way conditions.

Best Design Practices / Guidelines

- A** In constrained conditions, vehicular roadway lane widths may be reduced to 10', parking lanes to 7' to 8', exclusive bus lanes to 12' to 13', one way bike lanes from 5' to 7', and two way bike lanes to 12' including shoulders.



Source: NACTO



SbX with its bus-only lanes in downtown San Bernardino, CA

Complete Streets

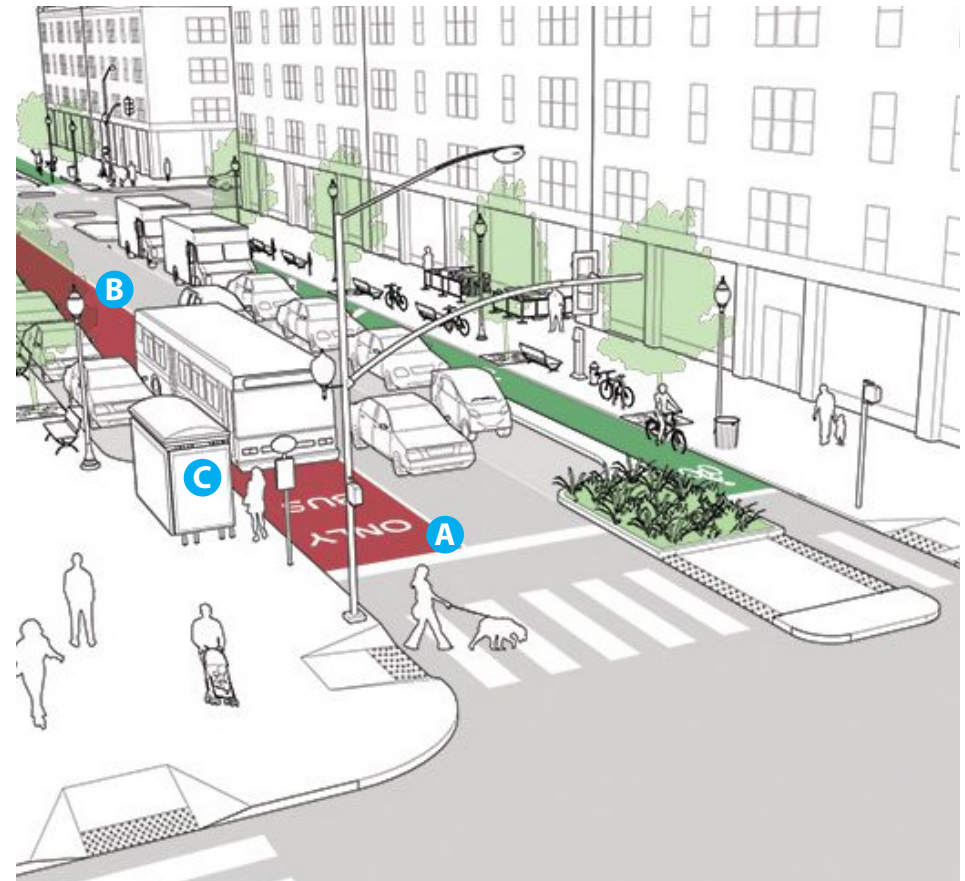
TRANSIT LANES

- Amenities
- Infrastructure
- Intersections
- Street Design**

Transit on a complete street may include 1) a bus that shares a vehicular lane, 2) a peak-hour bus lane that prohibits curbside parking in peak hours, 3) a bus only lane, (either curb side or in the median), 4) a street car, or 5) a rail line. Peak hour bus lanes or exclusive bus only lanes shown in the illustrations increase the efficiency of transit especially on congested streets. On exclusive bus only lanes high ridership buses with transit signal priority at intersections move more quickly than adjoining traffic. Mixed traffic is only allowed to enter or cross a bus only lanes to turn at an intersection or park at designated parking areas. Bus only lanes may be used by emergency vehicles.

Best Design Practices

- A** Exclusive (dedicated) bus lanes width varies from 12' to 13' depending on transit agency requirements and street constraints.
- B** Exclusive bus lanes require physical barriers to separate bus lanes from mixed flow traffic which could be concrete barriers, bollards, delineators, or other devices.
- C** Well designed and branded transit shelters with ample space for waiting, protection from the sun, rain and wind, adequate lighting, variable message signs, seating, trash, receptacles will contribute positively to the passenger experience and the streetscape environment.



Source: NACTO



Georgia Avenue, Washington D.C.



34th Street, New York

Complete Streets

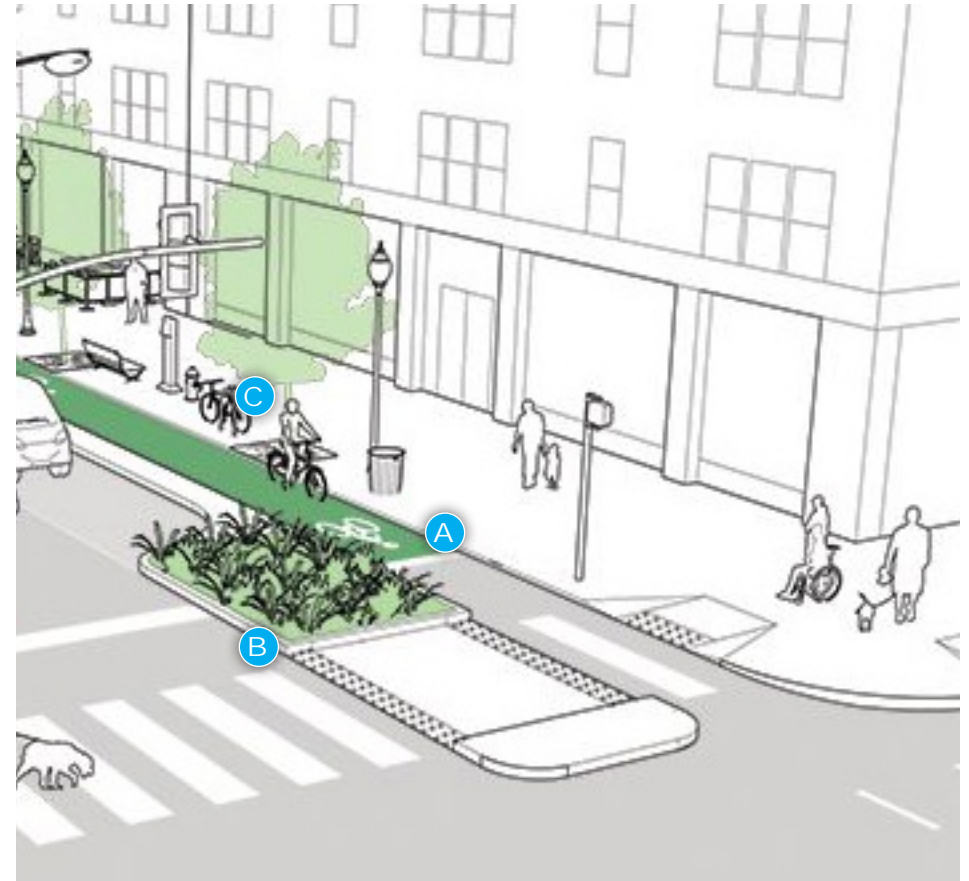
BICYCLE LANES AND PATHS

- Amenities
- Infrastructure
- Intersections
- Street Design

Providing a robust bicycle network within 3 miles of a HQTAs transit station/stop will assist in the first last mile connections to the transit station/stops and provide an alternative to the automobile for those living, working and playing within the HQTAs area. Options to consider in providing safe, dedicated bicycle lanes/path in the HQTAs include: 1) bicycle lanes (class II) are striped lanes located adjacent to the curb or to parked cars. 2) a bicycle path (class III) is a two way path usually on one side of a street or in a separate right-of-way 3) protected bike lanes or cycle tracks(class IV) contain a buffer or physical separation between the bike lane and parked cars or vehicular travel lanes as shown in the illustration.

Best Design Practices / Guidelines

- A** Bike lanes are a minimum of 5' width; 7' width desirable.
- B** Protected bike lane – Buffers could be wide striping in the pavement, a raised concrete curb or median, bollards or landscaping. The buffer should be a minimum of 3' if adjacent to parked cars and will need to be broken at driveways and at intersections.
- C** Along the bike lane/bike path there needs to be adequate bicycle parking which could include bike racks, bicycle lockers, bike corrals, bike bulbs and shared bike stations.



Source: NACTO



Class IV bike path, the Bowery, New York



Class IV bike path, Rosemead Blvd, Temple City, CA

Complete Streets

SIDEWALKS

- Amenities
- Infrastructure
- Intersections
- Street Design

A continuous, attractive landscaped pedestrian network provided in a HQTAs area will connect a dynamic mix of uses with transit facilities. Adequate sidewalk width and pedestrian amenities will help create a walkable environment throughout the entire HQTAs area. In addition to having travel lanes, devices such as “bump outs” or curb extensions are methods to provide more sidewalk width in constrained right-of-way conditions. These curb extensions may be used for bus stops, additional landscaping, outdoor dining and other amenities.

Best Design Practices / Guidelines

- A** Sidewalks typically can be classified into the following three zones. 1) an amenity zone next to the curb, 2) a pedestrian zone for access and, 3) a frontage zone. The amenity zone, sometimes called the parkway typically includes street lights, street trees, landscaping, signage, bike racks, trash receptacles, local bus stops with transit shelters, seating, and utilities. It could contain storm water treatment, parking meters, public art, and outdoor dining. The pedestrian zone includes enough walking area to accommodate the number of people walking abreast depending on the land use and must meet ADA requirements. The frontage zone is adjacent to the property line and its width will vary depending on the adjacent land use. In a retail area it may contain outdoor dining, planter boxes, railings, seating, and other amenities.
- B** Sidewalks and parkways of 12’ to 15’ or more are desirable as they are wide enough for street trees, pedestrian amenities, and allow at least two people to pass another. Sidewalks/parkways should not be less than 10’.
- C** Paving patterns will vary per City requirements for construction and maintenance and could include standard gray concrete, colored concrete, decorative paving, permeable paving, and others.
- D** To create a lively active pedestrian environment, the building entrances should be located with access directly from the sidewalk. The ground level frontage of the building facing the sidewalk should provide visual interest with clear glass windows that support the pedestrian environment.



Culver City, CA



Tokyo, Japan



West Hollywood, CA



Chicago, IL

Complete Streets

BUS BULB

Amenities

Infrastructure

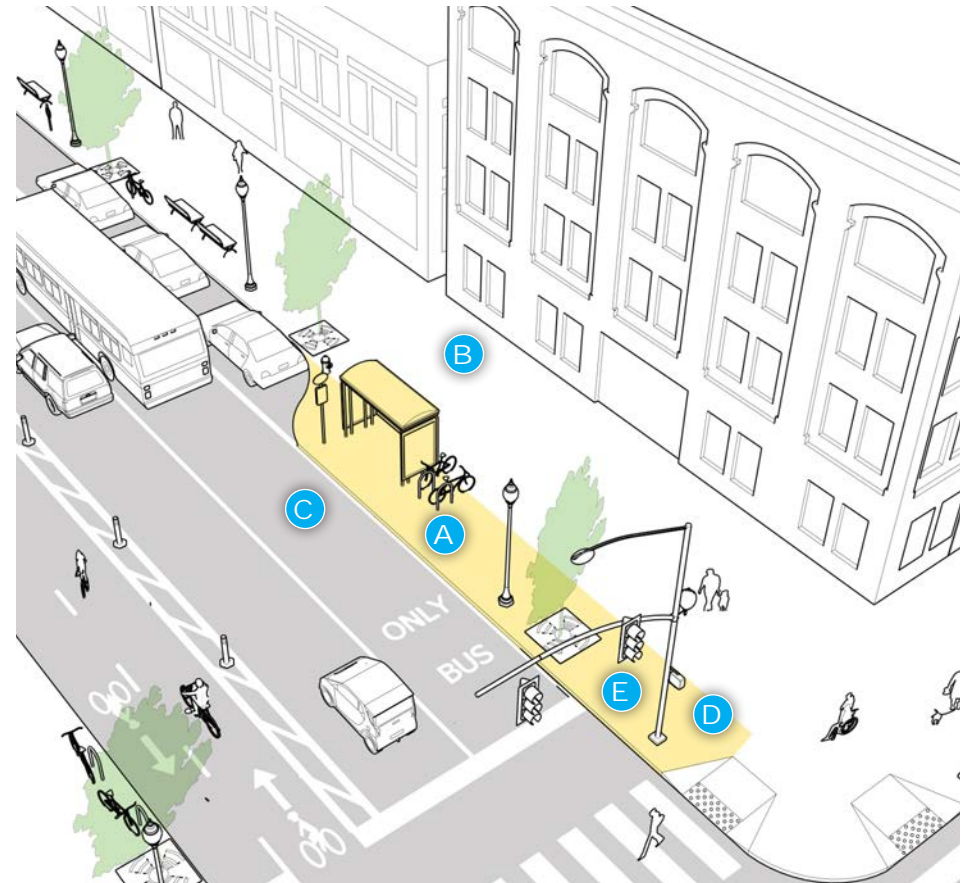
Intersections

Street Design

A bus bulb is a curb extension that allows buses to stop in a vehicular travel lane increasing transit efficiency as the bus stopped at the curb does not need to wait to pull into moving traffic. Bus bulbs create more space adjacent to the sidewalk for pedestrian and transit amenities.

Best Design Practices / Guidelines

- A** Bus bulbs are typically located on multi-lane arterials with curb side parking allowing for an extension of the sidewalk at intersections and for vehicles to pass stopped buses in adjoining lanes.
- B** Bus bulbs are used in constrained sidewalk conditions where there is limited space for a transit shelter and other amenities.
- C** Bus bulbs may be used in high bus ridership corridors for premium service such as Rapid or Bus Rapid Transit.
- D** Far side bus bulbs are preferred over near side bus bulbs to avoid right turn interference.
- E** The length of bus bulbs vary depending on the type (local or articulated) and the number of buses at a stop. The length of the bus bulb is often constrained by driveways and other physical conditions. For conceptual design guidance a minimum length of 60' to 140' and a width of 8' should be considered and longer if more than one bus will be stopping at the same time.



Source: NACTO



Dexter Avenue, Seattle, WA

Complete Streets

SPEED TABLE

Amenities	Infrastructure	Intersections	Street Design
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Speed tables are traffic calming devices that raise the pavement several inches to reduce traffic speed and improve safety for pedestrians and bicycles crossing a roadway.

Best Design Practices / Guidelines

- A** Speed tables have a flat surface with sloped ramps for vehicles.
- B** To shorten the distance of crossing a street, speed tables are typically located in conjunction with a curb extension and with the flat surface at the level of the curb.



Source: NACTO



Speedway, IN

Complete Streets

TRAFFIC CIRCLE

Amenities

Infrastructure

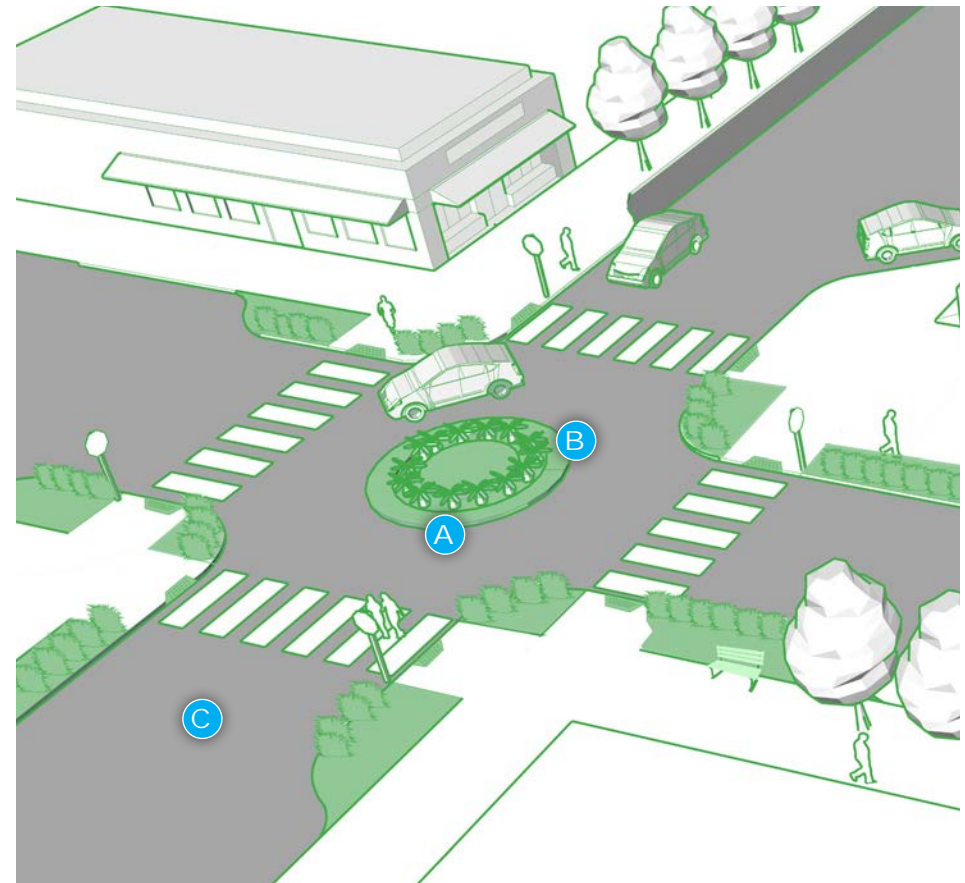
Intersections

Street Design

Traffic circles are circular islands in the center of intersections that control the flow of traffic. Drivers that enter the traffic circle must travel in a counter clockwise direction around the island to get to the other side. Intersections with traffic circles can be signalized, stop-controlled, or yield-controlled. Traffic circles slow the flow of vehicular traffic into intersections, which creates a more safe and comfortable environment for bicyclists and pedestrians. Studies have shown traffic circles improve air quality and roadway circulation by eliminating the stop-and-start movements associated with a four-way stop.

Best Design Practices / Guidelines

- A** Use permeable materials and low water landscaping within the traffic circle for storm water management and create an attractive image.
- B** Use signs and reflective paint on the curb to improve visibility.
- C** Design speeds for vehicular movement, around the traffic circle should be 10 to 15 mph.



Source: Gruen Associates



Vista Bike Boulevard, Long Beach, CA

Complete Streets

DIVERTER

Amenities

Infrastructure

Intersections

Street Design

A traffic diverter is a roadway design feature which is placed upon a street or roadway in order to prohibit vehicular traffic from entering into, or from any street. Traffic diverters can be low cost and be large planters, signs, dirt filled concrete drums, curbs, curb extensions and more permanent installations. A raised median diverter allows through traffic for bicycles while directing drivers onto an arterial street more appropriate for car traffic. Diverters also make the crossing much easier and safer for pedestrians. Diverters may include drought-resistant landscaping that can, integrate them into the feel and fabric of the surrounding neighborhood.

Best Design Practices / Guidelines

- A** Use signs within the diverter and reflective point on the curb to improve diverter visibility.
- B** Use permeable materials and low water landscaping within the diverter for storm water management and aesthetics.
- C** Bicycles can freely pass through the diverter. Enhanced cross walks and a “Z” pedestrian crossing can improve pedestrian safety.



Source: Gruen Associates

Complete Streets

MEDIAN REFUGE ISLAND

Amenities

Infrastructure

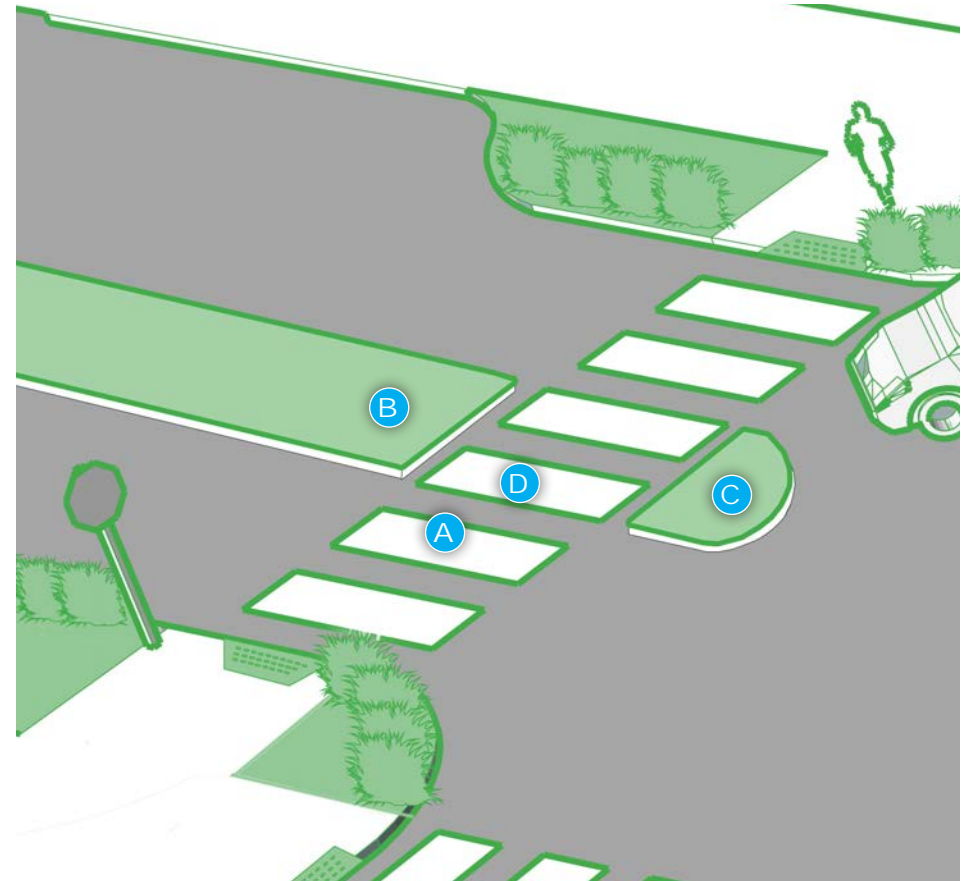
Intersections

Street Design

Median refuge islands can provide a protected space for pedestrians or bicyclists crossing the street. Medians are elevated barricades that divide the roadway down the center. A refuge island can provide additional protection for pedestrians and bicyclists along busy corridors by allowing them to navigate only one direction of traffic at a time. They are especially recommended for wide streets and arterials that pedestrians may have trouble crossing before the end of the signal phase.

Best Design Practices / Guidelines

- A** Median refuge should accommodate pedestrians with disabilities and provide all pedestrians with a clear path of travel.
- B** The minimum width is 6 feet, a preferred width of 10', and a length of 12' or the length of the crosswalk which ever is wider.
- C** Signage and reflective material should identify the refuge island.
- D** Provide detectable paving for visually impaired users to indicate the line between the travel lanes and the pedestrian refuge.



Source: Gruen Associates



Arlington, VA

Complete Streets

CURB EXTENSION

Amenities

Infrastructure

Intersections

Street Design

A curb extension is a portion of the sidewalk that is extended into the street or parking lane and typically occurs at intersections. This reduces the distance that pedestrians need to walk to cross the street, makes pedestrians more visible to motor vehicles, and causes drivers to reduce speeds by narrowing the roadway. Curb extensions offer space for amenities such as street furniture, bike racks, public art, transit shelters and landscaping. Curb extensions must be installed with curb ramps that comply with ADA standards. Curb extensions are typically installed at corners but they can be used at mid-block crossings as well.

Best Design Practices / Guidelines

- A** A curb extension should not obstruct sight lines and allow motorist to clearly see pedestrians and bicyclist. Well designed curb extensions could include low height landscaping, bioswale planting, bike parking, or seating.
- B** To avoid conflict with bike lanes curb extensions often occupy a portion of a curb side parking lane.
- C** A curb extension could modify the storm water flow and the street may need to be redesigned by providing curb breaks into a bioswale, relocating catch basins or an ADA compliant grated channel to divert stormwater to existing catch basins.



Source: Gruen Associates



Long Beach, CA

Complete Streets

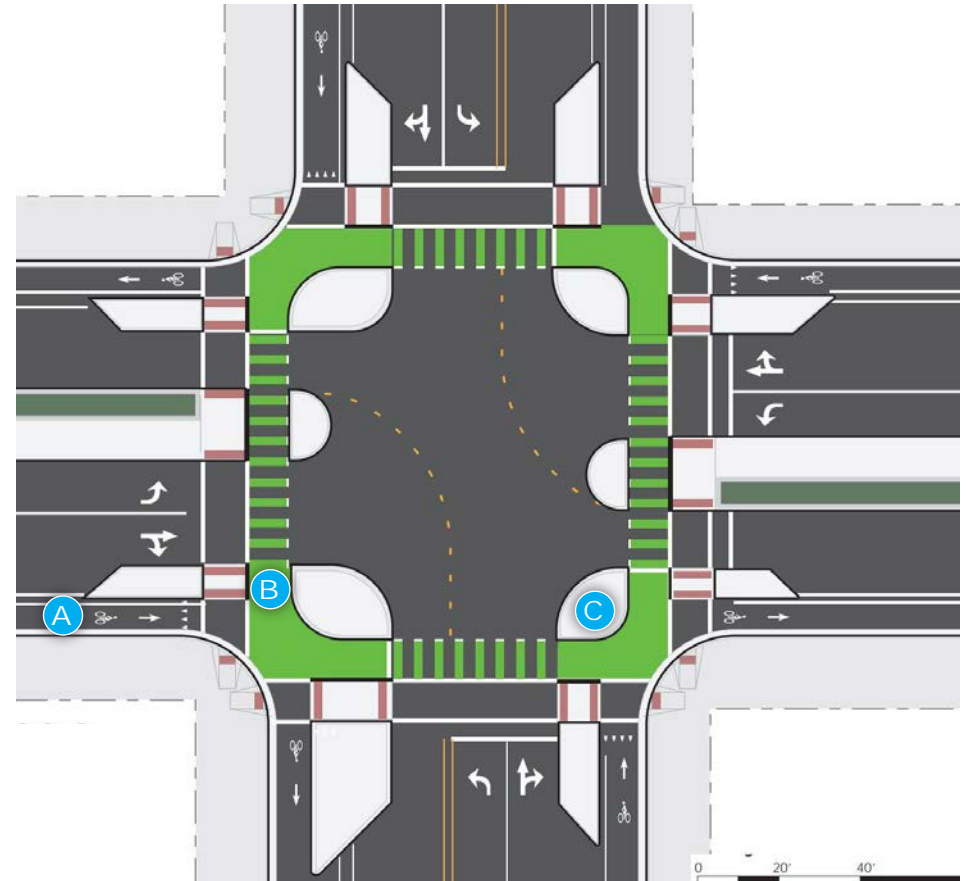
PROTECTED BICYCLE INTERSECTION

- Amenities
- Infrastructure
- Intersections
- Street Design

A protected bicycle intersection utilizes curb extensions to add a barrier between a bicycle lane and vehicle travel lanes at an intersection. Like other curb extensions, this makes cyclists and pedestrians more visible to motor vehicles. This arrangement provides greater safety for cyclists at intersections by preventing motorists from intersecting with cyclists when making a right turn and providing turning cyclists with an area to queue without interfering with either cyclist or motorists traffic. Protected bicycle intersections offer less space for pedestrian amenities as other forms of curb extensions.

Best Design Practices / Guidelines

- A** A protected bicycle intersection can be implemented in configurations with shared travel lanes or bicycle-only lanes. Roads with shared traffic lanes will have dedicated bicycle lanes at intersections to accommodate protected intersections.
- B** Well-designed protected bicycle intersections provide sufficient space for at least one cyclist to queue in the protected area. Queuing space can be maximized by widening the inside radius of the corner safety island.
- C** A protected bicycle intersection can include low height landscaping in raised corner safety islands.



Source: ALTA



San Francisco, CA

Complete Streets

ENHANCED CROSSWALK

Amenities

Infrastructure

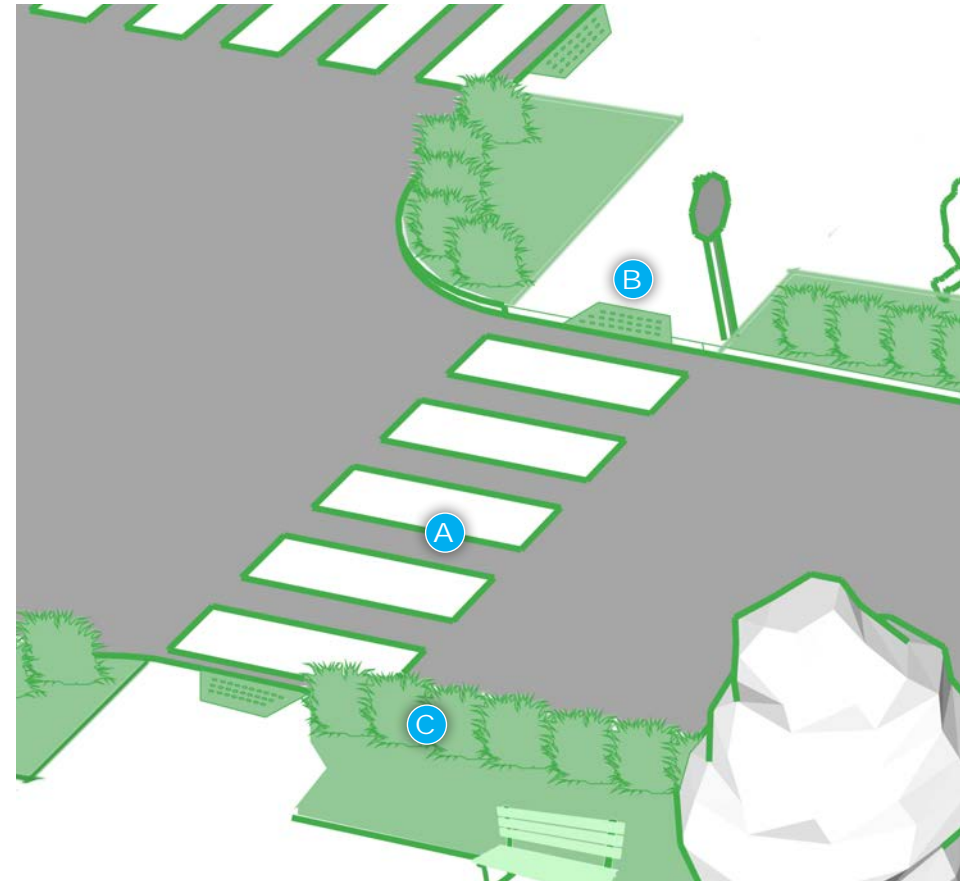
Intersections

Street Design

Installing crosswalks at controlled and mid-block help pedestrians to identify ideal locations at which to cross a street. Marked crosswalks also indicate to motorists where pedestrians have right-of-way and where to yield. Crosswalks should be highly visible to both drivers and pedestrians and can be installed with basic striping or decorative pavers. Crosswalks can also be supplemented with in-pavement flashing lights, elevated “table crosswalks,” or freestanding beacons to increase visibility, which is particularly important for mid-block crossings.

Best Design Practices / Guidelines

- A** A continental crosswalk has wide highly visible longitudinal strips paired with a stop line setback from the crosswalk.
- B** Curb ramps shall be designed to align with cross walks.
- C** Vertical elements such as street trees should not block visibility of pedestrians in the crosswalk.



Source: Gruen Associates



Chicago, IL

Complete Streets

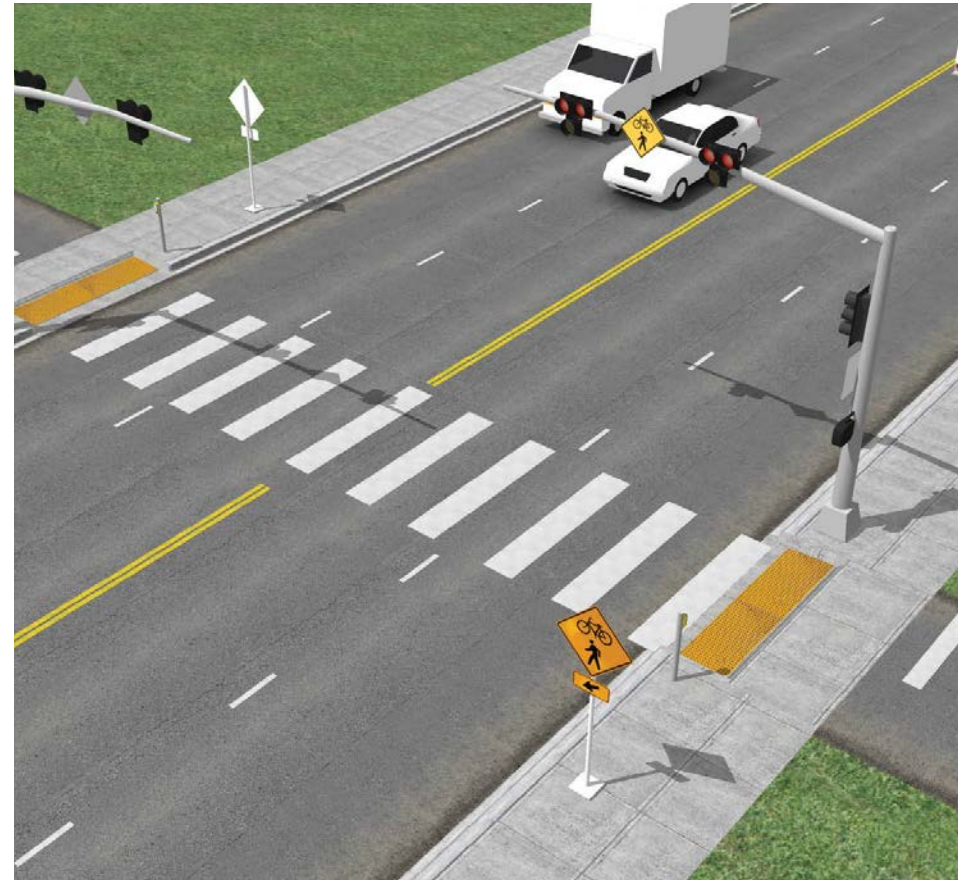
HIGH-INTENSITY ACTIVATED CROSSWALK (HAWK) BEACON

- Amenities
- Infrastructure
- Intersections**
- Street Design

HAWK pedestrian signals, beacons, and push buttons promote intersection safety. Pushing the pedestrian button alerts the signal system of the presence of a pedestrian requesting a “walk” signal. In some cases, such as at a mid-block crossing, the pedestrian must press the button to receive a “walk” sign. At signalized intersections, the pushing of the button will reduce the pedestrian’s wait time for crossing the street.

Best Design Practices / Guidelines

- A** Push buttons should incorporate tones for the visually impaired.
- B** Push buttons are appropriate for arterial streets, congested streets and in areas with a high concentration of seniors as they can allocate more time for pedestrian crossing.



Source: NACTO



Complete Streets

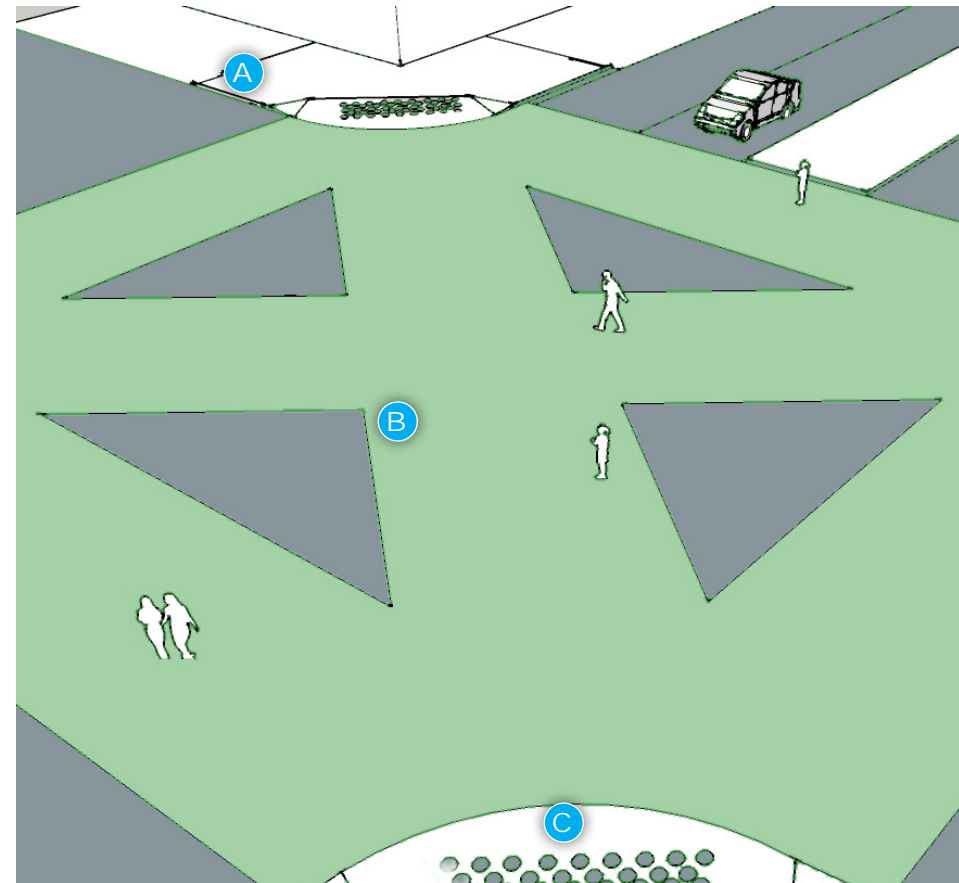
SCRAMBLE CROSSWALK

- Amenities
- Infrastructure
- Intersections
- Street Design

When activated, scramble crosswalks signalization temporarily stops traffic to allow pedestrians to cross at an intersection in any direction. The crossings can be striped with paint or pavers and can be used to direct pedestrian movement. Scramble crosswalks are advantageous in areas with high pedestrian traffic, as they more efficiently allow pedestrians to cross directly to their desired corner even diagonally, as opposed to having to wait for successive crossing signals.

Best Design Practices / Guidelines

- A** Scramble intersections have “pedestrian only” phase in signal light cycles during which vehicles are prohibited from entering an intersection including right turns.
- B** “Continental” crosswalks or decorative concrete unit pavers may be used at scramble intersections. Continental crosswalks include wide bands perpendicular to the direction of travel.
- C** Curb ramps and tactile warning strips should be provided at curbs to meet ADA requirements.



Source: Gruen Associates



Pasadena, CA

Complete Streets

CURB RAMP

Amenities

Infrastructure

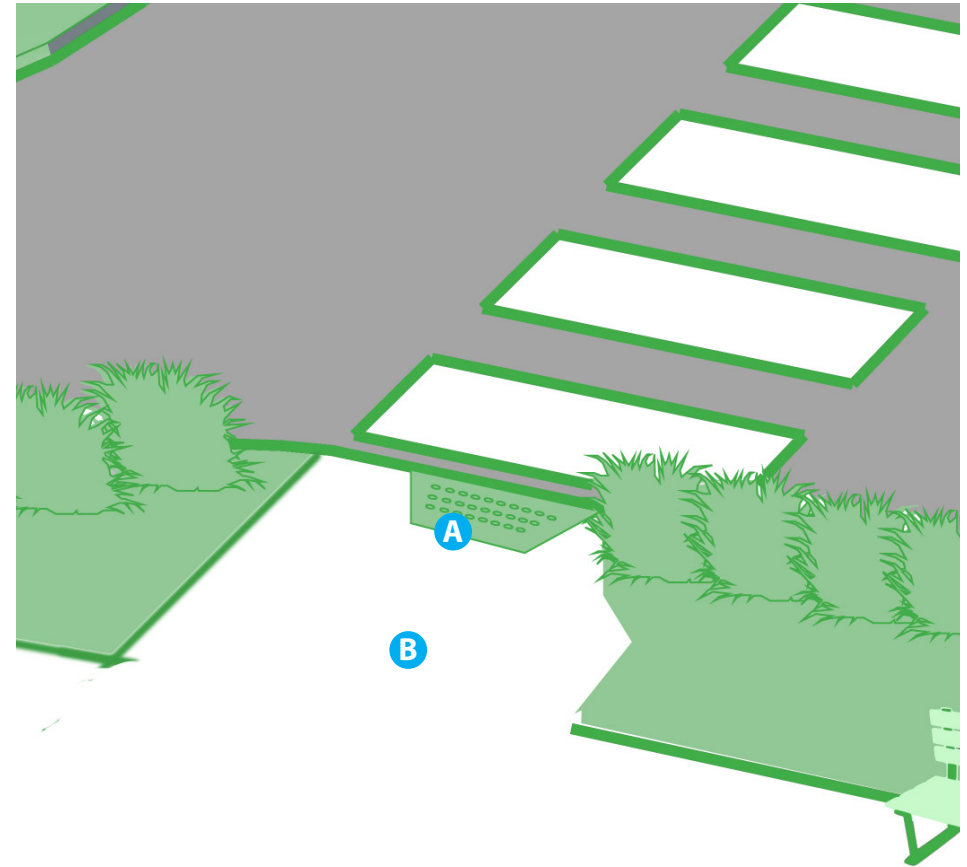
Intersections

Street Design

Curb ramps allow persons in wheelchairs, with walkers, with strollers, and with other disabilities convenient access to the sidewalk from the street. The Americans with Disabilities Act (ADA) requires curb ramps to be installed at all locations where pedestrians cross. Curb ramps for each crossing approach are preferred rather than one curb cut per corner so that visually impaired persons have better orientation. Warning strips should be installed on all ramps.

Best Design Practices / Guidelines

- A** All curb ramps should have ADA - approved ramps with detectable warning surface (min. width 24") in yellow.
- B** At least 48" of landing should be provided behind the curb ramp.



Source: Gruen Associates



Long Beach, CA

Complete Streets

CHICANE

Amenities

Infrastructure

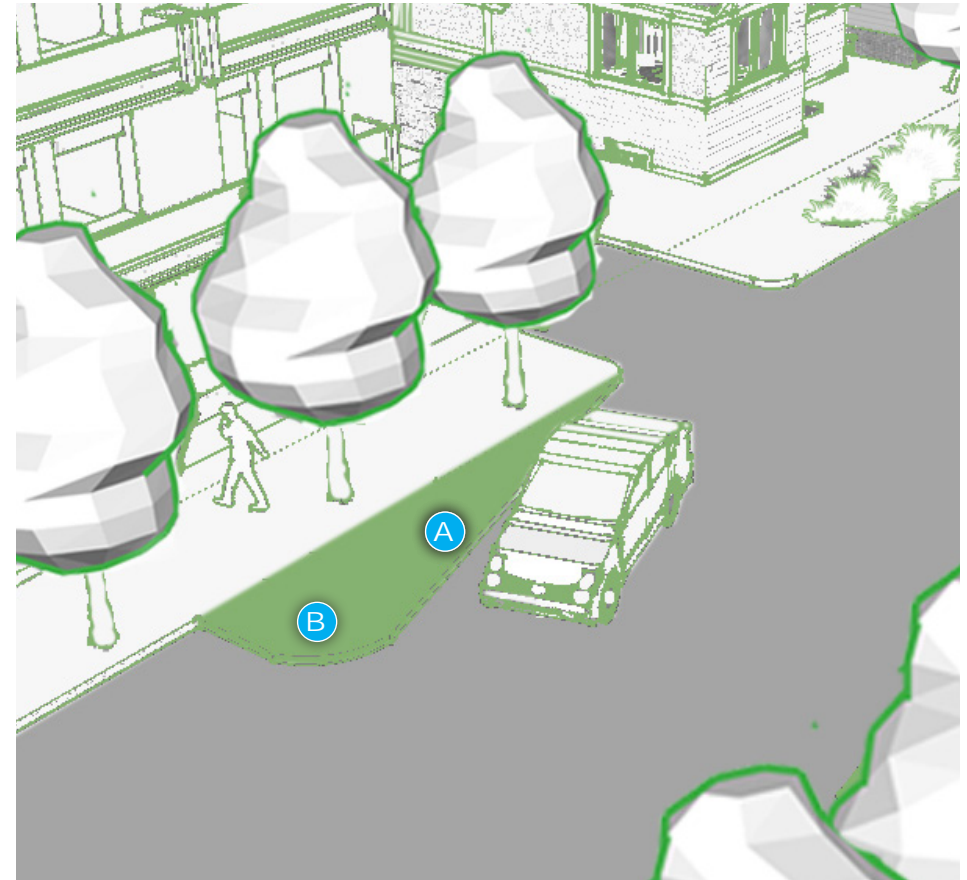
Intersections

Street Design

Chicanes reduce vehicle speeds by visually narrowing the roadway and requiring vehicles to shift their positions horizontally. Chicanes and chokers are curb extensions that alternate from one side of the street to the other and calm traffic. If supplemented with landscaping, bike parking, seating and other amenities, chicanes can also create a more pleasant walking environment and a buffer between the sidewalk and the street. The City of Seattle found an 18-35% reduction in travel speeds and a 32-45% decrease in average daily traffic (ADT) volumes at locations with chicanes.

Best Design Practices / Guidelines

- A** A chicane may require special striping of the street and signage reflective paint on the curb to ensure drivers are aware of the serpentine roadway.
- B** Landscaping and storm water infiltration in the chicane contributes to a pleasant walking environment and can aid in wayfinding for drivers.



Source: Gruen Associates



Austin, TX

Complete Streets

STREET TREES

Amenities

Infrastructure

Intersections

Street Design

Street trees will enhance the walkability, comfort and attractiveness of the HQTA pilot area streets. Street trees provide visual interest, unity and shade protection from the hot sun. Landscaping of parkways and tree wells compliment and support street trees and assist in storm water management. Street trees reduce the heat island effect, reduce storm water runoff, improve air quality by absorbing greenhouse gases, and can provide wild life habitat and food.

Best Design Practices / Guidelines

- A** Street trees and landscaping in the amenity zone should be specified to achieve a strong visual image that fits in the neighborhood, to respond to the area's climate, for low water requirements, for resistance to disease, for compatibility with soil and drainage conditions, and to avoid invasive roots that will uplift sidewalks.
- B** If streets are wide, tall canopy trees should be selected to create a strong visual impact and smaller trees may be selected for local small scaled street.
- C** Typical street trees should be spaced 30' - 35" apart while avoiding interference with street lighting, utilities and visibility of approaches to intersections and driveways.



Culver City, CA



West Hollywood, CA



Bethesda, MD

Complete Streets

TREELET

Amenities

Infrastructure

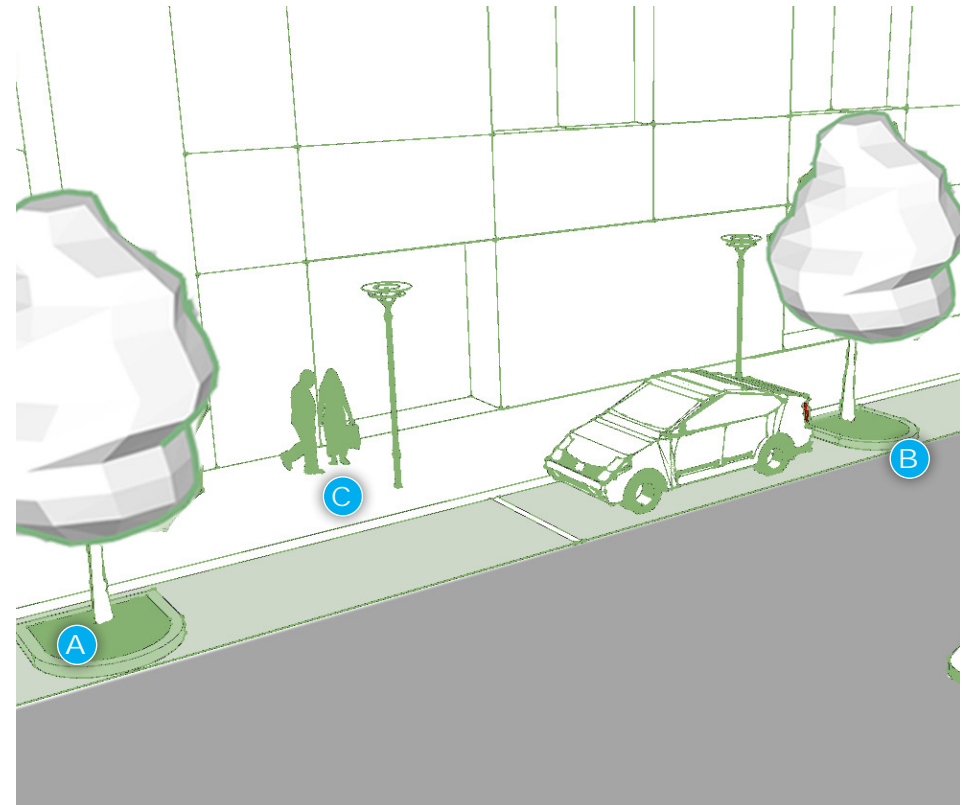
Intersections

Street Design

A treelet is a curbed tree well that is extended into the parking lane between on-street parking spaces. Treelets are typically used as an alternative to planting strips and tree wells in business districts and other areas where the existing sidewalk width is narrow and it is important to maintain the maximum width to accommodate pedestrian volumes and accessibility. Treelets can often be accommodated between existing parking spaces and typically do not impact the number of parking spaces along the street. A tree pit is saw-cut out of the street and a curb extension is built outside the gutter dimensions to prevent conflicts with existing drainage infrastructure.

Best Design Practices / Guidelines

- A** Treelet island length and widths vary with on-street parking conditions and existing utilities.
- B** Treelets should not obstruct sight lines of drivers viewing pedestrians. Parallel parking lengths should meet city standards.



Source: Gruen Associates



Long Beach, CA

Complete Streets

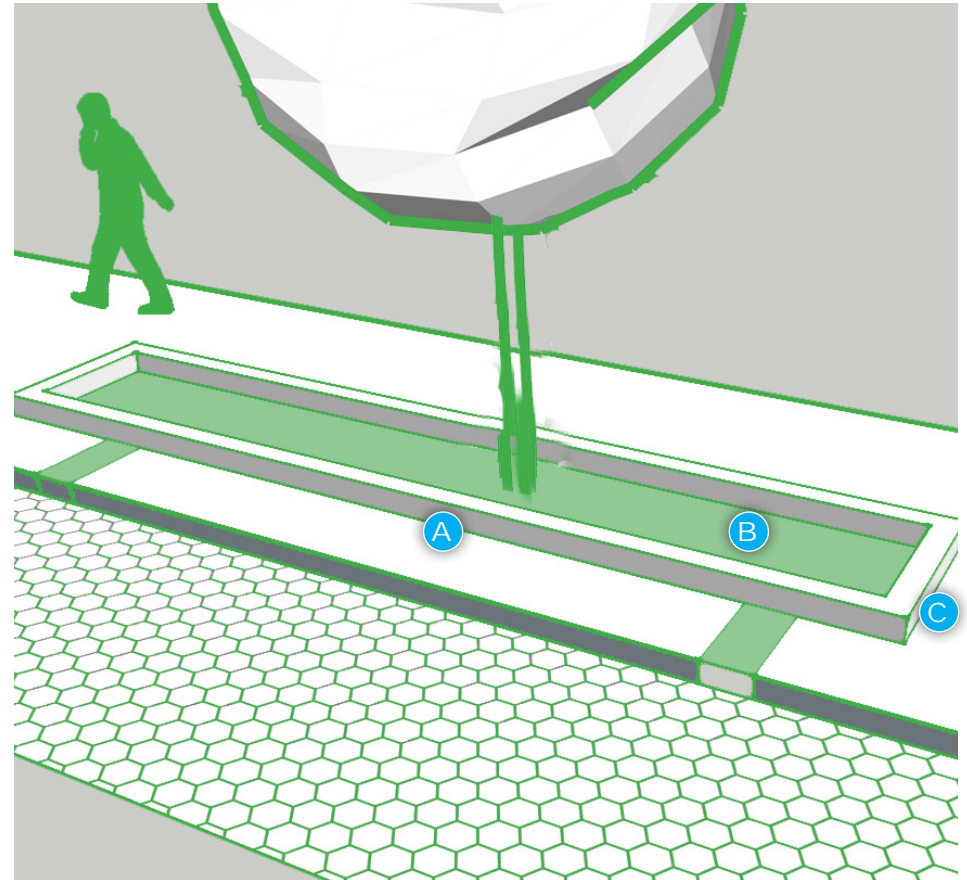
GREENWAY PLANTER / BIOSWALE

- Amenities
- Infrastructure**
- Intersections
- Street Design

Greenway planters/bioswales meet an increasing demand to mitigate storm water pollution from our streets and impermeable surfaces in our urban areas. Bioswale parkways between the street and sidewalk collect and filter stormwater run off from streets. Curb cut-outs direct street runoff into the permeable soils and native plants or grasses to help reduce the flow of water and to filter out pollutants such as sediment, trash, and heavy metals. Drainage pipes installed beneath the soil carry the filtered water to the storm drain system.

Best Design Practices / Guidelines

- A** Greenway planters or bioswales may be designed in many ways and individual cities are starting to develop standards for green streets that filter storm water. The illustration is one example of a greenway planter where the curb is broken to allow storm water in the gutter to flow into a bioswale planter in the sidewalk area.
- B** If there is not curbside parking, place the greenway planter next to the curb. If there is curbside parking, place an accessible area between the curb and the greenway planter.
- C** Allow for accessible breaks in the greenway planters periodically.



Source: Gruen Associates



Hope Street and 11th Street, Los Angeles, CA



Bioswale, Boston, MA

Complete Streets

PERMEABLE PAVING

Amenities

Infrastructure

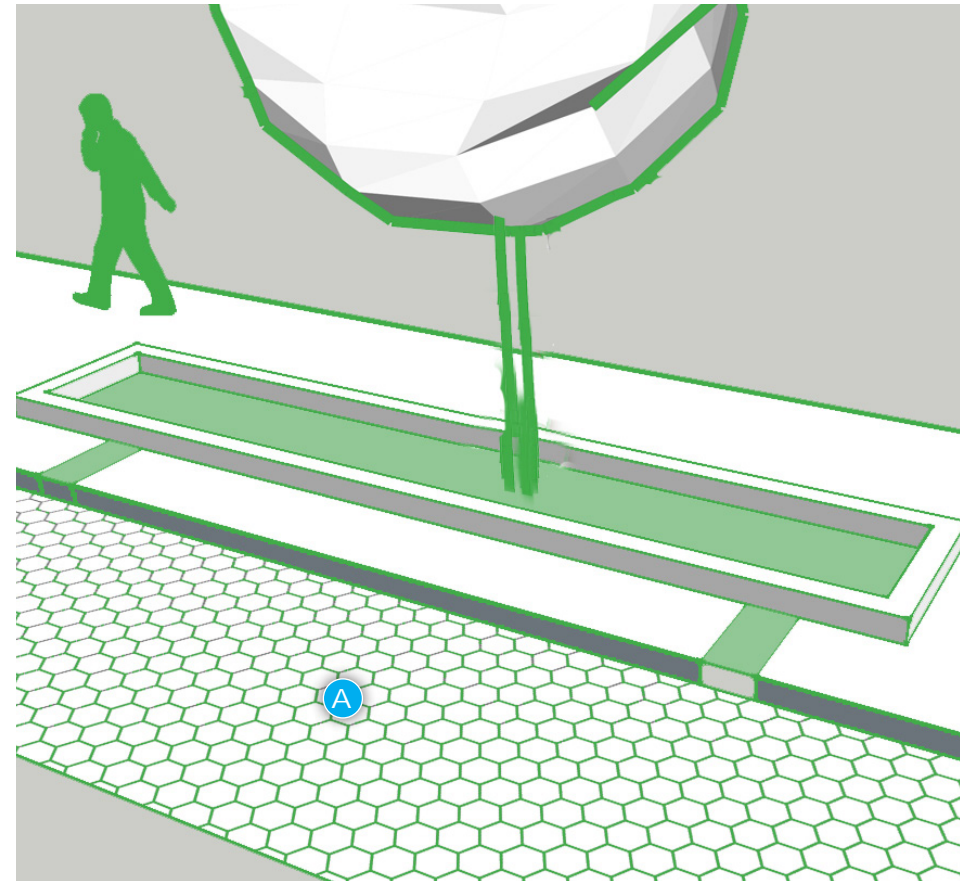
Intersections

Street Design

Permeable pavement allows stormwater runoff to seep through and into the soil below where the water is filtered and eventually directs to the existing aquifer. Permeable pavement is an alternative to typical concrete and asphalt paving and offers a range of utility, strength and sustainable properties. These materials include permeable concrete, asphalt, clay brick interlocking unit pavers, open grid pavers, gravel pavers or decomposed granite. Joints usually include aggregate.

Best Design Practices / Guidelines

- A** Permeable paving may be used in the street, in parking lots and in sidewalks, especially in the amenity zone. Soil tests are needed to establish soil characteristics and to determine proper aggregate materials so water filters properly through the system. Maintenance is required to keep debris from clogging joints.



Source: Gruen Associates



Source: NACTO

Complete Streets

LIGHTING

Amenities

Infrastructure

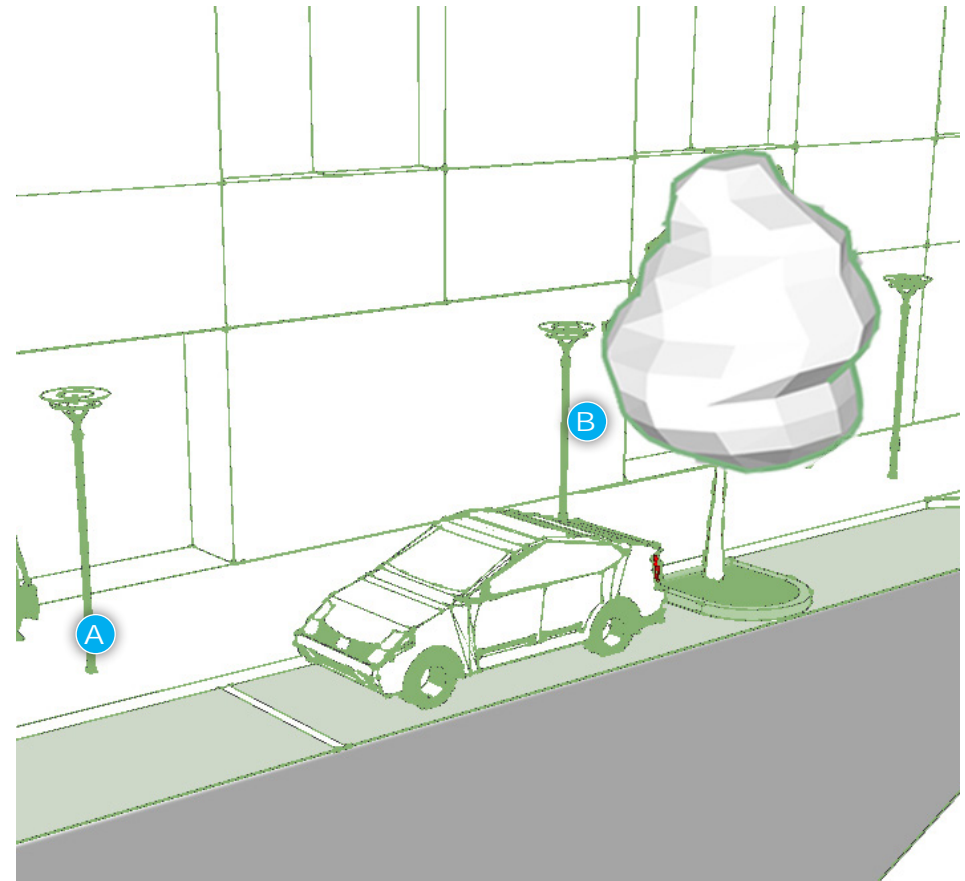
Intersections

Street Design

Street lighting improves streetscapes by improving security and visibility for both bicyclists and pedestrians. Street lights should be installed on both sides of the street and the level of lighting should be consistent throughout the segment. To accompany city standard street lights, which are tall and often spaced over 100' apart, pedestrian scale lighting is shorter in height, more frequent and creates a more aesthetically pleasing, comfortable and safe environment to walk and stroll. Pedestrian-scaled lighting along bike paths and at bus stops also add to the safety and security of those arriving within the HQTAs area. Intersections often require additional lighting to allow motorists to see pedestrians crossing. In addition, when operation and maintenance funds are available specialty lighting of trees and digital signage can add to the vitality of the area.

Best Design Practices / Guidelines

- A** Lighting should have energy efficient fixtures such as LED which provides even, uniform distribution of light enhancing visibility and safety.
- B** Pedestrian-scaled lighting can be located between street lights, interspersed with street trees in the amenities zone or if sidewalks are wide enough at the back of the sidewalks to maximize the number of street trees.



Source: Gruen Associates



Uptown Transit Hub, Cincinnati, OH

Complete Streets

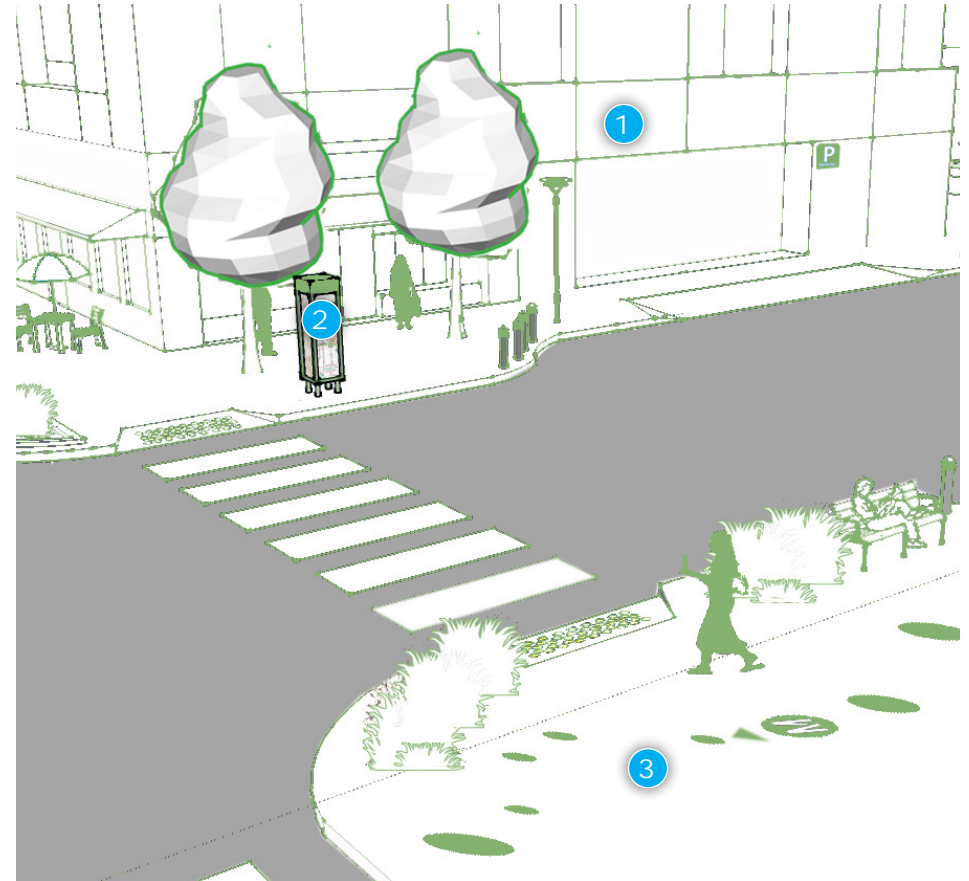
WAYFINDING

- Amenities
- Infrastructure
- Intersections
- Street Design

Wayfinding improvements can help visitors navigate to major destinations, public facilities, and transit connections. Wayfinding signage can be divided into three categories: **1) Identification signs** that mark important destinations such as buildings, activity centers, and public facilities. **2) Informational signage** that provides more background information on a point of interest and often uses maps. **3) Directional signage** that shows the optimal route between key destinations. A successful wayfinding strategy should make use of all three types of signage. As part of this strategy, cities should develop directional signage for transit stations and informational signage for major destinations.

Best Design Practices / Guidelines

- A** Graphic designers should develop a comprehensive signage system that is clear and concise for each of the type of signage.
- B** Directional and informative signage should use a consistent color palette, fonts, materials and graphics and be scaled for its purpose.



Source: Gruen Associates



Manufaktura Square, Łódź Poland



Zeughaus Museum, Berlin, Germany

Complete Streets

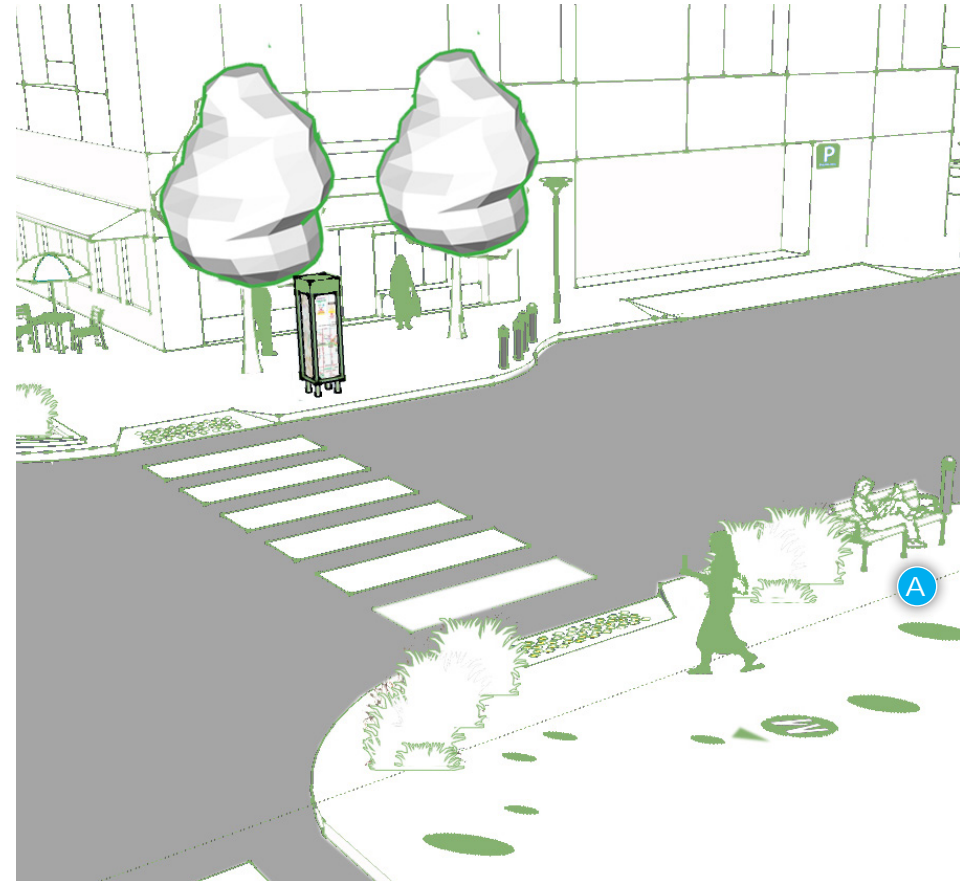
STREET FURNITURE

- Amenities
- Infrastructure
- Intersections
- Street Design

Street furniture on sidewalks acts as a buffer between pedestrians and vehicular traffic and contributes to an active vital, walkable environment. Benches, water receptacles, and bicycle racks are recommended types of street furniture because they address needs that a pedestrian may have, such as a place to rest. Street furniture should be placed outside of the walking zone as to not create a hazard to pedestrians.

Best Design Practices / Guidelines

- A** Except at bus shelters and when space allows, benches should face or be perpendicular to the sidewalk creating a seating node. Waste receptacles should be placed near nodes of activity and spaced frequently along the streetscape. Considerations should be given to providing waste receptacles for recycling. Bicycle racks should be located near transit stops, major destinations and bike paths. Outdoor dining on private property and in the frontage zone should be encouraged where adequate space exists.



Source: Gruen Associates



Concrete Bench by Escofet



Caudal Drinking Fountain by Santa & Cole



Grand Park, Los Angeles, CA



Outdoor Litter Bins by Crystal

Complete Streets

TRANSIT SHELTER

- Amenities
- Infrastructure
- Intersections
- Street Design

Providing a shelter at all transit stops and stations allows commuters protection from sun and from inclement weather. Shelters should be established outside of the pedestrian walking zone and with sufficient room for bus wheelchair lifts to load and unload passengers. If there is not adequate space to install a dedicated shelter, at a minimum a bench and signage should be provided.

Best Design Practices

- A** Transit shelters should provide protection from the elements, adequate lighting, seating, a 5'x8' passenger loading area at the front door of the bus, accessibility to the bus and the sidewalk, and information signage.
- B** Benches or seats should be provided at all transit stops and stations for commuters to rest while waiting for the bus or train. Elderly and disabled passengers often have difficulty standing for long periods. Seating should be installed within close proximity of transit stops and stations and under the provided shelter if feasible.
- C** At a minimum, all transit stops and stations should provide signage displaying the route number. Providing timetables and maps are recommended to increase convenience for commuters with transfers and those that are less familiar with the network, such as a bicyclist with a flat tire in an unfamiliar location. For major transit stations and terminals, providing passengers with real time information on arriving transit vehicles is a valuable customer service improvement.



sbX Transit Shelter, San Bernardino, CA



Transit Stop, Temple City, CA



CTA Transit Shelter, Chicago, IL

Complete Streets

DEMONSTRATION OR PILOT PROJECT

- Amenities
- Infrastructure
- Intersections
- Street Design

Demonstration projects are temporary, low-cost public realm improvements that serve to introduce new pedestrian safety techniques to the general public. During the pre-design phase for projects, cities and partners should consider installing temporary elements such as curb extensions, plastic bollards, or striping. These improvements typically last no longer than one-two years. These temporary projects can help to demonstrate the benefits of pedestrian and bicycle improvements to the general public, as well as potential funders as the City seeks financial support through public and private grants, and sponsorship opportunities.

Best Design Practices / Guidelines

- A Flexible Bollards:** Can be used to define pedestrian-only zones, curb extensions, cycle tracks, and other areas where cars are not permitted.
- B Striping:** Used to define areas where curbs will eventually be installed, new lanes of traffic, parking stalls, crosswalks.
- C Planters:** Temporary planters can bring shade and refuge to sidewalks, plazas, and pocket parks. Temporary painting can be used to create colorful plazas and pocket parks.
- D Surface Painting:** They can also be used to delineate important zones such as parking stalls, cycle tracks pedestrian areas, or medians.



Lincoln Hub, Chicago, IL

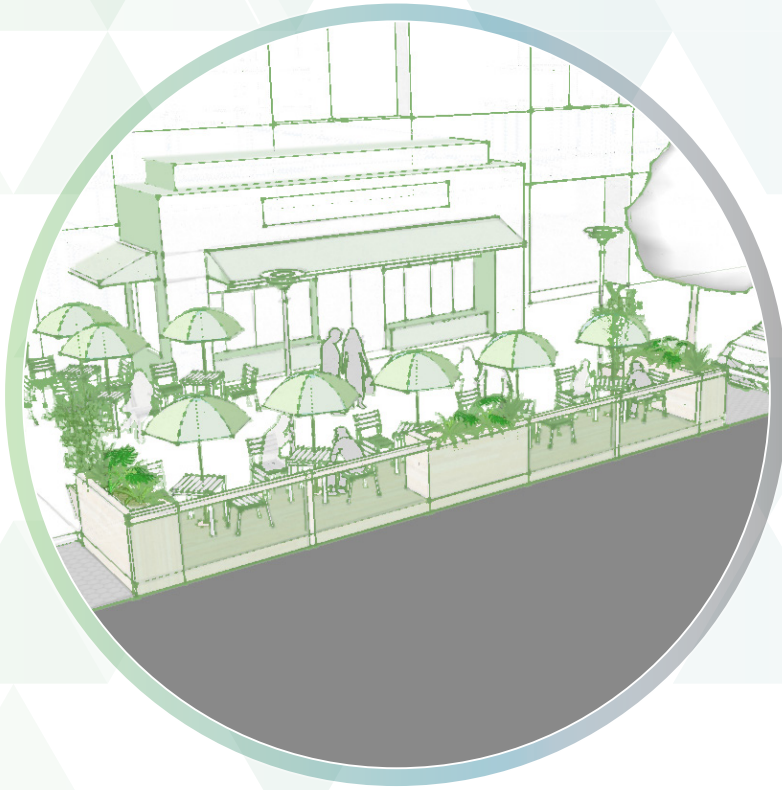


Sunset Triangle Park, Los Angeles, CA

Part II

Toolkit

B - OPEN SPACE / PLACEMAKING



Parklet

Pocket Park

Paseo

Parkway / Linear Park

Reclaimed Street / Pedestrian Mall

Neighborhood Park

Plazas / Town Square










Open Space / Placemaking

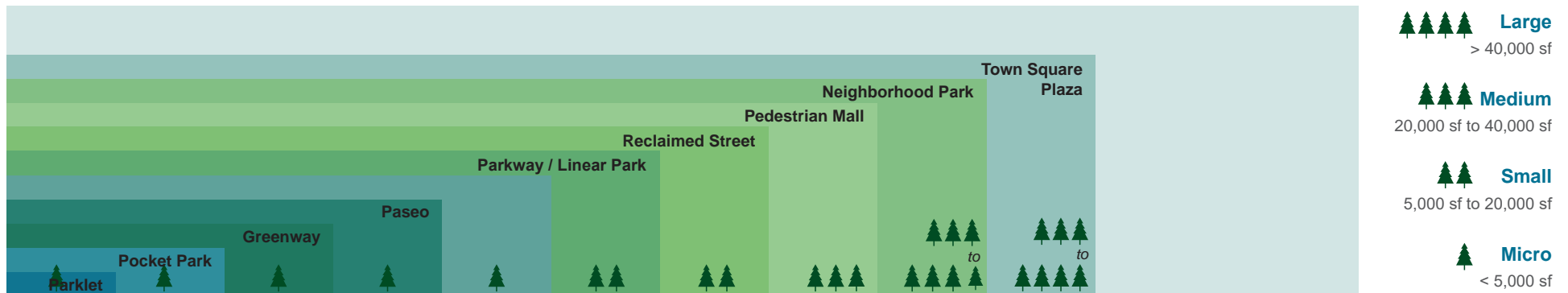
A key ingredient in creating a dynamic, urban TOD environment which is connected by transit and active transportation is to create attractive and functional places that people want to be. Placemaking includes providing public gathering and open spaces which are linked to transit and transit supportive housing, educational, institutional, and commercial uses. These open spaces vary in size and function, some are programmed for events to activate an area, some may be adjacent to a transit station or civic building and others may be entirely for recreation. The illustrations show some of the types of open space appropriate for a HQTA area.



Santana Row, San Jose, CA

Source: ULI

-  **Active Transportation Connection**
-  **Sport and Active Recreation**
Sport Fields, Swings, Exercise, etc.
-  **Culture, Education, and Passive Recreation**
-  **Stormwater Management / Landscape**
Bioswale
-  **Habitat and Open Space**
Habitat Corridor Links, Natural Landscape
-  **Safety and Visibility**
Eyes on the Street, Convenient Access
-  **Retail and Commercial Features**
Space for / Proximity to
-  **Event Space**
Temporary Stage, Amphitheater
-  **Pet Areas**
Dog Park, Dog Run



Open Space / Placemaking

PARKLET

Parklets connect curb side lanes and curb extensions into viable community spaces for recreation, seating and outdoor dining. By connecting one or two parking spaces into gathering spaces, the sidewalk is extended for public use and enhances the neighborhood. San Francisco, Boston, Los Angeles, Long Beach, all have Parklet programs. In Long Beach, the City has a pilot program with local restaurants to create these spaces. On Broadway and Spring Street in downtown Los Angeles, there are many parklets.

Best Design Practices / Guidelines

- A** Parklets should not encroach into the walking path and should be flush with the sidewalk.
- B** Parklets should not interfere with the storm water drainage of the street and electrical wires should not be exposed.
- C** A buffer should be provided from the parklet of at least 2 ft from the travel lanes.
- D** If there are multiple parklets on a street, the programming of the activities should vary between public uses and public/private uses, such as outdoor dining connected to restaurants.



Source: Gruen Associates



La Vague, Montreal, Canada



Spring Street, Los Angeles, CA



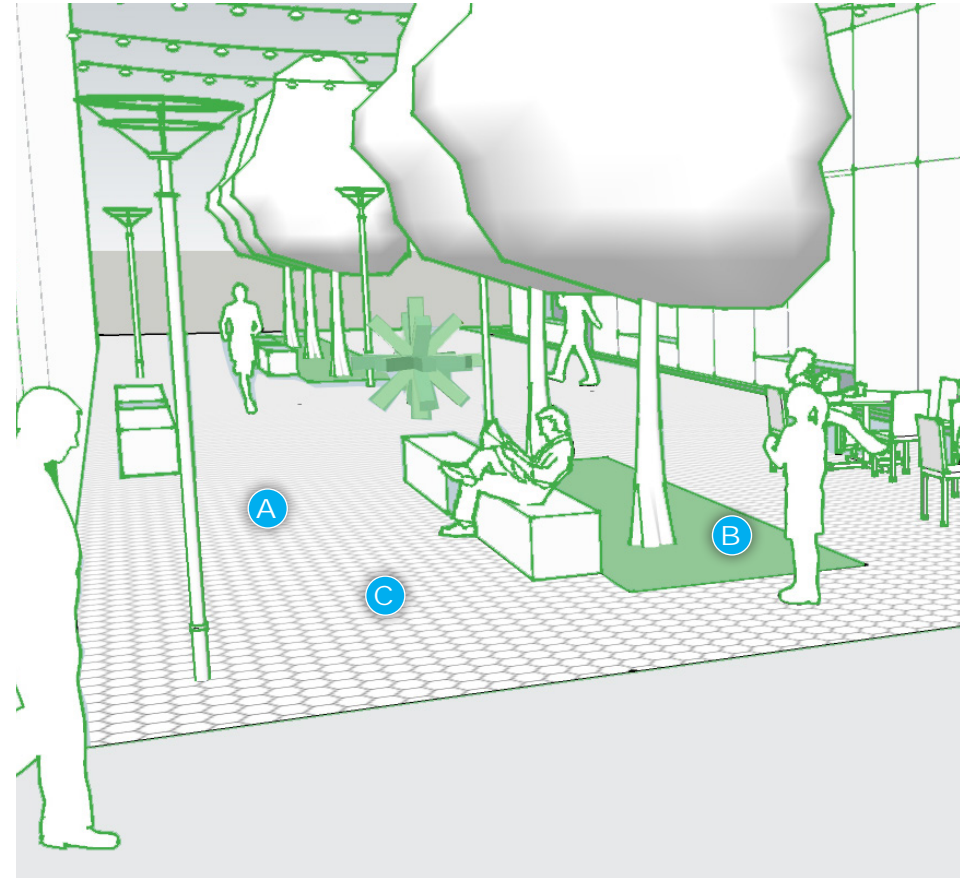
Open Space / Placemaking

POCKET PARK

Pocket parks offer small areas for sitting, dining and recreation, and could be located on public or private property. They could occupy underutilized or leftover public right-of-way or small lots owned by the City. Private property pocket parks could be a parking lot no longer used or an easement designated for public uses or connectivity. A variety of social and recreational functions could take place in the pocket parks and certain pocket parks could be designed for a unique use, such as a dog park. Potential elements include lighting, permeable or decorative paving, fitness equipment, tables for games and dining; seating, planting, trees, water features to mask noise, public art, wayfinding, space for and hook-ups for food trucks, play equipment, and community information signage.

Best Design Practices / Guidelines

- A** Design of parks should accommodate a diversity of users although some depending on size could be devoted to specialty users, such as a children’s playground or a dog park.
- B** Sustainable features, such as bioswales, permeable paving, LED lighting, solar lighting, drought-tolerant landscaping, and canopy trees for shade should be incorporated.
- C** Select sites that consider the orientation of the sun and the opportunity to integrate with viable transit-oriented uses and public art.



Source: Gruen Associates



Chess Park, Glendale, CA



Greenacre Park, New York, NY



Open Space / Placemaking

PASEO

A paseo is a landscaped public place containing a path designed for walking and strolling and could also be for biking. Paseos could be a mid-block pedestrian connection or part of a larger trail system connecting neighborhoods, parks, schools, and city sidewalks.

Best Design Practices / Guidelines

- A** Paseos are wider than normal sidewalks as they contain a wide pathway (15' to 20') with landscaping on either side of the pathway. Typically they contain pedestrian scaled lighting, an occasional bench for resting, trash receptacle, artwork, and could contain pet waste bag dispensers.
- B** Pathways could be serpentine or straight and in some communities are grade separated from major streets.
- C** For security and to create an active edge, portions of buildings and local streets should front on the paseo rather than continuous walls and fences.



Pearl District, Portland, OR



Old Town Pasadena, CA



Valencia, CA



Paseo Nuevo, Santa Barbara, CA



Arts District, Los Angeles, CA



Mercantile Alley, Pasadena, CA



Open Space / Placemaking

PARKWAY / LINEAR PARK

A parkway / linear park is a wide landscaped area parallel to a public street curb, a rail line, or a busway and used by pedestrians, bicyclists, joggers and other social, health and recreational opportunities. A linear park may also be in a wide landscaped median of a public street.

Best Design Practices / Guidelines

- A** As linear paths adjacent to a rail or busway must limit the number of crossings of the transportation facility, pedestrian/vehicular and bicycle crossings should be designed to provide safe, attractive, and pathways for all modes and incorporate wayfinding signage to identify the location of these crossings. If housing is adjacent, quiet zones may be considered.
- B** Pedestrian and bicycle pathways should cross at signalized perpendicular street intersections with consideration for separate striping for pedestrians and bicyclists.
- C** Connecting pathways should meander through canopy trees for shade and colorful planting with active recreational and passive places dispersed as appropriate.
- D** The character of linear parks could vary from the “zen like” low maintenance drought tolerant landscaping with bioswales of the Metro Orange Line Extension to the more vibrant colorful planting, water features and art in the Marina Linear Park in downtown San Diego to the active market space atmosphere of the Ramblas in Barcelona.



Marina Linear Park, San Diego, CA



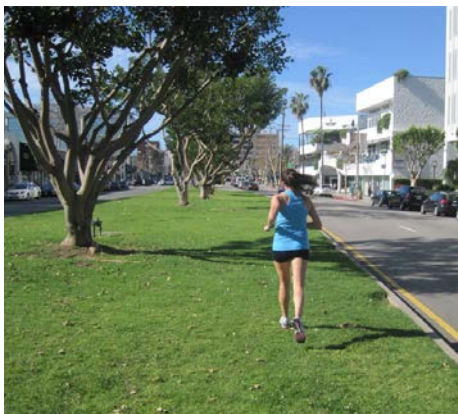
Orange Line Busway, Chatsworth, CA



Ramblas, Barcelona, Spain



Los Angeles River Bike Path



San Vicente Boulevard, Los Angeles, CA



Havnegade Harbour Promenade, Copenhagen



Open Space / Placemaking

RECLAIMED STREET / PEDESTRIAN MALL

Providing a sense of place and history involves creating great urban spaces but also preserving, where appropriate, landmarks and historic buildings adjacent to these spaces. The focus of a HQTA could be a traffic free street reclaimed for pedestrians, active transportation, and transit, often called a pedestrian mall, with dense retail, office, and residential interspersed with the areas historic fabric.

Best Design Practices / Guidelines

- A** Pedestrian malls could be considered for small towns where they may operate as the main street, or in cities with a strong market for retail, restaurants and entertainment uses such a tourist destinations and university settings.
- B** For economic viability, pedestrian malls should be clustered on 1-4 blocks, should have frequent programming of events and be designed with consistent textured pavings, street furniture, outdoor dining, wayfinding signage, art work, and dramatic lighting.
- C** For flexibility and fire life safety, consideration should be given to incorporating a two lane vehicular path that can be open and closed depending on events and anticipated crowds. This roadway space could be designed curbless with bollards.
- D** Active ground level uses with large clear windows and entrances from the pedestrian mall is essential.



Sunset Triangle, Los Angeles, CA



Former Georges-Pompidou Expressway, Paris



16th Street Mall, Denver, CO



Third Street Promenade, Santa Monica, CA



Church Street, Burlington, VT



Charlottesville, VA



Open Space / Placemaking

NEIGHBORHOOD PARK

A neighborhood park is typically family oriented with children’s playgrounds, community gardens, picnicking, and could include swimming, tennis, or basketball courts as well as passive landscaped areas. The neighborhood park could be public or private. If private it may be a part of a housing or mixed use development.

Best Practices / Design Guidelines

- A** Each neighborhood park’s uses and design should respond to the individual needs and character of a neighborhood.
- B** If on private property the park should be designed to intuitively welcome the public by its visibility and lack of barriers from the sidewalks and streets.



Gladys Jean Wesson Park, Los Angeles, CA



Waterfront Park, Seattle, WA



Madison Park, New York, NY



Pearl District Park, Portland, OR



Spring Street Park, Downtown Los Angeles, CA



Tongva Park, Santa Monica, CA



Open Space / Placemaking

PLAZAS / TOWN SQUARE

Historically, a plaza was a grand space adjacent to a public building such as a cathedral, a library, or a civic building. Traditionally plazas contained features including a fountain, space for large events such as parades, performance space like a band shell, sculpture, sitting areas, cafes, and landscaping. A large portion of these plazas were paved. Today urban plazas are public open spaces for gathering next to the street which vary considerably in size, use and character. Representative plazas for HQTAs include:

- A town square which is similar to the traditional plaza mentioned alone and could be the focal point of the HQTA especially if combined with a transit plaza. A wide range of activities could be planned from outdoor cafes, playgrounds, art installations, performances, seasonal activities such as temporary ice skating as well as trees and landscaping for storm water management.
- A transit plaza is an open space adjacent to a transit center and should serve rail or multiple bus lines or both. As this is a space that people will move through as well as stopping and waiting, pedestrian and passenger amenities are appropriate including vendors for newspapers, flower stands and coffee.
- A street plaza is a small public open space immediately adjacent to a sidewalk or an extension of the sidewalk. It may be used for people watching, sitting waiting for the bus, and for eating lunch.
- A plaza open space in front of a major building operates as a gateway or entrance to the building and may be privately owned but open to the public.

Best Design Practices / Guidelines

- A** Each plaza should contain amenities comfortable for people to use and be planned with enough flexibility to respond to the seasons and time of day.
- B** Plazas should be distinct places which are visible and easily accessible to people from the public street and connected to the pedestrian and bicycle network in the HQTA.
- C** The town square/transit plaza should be easy walking distance of the most dense portions of the HQTA, preferable in the core and appeal to diverse multi-generations.
- D** Amenities to consider for the town square plaza include arbors, trellises, sun terraces, decks, art installations, concert and performance spaces, formal seating areas, secondary sitting areas such as seating walls and steps, lighting, focal points, outdoor dining areas, recreational activities, bicycle hubs, shared vehicles, fountains, play areas, way finding signs and kiosks, trees and landscaping with a variety of color and forms.



South Pasadena Transit Plaza



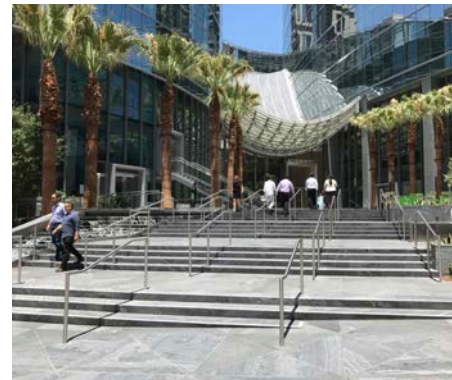
Del Mar Gold Line Plaza, Pasadena, CA



Bryant Park, New York, NY



City Hall Park, Philadelphia, PA



Wilshire-Grand Plaza, Downtown Los Angeles



Platform, Culver City, CA



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Toolkit

C - BUILDING TYPES & PRECEDENTS



Building Types

A - Detached Residence

B - Attached Residence

C - Multiplex

D - Mid/Hi-Rise Tower

TOD Precedents

Building Types

Meeting residential and job density targets that support transit ridership and walkable communities can be achieved through a wide variety of building types. The HQTAs Toolkit recognizes the diversity of building stock throughout Southern California by organizing building types into the six typologies listed below. The typologies are informed by the following considerations:

- Primary means of access to units and habitable spaces
(from courtyard, intERnal hall)
- Orientation to street, intERnal open spaces
- Construction type
(Wood-frame construction, concrete block, etc.)
- Parking configuration
(surface lot, undERground, podium, on-street, partial excavation)

Each Vision Plan includes a draft Regulating Concept Plan that generally specifies the typologies that are appropriate for each district. As the HQTAs areas are developed, building types from each typology can be selected, allowing for a great degree of architectural flexibility while enabling cities to meet the density/intensity targets set forth in each Vision Plan.

The following pages include:

Typologies

A profile of each typology, including the general density/intensity range, mix of land uses, parking and circulation assumptions, and key design considerations

Building Types

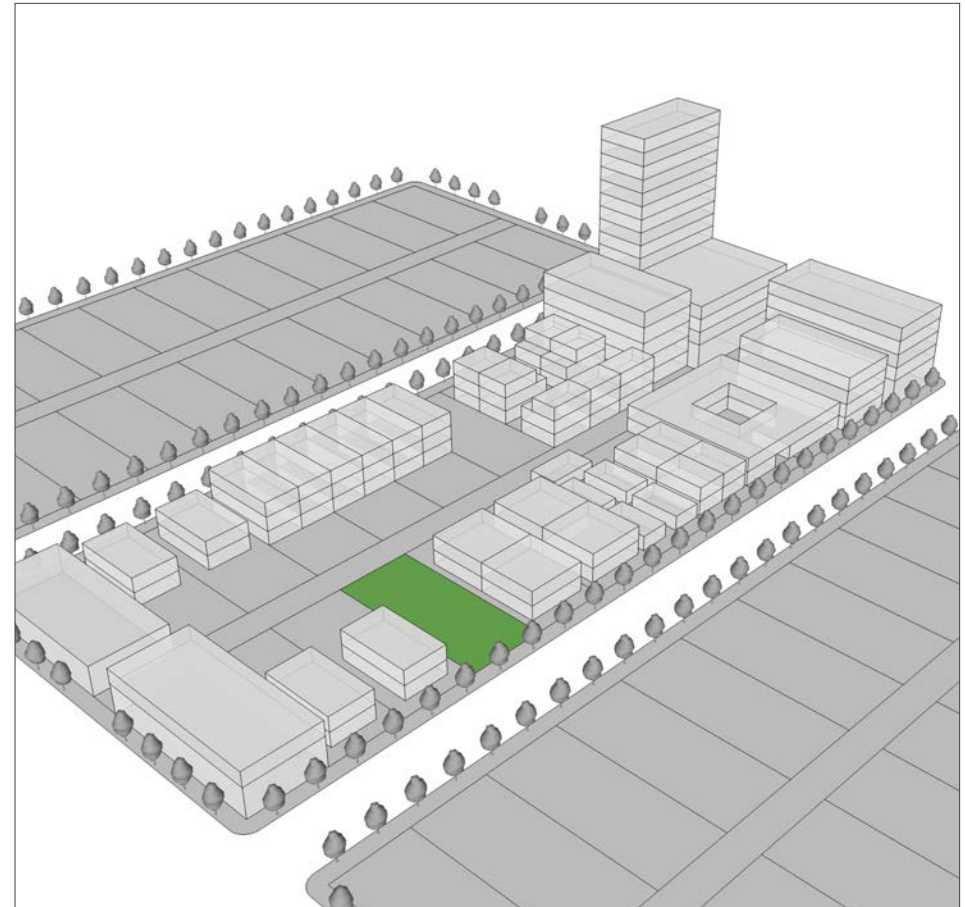
Specific building types for each typology with precedent imagery and diagrams

Transit-Oriented Development Precedents

Profiles of built TOD projects from throughout California and the United States

A summary table of TOD precedent attributes can be found in the “Additional Resources” section of this Toolkit.

As future rounds of the HQTAs program move forward, this Toolkit will be continuously updated with additional building types and precedents that reflect creative and innovative ways to build livable, transit-supportive communities.



Typologies

A Detached Residence

Building Types

- 1 Accessory Dwelling Unit (ADU)
- 2 Shopfront House
- 3 Bungalow Courtyard
- 4 Rosewalk

B Attached Residence

- 1 Attached Townhouse
- 2 Hybrid Courtyard
- 3 Duplex
- 4 Live/Work Lofts
- 5 Small Lot Subdivision

C Multiplex

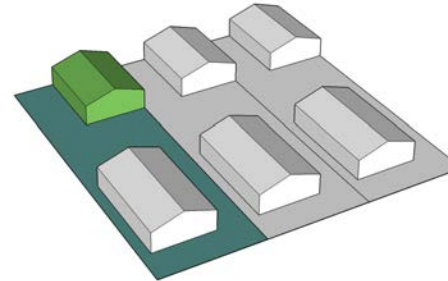
- 1 Triplex/Fourplex
- 2 Stacked Flats
- 3 Flex Apartment/Mixed Use
- 4 LinER Structure

D Mid/Hi-Rise Tower

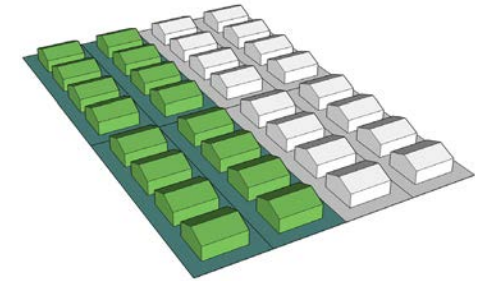
- 1 Mid-Rise Tower
- 2 High Rise Tower

A B C D Typology: Detached Residence

The detached residence parti is one of the most common residential building types existing within the SCAG region. Typical for a single-family residence, the form is best characterized as a detached dwelling unit with a front, rear, and side yard. However, the detached parti can also include multiple dwelling units per property, while employing a building form that can match or complement single-family homes, thus still retaining the existing residential character.



Accessory Dwelling Unit (ADU)



Rosewalk

Typical Lot Size: 50' x 150'/7,500 sf/0.18 acres

Number of Units: 2 - 4

Density Range: 10 - 20 du / acre

FAR: < 1.0

Number of Floors: 1 - 2

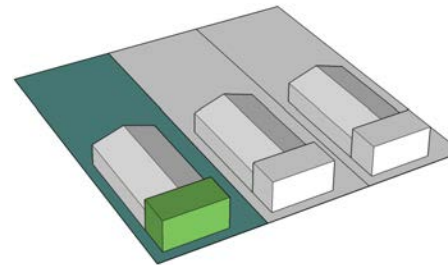
Parking: Assumption: 0-1 space per unit

Unit Size: studio - 2 bedrooms / 600 - 1,000 sf

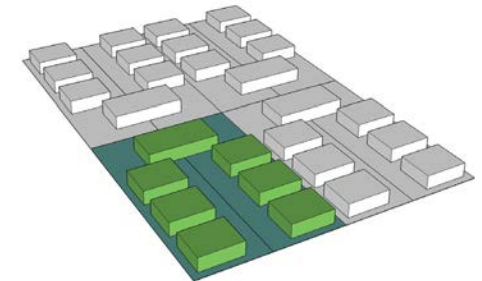
Residential: / Commercial: Mix:

Residential - 100%

Commercial - 0%



Shopfront House



Bungalow Courtyard

Design Considerations

Front Setback: +/- 5' from established front yard line

Side Setback: 15% of lot width (e.g. 50' x 20% = 7.5')

Lot Coverage: 50% - 75%

Ground Floor Transparency: 20%

A B C D Typology: Detached Residence

1 ACCESSORY DWELLING UNIT

Accessory dwelling units are permitted statewide in California since the passage of SB 229 and AB 494 in 2017 and 2018. The bills allow owners of single or multi-family residences to build a secondary unit on their property with minimal restrictions from local zoning ordinances. Units can be free-standing or located above a garage or other structure. Provisions allow for the addition of a studio or 1-bedroom unit of up to 1,200 square feet with bathroom and kitchen facilities, among other conditions.

▼ **Vehicle Access:** Garages or carports can be accessed from an alley or existing streetside curb cut.

▼ **Parking:** No additional parking is required per recent California legislation.

▲ **Pedestrian / Bicycle Access:** Owners are encouraged to provide convenient storage for bicycles, scooters, or other non-motorized forms of transport. Pedestrian access to ADUs can be shared with an existing driveway or provided from the alley.

For additional information:

www.hcd.ca.gov/policy-research/docs/SummaryChangesADULaws.pdf



Piedmont, California



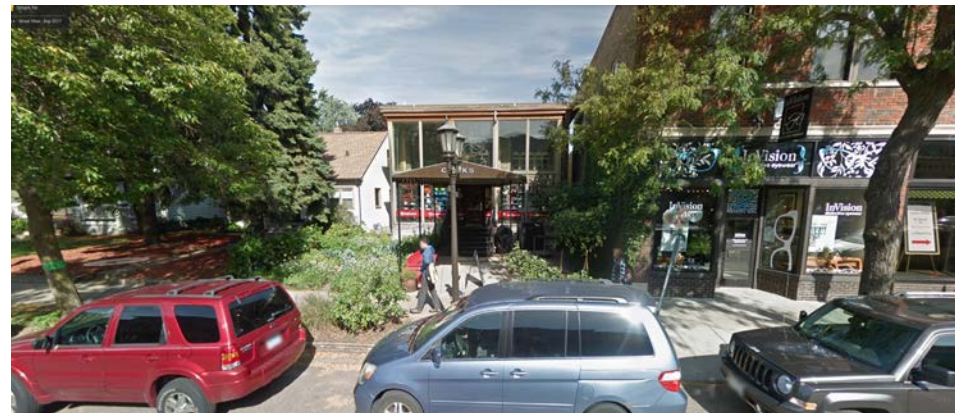
2 SHOPFRONT HOUSE

Shopfront houses are commercial structures that can be added to existing single-family homes. They are typically found along arterials and lower-density commercial corridors that include a mix of single-family homes and retail. The shopfront house can be an effective way to enliven the street scene while providing neighborhood-serving retail, new stores and boutiques, and coffee shops, among other uses.

▼ **Vehicle Access:** Vehicles typically access shopfronts from an alley.

▼ **Parking:** If alley access is provided, conventional spaces for customers and tandem spaces for employees can be provided. On-street parking is encouraged.

▲ **Pedestrian / Bicycle Access:** Pedestrians and cyclists access shopfronts from the sidewalk.



upper: Minneapolis, Minnesota/lower: Saint Paul, Minnesota

A B C D Typology: Detached Residence

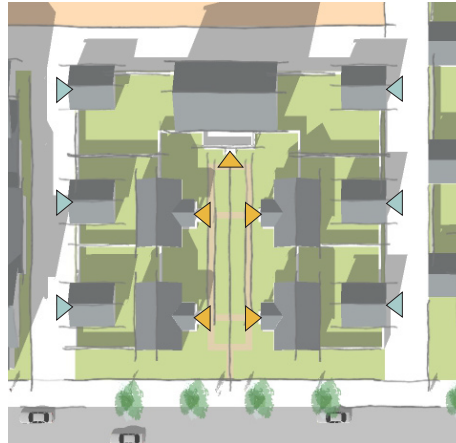
3 BUNGALOW COURTYARD

Bungalow courtyards emerged in Pasadena in the early 20th century as a way to provide amenities typically offered in a single family home in a more affordable complex. As its name implies, units are organized around a common courtyard and designed in the low-density (1-2 story) bungalow design. Multiple units can be clustered together (duplex, triplex, etc.) to achieve even higher densities.

▼ **Vehicle Access:** Vehicles can access units from driveways along the side lot line or alley.

▲ **Parking:** Parking can be provided in a common suite of garages or carports in the rear of the complex. Alternatively, each unit may include its own single-stall garage.

▲ **Pedestrian / Bicycle Access:** Pedestrians access units from the courtyard. Secure bicycle storage should be provided in each garage stall.



4 ROSEWALK

Rosewalks are similar to bungalow courtyards, but the common amenity space takes the form of a narrow mall. Additionally, the mall typically extends across the whole block in a linear arrangement (from street to street). Given space constraints, garages are typically attached to the rear of each unit. Rosewalks achieve slightly higher densities than bungalow courtyards and provide for public pedestrian access and excellent circulation throughout the neighborhood.

▼ **Vehicle Access:** Driveways are provided along the side lot line.

▲ **Parking:** Parking garages are typically attached to the rear of each unit.

▲ **Pedestrian / Bicycle Access:** Units are accessed from the mall, while bike storage should be provided at the rear of each unit.



Gartz Court, Pasadena



Redlands, California



Venice, CA



Manhattan Beach, CA

A B C D Typology: Attached Residence

Attached residences often take the form of townhomes, which are two to three-story units that are primarily accessed from the primary street. Parking is typically located in tuck-under garages at the rear of the residence or in a common lot or garage. Units may take the form of a duplex, with two units, or several units in a row that share party walls. Small-lot subdivisions, similar in scale and density to townhomes, have become popular in the City of Los Angeles, where an ordinance has permitted owners of some R-1 single lots further subdivide the property and sell fee-simple units individually. Contrary to townhomes, small-lot subdivisions are owned individually, do not share a party wall (they are separated by a few inches) and are not a part of an association, which can lower the monthly payment for homeowners.

These residences can be found in a variety of communities throughout Southern California and add slightly more density to a neighborhood than the typical single-family detached home while maintaining an area’s existing character.

Typical Lot Size: 50' x 150'/7,500 sf/0.18 acres

Number of Units: 2 - 4

Density Range: 15- 30 du / acre

FAR: < 1.0

Number of Floors: 2 - 3

Parking: Assumption: 1-2 spaces per unit

Unit Size: 1 - 3 bedrooms / 900 - 1,400 sf

Residential: / Commercial: Mix:



Design Considerations

Front Setback: +/- 0-5' from established front yard line

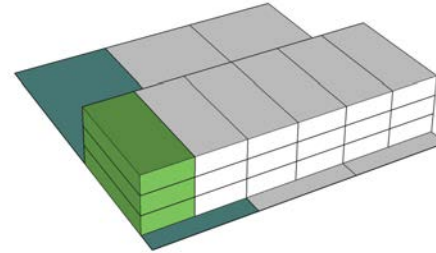
Side Setback: 0% of lot width

Lot Coverage: 50% - 75%

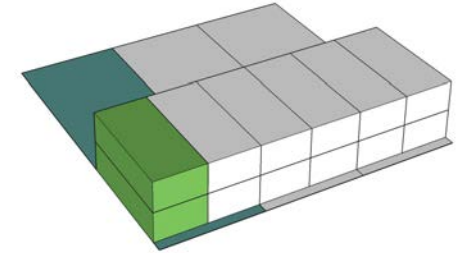
Ground Floor Transparency: 50%

Frontage Elements:

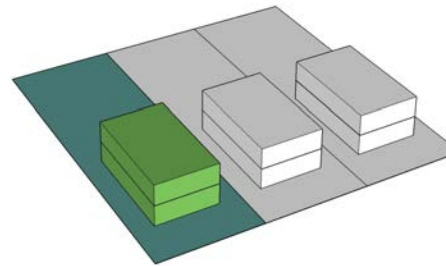
- Arcade
- Balcony
- Forecourt
- Porch
- Awning
- Canopy
- Plaza
- Stoop



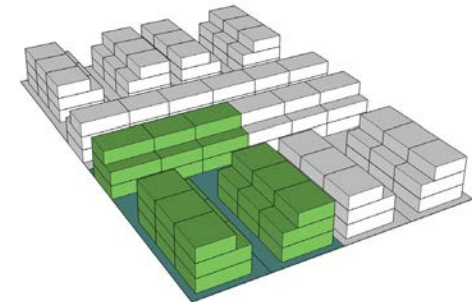
Attached Townhouse



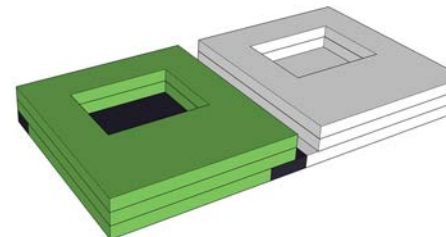
Live/Work



Duplex



Small-Lot Subdivision



Hybrid Courtyard

A B C D Typology: Attached Residence

1 ATTACHED TOWNHOUSE

Attached townhomes offer many of the same benefits of single-family at higher residential densities. Units are typically 1-2 stories with up to three bedrooms and are typically no more than 30-40' wide. This unit size allows for higher densities (20-25 units/acre) when compared with single-family homes (7 units/acre). Attached units can include private backyards and feature minimal sidewalk setbacks. To facilitate pedestrian circulation, at least one public walkway should be provided at or near the center of each block.

▼ **Vehicle Access:** Guests arriving by car park on-street, while townhome owners access each garage from a shared alley.

▶ **Parking:** Up to two stalls can be provided in a detached, private garage that is located off the alley. On-street parking should be provided for guests.

▲ **Pedestrian / Bicycle Access:** Pedestrians access units from the sidewalk and secure bicycle parking should be provided in each private garage.



2 HYBRID COURTYARD

Like the bungalow courtyard, hybrid courtyards share a common, central amenity space that is shared among residents and tenants. Hybrid courtyards, however, include a mix of higher density (2-4 story) attached multi-family buildings and/or a mixed-use (retail/office or retail/residential) building that is oriented to the primary street. This building type achieves high densities (40-50 units/acre) and a desirable mix of uses using Type V construction, which is less expensive to build.

▼ **Vehicle Access:** Access is provided from an alley or through a driveway along the side lot line.

▶ **Parking:** Parking is provided in a shared lot at the rear or in a garage below the complex.

▲ **Pedestrian / Bicycle Access:** Ground-floor residential units are accessed from the courtyard, while upper units can be reached from a stairwell and hall. Commercial suites include street-facing entrances.



Washington D.C.



SL70 - Silver Lake, Los Angeles



Mission Meridian Village, South Pasadena

A B C D Typology: Attached Residence

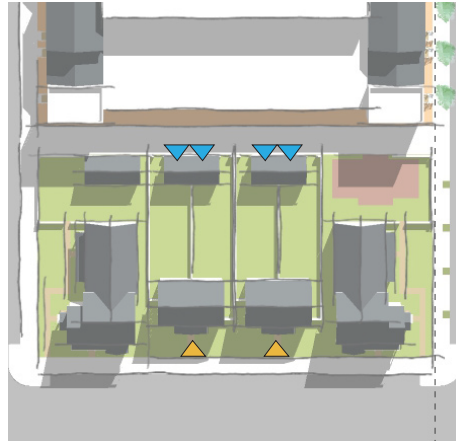
3 DUPLEX

A structure that consists of two side-by-side or stacked dwelling units, both facing the street and within a single building; with the appearance of a single-family home, it is appropriately scaled to fit within primarily single-family neighborhoods or medium-density neighborhoods.

▼ **Vehicle Access:** Vehicle access is preferred from an alley. If no alley is present, a driveway for single car width along one edge of the lot is acceptable.

▲ **Parking:** Surface parking is located behind the building, or located along an alley, and should be hidden from the street. On-street parking should also be utilized to reduce amount of on-site parking.

▲ **Pedestrian / Bicycle Access:** Pedestrian access can be from the front of the building, or from the side driveway. Side yard duplex should have entrances fronting both streets.



4 LIVE/WORK LOFTS

Live-work lofts are a unit type that can be integrated into duplexes, detached/attached townhomes, and small lot projects. These units are typically two-or three stories, face the primary street, and include second and/or third-levels that open to the main living space below. Living spaces may be converted to workspace for small retail or office operations, artist studios, or other low volume commercial uses. They help to activate the street in areas where traditional retail is not feasible.

▼ **Vehicle Access:** Commercial patrons park on-street and access units from the sidewalk.

▲ **Parking:** Garages can be provided in shared complexes or as tuck-under stalls facing the alley.

▲ **Pedestrian / Bicycle Access:** Pedestrians and cyclists can access units from the sidewalk. Convenient bicycle parking (typically a pole or rack) should be provided for guests.



Los Angeles



Los Angeles



La Esquina, San Diego



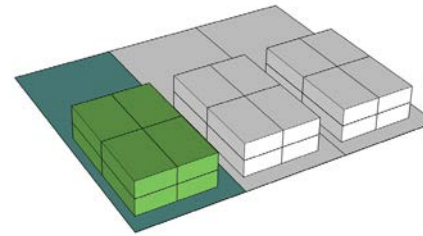
City Place, Santa Ana

- A
- B
- C
- D

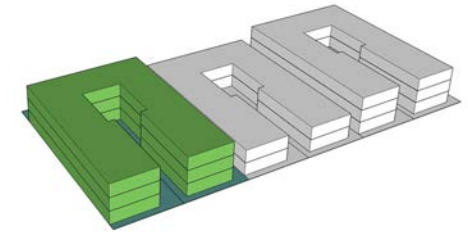
Typology: Multiplex

Multiplexes encompass a wide range of building and unit types. Units may be organized into clusters of 3-4, or part of multi-family buildings that include up to 100+ units. Parking may be located in small surface lots in the rear of a complex, on-street, or within podium (above-grade) or below-grade garages to maximize the density/intensity of development. Multiplexes may also have commercial frontage along the primary and/or secondary streets, greatly enhancing the walkability and vibrancy of the streetscape by adding interest and activity.

Liner structures are single-loaded (units located along only one side of a corridor) and are used to screen the blank facades of free-standing or podium parking structures. Units at-grade can be configured as live-work units or loft-style residential units with entrances facing the primary street.



Triplex/Fourplex



Courtyard

Typical Lot Size: 50' x 150' / 7,500 sf / 0.18 acres

Number of Units: 4 - 100+

Density Range: 50 - 125 du / acre

FAR: 1.0 - 5.0

Number of Floors: 2 - 7

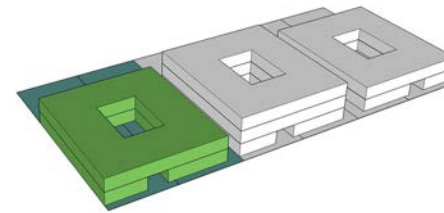
Parking: Assumption: 1 space per unit

Unit Size: studio - 3 bedrooms / 900 - 1,400 sf

Residential: / Commercial: Mix:

Residential - 75% - 100%

Commercial - 0% - 25%



Flex Apartment/Mixed Use



Liner Structure

Design Considerations

Front Setback: +/- 5' from established front yard line

Side Setback: 0% - 15% of lot width (e.g. 50' x 20% = 7.5')

Lot Coverage: 50% - 75%

Ground Floor Transparency: 50 - 75%

A B **C** D **Typology: Multiplex**

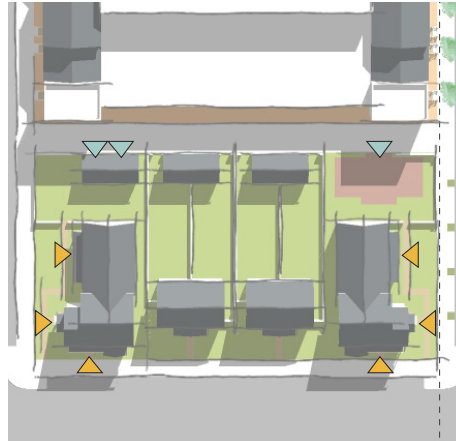
1 TRIPLEX/FOURPLEX

Triplexes and fourplexes are similar in concept to the duplex, but can be configured in a variety of ways to achieve higher density structures that come in combinations of three or four units. A common entrance may lead to three or four units, or individual entrances may be located along the front and/or sides of each building.

▼ **Vehicle Access:** Vehicles can access shared lots or garages from the street or alley.

▲ **Parking:** Shared lots or garages can be provided, although some units may not include any dedicated parking. On-street parking should be made available.

▲ **Pedestrian / Bicycle Access:** Pedestrians and cyclists access units from the sides and front of each complex. Bicycle parking should be provided in common garages or racks near the alley.



Los Angeles



Angelino Heights, Los Angeles

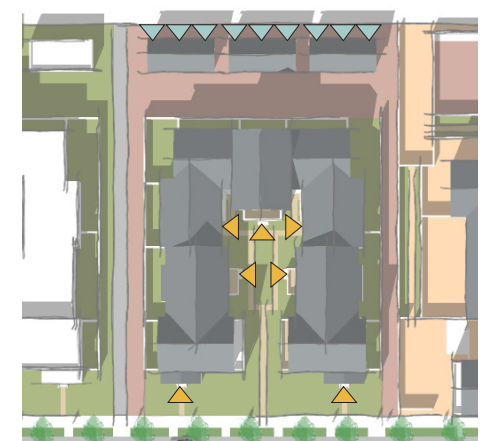
2 COURTYARD

Courtyards are similar to bungalow courtyards (see earlier description) but units are fully attached and arranged in higher densities (2-3 stories). This arrangement yields more units per acre, but does not include private backyards. Instead, social interaction among residents is encouraged through a well-designed and maintained common courtyard.

▼ **Vehicle Access:** Vehicles access to the complex is typically through a driveway along the side lot line.

▲ **Parking:** Parking is provided in carports or garages at the rear of the building. Residents park and walk through arcades to access courtyards and units.

▲ **Pedestrian / Bicycle Access:** Pedestrian/cyclist access to each unit is provided from the courtyard.



Mission Meridian Village, South Pasadena



Harper Court, Los Angeles

A B C D Typology: Multiplex

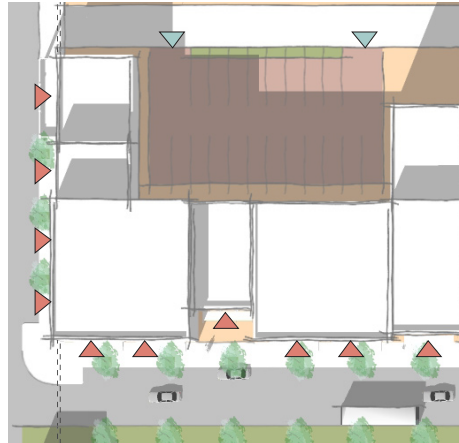
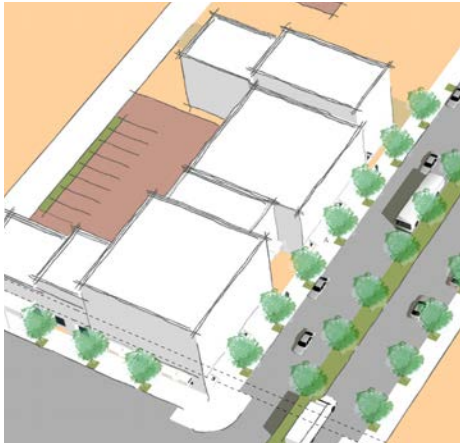
3 FLEX APARTMENT/MIXED USE

Flex apartments are a general, catch-all term for the most common building type used in TOD construction. These are multi-family structures between 3 and 7 stories in height, and may be build using Type V or modified Type III construction types, depending on the type and presence of retail. Buildings may be all-residential or include a mix of street-facing retail or commercial units. Densities of 50-100 units/acre are possible depending on the density.

▼ **Vehicle Access:** Vehicles access the complex from curb cuts located at the ends or rear of the building.

▲ **Parking:** Parking for residents and customers is located behind the building, in upper level podiums, or in below-grade garages.

▲ **Pedestrian / Bicycle Access:** Retail suites include street-facing entrances, while residents access units from a separate, private entrance that leads to stairwells/elevators and common corridors.

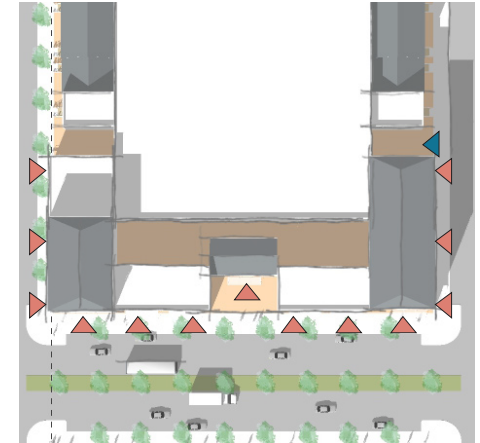
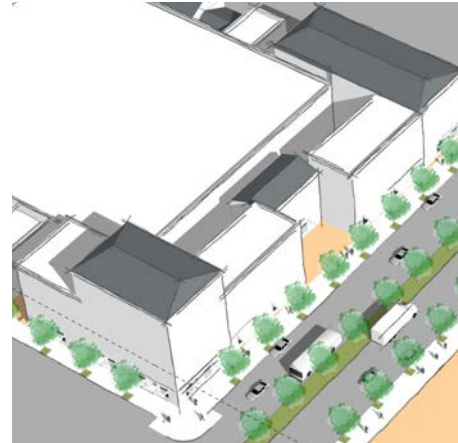


4 LINER STRUCTURE

Liner structures are single-loaded (units located along only one side of a corridor) and are used to screen the blank facades of free-standing or podium parking structures. Units at-grade can be configured as live-work units or loft-style residential units with entrances facing the primary street.

▼ **Vehicle Access:** Vehicles park in a podium parking structure with entrances located around the block.

▲ **Parking:** Liner buildings typically wrap above-grade parking structures. Retail customers park on the lower levels and walk through arcades to access street-fronting retail, while residents can park on the upper levels and access units directly from the garage.



SoMa, San Francisco



124 N. 6th St., Williamsburg Virginia



Boulder, Colorado

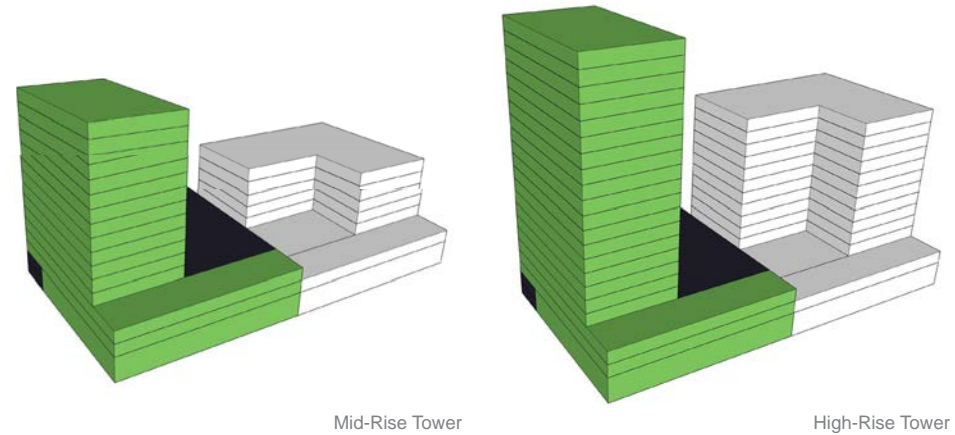


Dallas, Texas

A B C D Typology: Mid/Hi-Rise Tower

Once the market for multi-family residential or commercial units matures, mid-rise or high-rise towers may become feasible. Due to their cost, these structures often require either high per-square foot rent or sales prices or a significant subsidy to make them profitable for developers. Parking is located in above-grade podium structures (construction costs of roughly \$25,000/stall) or in more expensive below-grade garages (approximately \$40,000 or more to construct).

Towers should be sensitively designed at the ground level to avoid creating imposing blank walls. Strategies include recessing structures at floors 3-5 and locating retail, live-work, outdoor cafes and pocket parks, and other active uses at the ground level. Sunlight, wind, and the existing neighborhood context and density are additional key design factors to consider.



Typical Lot Size: 100' x 100'/10,900+ sf/0.25+ acres

Number of Units: 100+

Density Range: 100+ du / acre

FAR: 6.0+

Number of Floors: 8+

Parking: Assumption: 1 space per unit

Unit Size: 1 - 3bedrooms / 900 - 1,200 sf

Residential: / Commercial: Mix:

Residential - 0 - 100%

Commercial - 0 - 100%

Design Considerations

Front Setback: 0"-20' from established front yard line (setbacks acceptable only if plazas, parks, or cafes are included).

Side Setback: 0% of lot width

Lot Coverage: 50% - 75%

Ground Floor Transparency: 75+%

(A) (B) (C) (D) Typology: Mid/Hi-Rise Tower

1 MID-RISE TOWER

Mid-rise towers are higher density (7-10 story) structures that are organized around a common set of elevators and stairwells. Several residential units can be located on a single floor plate in a number of configurations, from studio to four bedroom units. Parking is provided in above-grade podiums or in garages below-grade. An amenity deck that includes a terrace, barbecue, pools, gyms, and other features is typically included and maintained by the landlord or association.

▼ **Vehicle Access:** Access is provided from curb cuts located from an alley or from an adjacent street if permitted by individual cities.

▲ **Parking:** Parking is located in upper-level podium structures or in below-grade garages.

▲ **Pedestrian / Bicycle Access:** Privately-owned pocket parks and plazas should be provided to encourage social activity and provide for convenient pedestrian/cyclist access and parking.

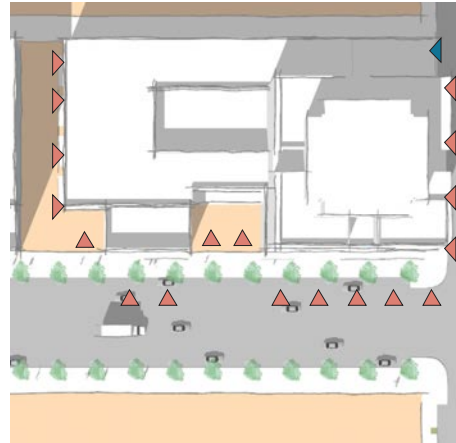
2 HIGH-RISE TOWER

While mid-rise towers achieve significant densities (100-150 units/acre), high-rise towers can be in excess of 10, 20, 30 or more stories. In most other respects, high-rise towers are similar. A diverse mix of residential, office, retail, or hotel can be included in a high rise tower, with separate entrances provided for each use. High-rise towers are feasible in select few, highly desirable markets (typically central business districts). Existing office towers may also be converted to a mix of uses.

▼ **Vehicle Access:** See mid-rise tower description.

▲ **Parking:** See mid-rise tower description.

▲ **Pedestrian / Bicycle Access:** See mid-rise tower description.



Onyx, Los Angeles



The Apollo, Washington D.C.



Atelier - Downtown Los Angeles



TOD Precedents

Projects		Project Attributes											
		Place Type	City	Year Completed / Expected	Building Type	Transit Mode	Distance to Transit	Acres	Number of Floors: (max)	Number of Units:	du / acre	Retail / Commercial sf	Estimated Total Development Costs
Urban	820 Olive Street	Mixed Use	Los Angeles	2018	High Rise	Local Rail	1,800	0.87	59	516	593	4,500 sf	
	Ballpark Village	Mixed Use	San Diego	2018	High Rise, Podium Mid Rise	Local Rail	250	3.7	37	713	193	45,000 sf	\$250,000,000
	Middough Arts Center	Commercial	Cleveland	2012	Loft Building (AR)	BRT	400	1.5	5	0	0	300,000 sf	\$41,500,000
	Wilshire / Vermont	Mixed Use	Los Angeles	2007	Podium Block	Local Rail	50	3.24	7	449	139	35,000 sf	\$136,000,000
	The Pearl	Mixed Use	Silver Spring	2016	Podium Tower	Local Rail	1,200		14	284		30,000 sf	
	The Blairs	Mixed Use	Silver Spring	2025	Master Plan Development	Local Rail	1,200	27		2,800	104	450,000 sf	
	YUL	Mixed Use	Montreal	2020	High Rise, Townhouse	Local Rail	600	2.27	38	890	392		\$300,000,000
	The Current	Mixed Use	Long Beach	2016	High Rise	Local Rail	2,100	0.8	17	223	279	6,750 sf	\$70,000,000
	45 Marion Street	Residential	Boston	2016	Stacked Units	Local Rail	1,200	0.4	6	65	163	0 sf	
Town	11405 Chandler Boulevard	Mixed Use	Los Angeles	2017	Podium Mid Rise	Local Rail / BRT	500	0.6	7	82	137	1,000 sf	
	1647 - 55 N. Milwaukee	Mixed Use	Chicago	2016	Stacked Units	Local Rail	600	0.3	5	36	120	7,400 sf	
	Market Station	Mixed Use	Kansas City	2015	Podium Block	BRT / Streetcar	1,600	4.46	5	137	31	4,500 sf	
	Mercer Commons	Mixed Use	Cincinnati	2014	Loft Building, Townhouse	Streetcar	600	1.1	4	95	86	14,500 sf	\$49,000,000
	Mercer III Townhouse	Mixed Use	Cincinnati	2016	Townhouse	Streetcar	700	0.4	4	12	30	0 sf	\$5,500,000
	8 House	Mixed Use	Copenhagen	2010	Podium Block	Local Rail	1,000	7	10	476	68	107,000 sf	
	Ivy Station	Mixed Use	Culver City	2019	Podium Mid Rise	Local Rail	100	5.2	6	200	38	246,000 sf	\$300,000,000
	La Esquina	Mixed Use	San Diego	2012	Live / Work	Local Rail	2,700	0.25	2	7	28	500 sf	
	Linkt Apartments	Mixed Use	Chicago	2017	Stacked Units	Local Rail	500	0.35	5	47	134	3,000 sf	
	East Liberty Transit Center	Mixed Use	Pittsburgh	2016	Podium Mid Rise	BRT	300	6	5	360	60	43,000	\$90,000,000
	Del Mar Station	Residential	Pasadena	2007	Podium Block	Local Rail	50	3.4	7	347	102	11,000 sf	\$77,000,000
	SoCo Walk	Residential	Fullerton	2006	Townhouse, Live / Work	Commuter Rail	100	5.9	3	120	20	Yes	
	Depot at Santiago	Residential	Santa Ana	2018	Stacked Units	Commuter Rail	800	1.35	4	70	52	9,000 sf	\$34,000,000
	Terraces at Santiago	Residential	Santa Ana	2013	Courtyard Apartment	Commuter Rail	2,500	0.85	3	36	42	0 sf	
Centrum Wicker Park	Residential	Chicago	2016	Podium Mid Rise	Local Rail	500	0.5	6	60	120	13,000 sf		

TOD Precedents

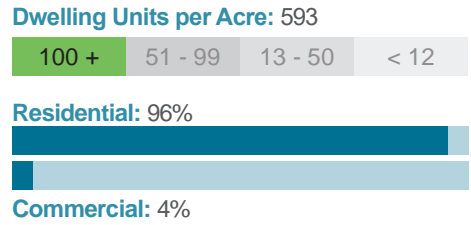
Projects		Project Attributes											
		Place Type	City	Year Completed / Expected	Building Type	Transit Mode	Distance to Transit	Acres	Number of Floors: (max)	Number of Units:	du / acre	Retail / Commercial sf	Estimated Total Development Costs
Town	The Row	Residential	Chicago	2017	Townhouse	Local Rail	1,100	0.8	3	24	30	0 sf	
	Mode Logan Square	Residential	Chicago	2017	Stacked Units	Local Rail	1,100	0.95	4	78	82	6,100 sf	
	Residences @ 245 Sumner	Residential	Boston	2017	Stacked Units	Local Rail	600	0.4	4	34	85	2,250 sf	\$8,000,000
	169 Calle Amsterdam	Residential	Mexico City	2014	Stacked Units	BRT / Local Rail	1,800	0.14	5	15	107	0 sf	
	Kroyer Square	Residential	Copenhagen	2016	Stacked Units	Local Rail	2,400	2.12	5	105	50	Yes	
Village / Suburban	Mission Meridian Village	Mixed Use	South Pasadena	2006	Duplex, Courtyard, Loft	Local Rail	200	1.65	3	67	41	5,000 sf	
	Village Walk	Mixed Use	Claremont	2006	Townhouse	Commuter Rail	2,300	8	3	186	23	0 sf	
	Highland Park	Mixed Use	Buffalo	2022	Master Plan Development	Local Rail	1,600	27	4	717	27	Yes	
	118 Flats	Mixed Use	Cleveland	2013	Townhouse	BRT	200	0.38	3	20	53	0 sf	\$4,000,000
	Takoma Central	Mixed Use	Takoma	2015	Podium Block	Local Rail	600	1.29	5	150	116	10,000 sf	
	Fruitvale Transit Village	Commercial	Oakland	2004	Podium Mid Rise	Local Rail	100	3.6	4	47	13	154,000 sf	
	Victory Building	Commercial	Cleveland	2013	Loft Building	BRT	50	3.24	4	0	0	161,000 sf	\$26,000,000
	Midtown Tech Park	Commercial	Cleveland	2011	Flex Building	BRT	50	6	2	0	0	128,000	
	Metro Village	Residential	Takoma	2017	Podium Block	Local Rail	1,000	1.13	5	150	133	0 sf	
	Residences @ Thayer	Residential	Silver Spring	2014	Stacked Units	Local Rail	2,300	0.5	4	52	104	0 sf	
	Metro Gateway	Suburban Multifamily	Riverside	2017	Stacked Units	Commuter Rail	600	4.26	4	187	44	0 sf	
	Paseos at Montclair North	High Intensity Activity Center	Montclair	2013	Townhouse	Commuter Rail	2,000	15.4	3	385	25	0 sf	
	Grossmont Trolley Center	High Intensity Activity Center	La Mesa	2010	Podium Block	Local Rail	100	9.9	6	527	53	3,000 sf	
	South Bay Town Center	High Intensity Activity Center	Boston	2018	Podium Block, Podium Mid Rise	Local Rail	2,500	10.15	6	475	47	120,000 sf	
	Solaire Wheaton	High Intensity Activity Center	Wheaton	2013	Podium Block	Local Rail	1,200						
Campus	Greenbridge Commons	Campus / University	Cleveland	2011	Stacked Units	BRT	700	1.1	4	70	64	0 sf	\$11,000,000
	Euclid Commons	Campus / University	Cleveland	2012	Stacked Units	BRT		2.8	4	163	58	0 sf	

TOD Precedents

820 OLIVE Downtown, Los Angeles, California

Year Expected: 2018

- Size: 0.87 acre
- Number of Floors (min/max): 7 / 50
- Number of Units: 516
- Retail / Commercial: 4,500 sf
- Office: 0 sf
- Hotel Rooms: 0
- Parking: 600 subterranean



Project Features

Open Space: Roof patio



Context

- Place Type Context: Urban Mixed-Use
- Transit Mode: Local Rail
- Transit Line(s): Metro: Blue, Red, Purple, Expo
- Distance to Station / Stop: 1,800'
- Development Type: Single lot infill
- Building Type(s): High-Rise

TOD Precedents

BALLPARK VILLAGE Downtown, San Diego, California

Year Expected: 2018

Size: 3.7 acres

Number of Floors (min/max): 6/37

Number of Units: 713

Retail / Commercial: 45,000 sf

Office: 0 sf

Hotel Rooms: 0

Parking: 991 subterranean

Dwelling Units per Acre: 193



FAR: 2.2



Residential: 36%



Commercial: 64%

Project Features

Open Space: Central plaza, paseo

Project Cost: \$250 million



Context

Place Type Context: Urban Mixed-Use

Transit Mode: Local Rail

Transit Line(s): MTS: Green, Blue, Orange

Distance to Station / Stop: 250'

Development Type: Multi-building development block

Building Type(s): High Rise, Mid Rise Podium

TOD Precedents

MIDDOUGH ARTS CENTER Cleveland, Ohio

Year Completed: 2012

Size: 1.5 acres

Number of Floors (min/max): 5

Number of Units: 0

Retail / Commercial: 300,000 sf

Office: 0 sf

Hotel Rooms: 0

Parking: 0 on site

Dwelling Units per Acre: 0

100 +	51 - 99	13 - 50	< 12
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FAR: 4.6

3.0 +	2.0 - 2.9	1.0 - 1.9	< 1
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Residential: 0%

Commercial: 100%

Project Features

Open Space: None

Project Cost / Funding Sources: \$41.5 million / CDA Investment: \$5 million NMTC allocation from CNMIF II



Context

Place Type Context: Urban Commercial

Transit Mode: BRT

Transit Line(s): RTA: Health-line

Distance to Station / Stop: 400'

Development Type: Adaptive Reuse

Building Type(s): Loft Building

TOD Precedents

WILSHIRE / VERMONT Koreatown, Los Angeles, California

Year Completed: 2007

Size: 3.24 acres

Number of Floors (min/max): 7

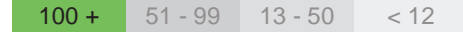
Number of Units: 449

Retail / Commercial: 35,000 sf

Office: 0 sf

Hotel Rooms: 0

Dwelling Units per Acre: 139



Residential: 86%



Commercial: 14%

Project Features

Open Space: Central Plaza, paseo

Project Cost / Funding Sources: \$136 million

Special Considerations: Metro / private joint development. Metro station part of project.



Context

Place Type Context: City Mixed-Use

Transit Mode: Local Rail

Transit Line(s): Metro: Red, Purple / 720, 754

Distance to Station / Stop: 50'

Development Type: Development block

Building Type(s): Podium Block

TOD Precedents

THE BLAIRS Silver Spring, Maryland

Year Expected: 2025

Size: 27 acres

Number of Units: 2,800

Retail / Commercial: 450,000 sf

Office: 0 sf

Hotel Rooms: 0

Dwelling Units per Acre: 104

100 +	51 - 99	13 - 50	< 12
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SCAG Region	California	United States	International
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Project Features

Open Space: Multiple plazas, central lawn, multiple paseos, private courtyards



Context

Place Type Context: City Mixed-Use

Transit Mode: Commuter / Local Rail

Transit Line(s): WMATA: Red

Distance to Station / Stop: 500'

Development Type: Master Plan Development

Building Type(s): Podium Mid Rise, Podium Tower, High Rise

TOD Precedents

THE PEARL Silver Spring, Maryland

Year Completed: 2018

Size: 1.5 acres

Number of Floors (min/max): 3 / 14

Number of Units: 284

Retail / Commercial: 30,000 sf

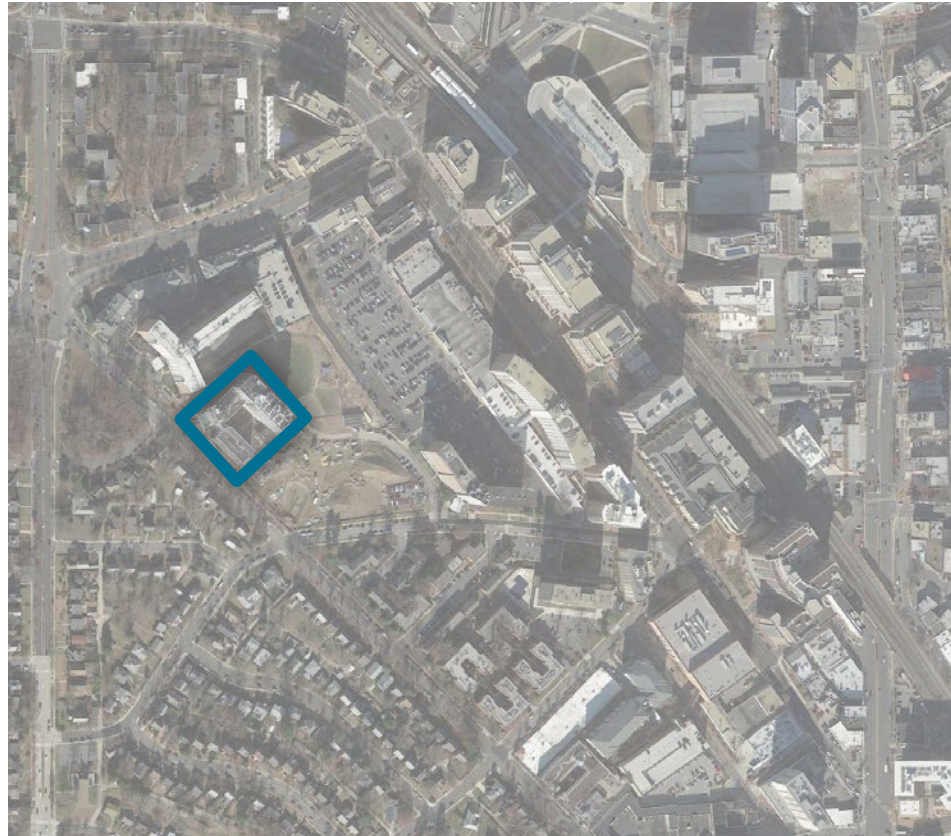
Office: 0 sf

Hotel Rooms: 0

Parking: 177

Dwelling Units per Acre: 174

100 +	51 - 99	13 - 50	< 12
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Project Features

Open Space: Plaza



Context

Place Type Context: City Mixed-Use

Transit Mode: Local / Commuter Rail

Transit Line(s): WMATA: Red

Distance to Station / Stop: 1,200'

Development Type: Phase I of Master Plan

Building Type(s): Podium Tower

TOD Precedents

YUL
Montreal, Canada

Year Expected: 2020 (2017 Phase I)

Size: 2.27 acres
Number of Floors (min/max): 3 / 38
Number of Units: 890
Office: 0 sf
Hotel Rooms: 0

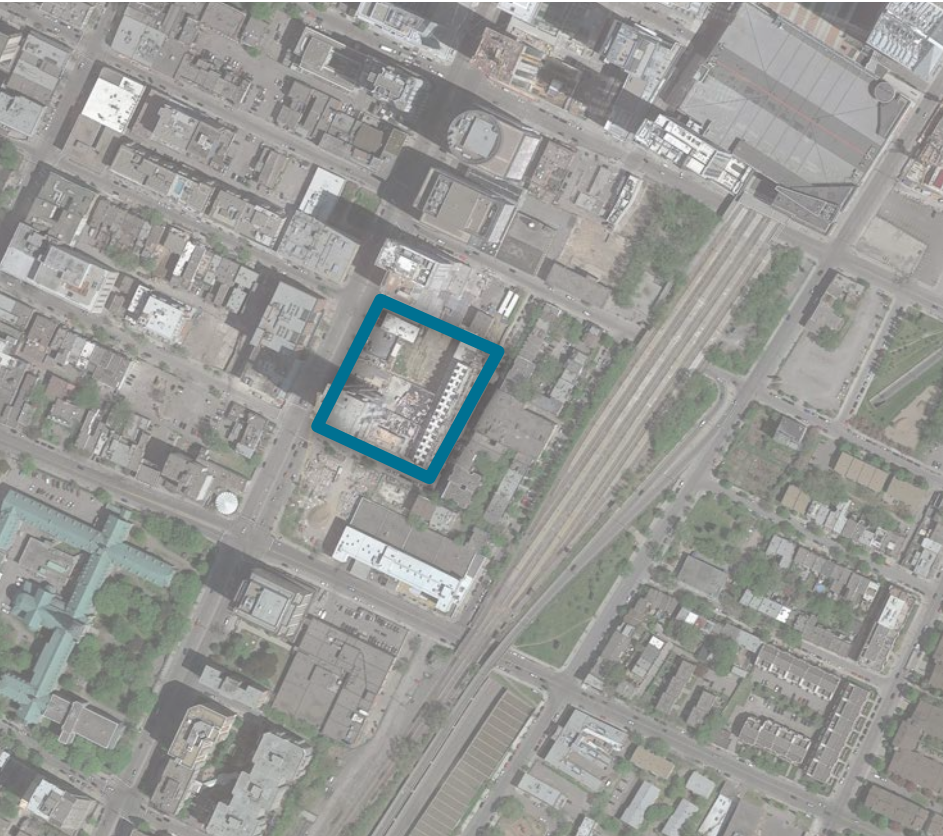
Dwelling Units per Acre: 392

100 +	51 - 99	13 - 50	< 12
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SCAG Region California United States **International**

Project Features

Open Space: 23,000 sf garden, roof amenities
Project Cost / Funding Sources: \$300 million



Context

Place Type Context: City Mixed-Use
Transit Mode: Local Rail
Transit Line(s): Metro: Orange
Distance to Station / Stop: 600'
Development Type: Multi-building development block
Building Type(s): High Rise, Townhouse

TOD Precedents

THE CURRENT Downtown, Long Beach, California

Year Completed: 2016

Size: 0.8 acre

Number of Floors (min/max): 17

Number of Units: 223

Retail / Commercial: 6,750 sf

Office: 0 sf

Hotel Rooms: 0

Dwelling Units per Acre: 279

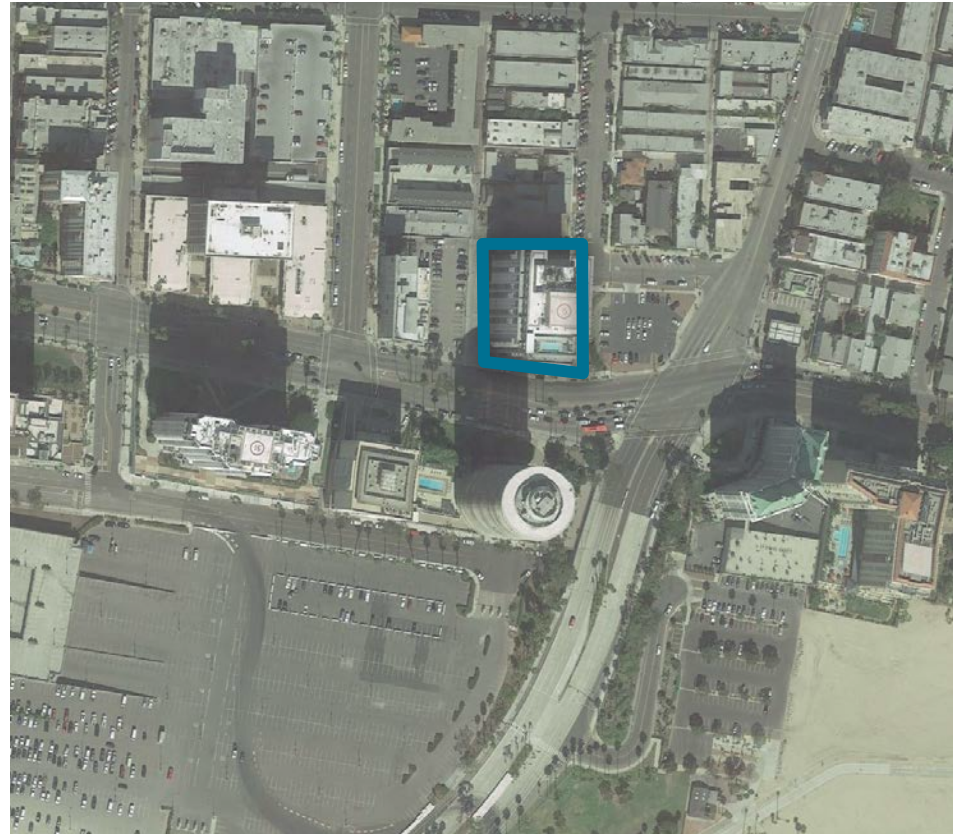
100 + 51 - 99 13 - 50 < 12

Project Features

Open Space: Plaza

Project Cost: \$70 million

SCAG Region California United States International



Context

Place Type Context: City Residential

Transit Mode: Local Rail

Transit Line(s): Metro: Blue

Distance to Station / Stop: 2,100'

Development Type: Multi-lot infill

Building Type(s): High Rise

TOD Precedents

45 MARION STREET Boston, Massachusetts

Year Completed: 2016

Size: 0.4 acre

Number of Floors (min/max): 6

Number of Units: 65

Retail / Commercial: 0 sf

Office: 0 sf

Hotel Rooms: 0

Parking: 21

Dwelling Units per Acre: 163



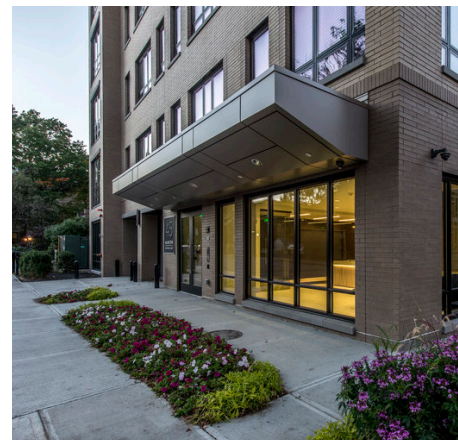
Residential: 100%

Commercial: 0%

Project Features

Open Space: None

Special Considerations:: Affordable housing project.



Context

Place Type Context: City Residential

Transit Mode: Local Rail

Transit Line(s): MBTA: C

Distance to Station / Stop: 1,200'

Development Type: Single lot infill

Building Type(s): Stacked Units

TOD Precedents

11405 CHANDLER
North Hollywood, Los Angeles, California

Year Completed: 2017

Size: 0.6 acre

Number of Floors (min/max): 7

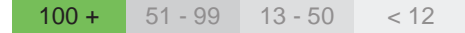
Number of Units: 82

Retail / Commercial: 1,000 sf

Office: 0 sf

Hotel Rooms: 0

Dwelling Units per Acre: 137



Residential: 99%



Commercial: 1%



Project Features

Open Space: None



Context

Place Type Context: Town Mixed Use

Transit Mode: BRT / Local Rail

Transit Line(s): Metro: Orange / Red

Distance to Station / Stop: 500' / 900'

Development Type: Single lot infill

Building Type(s): Podium Mid Rise

TOD Precedents

1645 N MILWAUKEE Chicago, Illinois

Year Completed: 2016

Size: 0.3 acre

Number of Floors (min/max): 5

Number of Units: 36

Retail / Commercial: 7,400 sf

Office: 0 sf

Hotel Rooms: 0

Parking: 11

Dwelling Units per Acre: 120



FAR: 4.13



Residential: 86%



Commercial: 14%

Project Features

Open Space: None

Special Considerations: Retained facade of existing historic building as part of development.



Context

Place Type Context: Town Mixed-Use

Transit Mode: Local Rail

Transit Line(s): CTA: Blue

Distance to Station / Stop: 600'

Development Type: Multi-lot infill

Building Type(s): Stacked Units

TOD Precedents

MARKET STATION

Kansas City, Missouri

Year Completed: 2015

SCAG Region California **United States** International

Size: 4.46 acres

Number of Floors (min/max): 5

Number of Units: 137

Retail / Commercial: 4,500 sf

Office: 0 sf

Hotel Rooms: 0

Parking: 400

Dwelling Units per Acre: 31

100 + 51 - 99 **13 - 50** < 12

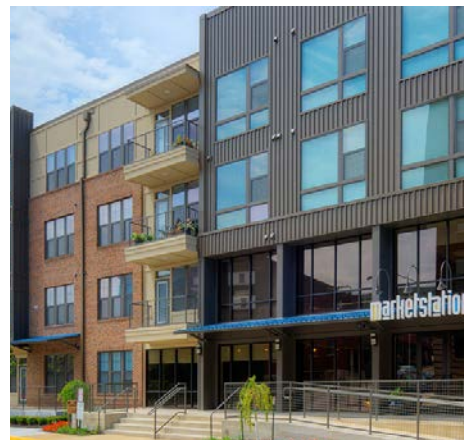
Residential: 99%

Commercial: 1%

Project Features

Open Space: Private courtyard

Funding Sources: \$2 million loan from the Kansas City Council in 2013 through a direct housing assistance program associated with the streetcar development



Context

Place Type Context: Town Mixed-Use

Transit Mode: BRT / Streetcar

Transit Line(s): KCATA: Main MAX / Streetcar

Distance to Station / Stop: 600'

Development Type: Development Block

Building Type(s): Podium Block

TOD Precedents

MERCER COMMONS Cincinnati, Ohio

Year Completed: 2014

Size: 1.1 acres

Number of Floors (min/max): 3/4

Number of Units: 95

Retail / Commercial: 14,500 sf

Office: 0 sf

Hotel Rooms: 0

Parking: 340

Dwelling Units per Acre: 86

100 +	51 - 99	13 - 50	< 12
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Project Features

Open Space: None

Project Cost: \$49 million

Special Considerations: Publicly-accessible parking structure



Context

Place Type Context: Town Mixed-Use

Transit Mode: Streetcar

Transit Line(s): Cincinnati Bell Connector

Distance to Station / Stop: 600'

Development Type: Multi-lot infill

Building Type(s): Loft Building, Parking Structure, Townhouse

TOD Precedents

MERCER III TOWNHOMES Cincinnati, Ohio

Year Completed: 2016

Size: 0.4 acre

Number of Floors (min/max): 3/4

Number of Units: 12

Retail / Commercial: 0 sf

Office: 0 sf

Hotel Rooms: 0

Dwelling Units per Acre: 30

100 + 51 - 99 **13 - 50** < 12

Residential: 100%

Commercial: 0%

Project Features

Open Space: None

Project Cost: \$5.5 million



Context

Place Type Context: Town Mixed-Use

Transit Mode: Streetcar

Transit Line(s): Cincinnati Bell Connector

Distance to Station / Stop: 600'

Development Type: Multi-lot infill

Building Type(s): Townhouse

TOD Precedents

8 HOUSE Copenhagen, Denmark

Year Completed: 2010

Size: 7 acres

Number of Floors (min/max): 10

Number of Units: 476

Retail / Commercial: 107,000 sf

Office: 0 sf

Hotel Rooms: 0

Parking: 340

Dwelling Units per Acre: 68

100 +	51 - 99	13 - 50	< 12
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Project Features

Open Space: Plaza, courtyard, elevated walkway

Special Considerations: Building facade terraced to achieve maximum sunlight exposure.



II-C-E-17

Context

Place Type Context: Town Mixed-Use

Transit Mode: Local Rail

Transit Line(s): Metro: M1

Distance to Station / Stop: 1,000'

Development Type: Development Block

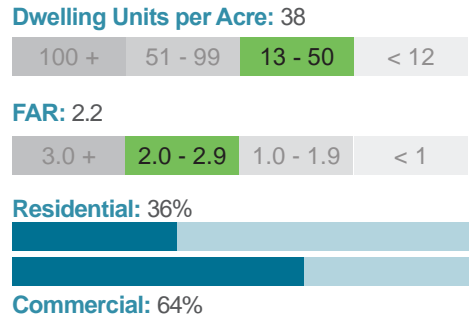
Building Type(s): Podium Block

TOD Precedents

IVY STATION Culver City, California

Year Expected: 2019

Size: 5.2 acres
Number of Floors (min/max): 5/6
Number of Units: 200
Retail / Commercial: 36,000 sf
Office: 210,000 sf
Hotel Rooms: 148
Parking: 1,500 subterranean



Project Features

Open Space: Multiple plazas, central lawn, private courtyards

Project Cost: \$300 million

Special Considerations: Parking below-grade for development and transit.



Context

Place Type Context: Town Commercial
Transit Mode: Local Rail
Transit Line(s): Metro: Expo
Distance to Station / Stop: 100'
Development Type: Multi-building development block
Building Type(s): Mid Rise Podium

TOD Precedents

LA ESQUINA

Barrio Logan, San Diego, California

Year Completed: 2012

Size: 0.25 acre

Number of Floors (min/max): 2

Number of Units: 7

Retail / Commercial: 500 sf

Office: 0 sf

Hotel Rooms: 0

Parking: surface

Dwelling Units per Acre: 28



FAR: 0.37



Residential: 88%



Commercial: 12%

Project Features

Open Space: Shared Paseo



Context

Place Type Context: Town Commercial

Transit Mode: Local Rail

Transit Line(s): MTS: Blue

Distance to Station / Stop: 2,700'

Development Type: Single lot infill

Building Type(s): Live / Work

TOD Precedents

LINKT APARTMENTS

Chicago, Illinois

Year Completed: 2017

Size: 0.35 acre

Number of Floors (min/max): 5

Number of Units: 47

Retail / Commercial: 3,000 sf

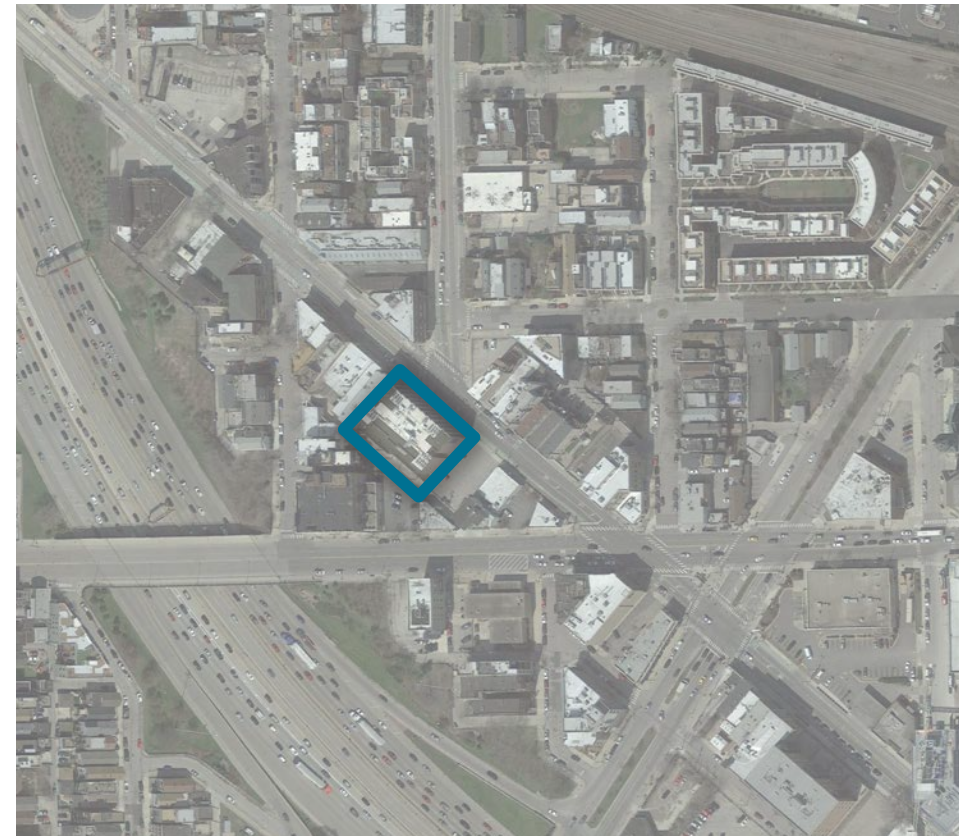
Office: 0 sf

Hotel Rooms: 0

Dwelling Units per Acre: 134

100 + 51 - 99 13 - 50 < 12

SCAG Region California **United States** International



Project Features

Open Space: None



Context

Place Type Context: Town Commercial

Transit Mode: Local Rail

Transit Line(s): CTA: Blue

Distance to Station / Stop: 500'

Development Type: Multi-lot infill development

Building Type(s): Stacked Units

TOD Precedents

EAST LIBERTY TRANSIT CENTER Pittsburgh, Pennsylvania

Year Completed: 2016

Size: 6.0 acres

Number of Floors (min/max): 5

Number of Units: 360

Retail / Commercial: 43,000 sf

Office: 0 sf

Hotel Rooms: 0

Parking: 554

Dwelling Units per Acre: 30

100 + 51 - 99 13 - 50 < 12

Project Features

Open Space: Plaza, paseo

Project Cost: \$90 million

SCAG Region California International



Context

Place Type Context: Town Commercial

Transit Mode: BRT

Transit Line(s): Port Authority: Martin Luther King Jr. Busway

Distance to Station / Stop: 300'

Development Type: Multi-building development block

Building Type(s): Podium Mid Rise

TOD Precedents

DEL MAR STATION Pasadena, California

Year Completed: 2007

- SCAG Region
- California
- United States
- International

Size: 3.4 acres

Dwelling Units per Acre: 102

- 100 +
- 51 - 99
- 13 - 50
- < 12

Number of Floors (min/max): 4/7

Number of Units: 347

Retail / Commercial: 11,000 sf

Office: 0 sf

Hotel Rooms: 0

Parking: 1,200 subterranean

Project Features

Open Space: Plaza, paseo

Project Cost: \$77 million



Context

Place Type Context: Town Residential

Transit Mode: Local Rail

Transit Line(s): Metro: Gold

Distance to Station / Stop: 50'

Development Type: Multi-building development block

Building Type(s): Podium Block

TOD Precedents

SOCO WALK Fullerton, California

Year Completed: 2006

Size: 5.9 acres

Number of Floors (min/max): 3

Number of Units: 120

Retail / Commercial: xx sf

Office: 0 sf

Hotel Rooms: 0

Dwelling Units per Acre: 20

100 + 51 - 99 **13 - 50** < 12

Project Features

Open Space: Plaza, paseo

SCAG Region California United States International



Context

Place Type Context: Town Residential

Transit Mode: Commuter Rail

Transit Line(s): Metrolink: Orange County

Distance to Station / Stop: 100'

Development Type: Multi-building development block

Building Type(s): Townhouse, Live / Work

TOD Precedents

DEPOT AT SANTIAGO Santa Ana, California

Year Completed: 2018

SCAG Region California United States International

Size: 1.35 acres

Dwelling Units per Acre: 52

100 + **51 - 99** 13 - 50 < 12

Number of Floors (min/max): 4

Number of Units: 70

Retail / Commercial: 10,900 sf

Office: 4,400 sf community space

Hotel Rooms: 0

Parking: 157 subterranean / 41 commercial

Project Features

Open Space: Central plaza

Project Cost / Funding Sources: \$34 million

Special Considerations: 100 percent affordable housing.



Context

- Place Type Context:** Town Residential
- Transit Mode:** Commuter Rail
- Transit Line(s):** Metrolink: Orange County
- Distance to Station / Stop:** 800'
- Development Type:** Development block
- Building Type(s):** Stacked Units

TOD Precedents

TERRACES AT SANTIAGO

Santa Ana, California

Year Completed: 2013

Size: 0.85 acres

Number of Floors (min/max): 2 / 3

Number of Units: 36

Retail / Commercial: 0 sf

Office: 0 sf

Hotel Rooms: 0

Dwelling Units per Acre: 42

100 + 51 - 99 **13 - 50** < 12

SCAG Region California United States International



Project Features

Open Space: Central courtyard, playground



Context

Place Type Context: Town Residential

Transit Mode: Commuter Rail

Transit Line(s): Metrolink: Orange County

Distance to Station / Stop: 2,500'

Development Type: Multi-building development block

Building Type(s): Courtyard Apartments

TOD Precedents

CENTRUM WICKER PARK Chicago, Illinois

Year Completed: 2016

Size: 0.5 acre

Number of Floors (min/max): 6

Number of Units: 60

Retail / Commercial: 13,000 sf

Office: 0 sf

Hotel Rooms: 0

Parking: 24 subterranean

Dwelling Units per Acre: 120

100 + **51 - 99** 13 - 50 < 12

SCAG Region California **United States** International



Project Features

Open Space: Plaza (phase II)



Context

Place Type Context: Town Residential

Transit Mode: Local Rail

Transit Line(s): Metro: Blue

Distance to Station / Stop: 800'

Development Type: Multi-lot infill

Building Type(s): Podium Mid Rise

TOD Precedents

THE ROW WICKER PARK Chicago, Illinois

Year Completed: 2017

Size: 0.8 acre
Number of Floors (min/max): 3
Number of Units: 24
Retail / Commercial: 0 sf
Office: 0 sf
Hotel Rooms: 0
Parking: 48

Dwelling Units per Acre: 30



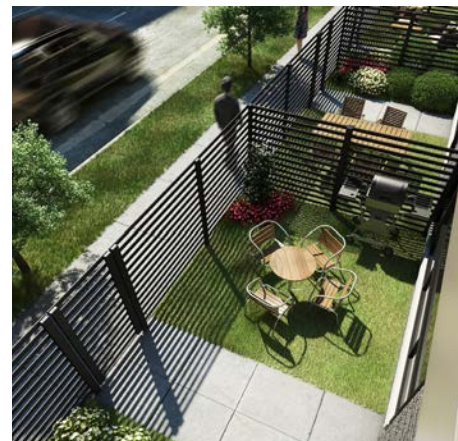
Residential: 100%



Commercial: 0%

Project Features

Open Space: Private front balcony



Context

Place Type Context: Town Residential

Transit Mode: Local Rail

Transit Line(s): Metro: Blue

Distance to Station / Stop: 1,100'

Development Type: Development block

Building Type(s): Townhouse

TOD Precedents

MODE LOGAN SQUARE Chicago, Illinois

Year Completed: 2017

Size: 0.95 acre

Number of Floors (min/max): 4

Number of Units: 78

Retail / Commercial: 6,100 sf

Office: 0 sf

Hotel Rooms: 0

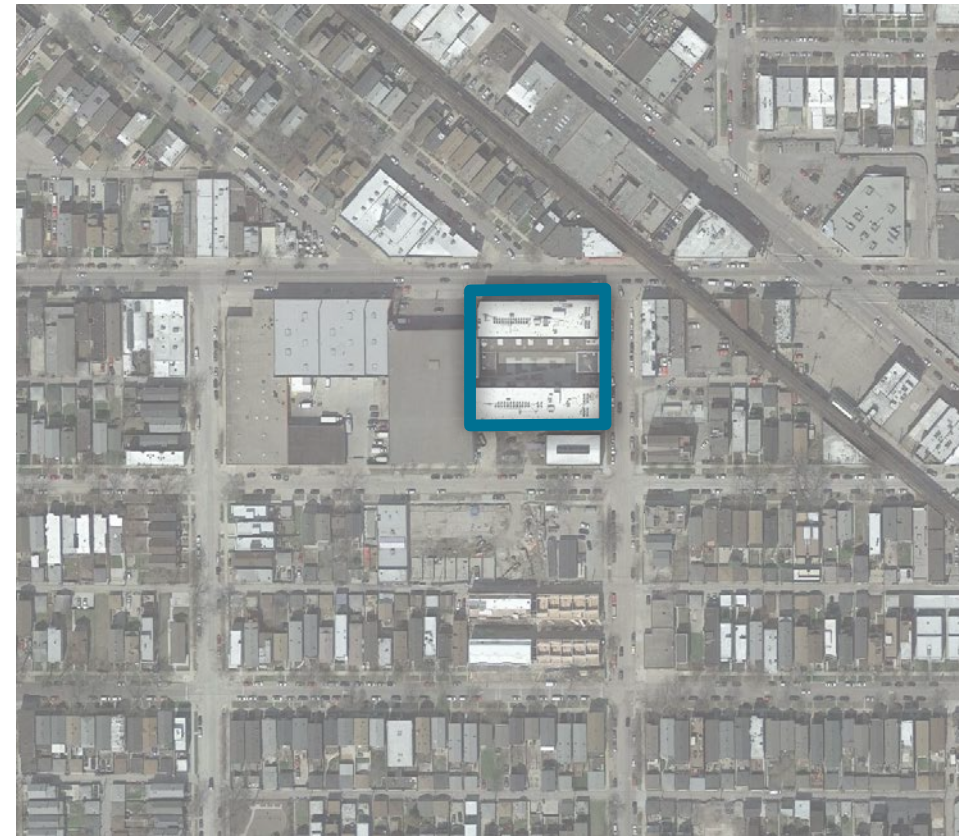
Parking: 45 subterranean

Dwelling Units per Acre: 82

100 +	51 - 99	13 - 50	< 12
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Project Features

Open Space: Central courtyard



Context

Place Type Context: Town Residential

Transit Mode: Local Rail

Transit Line(s): Metro: Blue

Distance to Station / Stop: 1,000'

Development Type: Single lot infill

Building Type(s): Podium Mid Rise

TOD Precedents

RESIDENCES AT 245 SUMNER Boston, Massachusetts

Year Completed: 2017

Size: 0.4 acre

Number of Floors (min/max): 4

Number of Units: 34

Retail / Commercial: 2,250 sf

Office: 0 sf

Hotel Rooms: 0

Parking: 34

Dwelling Units per Acre: 85



FAR: 2.88



Residential: 96%

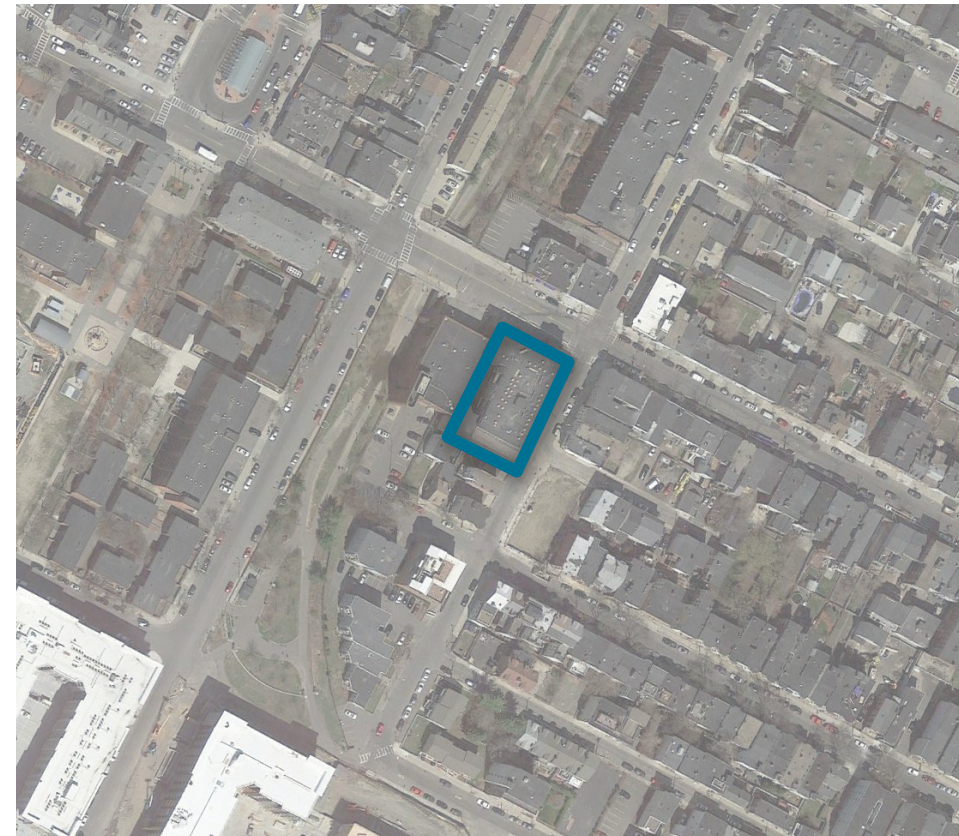


Commercial: 4%

Project Features

Open Space: None

Project Cost / Funding Sources: \$8 million



Context

Place Type Context: Town Residential

Transit Mode: Local Rail

Transit Line(s): MBTA: Blue

Distance to Station / Stop: 600'

Development Type: Single lot infill

Building Type(s): Stacked Units

TOD Precedents

169 CALLE AMSTERDAM Mexico City, Mexico

Year Completed: 2014

Size: 0.14 acre

Number of Floors (min/max): 5

Number of Units: 15

Retail / Commercial: 0 sf

Office: 0 sf

Hotel Rooms: 0

Parking: 2 levels subterranean

Dwelling Units per Acre: 107



Residential: 90%

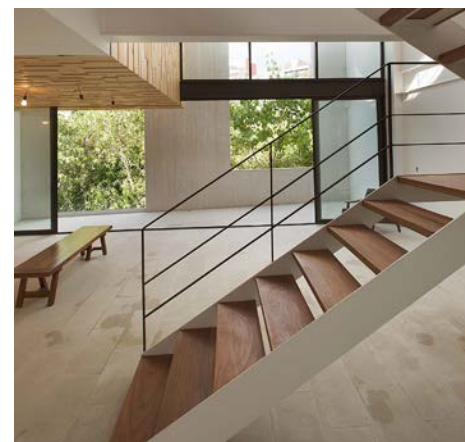


Commercial: 10%

Project Features

Open Space: Courtyard

Special Considerations: Located within a historic preservation district



Context

Place Type Context: Town Residential

Transit Mode: BRT / Local Rail

Transit Line(s): Metrobus: Linea 1 / Metro: Linea 9

Distance to Station / Stop: 1,800' / 2,150'

Development Type: Single lot infill

Building Type(s): Stacked Units

TOD Precedents

KROYER SQUARE Copenhagen, Denmark

Year Completed: 2016

Size: 2.12 acres

Number of Floors (min/max): 5

Number of Units: 105

Retail / Commercial: ground floor

Office: 0 sf

Hotel Rooms: 0

Parking: None

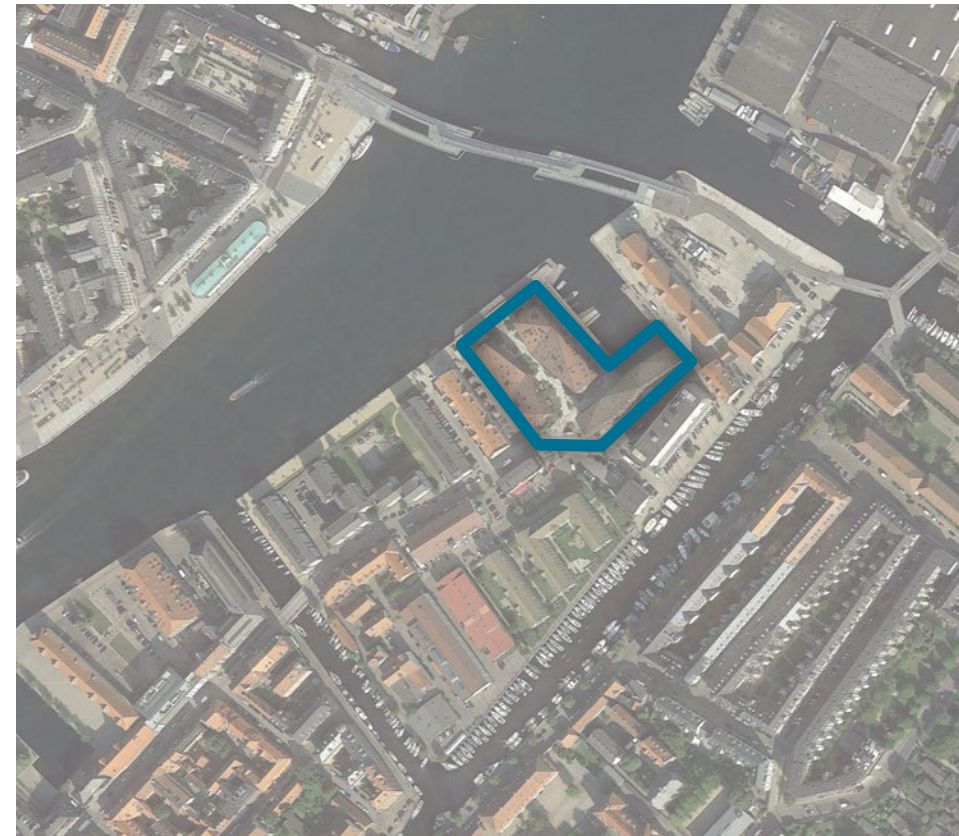
Dwelling Units per Acre: 50

100 + 51 - 99 **13 - 50** < 12

Project Features

Open Space: Multiple plazas

SCAG Region California United States **International**



Context

Place Type Context: Town Residential

Transit Mode: Local Rail

Transit Line(s): Metro: M1

Distance to Station / Stop: 2,400'

Development Type: Multi-building development block

Building Type(s): Stacked Units

TOD Precedents

MISSION MERIDIAN VILLAGE South Pasadena, California

Year Completed: 2006

Size: 1.65 acres

Number of Floors (min/max): 2/3

Number of Units: 67

Retail / Commercial: 5,000 sf

Office: 0 sf

Hotel Rooms: 0

Parking: 280

Dwelling Units per Acre: 41

100 + 51 - 99 **13 - 50** < 12

Project Features

Open Space: None

SCAG Region California International



Context

Place Type Context: Village Mixed Use

Transit Mode: Local Rail

Transit Line(s): Metro: Gold

Distance to Station / Stop: 200'

Development Type: Multi-building development block

Building Type(s): Courtyard apartments, commercial block, duplex, (single-family homes)

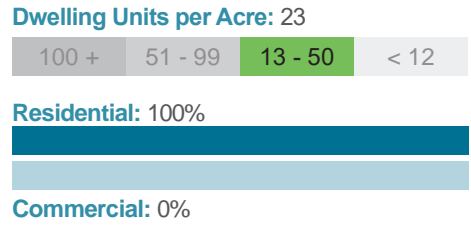
TOD Precedents

VILLAGE WALK Claremont, California

Year Completed: 2006

SCAG Region California United States International

Size: 8 acres
Number of Floors (min/max): 3
Number of Units: 186
Retail / Commercial: 0 sf
Office: 0 sf



Project Features

Open Space: Pocket Park



Context

Place Type Context: Village Mixed Use
Transit Mode: Local Rail
Transit Line(s): Metro: Gold
Distance to Station / Stop: 200'
Development Type: Multi-building development block
Building Type(s): Courtyard apartments, commercial block, duplex, (single-family homes)

TOD Precedents

HIGHLAND PARK Buffalo, New York

Year Expected: 2022 (Phase 1 2018)

Size: 27 acres
Number of Floors (min/max): 4
Number of Units: 717
Retail / Commercial: yes
Office: 0 sf
Hotel Rooms: 0

Dwelling Units per Acre: 27

100 + 51 - 99 **13 - 50** < 12

Residential: 100%

Commercial: 0%

Project Features

Open Space: Central lawn, pocket parks, plazas, paseo

SCAG Region California **United States** International



Context

Place Type Context: Village Mixed Use

Transit Mode: Local Rail

Transit Line(s): NFTA: Main Street

Distance to Station / Stop: 1,600'

Development Type: Master Plan development

Building Type(s): Townhouse, multiplex, fourplex, duplex

TOD Precedents

118 FLATS Cleveland, Ohio

Year Completed: 2013

Size: 0.38 acre

Number of Floors (min/max): 3

Number of Units: 20

Retail / Commercial: 0 sf

Office: 0 sf

Hotel Rooms: 0

Parking: 20

Project Features

Open Space: None

Project Cost / Funding Sources: \$4 million

Dwelling Units per Acre: 53



Residential: 100%



Commercial: 0%



II-C-E-35

Context

Place Type Context: Village Mixed Use

Transit Mode: BRT

Transit Line(s): RTA: Health-line

Distance to Station / Stop: 200'

Development Type: Single lot infill

Building Type(s): Townhouse

TOD Precedents

TAKOMA CENTRAL

Takoma, Maryland

Year Completed: 2015

Size: 1.13 acres

Number of Floors (min/max): 5

Number of Units: 150

Retail / Commercial: 10,000 sf

Office: 0 sf

Hotel Rooms: 0

Dwelling Units per Acre: 116



Residential: 90%



Commercial: 10%

Project Features

Open Space: Courtyard



Context

Place Type Context: Village Mixed Use

Transit Mode: Local/Commuter Rail

Transit Line(s): WMATA: Red

Distance to Station / Stop: 600'

Development Type: Development block

Building Type(s): Podium Block

TOD Precedents

GREENBRIDGE COMMONS Cleveland, Ohio

Year Completed:

SCAG Region California **United States** International

Size: 1.1 acres

Dwelling Units per Acre: 64

Number of Floors (min/max): 4

100 + **51 - 99** 13 - 50 < 12

Number of Units: 70

Residential: 100%

Retail / Commercial: 0 sf

Office: 0 sf

Commercial: 0%

Hotel Rooms: 0

Parking: 22

Project Features

Open Space: None

Project Cost / Funding Sources: \$11 million

Special Considerations: Supportive housing



Context

Place Type Context: Village Mixed Use

Transit Mode: BRT

Transit Line(s): RTA: Health-line

Distance to Station / Stop: 700'

Development Type: Single lot infill

Building Type(s): Stacked units

TOD Precedents

FRUITVALE TRANSIT VILLAGE Oakland, California

Year Completed: 2004

Size: 3.6 acres

Number of Floors (min/max): 3 / 4

Number of Units: 47

Retail / Commercial: 40,000 sf

Office: 114,000 sf

Hotel Rooms: 0

Dwelling Units per Acre: 13



Residential: 70%



Commercial: 30%

Project Features

Open Space: Central Plaza



Context

Place Type Context: Village Commercial

Transit Mode: Local Rail

Transit Line(s): BART: Blue, Yellow, Green

Distance to Station / Stop: 100'

Development Type: Multi-building development block

Building Type(s): Podium Mid Rise

TOD Precedents

VICTORY BUILDING Cleveland, Ohio

Year Completed: 2013

Size: 3.24 acres

Number of Floors (min/max): 4

Number of Units: 0

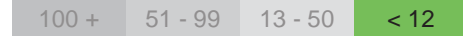
Retail / Commercial: 11,000 sf

Office: 150,000 sf

Hotel Rooms: 0

Parking: 225

Dwelling Units per Acre: 0



FAR: 1.2



Residential: 80%

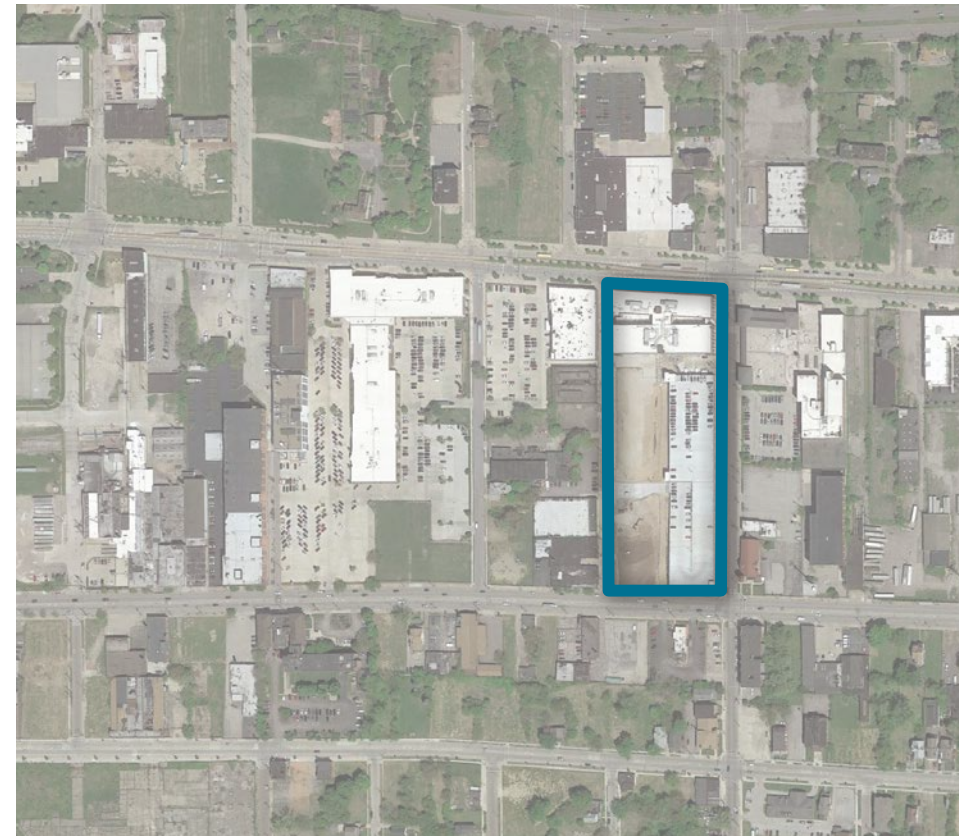


Commercial: 20%

Project Features

Open Space: None

Project Cost / Funding Sources: \$26 million / \$1 million Job Ready Site grant by the State of Ohio as well as a \$4.2 million State Historic Tax Credit award



II-C-E-39

Context

Place Type Context: Village Commercial

Transit Mode: BRT

Transit Line(s): RTA: Health-line

Distance to Station / Stop: 50'

Development Type: Adaptive Reuse

Building Type(s): Loft Building

TOD Precedents

MIDTOWN TECH PARK Cleveland, Ohio

Year Completed: 2011

Size: 6 acres

Number of Floors (min/max): 2

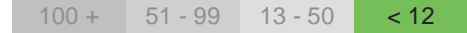
Number of Units: 0

Retail / Commercial: 0 sf

Office: 128,000 sf

Hotel Rooms: 0

Dwelling Units per Acre: 0



FAR: 0.5



Residential: 0%



Commercial: 100%

Project Features

Open Space: None



Context

Place Type Context: Village Commercial

Transit Mode: BRT

Transit Line(s): RTA: Health-line

Distance to Station / Stop: 50'

Development Type: Development block

Building Type(s): Flex Building

TOD Precedents

METRO VILLAGE

Takoma, Maryland

Year Completed: 2017

Size: 1.13 acres

Number of Floors (min/max): 5

Number of Units: 150

Retail / Commercial: 0 sf

Office: 0 sf

Hotel Rooms: 0

Parking: 39

Dwelling Units per Acre: 133



Residential: 100%

Commercial: 0%

Project Features

Open Space: Plaza, Courtyard

Special Considerations: 80% income-restricted as part of the Low Income Housing Tax Credit (LIHTC) Program, 120 of which will be affordable for residents making 60 percent or less than the Area Median Income (AMI)



Context

Place Type Context: Village Residential

Transit Mode: Local/Commuter Rail

Transit Line(s): WMATA: Red

Distance to Station / Stop: 800'

Development Type: Infill development

Building Type(s): Podium Mid Rise

TOD Precedents

RESIDENCES AT THAYER Silver Spring, Maryland

Year Completed: 2014

Size: 0.5 acres

Number of Floors (min/max): 4

Number of Units: 52

Retail / Commercial: 0 sf

Office: 0 sf

Hotel Rooms: 0

Parking: 20

Dwelling Units per Acre: 104



Residential: 100%

Commercial: 0%

Project Features

Open Space: Plaza

Funding Sources: \$11.9 million from the Maryland Department of Housing and Community Development and \$4.5 million from the Montgomery County Housing Initiative Fund.



Context

Place Type Context: Village Residential

Transit Mode: Local/Commuter Rail

Transit Line(s): WMATA: Red

Distance to Station / Stop: 2,300'

Development Type: Single lot infill

Building Type(s): Stacked Units

TOD Precedents

METRO GATEWAY Riverside, California

Year Completed: 2017

Size: 4.26 acres

Number of Floors (min/max): 4

Number of Units: 187

Retail / Commercial: 0 sf

Office: 0 sf

Hotel Rooms: 0

Parking: 300

Dwelling Units per Acre: 44



Residential: 100%

Commercial: 0%

SCAG Region California United States International



Project Features

Open Space: Courtyard



Context

Place Type Context: Suburban Multi-family

Transit Mode: Commuter Rail

Transit Line(s): Metrolink: Inland Empire, 91

Distance to Station / Stop: 600'

Development Type: Development block

Building Type(s): Stacked Units

TOD Precedents

PASEOS AT MONTCLAIR NORTH Montclair, California

Year Completed: 2013

Size: 15.4 acres

Number of Floors (min/max): 3

Number of Units: 385

Retail / Commercial: 0 sf

Office: 0 sf

Hotel Rooms: 0

Parking: 722

Dwelling Units per Acre: 25



Residential: 100%



Commercial: 0%

Project Features

Open Space: Central park, paseo

Project Cost / Funding Sources: \$25.7 million / Canyon-Johnson Urban Funds provided a \$25.7 million equity investment



Context

Place Type Context: High Intensity Activity Center

Transit Mode: Commuter Rail

Transit Line(s): Metrolink: San Bernardino

Distance to Station / Stop: 2,000'

Development Type: Planned development

Building Type(s): Townhouse

TOD Precedents

GROSSMONT TROLLEY CENTER

Year Completed: 2010

La Mesa, California

Size: 9.9 acres

Number of Floors (min/max): 5/6

Number of Units: 527

Retail / Commercial: 3,000 sf

Office: 0 sf

Hotel Rooms: 0

Dwelling Units per Acre: 53

100 + **51 - 99** 13 - 50 < 12

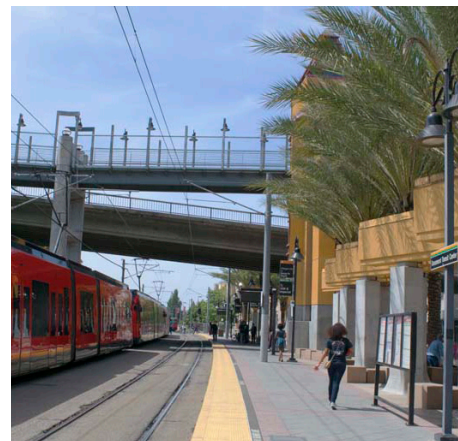
Residential: 99%

Commercial: 1%

Project Features

Open Space: Plaza, private courtyards

SCAG Region California United States International



Context

Place Type Context: High Intensity Activity Center

Transit Mode: Local Rail

Transit Line(s): MTS: Green, Orange

Distance to Station / Stop: 100'

Development Type: Multi-block development

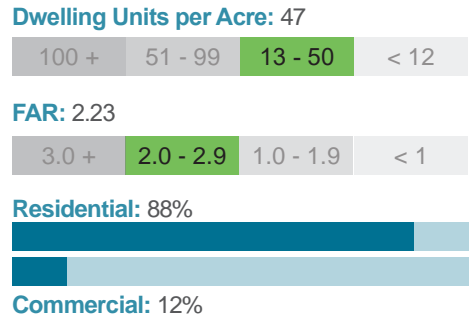
Building Type(s): Podium Block

TOD Precedents

SOUTH BAY TOWN CENTER Boston, Massachusetts

Year Expected: 2018

- Size: 10.2 acres
- Number of Floors (min/max): 6
- Number of Units: 475
- Retail / Commercial: 120,000 sf
- Office: 0 sf
- Hotel Rooms: 130
- Parking: 1,095



Project Features

Open Space: Plaza, paseo, pocket park



Context

- Place Type Context:** High Intensity Activity Center
- Transit Mode:** Commuter Rail / Local Rail
- Transit Line(s):** MBTA: Fairmount, Franklin / Red
- Distance to Station / Stop:** 1,000' / 2,400'
- Development Type:** Big box retail center redevelopment
- Building Type(s):** Podium Block, Podium Mid Rise

TOD Precedents

SOLAIRE WHEATON Wheaton, Maryland

Year Completed: 2015

Size: 1.5 acres

Number of Floors (min/max): 6

Number of Units: 232

Retail / Commercial: 0 sf

Office: 0 sf

Hotel Rooms: 0

Dwelling Units per Acre: 154



Residential: 100%

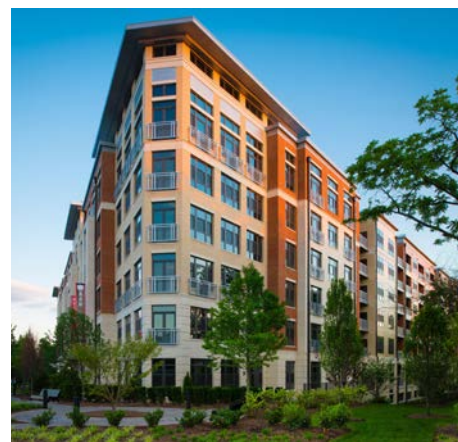


Commercial: 0%

Project Features

Open Space: Courtyard

Special Considerations: LEED Silver; 7,000 sf of amenity space



II-C-E-47

Context

Place Type Context: High Intensity Activity Center

Transit Mode: Local/Commuter Rail

Transit Line(s): WMATA: Red

Distance to Station / Stop: 1,200'

Development Type: Development block

Building Type(s): Podium Block

TOD Precedents

EUCLID COMMONS Cleveland, Ohio

Year Completed: 2012

Size: 2.8 acres

Number of Floors (min/max): 4

Number of Units: 163

Retail / Commercial: 0 sf

Office: 0 sf

Hotel Rooms: 0

Dwelling Units per Acre: 58



FAR: 1.9



Residential: 100%



Commercial: 0%

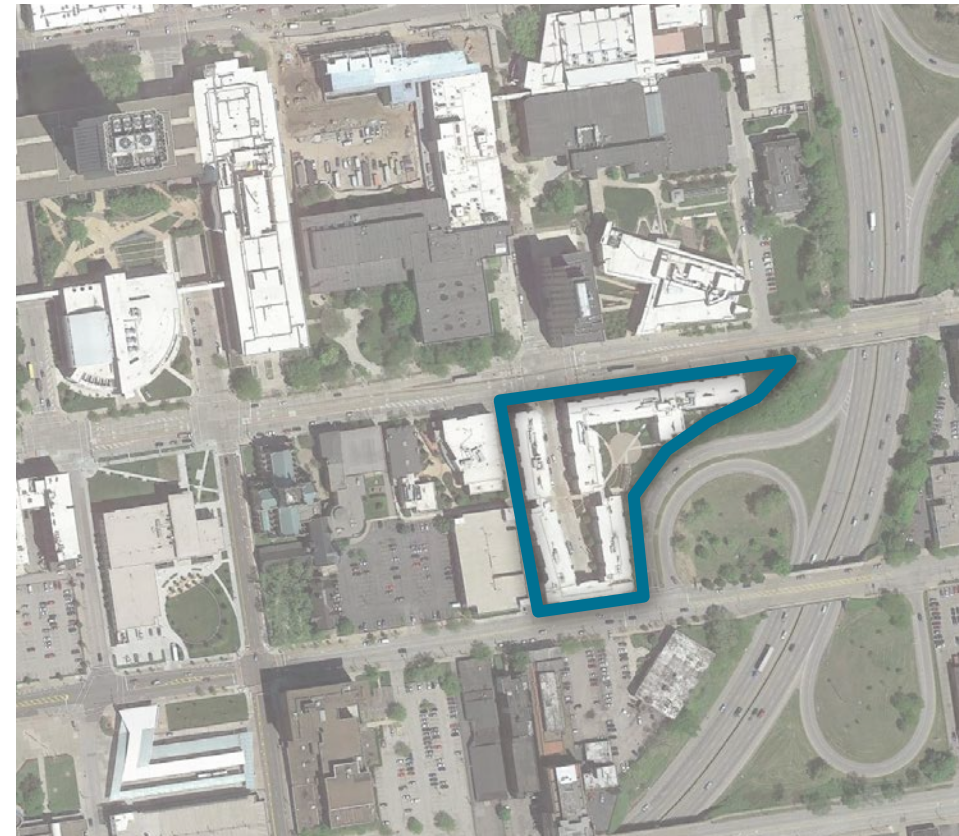
Project Features

Open Space: Courtyard

Project Cost / Funding Sources: \$33.6 million

Special Considerations: Student housing; LEED Silver

SCAG Region California United States International



Context

Place Type Context: Campus / University

Transit Mode: BRT

Transit Line(s): RTA: Health-line

Distance to Station / Stop: 100'

Development Type: Development block

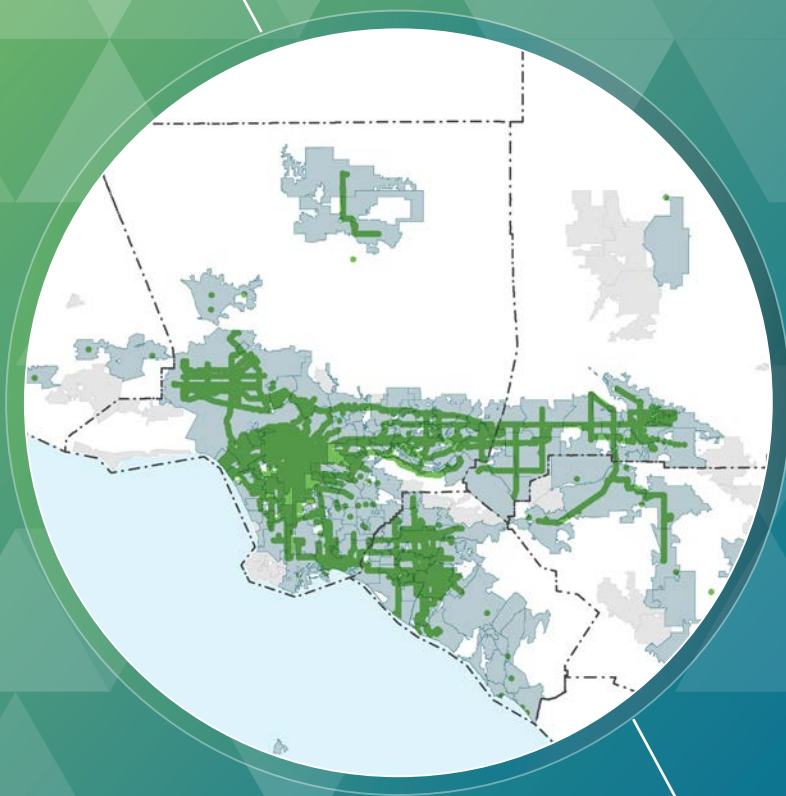
Building Type(s): Stacked Units

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Additional Resources

Funding Sources

Additional Resources

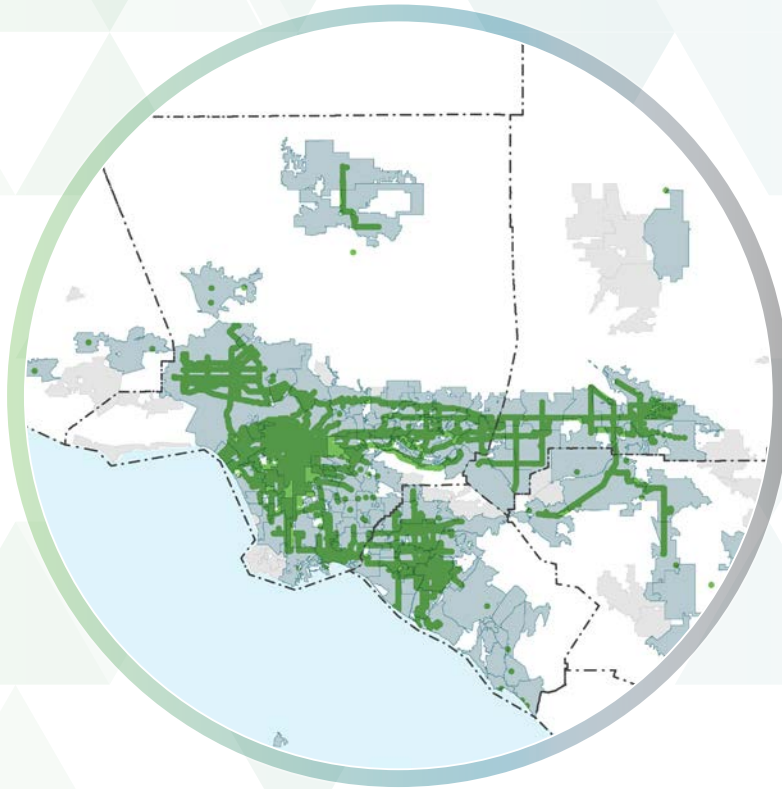


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Part III

Additional Resources

A - FUNDING SOURCES



Funding Source Categories

Summary of Funding Sources

Bicycle/Pedestrian Project Funding Sources

Urban Greening/Environmental Project Funding Sources

Parking and Transit Infrastructure Funding Sources

Major Developments Funding Sources - Economic Revitalization

Major Developments Funding Sources - Affordable Housing

District-wide Value Capture Mechanisms

Funding Source Categories

There is a wide variety of public and private funding sources and strategies that can be used to realize the TOD goals expressed in each HQTAs Vision Plan. The following pages include a list of some of these sources, grouped by the categories listed below:

- BP** Bicycle and Pedestrian
- UG** Urban Greening & Environmental
- PT** Parking and Transit Infrastructure
- ER** Major Developments (Economic Revitalization)
- AF** Major Developments (Affordable Housing)
- VC** District-wide Value Capture Mechanisms

For each Vision Plan, a tailored financial strategy with targeted funding sources is included to enable pilot project jurisdictions to focus on a specific set of sources. It is important to note that these funding sources can and often do change over time; funding programs may be canceled, new funding sources may become available, and funding availability may be decreased. There may also be new federal, state, and local resources available to cities in the coming years that could also be leveraged to implemented in each Vision Plan.

As future rounds of the HQTAs program move forward, this Toolkit will be continuously updated with additional funding sources.

Summary of Funding Sources

Sources of Funding	Applicant	Disbursement Agency	Source	Funding Type	Process
Bicycle/Pedestrian Project Funding Sources					
BP Active Transportation Program (ATP)	Cities	Metropolitan Planning Orgs. (MPO)	CalTrans	Grant	Call for Projects
BP Measure M - Metro Active Transportation Program	Cities	LA Metro	Sales Tax	Discretionary Funds	Competitive
BP Local Returns Program (LA County)	Cities	LA Metro	Sales Tax	Grant	Formula
BP Transportation Development Act (Article 3)	Transit Agencies/City	LA Metro	Retail Sales Tax	Grant	Formula
BP Bicycle and Pedestrian Facilities Program SB-821	Local Jurisdictions	RCTC	LFT Funds	Grant	Call for Projects
BP Measure I - Local Streets	Cities	SBCTA	Sales Tax	Grant	Formula
BP Safe Routes to School	Cities/Counties	CalTrans	State+Federal	Grant	Competitive
BP Sustainable Transportation Planning Grant Program	Cities	MPOs	CalTrans	Planning Grant	Competitive
BP Surface Transportation Block Grant (FAST Act)	Cities	MPOs	FHWA	Grant	Formula
BP Congestions Mitigation and Air Quality Improvement Program (CMAQ)	Cities	MPOs	FHWA	Grant	Formula
Urban Greening/Environmental Project Funding Sources					
UG CalFIRE CCI Grants - Urban and Community Forestry Program	Cities	Dept. of Forestry and Fire Protection	CCI	Grant	Competitive
UG California Urban Greening Grant Program	Cities, Counties, others	California Natural Resources Agency	CCI	Grant	Competitive
UG Congestions Mitigation and Air Quality Improvement Program (CMAQ)	Cities	MPOs or State	FHWA	Grant	Formula
UG Community Development Block Grant (CDBG)	Cities/Developers	Cal. Dept. of Housing & Comm. Dev. (CAHCD)	US-HUD	Grant	Competitive
UG Affordable Housing and Sustainable Communities (AHSC) Program	Developers	CAHCD	Cap&Trade	Loan/Grant	Competitive
UG Infill Infrastructure Grant Program (IIG)	Developers	Cities	CAHCD	Grant	Competitive
Parking and Transit Infrastructure Funding Sources					
PT Proposition C - Transit Centers, Park-n-Ride	Developers	LA Metro	Sales Tax	Grant	Call for Projects
PT FTA Section - 5310, 5316, 5317 Programs	Transit Agencies/Cities	LA Metro	FTA	Grant	Competitive
PT BEYOND Framework Funds Program	Member Agencies	WRCOG		Grant	Formula
PT Local Transit Funds (LTF) Transportation Development Act (TDA) SB 325	Cities	Cities and counties	CalTrans	Grant	Discretionary
PT Cap and Trade - Transit and Intercity Rail Capital Program	Cities	MPOs, municipalities, counties	CalTrans	Grant	Call for Projects
PT Cap and Trade - Low Carbon Transit Operations Program (LCTOP)	Cities	Transit Agencies	CalTrans	Grant	Competitive
PT Buses and Bus Facilities Grant Program - 5339	Cities	Transit Agencies (Bus)	FTA	Grant	Formula/Competitive
PT Urbanized Area Formula Grants - 5307	Cities	MPOs and Transit Agencies	FTA	Capital/Planning Grant	Formula
PT California Infrastructure State Revolving Loan Fund (I-Bank)	Cities	Several (see details)	State of Cal	Financing	Rolling Applications
PT Transportation Infrastructure Finance and Innovation Act (TIFIA)	Cities	Several (see details)	USDOT	Financing/Guarantee	Rolling applications
PT Pilot Program for TOD Planning funded by CIG program	Cities	Cities, Local Govt., and Transit Ag.	FTA	Planning Grant	Competitive
PT Capital Investment Grant (Small Starts) - 5309	Cities	Transit Agencies	FTA	Grant	Discretionary

Summary of Funding Sources

Sources of Funding	Applicant	Disbursement Agency	Source	Funding Type	Process
Major Developments Funding Sources - Economic Revitalization					
ER New Markets Tax Credit	Developer	Local Community Development Entities (CDEs)	US-Treasury	Financing	Competitive
ER Community Development Block Grant (CDBG)	Developers	Cities and Counties	US-HUD	Grant	Formula
ER CDBG - Section 108 Loan Guarantee Program	Cities	Local or State Government	US-HUD	Guarantee	Competitive
ER Historical Preservation Tools - Historic Rehabilitation Tax Credit	Developer	Cities	US Parks	Financing	Rolling Applications
ER California Infrastructure State Revolving Loan Fund (I-Bank)	Cities	Several (see details)	State of Cal	Financing	Rolling Applications
ER California Organized Investment Network (COIN)	Cities	Insurance companies	CA -Insurance	Financing	Rolling Applications
ER Choice Neighborhood	Cities/Developers	Local Government	US-HUD	Planning/Capital Grant	Competitive
ER LA County - TOD Planning Grant Program	Cities	LA Metro		Planning Grant	Call for Projects
ER EB-5 Immigration Visa Investment	Developer	Local Jurisdiction	USCIS	Financing	Rolling Applications
ER Public- Private Partnerships (P3)	Cities/Developers			Financing	
ER Joint Development Program	Cities/Developers	LA Metro		Financing	Competitive
Major Developments Funding Sources - Affordable Housing					
AF Low Income Housing Tax Credit (LIHTC) Program	Developers	California Tax Credit Allocation Authority (CTCAC)	US-Treasury	Financing	Competitive
AF Affordable Housing and Sustainable Communities (AHSC) Program	Developers	CAHCD	Cap&Trade	Loan/Grant	Competitive
AF HOME Investment Partnerships Program	Cities/Developers	CAHCD	US-HUD	Grant/Low-int Loan	Competitive
AF National Housing Trust Fund	Cities/Developers	CAHCD	US-HUD	Soft Loans	Competitive
AF Infill Infrastructure Grant Program (IIG)	Cities/Developers	CAHCD	US-HUD	Grant	Competitive
AF Multifamily Bond Financing	Developers	Los Angeles Community Development Commission (LACDC)		Financing	Competitive
AF Los Angeles County Housing Innovation Fund	Developers	LACDC		Financing	Competitive
District-wide Value Capture Mechanisms					
VC Transportation utility fees					
VC Parking Fees/Congestion Pricing					
VC Development Impact Fee					
VC Special Assessment District					
VC Enhanced Infrastructure Finance Districts					
VC Community Revitalization and Investment Authorities (CRIA)					
VC Debt Tools					

Bicycle/Pedestrian Project Funding Sources

Sources of Funding	Overview	Criteria	Process	Considerations
<p>BP Active Transportation Program (ATP) Applicant: Cities Disbursement Agency: MPOs Source: CalTrans Funding Type: Grant Process: Call for Projects</p>	<p>On September 26, 2013, Governor Brown signed legislation creating the Active Transportation Program (ATP) in the Department of Transportation (Senate Bill 99, Chapter 359 and Assembly Bill 101, Chapter 354). The ATP consolidates existing federal and state transportation programs, including the Transportation Alternatives Program (TAP), Bicycle Transportation Account (BTA), and State Safe Routes to School (SR2S), into a single program</p>	<p>Increase the proportion of trips accomplished by biking and walking; increase safety and mobility for non-motorized users; advance the active transportation efforts of regional agencies to achieve greenhouse gas (GHG) reduction goals, pursuant to SB 375 (Of 2008) and SB 341 (of 2009); Enhance public health; Ensure that disadvantaged communities fully share in the benefits of the program, and Provide a broad spectrum of projects to benefit many types of active transportation users.</p>	<p>40% to metropolitan planning organizations in urban areas with populations greater than 200,000, in proportion their relative share of population. 10%to small urban and rural regions with populations of 200,000 or less. 50%to projects awarded on competitive statewide basis.</p>	<p>Highly applicable for funding TOD-enabling infrastructure.</p>
<p>BP Measure M - Metro Active Transportation Program Applicant: Cities Disbursement Agency: LA Metro Source: Sales Tax Funding Type: Discretionary Funds Process: Competitive</p>	<p>Approximately \$17 million of annual Measure M active transportation funding exists in the new Measure M 2% Active Transportation Program (2% ATP). A key reason Investing in Place and other advocates championed Measure M in 2016 was the creation of the first ever regional funding for walking, biking, vision zero, crosswalks and sidewalks.</p>	<p>Metro introduced a 2% ATP cash flow analysis, which essentially divided up the fund into four main categories: First/Last mile, LA River Bike Path, Bike Share, and Metro Bike and Pedestrian Programs. Each category includes funding allocations for the next five fiscal years.</p>	<p>The funding has been accounted for all the LA County regions. The active transportation projects will be funded through a competitive process and a local match.</p>	<p>Funding available in the near term.</p>
<p>BP Local Returns Program (LA County) Applicant: Cities Disbursement Agency: LA Metro Source: Sales Tax Funding Type: Grant Process: Formula</p>	<p>The Proposition A, Proposition C and Measure R Local Return programs are three one-half cent sales tax measures approved by Los Angeles County voters to finance a countywide transit development program. By ordinance, LA Metro is responsible for administering the programs and establishing guidelines.</p>	<p>Over 50% of local return funds are invested in local public transit. In addition to funding transit services, cities use their Local Return funds to improve and maintain local streets. The Local Return Program also enables local governments to provide other essential local components of our overall transportation system, such as bus stops, park and ride lots, bicycle access, pedestrian access and safety and security.</p>	<p>Local Return funds are allocated and distributed monthly to jurisdictions on a "per capita" basis by Metro. Eligible expenditures are outlined in the Metro's Adopted Local Return Program Guidelines.</p>	
<p>BP Transportation Development Act (Article 3) Applicant: Transit Agencies/Cities Disbursement Agency: LA Metro Source: Retail Sales Tax Funding Type: Grant Process: Formula</p>	<p>Transportation Development Act, Article 3 funds are used by cities within Los Angeles County for the planning and construction of bicycle and pedestrian facilities. A Local Transportation Fund (LTF) for each county derived from ¼ cent of the 7.25 cent statewide retail sales tax. The funds are apportioned to each county by the State Board of Equalization according to the amount of tax collected in the county.</p>	<p>TDA funds can be used for a wide variety of bike and pedestrian facilities such as right-of-way acquisition; construction costs, retrofitting bike and pedestrian amenities, route safety improvements, and bike infrastructure.</p>	<p>Local agencies may either draw down these funds or place them on reserve. Agencies must submit a claim form to LA Metro by the end of the fiscal year in which they are allocated. Failure to do so may result in the lapse of these allocations.</p>	

Bicycle/Pedestrian Project Funding Sources

Sources of Funding	Overview	Criteria	Process	Considerations
<p>BP Bicycle and Pedestrian Facilities Program SB-821 Applicant: Transit Agencies/Cities Disbursement Agency: RCTC Source: Local Transportation Fund (LFT) Funding Type: Grant Process: Call for Projects</p>	<p>Each year 2% of the Local Transportation Fund (LTF) revenue is made available for use on bicycle and pedestrian facility projects through the Commission's SB 821 Program.</p>	<p>Eligible projects include sidewalks, access ramps, bicycle facilities, and bicycle plan development.</p>	<p>All of the cities and the county of Riverside are notified of the SB-821 program estimate of available funding and are requested to submit project proposals. An evaluation committee composed of the Technical Advisory Committee makes recommendations for projects and funding award amounts to the Commission for their final approval.</p>	
<p>BP Measure I - Local Streets Applicant: Cities Disbursement Agency: SBCTA Source: Sales Tax Funding Type: Grant Process: Formula</p>	<p>Measure I is a half-cent sales tax collected throughout San Bernardino County for transportation improvements. In 2004, San Bernardino County voters overwhelmingly approved the extension of the Measure I sales tax through 2040.</p>	<p>Program receives 20% of revenue collected in the San Bernardino Valley Subarea, includes funds for local street repair and improvements. Program funds can be used flexibly for any eligible transportation purpose determined to be a local priority, including local streets, major highways, state highway improvements, freeway interchanges and other improvements to maximize the use of transportation facilities.</p>	<p>Funds distributed to cities and the County on a per capita basis. Annually each jurisdiction develops a Five Year Capital Improvement Plan for Local Streets Projects that is consistent with local, regional, and State transportation plans.</p>	<p>Funds are disbursed to local jurisdictions monthly upon receipt of the annually adopted Local Street Five Year Plan.</p>
<p>BP Safe Routes to School (State & Federal) Applicant: Cities/Counties Disbursement Agency: CalTrans Source: State (AB-57); Federal (MAP-21) Funding Type: Grant Process: Apportionment/Competitive</p>	<p>The program's aim is to increase the number of children who walk or bicycle to school by funding projects that remove the barriers that currently prevent them from doing so. Those barriers include lack of infrastructure, unsafe infrastructure, lack of programs that promote walking and bicycling through education/encouragement programs aimed at children, parents, and the community.</p>	<p>The SR2S program funds construction projects to improve the safety of students who walk or bike to school. Improvements must be made on public property. The facilities should include pedestrian facilities, traffic calming, traffic control devices, bike facilities, and public outreach.</p>	<p>Funds will be apportioned to each Caltrans District on the basis of student enrollment as determined by the California Department of Education.</p>	
<p>BP Sustainable Transportation Planning Grant Program Applicant: Cities Disbursement Agency: MPOs and others Source: Caltrans (from FHWA) Funding Type: Planning Grant Process: Competitive</p>	<p>Strategic Partnership Program offers funding for transportation planning studies in partnership with CalTrans to provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability.</p>	<p>Planning goals include; 1) improve multimodal mobility and accessibility for all people; 2) preserve the multimodal transportation system; 3) support vibrant economy; 4) foster livable and healthy communities and promote social equity; and 5) practice environmental stewardship</p>	<p>CalTrans releases annual statewide notice of funding availability for planning grants which are available to MPOs.</p>	<p>Highly competitive program.</p>

Bicycle/Pedestrian Project Funding Sources

Sources of Funding	Overview	Criteria	Process	Considerations
<p>BP Surface Transportation Block Grant (FAST Act) Applicant: Cities Disbursement Agency: MPOs Source: FHWA (FAST Act) Funding Type: Grant Process: Formula</p>	<p>The STBG promotes flexibility in State and local transportation decisions and provides flexible funding to best address State and local transportation needs.</p>	<p>STBG funds cannot be used from local roads and collectors; but can be used for pedestrian and bike projects among many others. The STBG requires all the Surface Transportation Program eligibilities and in addition, requires states to create and operate an office to design, implement, and oversee P3 initiatives.</p>	<p>A percentage of a State's STBG apportionment (after set-asides for Transportation Alternatives) is to be obligated in the following areas in proportion to their relative shares of the State's population.</p>	<p>Funds allocated to MPOs based on population.</p>
<p>BP Congestions Mitigation and Air Quality Improvement Program (CMAQ) Applicant: Cities Disbursement Agency: MPOs Source: FHWA (FAST Act) Funding Type: Grant Process: Formula</p>	<p>Funds may be used for a transportation project or program that is likely to contribute to the attainment or maintenance of a national ambient air quality standard, with a high level of effectiveness in reducing air pollution.</p>	<p>Funds may be used for transportation projects likely to contribute to the attainment or maintenance of a national ambient air quality standard, with a high level of effectiveness in reducing air pollution, and be included in the Metropolitan Planning Organization's (MPO's) current transportation plan and transportation improvement program (TIP) or the current state transportation improvement program (STIP) in areas without an MPO.</p>	<p>FAST Act directs FHWA to apportion funding as a lump sum for each State then divide that total among apportioned programs. Once each State's combined total apportionment is calculated, funding is set-aside for the State's CMAQ Program.</p>	<p>Improvement in air quality from project required.</p>

Urban Greening/Environmental Project Funding Sources

Sources of Funding	Overview	Criteria	Process	Considerations
<p>UG Urban and Communities Forestry Grants Program Applicant: Cities/Counties Disbursement Agency: Dept. of Forestry and Fire Source: CCI (from Cap&Trade) Funding Type: Grant Process: Competitive</p>	<p>Through the California Climate Investments (CCI) Urban & Community Forestry Grant Program, CAL FIRE works to optimize the benefits of trees and related vegetation through multiple-objective projects</p>	<p>These projects further the goals of the California Global Warming Solutions Act of 2006 (AB 32), result in a net greenhouse gas benefit, and provide environmental services and cost-effective solutions to the needs of urban communities and local agencies. Co-benefits of the projects include increased water supply, clean air and water, reduced energy use, flood and storm water management, recreation, urban revitalization, improved public health, and producing useful products such as bio-fuel, clean energy, and high quality wood.</p>		
<p>UG California Urban Greening Grant Program Applicant: Cities/Counties Disbursement Agency: CA Natural Resources Agency Source: CCI (from Cap&Trade) Funding Type: Grant Process: Competitive</p>	<p>This new program is a competitive program that supports projects that reduce GHG emissions by establishing and enhancing parks and open space; greening lands and structures; establishing green streets and alleyways; using natural solutions to improve air and water quality and reduce energy consumption; and creating more walkable and bikeable trails that enable residents to access work, schools and commercial centers without having to drive automobiles.</p>	<p>Eligible urban greening projects will reduce GHG emissions and provide multiple additional benefits, including, a decrease in air and water pollution or a reduction, conversion of an existing built environment into green space, incorporate green infrastructure solutions that improve sustainability.</p>	<p>The applicant is required to submit an application, which is evaluated by the state and projects are selected that are likely to make the maximum impact.</p>	
<p>UG Infill Infrastructure Grant Program (IIG) Applicant: Developers Disbursement Agency: Cities Source: CAHCD Funding Type: Grant Process: Competitive</p>	<p>Funded by Proposition (Prop 1C) 1C, the Housing and Emergency Shelter Trust Fund Act of 2006, the primary goal is to promote infill housing development.</p>	<p>IIG is grant assistance, available as gap funding to infrastructure improvements required for specific residential or mixed-use infill development. IIG serves to aid in new construction and rehabilitation of infrastructure that supports higher-density affordable and mixed-income housing in locations designated as infill.</p>	<p>Funds are allocated through a competitive process, based on the merits of the individual infill projects and areas. Some of the application selection criteria includes housing density, project readiness, access to transit, proximity to amenities, and housing affordability.</p>	<p>Funding only for qualifying infill project</p>

Parking and Transit Infrastructure Funding Sources

Sources of Funding	Overview	Criteria	Process	Considerations
<p>PT Proposition C - Transit Centers, Park-n-Ride Applicant: Developers Disbursement Agency: LA Metro Source: Sales Tax Funding Type: Grant Process: Call for Projects</p>	<p>A voter-enacted (1990) ½-cent sales tax for public transit purposes.</p>	<p>Capital costs of transit centers including facilities, access improvements, landscaping, bike lockers, rehabilitation, and other amenities. Capital costs and rehabilitation of park-and-ride lots, including freeway bus stops incorporated into a transit center or park-and-ride lot, used exclusively by transit and ride-sharing patrons during normal working hours.</p>	<p>Funds flow to Metro which allocates to itself and other agencies according to the Metro Formula Allocation Procedure, the Metro Call for Projects, and Metro Board actions. A Funding Agreement (FA) is executed for each project in the Metro Call for Projects. These funds can be leveraged by bonding for capital projects.</p>	
<p>PT FTA Section - 5310, 5316, 5317 Programs Applicant: Transit Agencies/Cities Disbursement Agency: LA Metro Source: FTA Funding Type: Grant Process: Competitive</p>	<p>Federal transit law, as amended by MAP-21, requires that projects funded under the Section 5310, Section 5316, and Section 5317 Programs are included in a locally developed, coordinated public transit-human services transportation plan. The 2016-2019 Coordinated Public Transit-Human Services Transportation Plan for Los Angeles County ("Coordinated Plan") was formally adopted by the Metro Board of Directors in July 2015.</p>	<p>FTA grant programs include Section 5310 (Enhance Mobility of Seniors and Individuals with Disabilities Program), Section 5316 (Job Access and Reverse Commute Program), and Section 5317 (New Freedom Program).</p>	<p>The solicitation is a competitive selection process that will result in the award of available federal grants apportioned by the Federal Transit Administration (FTA) to eligible agencies through Metro. Approved awards will be authorized by way of fully executed Funding Agreement by/between successful applicant and Metro.</p>	
<p>PT BEYOND Framework Funds Program Applicant: Member Agencies Disbursement Agency: WRCOG Source: Funding Type: Grant Process: Formula</p>	<p>BEYOND is an economic development and sustainability local assistance funding program designed to enable member agencies to develop and implement plans and programs aimed at improving quality of life in Western Riverside County.</p>	<p>Agencies may ask request the funds: 1) To develop plans and/or implement projects; 2) To provide a match for grants and other funding opportunities; and 3) To pool resources with other member agencies for larger projects that affect economic development, water, education, environment, health, and transportation.</p>	<p>The BEYOND Core funding is a non-competitive, fixed amount of funding available to member agencies. Once approved of Core funding, members can apply for project-based funding.</p>	
<p>PT Local Transit Funds (LTF) Transportation Development Act (TDA) SB 325 Applicant: Cities Disbursement Agency: Cities and Counties Source: CalTrans Funding Type: Grant Process: Discretionary</p>	<p>Local Transportation Fund (LTF), is derived from a ¼ cent of the general sales tax collected statewide. The State Board of Equalization, based on sales tax collected in each county, returns the general sales tax revenues to each county's LTF. Each county then apportions the LTF funds within the country based on population.</p>	<p>These funds can be used for transit capital expenditures, operations, or a combination thereof. Standard practice is LTF funds are assumed to be used for operations first, then as a local match for federally funded capital projects when State Transit Assistance (STA) funds can't be used.</p>	<p>It is a three-step process: (1) apportionment, (2) allocation, and (3) payment. Annually, the Transportation Planning Agencies (TPAs) determine each area's share of the anticipated LTF.</p>	<p>Allocation discretionary action by regional planning organization.</p>

Parking and Transit Infrastructure Funding Sources

Sources of Funding	Overview	Criteria	Process	Considerations
<p>PT Cap and Trade - Transit and Intercity Rail Capital Program Applicant: Cities Disbursement Agency: MPOs Source: CalTrans Funding Type: Grant Process: Call for Projects</p>	<p>The Transit and Intercity Rail Capital Program (TIRCP) to provide grants from the Greenhouse Gas Reduction Fund to fund transformative capital improvements that will modernize California's intercity, commuter, and urban rail systems, and bus and ferry transit systems to reduce emissions of greenhouse gases by reducing congestion and vehicle miles traveled throughout California.</p>	<p>Primary Criteria: Reduce GHG emissions; Increase ridership; Integrate the services of the State's various rail and transit operations; Improve safety. Secondary Criteria: Reducing VMT; Promoting housing development near transit; Improve area for more jobs and housing to increase locational efficiency; Expanding existing rail and public transit systems; Enhancing the connectivity, integration, and coordination of the State's various transit agencies; Implementing clean vehicle technology.</p>	<p>Apply to TIRCP call for projects.</p>	<p>Requires an EIR for high rating in the competitive process.</p>
<p>PT Cap and Trade - Low Carbon Transit Operations Program (LCTOP) Applicant: Cities Disbursement Agency: Transit Agencies Source: CalTrans Funding Type: Grant Process: Competitive</p>	<p>The Low Carbon Transit Operations Program (LCTOP) is one of several programs that are part of the Transit, Affordable Housing, and Sustainable Communities Program established by the California Legislature in 2014 by Senate Bill 862.</p>	<p>The LCTOP was created to provide operating and capital assistance for transit agencies to reduce greenhouse gas emission and improve mobility, with a priority on serving disadvantaged communities.</p>	<p>(1) Lead agency must be listed on SCO letter. (2) Verify the project is in the list of eligible projects. (3) Verify project meets criteria. (4) Submit required documents requested in LCTOP guidelines.</p>	<p>Applicable for all transit projects. But needs commitment from other funding sources.</p>
<p>PT Buses and Bus Facilities Grant Program - 5339 Applicant: Cities Disbursement Agency: Transit Agencies (Buses) Source: FTA Funding Type: Grant Process: Competitive</p>	<p>The Bus & Bus Facilities Infrastructure Investment Program makes federal resources available to states and direct recipients to replace, rehabilitate and purchase buses and related equipment and to construct bus-related facilities including technological changes or innovations to modify low or no emission vehicles or facilities.</p>	<p>FTA will prioritize projects that demonstrate how they will address significant repair and maintenance needs, improve the safety of transit systems, deploy connective projects that include advanced technologies to connect bus systems with other networks and support the creation of ladders of opportunity.</p>	<p>Funds remain available for obligation for four fiscal years. This includes the fiscal year in which the amount is made available or appropriated plus two additional years.</p>	<p>Valley Transit authority and Metrolink could apply for this. Funding is provided through formula allocations and competitive grants.</p>
<p>PT Urbanized Area Formula Grants - 5307 Applicant: Cities Disbursement Agency: MPOs/Transit Agencies Source: FTA Funding Type: Capital/ Planning Grant Process: Formula</p>	<p>The Urbanized Area Formula Funding program makes federal resources available to urbanized areas and to governors for transit capital and operating assistance in urbanized areas and for transportation-related planning.</p>	<p>Funds are primarily used for operations and maintenance but can be used for capital projects, including the purchase of vehicles. Eligible activities include: planning, engineering, design and evaluation of transit projects and other technical transportation-related studies.</p>	<p>Funding is allocated via formulas. Funds requires a 20% local match. Future funds can potentially be bonded under the Certificate of Participation Program.</p>	

Parking and Transit Infrastructure Funding Sources

Sources of Funding	Overview	Criteria	Process	Considerations
<p>California Infrastructure State Revolving Loan Fund (I-Bank) Applicant: Cities Disbursement Agency: State of California Source: Funding Type: Financing Process: Rolling Application</p>	<p>The ISRF Program provides financing to public agencies and non-profit corporations sponsored by public agencies for a wide variety of infrastructure and economic development projects (excluding housing). ISRF Program funding is available in amounts ranging from \$50,000 to \$25 million, with loan terms for the useful life of the project up to a maximum of 30 years.</p>	<p>Applicant must demonstrate project readiness and feasibility to complete construction within 2 years after the I-Bank's financing approval. In this context, "complete a project" the portion of the project financed by the I-Bank must meet construction contract specifications for completeness and/or ability to operate.</p>	<p>Funding applications are continuously accepted. The I-Bank Board of Directors makes the financing decision. Examples of eligible sources of financing repayment includes: Enterprise/ Sewer Special Funds, leases of Borrower assets, property taxes or property-related assessments, voter-approved General Fund debt.</p>	<p>Financing option for project rather than funding source. All other funding sources must be committed prior to financing approval.</p>
<p>Transportation Infrastructure Finance and Innovation Act (TIFIA) Applicant: Cities Disbursement Agency: Caltrans Source: USDOT Funding Type: Financing/Guarantee Process: Rolling Application</p>	<p>Strategic goal of the TIFIA is to leverage limited Federal resources and stimulate capital market investment in transportation infrastructure by providing credit assistance in the form of direct loans, loan guarantees, and standby lines of credit (rather than grants) to projects of national or regional significance.</p>	<p>The TIFIA credit program offers three distinct types of financial assistance – direct loans, loan guarantees, and standby lines of credits. Major criteria include creditworthiness; foster partnerships that attract public and private investment for the project; ability to proceed at an earlier date or reduced lifecycle costs; Reduces contribution of federal grant assistance to the project; construction contracting process can commence no more than 90 days from execution of a TIFIA credit instrument.</p>	<p>DOT reviews creditworthiness of project sponsor (sponsor must pay \$100,000) and then DOT may request oral presentation. DOT will evaluate and give recommendation to DOT Credit Council, DOT Credit Council makes recommendation to the Secretary. DOT will notify sponsor if project is approved. Project sponsor must satisfy all program requirements, DOT will issue term sheet, credit agreement, and will disburse funds.</p>	<p>Source of credit assistance, but needs a revenue source to service the debt payments. Applicable for Parking Structure/Districts.</p>
<p>Pilot Program for TOD Planning funded by CIG Program Applicant: Cities Disbursement Agency: Caltrans Source: USDOT Funding Type: Planning Grant Process: Competitive</p>	<p>The Pilot Program for TOD Planning helps support FTA's mission of improving public transportation for America's communities by providing funding to local communities to integrate land use and transportation planning with a transit capital investment that is seeking or recently received funding through the Capital Investment Grant (CIG) Program.</p>	<p>Comprehensive planning funded through the program must examine ways to improve economic development and ridership, foster multimodal connectivity and accessibility, improve transit access for pedestrian and bicycle traffic, engage the private sector, identify infrastructure needs, and enable mixed-use development near transit stations.</p>	<p>Competitive funding application</p>	<p>Metrolink could apply for this. LA Metro got for WSAB corridor.</p>
<p>Capital Investment Grant (Small Starts) - 5309 Applicant: Cities Disbursement Agency: Transit Agencies Source: FTA Funding Type: Grant Process: Discretionary</p>	<p>This is FTA's primary grant program for funding major transit capital investments, including heavy rail, commuter rail, light rail, streetcars, and bus rapid transit. It is a discretionary grant program unlike most others in government.</p>	<p>Project Justification Criteria: Mobility improvements; Environmental benefits; Congestion relief; Cost-effectiveness; Economic development; Supportive land uses and land use policy. Financial Commitment Criteria: Current financial conditions of project operator; Commitment of funds; Financial capacity and reasonableness of assumptions.</p>	<p>Application to Small Starts required. Instead of an annual call for applications and selection of awardees by the Federal Transit Administration (FTA), the law requires that projects seeking CIG funding complete a series of steps over several years to be eligible for funding.</p>	<p>Highly competitive and requires commitment from other non-federal sources.</p>

Major Developments Funding Sources - Economic Revitalization

Sources of Funding	Overview	Criteria	Process	Considerations
<p>ER New Markets Tax Credit Applicant: Developer Disbursement Agency: Local CDEs Source: US-Treasury Funding Type: Financing Process: Competitive</p>	<p>The NMTC Program incentivizes community development and economic growth through the use of tax credits that attract private investment to distressed communities. The NMTC Program enables the Community Development Financial Institution (CDFI) to allocate tax credit authority to Community Development Entities (CDEs) through a competitive application process. CDEs use their authority to offer tax credits to investors in exchange for equity in the CDE. Using the capital from these equity investments, CDEs can make loans and investments to businesses operating in low-income communities on better rates and terms and more flexible features than the market.</p>	<p>The NMTC Program enables the Community Development Financial Institution (CDFI) to allocate tax credit authority to Community Development Entities (CDEs) through a competitive application process. Funding can be used only for commercial development such as manufacturing, food, retail, housing, health, technology, energy, education, and childcare.</p>	<p>NMTC process begins with applying for a CDE certification. Next, the CDE will need to apply to the current Allocation round, which typically begins in May and awards are announced in the winter of the same year. Once the awards are announced, the allocation agreement has to be closed. The final step is an ongoing reporting and compliance documentation.</p>	<p>Creating a separate entity is critical for accessing NMTC dollars.</p>
<p>ER Community Development Block Grant (CDBG) Applicant: Developer Disbursement Agency: Cities and Counties Source: US-HUD Funding Type: Grant Process: Formula</p>	<p>The Community Development Block Grant (CDBG) is a flexible program that provides communities with resources to address a wide range of unique community development needs. The CDBG program works to ensure decent affordable housing, to provide services to the most vulnerable in our communities, and to create jobs through the expansion and retention of businesses.</p>	<p>Not less than 70 percent of CDBG funds must be used for activities that benefit low- and moderate-income persons. In addition, each activity must meet one of the following national objectives for the program: 1) benefit low- and moderate-income persons, 2) prevention or elimination of slums or blight, or 3) address community development needs having a particular urgency.</p>	<p>The annual CDBG appropriation is allocated between States and local jurisdictions based on a formula comprised of several measures of community need, including the extent of poverty, population, housing overcrowding, age of housing, and population growth lag in relationship to other metropolitan areas.</p>	<p>Directly disbursed to counties and cities based on formula.</p>
<p>ER CDBG - Section 108 Loan Guarantee Program Applicant: Cities Disbursement Agency: Local Govt. or State Source: US-HUD Funding Type: Loan Guarantee Process: Competitive</p>	<p>Section 108 offers state and local governments the ability to transform a small portion of their Community Development Block Grant (CDBG) funds into federally guaranteed loans large enough to pursue physical and economic revitalization projects capable of revitalizing entire neighborhoods.</p>	<p>Source of financing for certain community development activities, such as housing rehabilitation, economic development, and large-scale physical development projects. All projects and activities must meet one of</p>	<p>The borrower will be required to secure the loan by pledging current or future CDBG allocations to either repay the loan or secure it. In addition, the borrower may be required to pledge additional security to the loan which may include property liens or other collateral.</p>	

Major Developments Funding Sources - Economic Revitalization

Sources of Funding	Overview	Criteria	Process	Considerations
<p>ER Historical Preservation Tools - Historic Rehabilitation Tax Credit Applicant: Developers Disbursement Agency: Cities Source: US Parks Funding Type: Financing Process: Rolling Application</p>	<p>The Federal Historic Rehabilitation Tax Credit program is administered by the National Park Service and the State Office of Historic Preservation.</p>	<p>The Federal Historic Preservation Tax Incentives Program encourages private investment in the re-use of historic buildings. The program provides for a 20% income tax credit for the rehabilitation of income-producing buildings that are “certified historic structures.” A smaller tax credit (10%) is available for non-certified buildings constructed before 1936.</p>	<p>Building owners must complete a three-part application process to qualify for the credit. In Part 1, the applicant verifies that the property is listed in or eligible for the National Register. Part 2 provides a description of the proposed work for approval, utilizing the Secretary of the Interior’s Standards for Rehabilitation. Part 3 compares the actual project work with the Part 2 description and verifies that the project has met the Standards.</p>	<p>Only applicable to income-producing properties.</p>
<p>ER California Organized Investment Network (COIN) Applicant: Cities Disbursement Agency: Insurance Companies Source: CA Insurance Funding Type: Financing Process: Rolling Application</p>	<p>COIN is a collaborative effort between the California Department of Insurance, the insurance industry, and advocates for investments in low-income communities. This voluntary program facilitates insurance industry investments that benefit California’s environment and its low-to-moderate (LMI) income and rural communities.</p>	<p>COIN researches, sources, structures and certifies that investment in a wide range of innovative opportunities and deliver competitive rates of return. Investments must benefit California’s environment or its low-to-moderate income or rural communities through economic development, job creation, access to transit or healthcare or improvements in education.</p>	<p>COIN extensively researches investment opportunities for insurers and publishes Investment Bulletins for high impact or guided investments that are believed to be safe and solvent, offer competitive financial returns, and benefit California’s environment, LMI, and rural communities.</p>	<p>Attracts private investments for community economic development. Can be used for access to transit as well as healthcare and education-related development</p>
<p>ER Choice Neighborhood Applicant: Cities/Developers Disbursement Agency: Local Government Source: US-HUD Funding Type: Capital/Planning Grant Process: Competitive</p>	<p>The Choice Neighborhoods program provides competitive Planning Grants and Implementation Grants to enable communities to revitalize struggling neighborhoods with distressed public housing or HUD-assisted housing through a comprehensive approach to neighborhood transformation.</p>	<p>Planning Grants enable local leaders to undertake a comprehensive planning process, working closely with housing residents, broader community members, businesses, and a range of local stakeholders. Implementation Grants support communities that have undergone a comprehensive planning process and are ready to implement their plans.</p>	<p>HUD established a mapping tool for the purposes of establishing neighborhood eligibility and to assign points for certain rating factors. This mapping tool will overlay the locally defined neighborhood boundaries with data associated with that area and estimate the rates of certain indicators in that neighborhood using a proportional allocation methodology.</p>	<p>It is competitive grant program. Notice of funding availability of announced each year. Applicants can apply for these grants.</p>

Major Developments Funding Sources - Economic Revitalization

Sources of Funding	Overview	Criteria	Process	Considerations
<p>ER LA County - TOD Planning Grant Program Applicant: Cities Disbursement Agency: LA Metro Source: Combination of various funds Funding Type: Planning Grant Process: Call for Projects</p>	<p>Metro is responsible for allocating discretionary federal, state and local transportation funds to improve all modes of surface transportation. Metro also prepares the Los Angeles County Transportation Improvement Program (TIP). A key component of TIP is the Call for Projects program, a competitive process that distributes discretionary capital transportation funds to regionally significant projects.</p>	<p>The eight modal categories of funding include regional surface transportation improvement, good movement improvements, signal synchronization and bus speed improvements, transportation demand management, bicycle improvements, pedestrian improvements, and transit capital.</p>	<p>Every other year, Metro accepts Call for Projects applications in eight modal categories. Metro staff ranks eligible projects and presents preliminary scores to Metro’s Technical Advisory Committee (TAC) and the Metro Board of Directors for review. Upon approval, the TIP is developed and formally transmitted to the regional and state transportation planning agencies. The TIP then becomes part of the five-year program of projects scheduled for implementation in Los Angeles County.</p>	
<p>ER EB-5 Immigration Visa Investment Applicant: Developer Disbursement Agency: Local Jurisdiction Source: USCIS Funding Type: Financing Process: Rolling Application</p>	<p>The EB-5 program allows foreign nationals to achieve permanent residency with an investment that will create 10 new direct or indirect jobs in the United States per investor. These investments typically must be at least \$1 million, however in Targeted Employment Areas (TEA) with high unemployment, the minimum qualifying investments are \$500,000.</p>	<p>EB-5 funding would be particularly well suited to support new hospitality accommodations, educational facilities, medical facilities, or new offices, as these uses would support a number of new jobs.</p>	<p>Investment can be pooled into a regional investment center, through which a single project can be supported by multiple EB-5 investments, so long as the investment and employment thresholds are met. The only limit to the amount of money that may be invested is the number of jobs the new development will support.</p>	<p>The development needs to be financial attractive to attract investors.</p>
<p>ER Public- Private Partnerships (P3)</p>	<p>A public-private partnership is a contractual agreement between a public agency and a private-sector entity whereby “the skills and assets of each sector (public and private) are shared in delivering a service or facility for the use of the general public.</p>	<p>Typically, the private entity provides the capital cost to finance the project and the public agency offers concession leases. The private partner makes upfront or ongoing payments to the public partner in exchange for developing and operating the asset, in exchange for collecting the revenue generated by the asset. There are various forms of public private partnerships depending on the nature of the project’s risks and rewards.</p>	<p>P3s are typically large, complex projects such as transportation or social infrastructure</p>	<p>P3s are applicable for all types of projects. Procurement process is complex and require multiple advisors. It is an expensive process. Transaction costs especially are a cause of concern for smaller projects.</p>

Major Developments Funding Sources - Economic Revitalization

Sources of Funding	Overview	Criteria	Process	Considerations
<p>ER Joint Development Program Applicant: Developer Disbursement Agency: LA Metro and others Source: Funding Type: Financing Process: Call for Projects</p>	<p>Joint Development is the only value capture mechanisms commonly employed by transit agencies, since the FTA has guidelines that allow certain projects to use public funding.</p>	<p>It can take many forms, ranging from an agreement to develop land owned by the transit agency to joint financing and development of a larger project that incorporates both transit facilities and private development. A joint development agreement can include a cost-sharing agreement, a revenue sharing agreement, or a combination of the two.</p>		<p>JDs require complex financial transactions. The public sector needs advanced real estate knowledge to implement JDs.</p>





Major Developments Funding Sources - Affordable Housing

Sources of Funding	Overview	Criteria	Process	Considerations
<p>AF Low Income Housing Tax Credit (LIHTC) Program Applicant: Developers Disbursement Agency: CTCAC Source: US-Treasury Funding Type: Financing Process: Competitive</p>	<p>The LIHTC enables low-income housing sponsors and developers to raise project equity through the sale of tax benefits to investors. The program is regulated and administered by the Internal Revenue, which is part of the U.S. Treasury Department. Recognizing the extremely high cost of developing housing in California, the state legislature authorized a state low income housing tax credit program to augment the federal tax credit program.</p>	<p>Only rental housing projects are eligible for tax credits in both the federal and state programs. The programs have both rent and income restrictions. Under federal law, credit projects must remain affordable for at least 30 years; however, California law generally requires a 55-year extended use period for 9% tax credit projects.</p>	<p>Most credits are sold to corporate or individual investors through public or private syndication</p>	<p>This is a financing source that only affordable housing developers can apply for.</p>
<p>AF Affordable Housing and Sustainable Communities (AHSC) Program Applicant: Developers Disbursement Agency: CAHCD Source: Cap&Trade Funding Type: Loan/Grant Process: Competitive</p>	<p>AHSC funds land-use, housing, transportation, and land preservation projects to support infill and compact development that reduce greenhouse gas ("GHG") emissions. Funding for the AHSC Program is provided from the Greenhouse Gas Reduction Fund (GGRF), an account established to receive Cap-and-Trade auction proceeds.</p>	<p>Eligible activities include affordable housing development, housing-related infrastructure, sustainable transportation infrastructure, transportation-related amenities, and program costs.</p>	<p>Applicants must submit a concept proposal which will be reviewed by the Strategic Growth Committee (SGC) and the respective MPO to rank for priority projects. Priority applicants will be invited to submit a full application.</p>	<p>Highly competitive funding source.</p>
<p>AF HOME Investment Partnerships Program Applicant: Developers/Cities Disbursement Agency: CAHCD Source: US-HUD Funding Type: Grant/Low Interest Loan Process: Competitive</p>	<p>Assist cities, counties, developers, including Native American Entities, and nonprofit community housing development organizations (CHDOs) to create and retain affordable housing.</p>	<p>Housing rehabilitation, new construction, and acquisition and rehabilitation, for both single-family and multifamily projects, and predevelopment loans to CHDOs. All activities must benefit lower-income renters or owners.</p>	<p>Grants are provided to cities and counties and low-interest loans are provided to developers. Most assistance is in the form of loans by city and county recipients to project developers to be repaid to local HOME accounts for reuse. Applications are invited through issuance of Notices of Funding Availability (NOFAs).</p>	<p>Funding for affordable housing for developers given to cities/counties.</p>
<p>AF National Housing Trust Fund (To be announced) Applicant: Developers/Cities Disbursement Agency: CAHCD Source: US-HUD Funding Type: Soft Loans Process: Competitive</p>	<p>The National Housing Trust Fund (NHTF) is a new federal program administered in California by the Department of Housing and Community Development.</p>	<p>Assist in new construction of permanent housing for extremely low-income households through deferred payment loan or forgivable loans (soft loans).</p>	<p>Applications will be invited through the issuance of Notices of Funding Availability (NOFAs). NHTF will be paired with another State program in a joint NOFA.</p>	



Major Developments Funding Sources - Affordable Housing

Sources of Funding	Overview	Criteria	Process	Considerations
<p>AF Multifamily Bond Financing Applicant: Developers Disbursement Agency: LACDC Source: Funding Type: Financing Process: Competitive</p>	<p>The County issues tax-exempt bonds to finance low- and moderate-income housing for families.</p>	<p>The projects need to adhere to the Federal and state requirements for tax-exempt multifamily housing bonds. The developers need to set aside 20 percent of the units for low-income tenants. The projects must be located in unincorporated County of Los Angeles.</p>		
<p>AF Los Angeles County Housing Innovation Fund Applicant: Developers Disbursement Agency: LACDC Source: Funding Type: Financing Process: Competitive</p>	<p>LACHIF II is a \$60 million revolving loan fund providing site acquisition and predevelopment financing for the development of affordable housing in the County of Los Angeles.</p>	<p>For creation of multifamily rental affordable housing located within the County of Los Angeles.</p>	<p>There are three originating lenders leverage LACDC's \$19.5 million to create this revolving loan fund.</p>	

District-wide Value Capture Mechanisms

Sources of Funding	Overview	Criteria	Process	Considerations
 Transportation utility fees	Transportation utility fees are assessments on property that are designed to be closely related to transportation demand and can therefore spread the costs of financing local roads or other transportation services among users in a fashion that approximates a user fee	Transportation utility fees are most commonly used for roads, but they can also be used to provide a dedicated funding source for transit systems.	The fee can be a flat fee for each property, or it can apply a formula based on units of housing, number of parking spaces, or square footage. It can also be based on the estimated trip generation rate for a property type.	Does not require voter approval. Chiefly pays for O&M costs. Requires technical feasibility and financial feasibility to cover the construction and operation costs.
 Parking Fees/Congestion Pricing	Congestion pricing is a demand management strategy which allows pricing mechanisms to control demand for services such as parking during peak hours. Congestion pricing has been successfully implemented in several dense, urban core to reduce congestion and raise funds for transportation improvements.	The revenue from the congestion pricing can be used to cover the cost of the tolling system as well as improving transit systems. Typically, congestion pricing requires state legislation and/or voter approval.		
 Development Impact Fee	Development impact fees, system development charges, and connection or facility fees are charges assessed on new development to defray the cost to the jurisdiction of extending public services to the development and cannot be used to fund existing deficiencies.	Impact Fees cannot be used to upgrade existing deficiencies in infrastructure. Fee can be exacted only after establishing reasonable relationship of development impact and impact mitigation.	The fees are generally collected once and are used to offset the cost of providing public infrastructure such as streets and utilities.	
 Special Assessment District	<p>Special districts are considered a value capture tool because they capture the value (or benefit) generated by an improvement or service to provide funding for the improvement or service.</p> <p>Special districts, which can include (but are not limited to) business improvement districts (BIDs) and Special Assessment Districts (SADs).</p> <p>Requires voter approval.</p>	Assessment districts are formed to include a geographical area in which property owners or businesses agree to pay an assessment to fund a proposed improvement or service from which they expect to directly benefit. The amount of the assessment must be directly related to the cost of the improvement and the expected benefit to the property owner.	Special districts can be used either for pay-as-you-go improvements or to finance the issuance of bonds backed by the assessment revenue. Property owners in the district pay an additional tax or fee to pay for the service or improvement in the desired timeframe or to finance a debt obligation in accordance to the property's proportional share of the benefit.	Less risky for local governments since the risk is transferred to property owners. Difficult to implement across large geographies with multiple jurisdictions. Applicable to non-revenue generating infrastructure, however, the benefit generated for the property owners should be direct.

District-wide Value Capture Mechanisms

Sources of Funding	Overview	Criteria	Process	Considerations
 Enhanced Infrastructure Finance Districts	<p>Cities, counties, and special districts can create EIFDs and issue TIF bonds (under special circumstances). An EIFD captures the incremental tax revenue generated by new development related to public capital improvement across multiple jurisdictions.</p> <p>Requires voter approval.</p>	<p>EIFDs can only capture tax revenue net of the moneys payable to school districts or educational funds, subject to approval from taxing authorities.</p> <p>An EIFD can finance traditional public works, as well as transportation, transit, parks and libraries, water and sewer facilities, solid waste disposal, and flood control and drainage. It can also be used for non-revenue generating projects such as bike and pedestrian amenities.</p>	<p>EIFDs are separate government entities, formed through a Joint Power Authority (JPA) consisting of cooperating cities, counties, and special districts. The new EIFD requires these entities to work together to make financing plans that combine a range of permitted funding sources, including tax increment bonds, that are the responsibility of all participants.</p>	<p>Obtaining approvals for EIFDs from tax authorities is challenging. Implementing and administering an EIFD can be complex.</p>
 Community Revitalization and Investment Authorities (CRIA)	<p>In 2015, Governor Jerry Brown signed a law enabling cities to establish CRIsAs, which enabled them to capture additional tax revenues for revitalization of neighborhoods. Redevelopment projects can be financed by bonds backed by future tax increment revenues derived from the project.</p>	<p>CRIsAs will be able to receive the tax increment on increased property taxes in a subject area with consent from taxing entities including the city, county, and special districts. Twenty-five percent of revenue from the tax increment must be allocated to Low- and Moderate-Income Housing Fund.</p>	<p>There are two ways to create a CRIA; 1) municipalities can directly establish an authority board; and 2) by signing a joint power agreement between city, county, and special districts. Restrictions apply to where CRIsAs can be established.</p>	<p>Creation of a CRIA needs to undergo a public hearing process and can be rejected if 50% of the owners and residents protest. Improved infrastructure in underserved communities</p>

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Part III

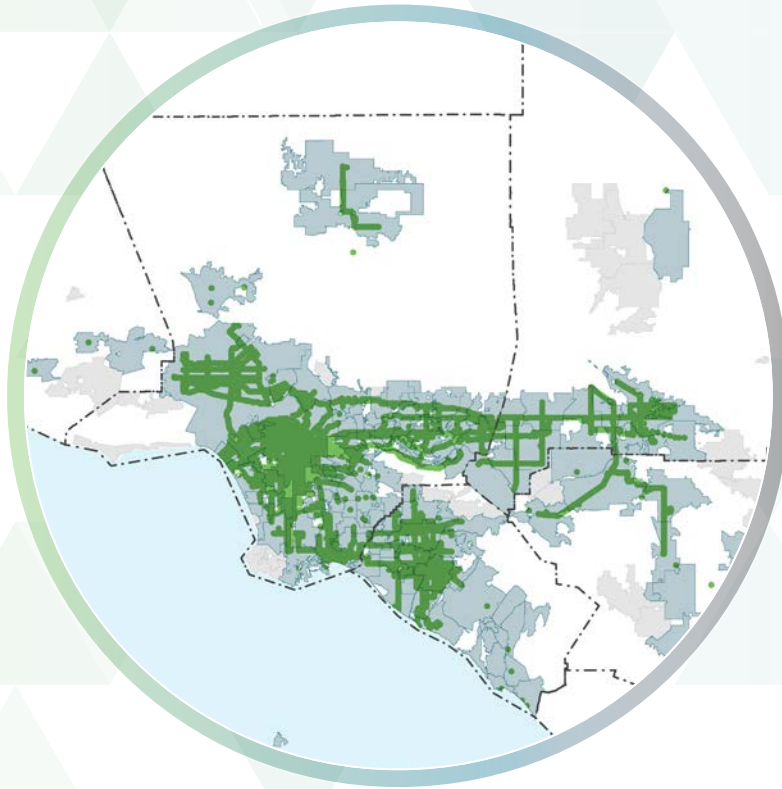
Additional Resources

B - ADDITIONAL RESOURCES

TOD Place Types - Table of Metrics

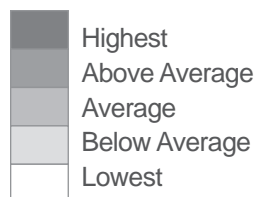
Station Survey Walking Tour

Glossary of Abbreviations



HQTA Place Types

		Land Use Mix				Built Environment			
		Residential	Employment	Mixed Use	Civic / Open Space	Intersections per mi ²	Average Floors	Floor Range	Total Net FAR
Urban	Urban Mixed Use	18%	16%	45%	21%	200	23	15 - 100	9.0
	Urban Commercial	4%	64%	12%	21%	200	18	15 - 100	6.0
	Urban Residential	64%	4%	12%	21%	200	15	5 - 60	9.0
City	City Mixed Use	28%	17%	35%	20%	200	7	3 - 40	3.4
	City Commercial	1%	82%	4%	14%	200	7	5 - 40	3.1
	City Residential	65%	4%	11%	20%	200	7	5 - 40	2.9
Town	Town Mixed Use	26%	20%	29%	25%	200	4	2 - 8	1.9
	Town Commercial	1%	69%	17%	14%	200	3	2 - 8	1.8
	Town Residential	68%	0%	10%	22%	220	3	2 - 8	1.2
Village / Suburban	Village Mixed Use	43%	14%	14%	28%	220	3	2 - 6	1.0
	Village Commercial	0%	61%	7%	32%	230	2	2 - 6	1.2
	Village Residential	74%	0%	1%	25%	180	3	2 - 5	0.9
	Suburban Multi-family	87%	0%	0%	13%	90	3	2 - 5	1.2
Special Districts	High Intensity Activity Center	14%	37%	41%	8%	130	5	5 - 40	2.5
	Industrial / Office / Residential Mixed High	58%	36%	0%	6%	60	4	1 - 17	2.0
	Office Focus	0%	82%	0%	18%	45	4	2 - 9	1.1
	Campus / University	32%	2%	0%	66%	150	8	3 - 17	1.7



Note for color shading: For Land Use Mix, Residential Mix, and Employment Mix, color shading is based on land use percentage on 100 point scale; for Built Environment and Average Density per Acre, color shading is based on value for each place type as a percentage of the highest score for each category (e.g. For the Average Floors category, the highest number of floors is 23. The shading for 18 average floors would be 18 / 23 = 78% of shading for 23 floors.)

Average Density per Acre			Residential Mix			Employment Mix		
Households	Employees	Households + Employees	Single Family	Townhouse / Live-Work	Multi-family	Office	Retail	Industrial
85	266	351	0%	0%	100%	80%	20%	0%
8	402	410	0%	0%	100%	93%	7%	0%
131	44	175	0%	0%	100%	22%	78%	0%
44	85	129	0%	3%	97%	60%	40%	0%
4	200	204	0%	0%	100%	77%	23%	0%
58	14	72	0%	3%	97%	40%	60%	0%
21	50	71	0%	0%	100%	75%	25%	0%
5	75	80	0%	0%	100%	68%	32%	0%
18	12	30	0%	47%	53%	47%	53%	0%
10	14	24	30%	29%	41%	42%	58%	0%
2	40	42	0%	0%	100%	49%	51%	0%
10	2	12	52%	48%	0%	100%	0%	0%
32	2	34	0%	11%	89%	85%	15%	0%
24	69	93	0%	6%	94%	20%	80%	0%
45	42	87	0%	4%	96%	73%	16%	11%
0	65	65	0%	0%	0%	93%	2%	5%
31	22	53	0%	0%	100%	64%	36%	0%

Station Survey Walking Tour

After analyzing the HQT A area through mapping and analysis, the next step in defining the station area is a micro-level analysis of the individual blocks, street, buildings, and other individual physical elements in the half-mile station area. To understand these elements from their impact towards facilitating pedestrian activity between land uses and transit, this analysis is best completed as a survey during a walking tour. Metro developed a station survey as part of the First-Last Mile Strategic Plan to begin to assess areas of intervention. The station surveys, “Mainly qualitative, measure performance of each station/stop area. With the end goal of increasing transit ridership and user comfort, urban design elements that are most important for rider comfort and system function” are the focus of the station survey. Parts of the Metro station survey, as well as portions of other station surveys from research of best practices, comprise the station survey below. The format of the developed checklist is broad, and touches upon a range of issues faced by most station areas in the SCAG Region. The survey is organized to broadly assess the following categories: land use, mobility, safety, aesthetics/urban design, and accessibility. Each question is scored on a 1 - 5 scale.

Excellent	5 - 4
Good	3.99 - 3
Fair	2.99 - 2
Poor	1.99 - 1

	Disagree/ Lacking		Somewhat/ Adequate		Agree/ Ample
Land Use					
1. Mix of uses: Different uses that attract different people throughout the day, and week.	1	2	3	4	5
2. Limited Vacancy: There are no, or few empty storefronts.	1	2	3	4	5
3. Few auto-oriented uses: Commercial uses are not mostly located behind surface parking lots.	1	2	3	4	5
4. Location of commercial uses: Retail is concentrated near major arterials and near major transit stops/stations.	1	2	3	4	5
5. Convenient retail: Uses to serve transit users and residents (e.g. grocery, coffee, etc.)	1	2	3	4	5
Total Points _____					

Pedestrian Amenities and Legibility					
6. Adequate Lighting: Lighting is regularly spaced and directed towards sidewalks/bikeways.	1	2	3	4	5
7. Eyes on the street: Windows, balconies, and entries face the street and public spaces.	1	2	3	4	5
8. Well-maintained public realm: No/minimal litter, trimmed vegetation, sidewalks in good condition.	1	2	3	4	5
9. Buffer for bikes: Bikes are adequately separated from vehicles.	1	2	3	4	5
10. Buffer for pedestrians: Pedestrians are adequately separated from vehicles e.g. by street trees, pedestrian amenities, and infrastructure.	1	2	3	4	5
11. Pedestrian appropriate traffic speeds: Slow traffic due to narrow roads; drivers yield to pedestrians.	1	2	3	4	5
12. Clear traffic signage: Traffic signage is easy to see for vehicles, bikes, and pedestrians.	1	2	3	4	5
13. Overall, the station feels comfortable: The area is perceived as safe for all users: women, children, elderly, etc.	1	2	3	4	5
Total Points _____					

Station Survey Walking Tour

	Disagree/ Lacking		Somewhat/ Adequate		Agree/ Ample
Urban Design					
14. Sense of place: Unique street characteristic, landmarks, and activity that sets space apart.	1	2	3	4	5
15. Pleasant landscaping: Well-maintained and frequent street trees that provides ample shade.	1	2	3	4	5
16. Pedestrian amenities: Variety of and frequent pedestrian amenities for rest and activity.	1	2	3	4	5
17. Building orientation and frontage: Entrances oriented to sidewalks, buildings built to sidewalk edge; buildings encourage transit access.	1	2	3	4	5
18. Architectural features and design: Visually appealing building design, materials, elements.	1	2	3	4	5
19. Active frontage and transparency: Avoid blank walls along sidewalks, active first-floor uses.	1	2	3	4	5
20. Pleasant walking environment: There is a inviting and interesting experience for all users.	1	2	3	4	5
					Total Points _____
Accessibility					
21. Sidewalks: Sidewalks are wide enough to accommodate range of uses and multiple users.	1	2	3	4	5
22. Clear, safe crossings: Intersections allow ample time to cross, are frequent, and ADA accessible.	1	2	3	4	5
23. Seamless transit mode transfer: Different modes in close proximity connected by clear paths.	1	2	3	4	5
24. Wayfinding signage: Clear view for pedestrians and bikes, provides clear information/direction.	1	2	3	4	5
25. Parking and pick-up / drop-off: Adequate number of spaces, separated from pedestrians.	1	2	3	4	5
26. Navigating public realm is easy and intuitive: Multiple pathways accessible to all users.	1	2	3	4	5
					Total Points _____
Mobility / Connectivity					
27. Street design prioritizes transit, bikes, and pedestrians: Street lanes for vehicles are minimal and narrow to encourage slow speed, separated facilities for bus, bikes, and pedestrians.	1	2	3	4	5
28. Transit station connectivity: Transit station(s) is/are clearly visible from major roadways, and have clear signage indicating routes and transfer opportunities.	1	2	3	4	5
29. Vehicle parking: Vehicle parking is hidden behind buildings or underground.	1	2	3	4	5
30. Car share / Bike share: Car share and bike share stations are present within the station area.	1	2	3	4	5
					Total Points _____

Total Survey Points _____ /30 = Average Survey Points _____

Glossary of Abbreviations

- AMI** Area Median Income
- BRT** Bus Rapid Transit
- CBD** Central Business District
- CTOD** Center for Transit-Oriented Development
- du/ac** Dwelling Units per Acre
- FAR** Floor-Area Ratio
- GHG** Greenhouse gas
- HQTA** High Quality Transit Area
- HSR** High Speed Rail
- HRT** Heavy Rail Transit
- LIHTC** Low Income Housing Tax Credit
- LRT** Light Rail Transit
- RTP/SCS** Regional Transportation Plan / Sustainable Community Strategy
- SCAG** Southern California Association of Governments
- SB** Senate Bill
- TOC** Transit-oriented community
- TOD** Transit-oriented development
- VMT** Vehicle miles travel

Additional Resources

- 2016-2040 Regional Transportation Plan / Sustainable Communities Strategy**
SCAG
- Buffalo Green Code: Unified Development Ordinance**
City of Buffalo
- First-Last Mile Strategic Plan: Path Planning Guidelines**
Metro
- Toolkit for Transit-Oriented Development Grants**
Metropolitan Council
- TOD 203 - Transit Corridors and TOD: Connecting the Dots**
CTOD
- Transit Supportive Planning Toolkit, 2015**
Metro
- Urban Footprint Technical Summary: Model Version 1.0**
Calthorpe Associates
- Urban Street Design Guide**
National Association of City Transportation Officials (NACTO)
- Transit Design Guidelines**
Omnitrans, 2013
- The Arrive Corridor**
Gruen Associates, 2015
- Complete Street Design Guide**
City of Los Angeles
- Long Beach Downtown and TOD Pedestrian Master Plan**
Gruen Associates