



February 2021

# Transit-Oriented District (TOD) Toolkit:

## A Case Study involving the Atlantic/Whittier Station

(aka Transit-Oriented District (TOD) Design Guidelines)

*Partially funded by SB1 Caltrans Sustainable Transportation Planning Grant Program.  
© 2019 California Department of Transportation. All Rights Reserved.*

# Acknowledgments

This document is made possible by the dedication of the countless individuals, groups, agencies, Cities of Los Angeles, Whittier, and Santa Fe Springs, and County staff with special thanks to the following:

## **County of Los Angeles Department of Public Works**

Hank Hsing  
*Civil Engineer, Project Manager*

Elaine Kunitake  
*Principal Engineer*

Andrew Ross  
*Senior Civil Engineer*

Razmik Martirosyan  
*Administrative Aid*

## **County of Los Angeles Department of Regional Planning**

Mi Kim  
*Supervising Regional Planner*

Patricia Hachiya  
*Supervising Regional Planner*

Norman Ornelas Jr.  
*Regional Planner*

James Drevno  
*Regional Planner*

## **KOA (Lead Consultant)**

Joel Falter  
*Principal*

Brian Marchetti, AICP  
*Project Manager, Senior Transportation Planner*

## **Gruen Associates**

Adam Maleitzke, AICP  
*Formerly Director of Planning*

Elaine Carbrey, AIA, AICP  
*Associate Partner*

Orlando González  
*Senior Planner/Designer*

Kamille Parks, AICP Candidate  
*Urban Planner/Designer*

## **DTA**

Kuda Wekwete  
*Senior Vice President*

Donna Segura  
*Vice President*

## **Katherine Padilla & Associates**

Katherine Padilla-Otanez, MBA, CCPM, DVBE, MBE  
*Owner and Managing Principal*

Thelma Herrera  
*Senior Project Manager*

Jomel Rosel  
*Outreach Specialist*

# **Transit-Oriented District (TOD) Toolkit:** A Case Study involving the Atlantic/Whittier Station

(aka Transit-Oriented District (TOD) Design Guidelines)

# Table of Contents

<p><b>I</b></p> <p><b>Introduction</b></p> <p>01 Introduction 6</p> <p>02 Goals of the Guidelines 7</p> <p>03 Planned Rail Lines and Station Areas 8</p> <p>04 Atlantic/Whittier TOD Case Study 10</p> <p>05 Existing Plans and Policies 12</p> <p>06 The Need for Regional Collaboration 14</p> <p>07 Benefits of TODs 15</p>	<p><b>5</b></p>	<p><b>IV</b></p> <p><b>Station Area Typologies</b></p> <p>01 Station Area Typologies Overview 56</p> <p>02 Urban Mixed-Use TOD 60</p> <p>03 Urban Residential TOD 62</p> <p>04 Mixed-Use Job Center TOD 63</p> <p>05 Institutional TOD 64</p> <p>06 Regional Retail Center TOD 65</p> <p>07 Open Space-Dominated TOD 66</p>	<p><b>55</b></p>
<p><b>II</b></p> <p><b>Design Guidelines Applicable to All Station Areas</b></p> <p>01 Public Realm Mobility 18</p> <p>02 Mix of Uses and Densities/Intensities 22</p> <p>03 Built Form and Design 26</p> <p>04 Open Space, Parks, and Public Spaces 30</p>	<p><b>17</b></p>	<p><b>V</b></p> <p><b>Building Typologies</b></p> <p>01 Building Typologies Overview 68</p> <p>02 Lower Density Buildings 70</p> <p>03 Medium Density Buildings 74</p> <p>04 Higher Density Buildings 81</p>	<p><b>67</b></p>
<p><b>III</b></p> <p><b>Public Realm Mobility</b></p> <p>01 Public Realm Mobility Overview 34</p> <p>02 Complete Street Design 36</p> <p>03 Intersections and other Crossings 41</p> <p>04 Curb Zone Amenities 46</p> <p>05 Streetscape/Landscape Infrastructure 49</p> <p>06 Furniture Zone Amenities 51</p> <p>07 Rail Station Interface with Other Modes 53</p> <p>08 Summary Table 54</p>	<p><b>33</b></p>	<p><b>VI</b></p> <p><b>Open Space Typologies</b></p> <p>01 Open Space Typologies Overview 88</p> <p>02 Open Space Typologies 89</p>	<p><b>87</b></p>
		<p><b>VII</b></p> <p><b>Next Steps</b></p> <p>01 Lessons Learned from Atlantic/Whittier Station Area 96</p> <p>02 TOD Specific Plans 98</p>	<p><b>95</b></p>
		<p><b>A</b></p> <p><b>Appendix</b></p> <p>01 TOD Toolkit Existing Conditions Report</p> <p>02 Community Outreach Summary</p>	<p><b>99</b></p>





East Los Angeles, LA County UA (Source: Gruen)

# 01 Introduction

The Los Angeles (LA) County General Plan Transit-Oriented Districts (TOD) Program was developed to update planning of unincorporated communities near existing and new transit facilities to enable transit-supportive uses and infrastructure. The average transit rider considers distances shorter than a half-mile to be “walkable,” which describes someone’s comfort level walking some distance in a particular area. As such, a TOD station area is defined as a half-mile radius around an existing or a proposed new transit station. This half-mile area will serve as the preliminary study area boundary for future Specific Plan efforts.

**The LA County TOD Toolkit: A Case Study involving the Atlantic/Whittier Station (aka TOD Design Guidelines)** establishes a framework for promoting high quality, affordable housing, increased mobility and accountability, improved and safe infrastructure, increased housing choices, healthy benefits through walking and biking, and reduced greenhouse gas (GHG) emissions. The TOD Toolkit supports the provisions of the General Plan and local zoning, and do not supersede those codes. The TOD Toolkit also provides guidance in developing each new station area’s Specific Plan, a process that will offer the community more in-depth community outreach and analysis of each TOD in more detail.

## LA County General Plan “TOD” Definition:

*“Transit Oriented Districts (TODs) are areas within a 1/2 mile radius from a major transit stop that have development and design standards, and incentives to facilitate transit-oriented development.”*

The TOD Toolkit will support future TOD development by providing guidance to planners and engineers primarily on the establishment of public right-of-way infrastructure that would support associated higher density development and facilitate active transportation and accessibility to transit, thereby improving public health and safety, encourage more affordable housing, as well as reduce GHG emissions and air pollutants in LA County.

The TOD Toolkit planning process has been summarized below:

- Establishment of TOD guidelines and best practices generally for all station areas through a review of best practices regarding land use, urban design, and transportation.
- Review of existing conditions for pedestrians, motorists, bicyclists and transit users in the selected TOD station areas. Commonalities between these station areas were used to develop six station area typologies on the basis of land use patterns, circulation patterns, and transit services/facilities.
- Use of the Atlantic/Whittier Station Area in East Los Angeles as a case study for the TOD Toolkit to demonstrate how general guidelines may be applied to a TOD or to a TOD Station Area Typology.
- Development and implementation of a community engagement strategy for the Atlantic/Whittier Station Area to solicit feedback from stakeholders including residents, property owners, and business owners regarding the TOD Toolkit. Outreach events included: two stakeholder group interview sessions, a pop-up booth at the local farmers market, and one community workshop. Feedback received at these events was used to develop the final rendition of the TOD Toolkit.
- Formulation of a market and economic development strategy and identification of future needs involving capital improvement opportunities and strategies for the Atlantic/Whittier Station Area.
- Identification and analysis of potential funding sources for recommended improvements to the selected TOD Station Areas including the potential for Tax Increment Financing (TIF) districts (Enhanced Infrastructure Financing Districts, Community Revitalization and Investment Authority, etc.).

## 02 Goals of the Guidelines

The TOD Toolkit is a tool to implement the LA County General Plan and are intended to guide the design of new development and infill projects for TODs in the unincorporated areas of LA County. The goals of the Toolkit are aligned with those of the County's General Plan Transit-Oriented District Program (Chapter 16 General Plan Implementation Programs), which have been listed below:

**1** Increase walking, bicycling, and transit ridership and reduce vehicle miles traveled (VMTs);



**2** Facilitate compact, mixed use development;



**3** Increase economic activity;



**4** Facilitate the public investment of infrastructure improvements;



**5** Streamline the environmental review process for future infill development projects.



# 03 Planned Rail Lines and Station Areas

Since 1990, the Los Angeles County Metropolitan Transportation Authority (Metro), responsible for the County rail transportation system, has implemented rail lines throughout the County. These lines currently include the A Line (Blue Line), B Line (Red Line), C Line (Green Line), D Line (Purple Line), E Line (Expo Line), and L Line (Gold Line). In addition to these rail lines, Metro offers two premium bus lines: G Line (Orange Line) and J Line (Silver Line).

These potential new rail stations present the County with an opportunity to enhance and transform communities through public and private investment in all types of housing (including affordable), retail, office, open-space, other community amenities and infrastructure. In addition, the costs of active transportation and first/last-mile projects around new transit stations could be counted towards each jurisdiction's 3% Measure M funding commitment.

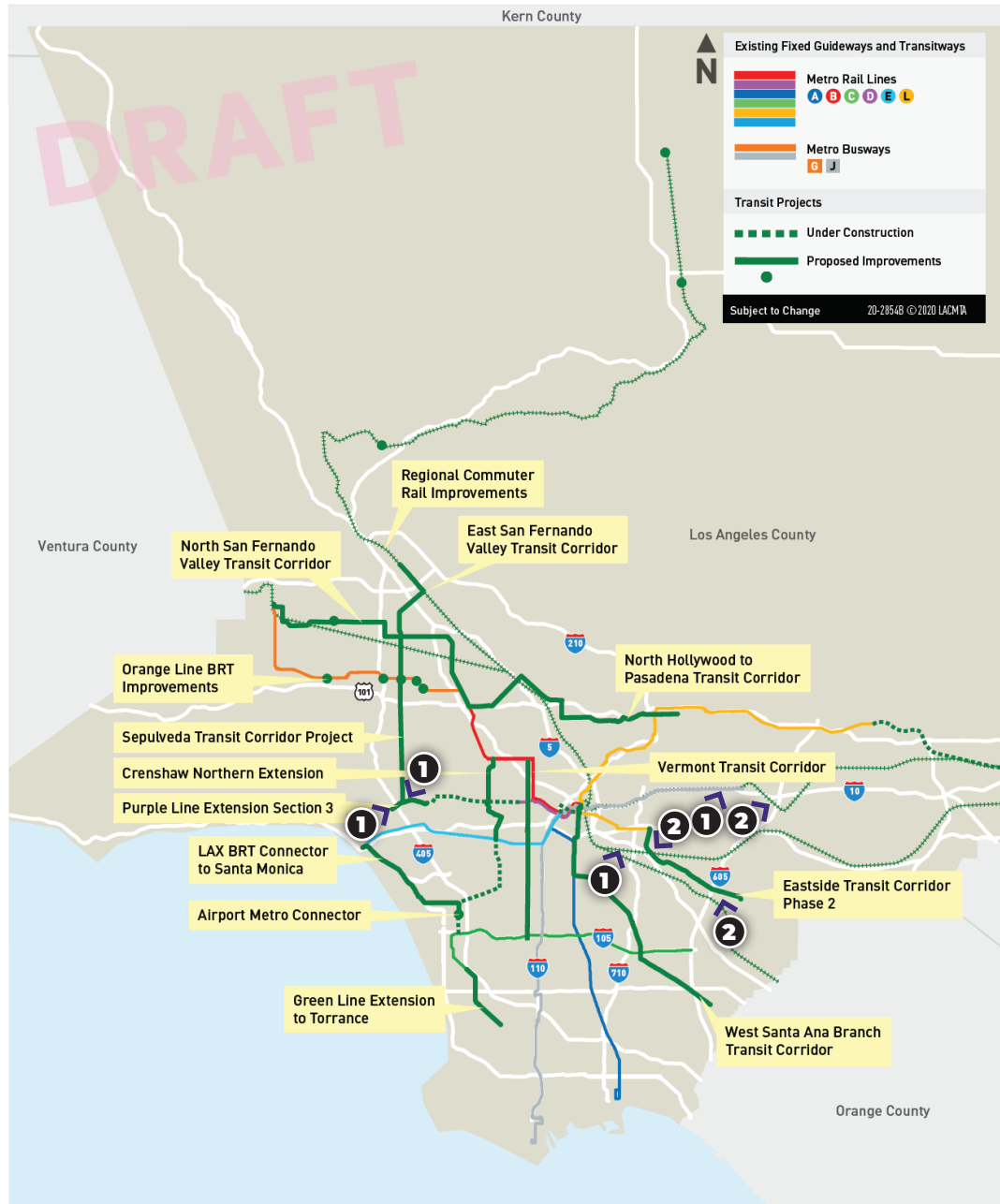
With the passing of Measure M in 2018, the voter-approved half-cent sales tax, Metro is currently evaluating locations for three transit corridors and extensions of existing transit corridors through unincorporated LA County (see the map on the following page). Along these corridors, there are four additional rail stations in an LA County Unincorporated Area (LA County UA), and another six rail stations located in neighboring jurisdictions that include LA County UAs within a half-mile radius. These corridors and stations include the following:

Transit Corridors	Stations	Station Location
<b>Eastside Transit Corridor Phase 2</b>	Atlantic/Whittier	LA County UA
	Santa Anita	LA County UA
	Peck	<i>South El Monte</i>
	The Shops at Montebello	<i>Montebello</i>
	Norwalk	LA County UA
	Lambert	<i>Whittier</i>
	Commerce	<i>Commerce</i>
<b>D Line (Purple Line) Extension</b>	Westwood/VA Hospital	LA County UA
	Westwood/UCLA	<i>City of Los Angeles</i>
<b>West Santa Ana Branch</b>	Florence/Salt Lake	<i>Huntington Park</i>

The ten station areas listed above are those focused on in later sections of the TOD Toolkit. A summary map of these areas is on the following page, and individual maps of each of these proposed station areas can be found in the Appendix.

# Transit-Oriented District (TOD) Toolkit

A Case Study involving the Atlantic/Whittier Station



# One or more proposed TOD Station Area

Source: Our Next LA: Long Range Transportation Plan Draft, 2020



## 04 Atlantic/Whittier TOD Case Study

The LA County TOD Toolkit applies to all new transit-oriented districts. At the time of the Guidelines' completion, there were ten proposed new TODs, described in **Planned Rail Lines and Station Areas** (see [page 8](#)). Of these ten station areas, one station area, the Atlantic/Whittier TOD in East LA, was chosen to be the Guidelines' case study area to gather community feedback regarding the project and to provide a basis for the guidance provided in the Toolkit. The LA County Toolkit is meant to be a reference guide as each community has their own preferences, culture, and identity. More community outreach will be conducted throughout the specific planning process for the future rail stations.

With the emergence of COVID-19, we are faced with the uncertainty in planning future facilities. This includes community outreach approaches and possible impacts to the planning of new facilities and infrastructure as the County navigates this new environment. Although the longevity of social distancing orders and the long-term impacts of COVID-19 are still unknown, the importance of robust and inclusive community engagement practices will continue to be a priority for future planning projects. The County will continue to engage with local community members in order to develop projects and programs with input from all stakeholders for each future station.

### Outreach

In order to collect feedback about the LA County TOD Toolkit project, the LA County Department of Public Works and the Project Team conducted a series of community outreach events including:

- Stakeholder interviews with local residents, East LA Chamber, Whittier Merchants Business Association, Maravilla Business Association, and the Maravilla Community Advisory Committee
- A presentation to Health Innovative Community Partnership (HICP)
- A East LA Farmers Market pop-up booth
- Community Workshops

Meeting notices were mailed to residents and businesses located within the half-mile radius surrounding the proposed Atlantic-Whittier transit station to encourage participation in the events. Meeting notices were distributed to 32 locations throughout the half-mile radius as well as at public counters and business locations in East Los Angeles. The locations included public libraries, community centers, elected officials, community organizations including the East Los Angeles Chamber of Commerce, and a wide range of locally-owned businesses and restaurants. Details can be found in Appendix 02 Community Outreach Summary.

### Key Concerns

Through the public outreach events, several key concerns emerged regarding TODs. These themes have been summarized below:

- 1. Beautification:** Improve streetscape to encourage walking; maintain sidewalks; respect single-family neighborhood character; improve and maintain plantings; make alleyways more inviting and safe; incorporate murals and public arts; preserve landmarks; manage or eliminate food trucks that cause inaccessible sidewalks.
- 2. New Development and Gentrification:** Encourage unmaintained/ abandoned buildings and vacant lands for mixed use; discourage overly tall buildings and encourage developments that fit the East LA community, like Spanish bungalow styles; improve business facades.
- 3. Parklets / Cultural / Memorial Spaces:** Create inviting parklets with shade trees and sitting areas; create cultural spaces including historical information on Chicano Moratorium and indigenous people, and info on local heroes.
- 4. Support Local Business:** Preserve local businesses - encourage new businesses but not at the expense of existing local businesses; encourage walkability to help business traffic; encourage mixed use with businesses at street level and housing in upper levels; create more parking for businesses - perhaps public parking structures; improve business facades; encourage small businesses; promote local businesses.
- 5. Parking:** Address future parking supplies without sacrificing aesthetics; use vacant lots for parking spaces; consider parking structures to consolidate parking spaces especially around busy commercial areas; incorporate green infrastructure improvements with parking spaces; provide adequate parking.
- 6. Traffic Issues:** Need to reduce congestion caused by fewer motor vehicle lanes resulting from installation of bike lanes and rail lines; need to eliminate underutilized bike lanes and find alternate routes for cyclists.
- 7. Lighting:** Improve lighting especially around sidewalks, sitting areas, and alleyways for safety, encourage walkability, and to improve aesthetics.

- 8. Active Transportation:** Need more amenities to improve pedestrian and cyclist safety - like protected bike lanes, curb extensions, maintain pedestrian striping; improve safety conditions at right turns that are dangerous for bicyclists; create spaces/stations for bicyclists to fix their bikes away and safe from traffic.
- 9. Underground Trains:** Need to have Metro trains and stations underground to avoid eliminating parking spaces for businesses and causing congestion by taking away travel lanes.
- 10. Affordable / Senior Housing:** Need more affordable housing; use abandoned, unmaintained buildings and vacant lots for affordable housing for current residents; new housing should be for current residents first to reduce overcrowding as new residents would cause more congestion; avoid squeezing out current residents.

The Project Team used these key concerns to structure the design guidelines and toolkit components presented in the next several sections of the document. The guidelines are meant to be applied generally to all TOD areas such as by [Station Area Typologies](#) (see [page 69](#)). Specific guidance and examples of toolkit applications for the Atlantic/Whittier case study area are provided throughout the document in special callouts identified by a purple border.

## 05 Existing Plans and Policies

There are several existing regulatory documents in place which affect the development of existing and future TODs in unincorporated LA County. These documents should be used in tandem with the TOD Toolkit. The goals and purpose of these additional relevant plans are summarized briefly below:

### Plans and Policies for all Unincorporated LA County Areas

#### Los Angeles County General Plan (2015)

The 2035 Los Angeles County General Plan, adopted in 2015, provides a policy framework for guiding jobs and housing growth, within the unincorporated areas of Los Angeles County. The Mobility Element includes many policies relating to complete street design.

#### Housing Element (2014)

The Housing Element of the General Plan determines the existing and projected housing needs of the unincorporated areas, establishes goals, policies and implementation programs that guide decision making on housing needs, and implements actions that encourage the private sector to build housing.

#### Los Angeles County Code

The Subdivision Ordinance (Title 21 of the Los Angeles County Code) generally regulates the internal design of streets, lots, public utilities and other similar infrastructure in each new subdivision. The Zoning Ordinance (Title 22 of the Los Angeles County Code) regulates single-lot restrictions such as use, height, and requirements for setbacks and parking.

#### Los Angeles County Bicycle Master Plan (2012)

The County Bicycle Master Plan guides the development and maintenance of a comprehensive bicycle network and set of programs throughout the unincorporated communities of the County of Los Angeles for 20 years (2012 to 2032).

#### Los Angeles County TOD Access Study (2013)

The purpose of the TOD Access Study is to assess the station access capacity and needs within nine proposed TODs in Los Angeles County. The proposed stations are part of the Green, Blue and Gold Lines.

#### Los Angeles County Model Design Manual for Livable Streets (2011)

The Los Angeles County Model Design Manual is based on complete streets principles that design streets for people of all ages and physical abilities and accommodate all travel modes.

#### Los Angeles County Vision Zero Action Plan (2019)

The County of Los Angeles has adopted a Vision Zero Action Plan to guide a new traffic safety initiative focused on eliminating traffic-related deaths on unincorporated County roadways by 2035.

#### Step by Step LA County: Pedestrian Plans for Unincorporated Communities (2020)

The Step by Step plan provides a policy framework for how the County proposes to get more people walking, make walking safer and support healthy active lifestyles and includes Community Pedestrian Plans for the unincorporated communities of Lake Los Angeles, Walnut Park, Westmont/West Athens, Whittier-Los Nietos. The Whittier-Los Nietos community includes the Norwalk Station Area, which is one of the ten station areas covered by the TOD Toolkit.

#### Parks Needs Assessment (2016)

The Countywide Parks Needs Assessment was designed to quantify the need for parks and recreational resources.

#### On-Demand Personal Mobility Devices Pilot Program (2019)

The County of Los Angeles will be implementing the On-Demand Personal Mobility Devices (Devices) Pilot Program to support transportation alternatives, reduce greenhouse gases, and connect to transit. Devices will allow on-demand shared personal mobility companies to operate on unincorporated County streets which will assist the County in the management of its transportation network.

#### OurCounty Los Angeles Countywide Sustainability Plan (2019)

OurCounty is a regional sustainability plan for Los Angeles County which outlines what local governments and stakeholders can do to enhance the well-being of every community in the County while reducing

damage to the natural environment and adapting to the changing climate, particularly focusing on those communities that have been disproportionately burdened by environmental pollution.

### Metro Plans

#### First Last Mile Strategic Plan & Planning Guidelines (2014)

The goal of the Metro First Last Mile Strategic Plan is to better coordinate infrastructure investments in station areas to extend the reach of transit, with the ultimate goal of increasing ridership.

#### Complete Streets Policy (2014)

Metro's Complete Streets Policy aims to ensure that streets form a comprehensive and integrated transportation network promoting safe and convenient travel for all users while preserving flexibility, recognizing community context, and using design guidelines and standards that support best practices.

#### Transit Oriented Communities Implementation Plan (2020)

Metro's Transit Oriented Communities (TOC) Policy and TOC Implementation Plan outline how Metro will lead and support others, through partnership, to ensure that Metro's investments equitably benefit communities where Metro operates. This includes creating TOC Corridor Baseline Assessments for Metro transit corridors, which highlight community characteristics, opportunities and needs to support communities in leveraging the positive benefits of the transit investment.

#### Transit Supportive Planning Toolkit

The Transit Supportive Planning Toolkit details specific policies and programs that can be used to promote Transit Oriented Communities (TOC) including a wide range of policy and regulatory tools that have successfully been implemented throughout Southern California and across the State.

### Plans and Policies for only the Atlantic/Whittier Station Area

#### East Los Angeles 3rd Street Plan (2014)

The 3rd Street Plan is a vision plan that sets forth a comprehensive set

of strategies and design guidelines consistent with the goals, objectives, and policies of the County of Los Angeles General Plan and the East Los Angeles Community Plan.

#### East Los Angeles 3rd Street Form-Based Code Specific Plan (2014)

This Form-Based Code Specific Plan (Form-Based Code or ordinance) is established as the primary means to implement the East Los Angeles 3rd Street Plan.

#### East LA Community Plan (1988)

The community plan establishes a framework of goals, policies and programs that is designed to provide guidance to those making decisions affecting the allocation of resources and the pattern, density, and character of development in East Los Angeles.

### Other Related Plans

#### SCAG 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (2016 RTP/SCS)

The Regional Transportation Plan/Sustainable Communities Strategy (2016 RTP/SCS) is a long-range visioning plan that integrates land use and transportation, and balances future mobility and housing needs with economic, environmental and public health goals.

#### National Association of City Transportation Officials (NACTO) Urban Street Design Guide

The Urban Street Design Guide provides the blueprint to NACTO's mission of making streets safer, more livable, and more economically vibrant.

#### SCAG High Quality Transit Area (HQTA) Toolkit (2019)

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.

# 06 The Need for Regional Collaboration

Regional collaboration is paramount for the success of developing TODs to achieve continuous safe and comfortable connectivity (walking and bicycling) to the transit stations.

## Metro

Metro will prepare First Last Mile (FLM) plans for all future station areas which will likely take place during each project’s final environmental stage. Furthermore, Metro will develop the Transit Oriented Community (TOC) Baseline Assessments in order to provide assessment and guidance for local planning efforts.

## Shared Jurisdictions

Each of the proposed station areas include significant land area outside of unincorporated LA County which are subject to the jurisdiction of incorporated cities. The County will consider the plans and existing conditions of adjacent jurisdictions within the half-mile station area when drafting regulations for a TOD during the Specific Plan process.

“Secondary areas” refers to any portion of a TOD’s half-mile area which are not in unincorporated LA County and belong to an incorporated city. To ensure continuity, accessibility, and mobility within the TOD, coordination with other jurisdictions in these secondary areas is essential, especially if the station is in a secondary area. The jurisdictions which have land area within a proposed half-mile station area are:

### City of South El Monte

The City has land area which comprises a significant portion of the Santa Anita and Peck half-mile station areas. The proposed Santa Anita station is located in unincorporated LA County but the proposed Peck station is located in the City of South El Monte.

### City of Montebello

The City has land area which comprises the majority of the The Shops at Montebello half-mile station area. The proposed station is located in the City of Montebello.

### City of Commerce

The City has minimal land area in the Atlantic/Whittier half-mile station area and land area which comprises the vast majority of the Commerce

half-mile station area. The proposed Atlantic/Whittier station is located in unincorporated LA County but the proposed Commerce station is located in the City of Commerce.

### City of Santa Fe Springs

The City has some land area at the center of the Norwalk half-mile station area and a small portion of land area in the Lambert half-mile station area. The proposed Norwalk station is located in the City of Santa Fe Springs.

### City of Whittier

The City has land area which comprises the majority of the Lambert half-mile station area. The proposed Lambert station is located in the City of Santa Fe Springs.

### City of Huntington Park

The City has land area which comprises the majority of the Florence/Salt Lake half-mile station area. The proposed station is located in the City of Huntington Park.

### City of Los Angeles

The City has minor land area in the Westwood/VA Hospital half-mile station area and a considerable amount of land area in the Westwood/UCLA station area. The proposed VA Hospital station is located in unincorporated LA County but the proposed UCLA station is located in the City of Los Angeles.

## Neighboring Cities

In addition, collaboration with cities which border the half-mile station areas in planning and implementing more transit-supportive land uses and infrastructure projects will be necessary for the TOD’s success at realizing the benefits of TOD.

For maps of the half-mile areas, please see the Appendix.



## 07 Benefits of TODs

Transit-oriented development and infrastructure improvements can lead to a wide variety of benefits for TODs. These benefits include safer neighborhoods, cleaner air, increased economic activity, reduced dependence on automobiles, improved traffic flow, and increased housing availability and variety. Additional benefits to implementing TODs are included below:

**Greater mobility choices:** By creating activity nodes linked by transit, TODs increase mobility options in congested areas. While all residents benefit from having greater choice in transportation modes, young people, the elderly, and those without cars or not wanting to drive see significant improvements to quality of life.

**Increased transit ridership:** By decreasing driving and creating a walkable environment, TODs will increase transit ridership and may result in less roadway congestion with new development.

**Revenue for transit systems:** Increased ridership leads to additional revenues for transit service.

**Improved air quality and decrease energy consumption:** Decreased auto trips lead to lower emissions which results in improved air quality.

**Catalyst for economic development:** TODs can act as a catalyst for nearby properties to invest in development and take advantage of the higher land use density, customer base and walkable TOD community.

**Redevelopment:** TODs can be used to encourage the redevelopment vacant or underutilized properties.

**Increased property value:** TODs can be used to revitalize the area within 1/2 mile of the station resulting in increased property values.

**Reductions in costs of public improvements per-person:** The compact, infill-focused development pattern of TODs help to reduce the costs of public improvements on a per-person basis relative to neighborhoods which are not compact and thus encourage residents to travel by use of a personal vehicle over transit ridership.

**Reduced household spending:** By reducing auto, parking and travel costs, TODs contribute to an expansion of household net income, which can instead be invested in the community. According to the American Public Transportation Association, using public transit can save up to \$13,000 per year for a 2-person household (SCAG RTP/SCS Performance Measures, 2016).

**Conservation of land and open space:** TODs are compact developments, and therefore, consume less land than lower-intensity, auto-oriented development.

**Expanded housing and employment choices:** TODs provide a diversity of housing and employment types in conveniently close proximity to the transit station.

**Health benefits:** By providing more opportunities for walking and bicycling, TODs areas can lower rates of obesity, heart attacks, and other chronic health conditions.

**Enhanced sense of community:** Bringing more people and businesses closer in a pedestrian environment creates an activity hub, as TODs enhance community engagement and activity.

**Enhanced public safety:** Creating more active pedestrian places used throughout the day and evening promotes natural surveillance, which can lead to lower crime rates.

**Quality of life:** Reducing the driving time for long automobile commutes and enables commuters to re-purpose this time or other activities.



**THIS PAGE HAS BEEN INTENTIONALLY LEFT BLANK**



**SECTION II**  
Design Guidelines  
Applicable to All  
Station Areas

Waterside at Marina Del Rey, LA County UA (Source: Gruen)

# 01 Public Realm Mobility



East Los Angeles, LA County UA (Source: LA County)

Providing safe, reliable, and accessible routes to and from the transit station is a fundamental component of a successful TOD. As public transit opportunities are added in the station area, certain amenities should be added to ensure pedestrians, cyclists, visitors, and commuters are able to safely and comfortably move around the area and connect to key destinations including the transit station.

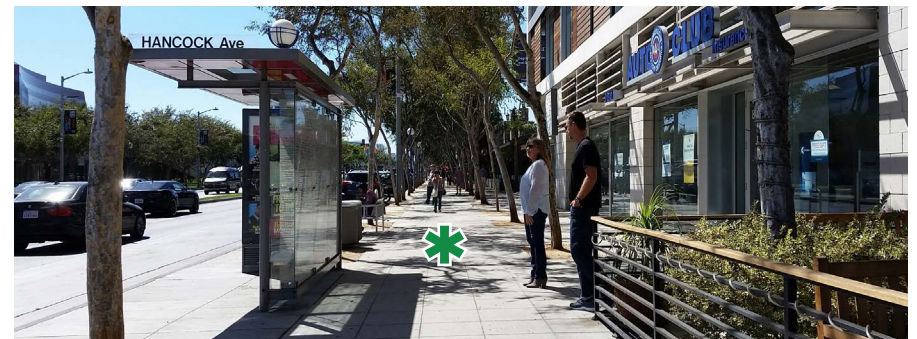
## First/Last Mile Connections

- 1. Continuous Networks:** Provide continuous bus, pedestrian and bicycle networks, and shared mobility options (vehicles, bikes, scooters, etc.) to connect the transit station to local destinations.
- 2. Pedestrian Pathways to the Station:** Enhance primary pathways to the station including the existing sidewalk network which connects residential areas within the TOD to the transit station. Along major arterials within this network, provide the pedestrian-scaled wayfinding signage to direct walkers to the transit station.
- 3. Pick-up and Drop-off Areas:** Provide pick-up and drop-off space at or near the transit station for buses, shuttles, and shared vehicles. “Pick-up and Drop-off Zones” beginning on [page 46](#).
- 4. Alternative Mode Parking:** Provide bicycle parking and parking spaces for car-sharing programs along major corridors and in front of civic buildings. Require bicycle parking at new multi-family residential developments. Provide drop-off locations and docking spaces for shared micro-mobility devices (such as scooters) on public sidewalks along major corridors where space permits.
- 5. Bicycle Network:** Plan for an integrated bicycle network including protected bike lanes and bike boulevards, and amenities such as bike parking and lockers within the TOD. Provide protected bike lanes or paths along corridors that lead to the transit station.



\* **Narrow, cluttered sidewalk inhibits/deters pedestrian movement**

East Los Angeles, LA County UA (Source: Gruen)



\* **Wide sidewalk with clear pathway encourages walking**

West Hollywood, CA (Source: Gruen)



## Active Transportation

**6. Bicycle & Pedestrian Safety:** For safety pedestrian and bicyclist safety, ensure the following:

- Increase pedestrian and bicycle activity so that people feel comfortable walking and riding along major corridors at all times of the day.
- Utilize traffic calming tools such as curb extensions, road reconfiguration, and on-street parking to slow vehicular speeds.
- Provide attractive, well-lit pedestrian paths along major arterials including over and/or under barriers such as freeways.
- Analyze bicycle and pedestrian collisions and provide safety enhancements to address areas with a high number of collisions.

**7. Sidewalks and Pedestrian Pathways:** Provide adequate sidewalk widths to accommodate pedestrians and amenities such as canopy street trees within the street right-of-way:

- Along arterials, provide a combined sidewalk and parkway width of 12' to 15' or more to accommodate two pedestrians walking side by side and space for street trees, street lights and other pedestrian amenities. See **"Sidewalks"** on page 40 for more detail.
- On all other streets, provide combined sidewalks and parkways not less than 10' with a 5' minimum clear walking area and 5' for amenities.
- Utilize techniques such as curb extensions to increase sidewalk width and reduce pedestrian crossing lengths at crosswalks.
- Provide street lighting at regular intervals along all streets; ensure street trees are added such that they do not block or prohibit the addition of street lighting.
- Along commercial corridors, supplement traditional street lighting with pedestrian lighting to create an attractive sidewalk environment for pedestrians.



\* **Dedicated Class II bicycle lanes**

La Crescenta, LA County UA (Source: LA County)



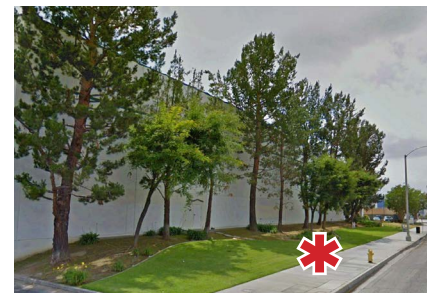
\* **Lack of bicycle parking/amenities**

East Los Angeles, LA County UA (Source: Gruen)



\* **Bike parking on sidewalk**

Portland, OR (Source: Gruen)



\* **Sidewalks next to the curb do not provide pedestrians with protection from vehicles in the street**

Whittier, CA (Source: StreetView)



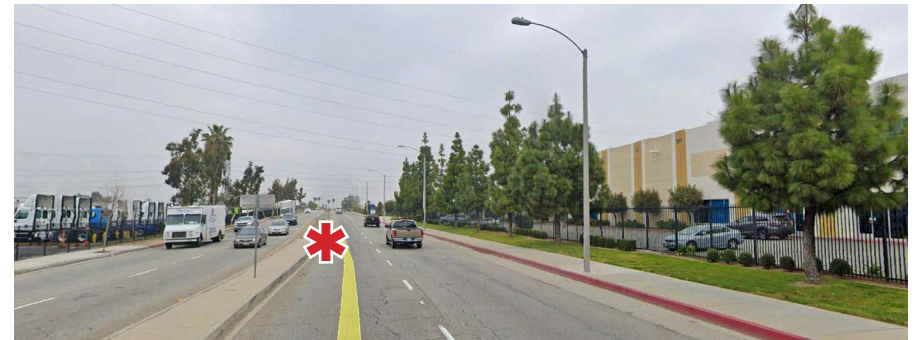
\* **Parkways, trees, and parked cars next to the curb provide safety and comfort for pedestrians**

Lancaster, CA (Source: Gruen)



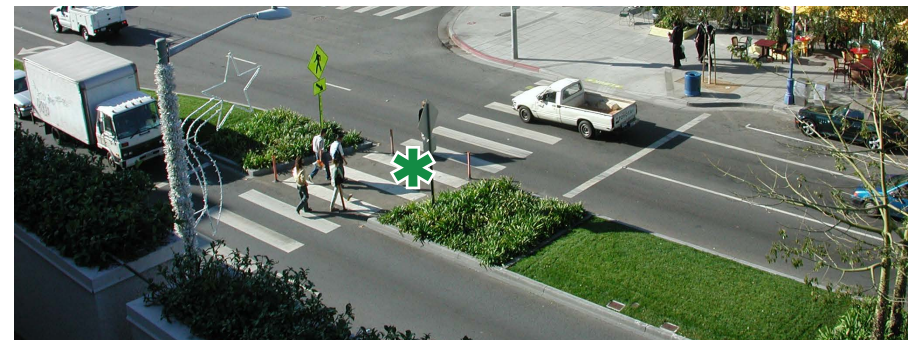
## Roadway and Curb Design

8. **Crosswalks:** To alert motorists that pedestrians are present, provide **High Visibility Crosswalks** (see page 41) at all marked crossings, and advance yield lines at uncontrolled crossings.
9. **Traffic Calming:** Use traffic calming techniques such as curb extensions, speed bumps, raised crosswalks, traffic circles, and roundabouts to help slow the speed of traffic and minimize impacts on the community such as cut-through traffic.
10. **Street Layouts:** Provide multiple routes of access to the central transit station from the edges of the TOD by creating a grid network of local through streets with sidewalks. Discourage “superblocks” which span more than 400 feet between intersections and cul-de-sacs. Where possible, encourage attractive street vistas, or street-level viewsheds, terminating at the transit station or other key landmarks such as major civic buildings or public parks.
11. **Street Width:** In order to slow traffic and make wider pedestrian linkages, consider narrower lane widths of streets and an increase in pedestrian sidewalk widths, where appropriate.
12. **Curb Cuts and Driveway Widths:** To minimize traffic conflicts and breaks in the pedestrian realm, avoid multiple vehicle access points along major streets. Joint use or combined driveways are encouraged. The width of driveway area cuts should be minimized.
13. **Pedestrian Countermeasures:** To make an area safer for pedestrians, include devices such as median refuge areas, pedestrian-activated crosswalk signals and beacons, and countdown timers at non-signalized intersections.
14. **Left-turn Signal Phasing:** Provide left-turn signal phasing at major intersections where warranted to reduce conflicts between turning vehicles and pedestrians.
15. **Street Furniture:** At transit stations and along arterials leading to the stations, provide pedestrian and bicycle amenities such as sufficient lighting, benches/seating, bike racks, wayfinding signage, decorative paving, and public art. Establish a minimum level of street furniture to provide at all transit stops, and add more furniture at higher ridership stops.



\* **Wide arterial with no mid-block pedestrian crossings**

Los Angeles, CA (Source: StreetView)



\* **Arterial with frequent, visible pedestrian crossings**

West Hollywood, CA (Source: Gruen)



\* **Sidewalk blocked by vendors**

East Los Angeles, LA County UA (Source: Gruen)



\* **Parklet added to free up sidewalk**

East Los Angeles, LA County UA (Source: LA County)

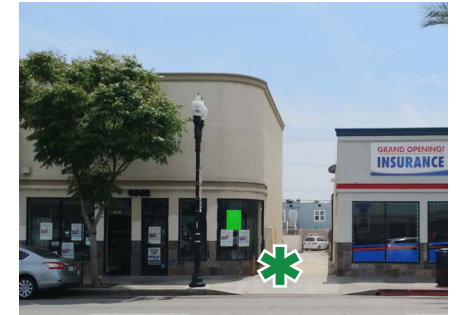
## Parking

16. **Amount of Parking:** Consider flexible parking standards to allow parking to be right-sized and to allow required parking spaces to be satisfied by a single parking facility and/or on-street parking. Where parking for an infrequent peak-demand is required, require utilization of shared parking facilities. Where appropriate, include provisions for in-lieu parking fees.
17. **On-Street Parking:** On-street parking, where appropriate, is encouraged to serve as a buffer between pedestrians and travel lanes. See “**On-Street Parking**” on page 46 for more detail.
18. **Surface Parking:** Discourage surface parking adjacent to the sidewalk along major streets and encourage on-site parking located underground, at the rear of the parcels, or buffered from view by transit supportive uses with convenient pedestrian access to the primary building entrance. Where surface parking lots are visible from street view, provide trees and other vegetation as a visual buffer. Require all surface parking lots include landscaping along the perimeter of pedestrian paths and the edges of the lot.
19. **Park and Ride Lots:** Allow for the provision of Park and Ride lots or parking spaces in areas adjacent to high-ridership transit stations.
20. **Joint and Shared Parking:** Permit unbundled parking and allow property owners to form agreements to consolidate the parking required for two or more proximate developments on one parcel to maximize parking lot efficiency and reduce the number of curb cuts.
21. **Parking Strategies in Employment Centers:** Encourage shared parking strategies and provide incentives such as reduced rate or reimbursable transit passes in employment centers to consolidate and efficiently provide the necessary amount of employee parking.
22. **“Park Once” Districts:** “Park Once” districts allow visitors to park in one location and reach multiple destinations on foot before returning to their vehicle. Where traffic volumes and commercial activity levels allow, establish a Park Once district which may include any of the following provisions:
  - Adjacent property owners are permitted to share parking lots.
  - On-street parking spaces and public parking lots are to allow a set number of parking for free or for a reduced fee.
  - Docking stations for bikeshare vehicles are to be provided.



**\* Parking visible from street**

East Los Angeles, LA County UA  
(Source: Gruen)



**\* Parking provided at rear**

East Los Angeles, LA County UA  
(Source: Gruen)



**\* Public parking provided in a shared parking structure**

Claremont, CA (Source: Gruen)



## 02 Mix of Uses and Densities/Intensities



Pasadena, CA (Source: Gruen)

Compact, higher-density development with a mix of uses near transit stops places more people in walking distance of the station and increases residents' ability to walk to multiple destinations. This concentration fosters walking, bicycling, and shared modes between uses to minimize auto trips and pollution. Introducing transit-supportive uses to a TOD can further support multimodal transportation and an active, vibrant neighborhood. **Transit-supportive uses** include retail, restaurants, outdoor cafes, grocery stores, bookstores, neighborhood services, civic and public uses, parks and plazas, child care, education facilities, multi-family residential, affordable housing, offices, entertainment, hotel, medical clinics, recreational facilities, fitness clubs, regional hospitals, and other uses that cater to the needs of transit users, residents and employers.

### Mix of Uses

- 1. Transit Supportive Uses:** Provide transit-supportive uses that generate high pedestrian activity, foster an active environment throughout the day, and increase transit ridership. Discourage heavy industrial and non-transit supportive uses such as vehicle-oriented businesses like car washes, drive thrus, and car dealerships in the area directly around the transit station.
- 2. Proportion of Uses:** Vary the proportion and mix of uses in a half-mile area depending on the characteristics of an individual area. For example, encourage moderate densification in historically lower-density neighborhoods and more substantial densification in medium- and high-density neighborhoods.
- 3. Commercial Uses Activity:** Require commercial uses which generate high pedestrian or vehicle traffic to be located along a major arterial and allow for smaller-scale, community-serving commercial uses along other corridors.
- 4. Tailor Designs to Reflect Uniqueness of an Area:** Vary the design character of developments based on the land use and urban design qualities envisioned and the unique characteristics of a specific geographic location.



\* **Inactive land use fronting a street**  
Los Angeles, CA (Source: StreetView)



\* **Pedestrian-friendly active uses**  
Los Angeles, CA (Source: Gruen)

## Compact Development

5. **Infill Development:** Remove barriers to infill development on small lots and underutilized parcels with limited existing on-site uses by reducing parking, height, setbacks, and other requirements.
6. **Surface Parking Redevelopment:** Permit and encourage properties with surface parking lots, especially street-adjacent lots, to replace a portion or the entirety of the lot with new development with a reduced or waived replacement parking requirement as necessary.
7. **Rehabilitation of Older Buildings:** Encourage the rehabilitation and reuse of older buildings to maintain neighborhood character and to sustainably accommodate new businesses and/or housing units.
8. **Condition and Density of Existing Uses:** Utilize code enforcement and incentives to encourage property owners to maintain their properties as safe and attractive to patrons to prevent abandonment.
9. **Compact Development:** To encourage compact development in TODs:
  - Allow the highest densities and intensities permitted in the area directly around the transit station.
  - Require minimum densities and floor area ratios for new development.
  - Require incentives for additional densities when public benefits are provided such as affordable housing, streetscape improvements, and reduced parking.
  - Provide incentives for consolidation of small lots for the purposes of developing multi-family residential buildings, mixed-use developments, or employment centers.
  - Where appropriate, allow two to four housing units per parcel in lower density residential areas within the TOD area depending on the size of lots, infrastructure, and amenities in the area.
10. **Joint Development:** Encourage participation in the Metro and County Joint Development Programs by establishing an inventory of publicly-owned land available for redevelopment.
11. **Lot Size:** Reduce minimum lot sizes for residential uses to encourage more compact development.



\* **Vacant/Underutilized parcel**

East Los Angeles, LA County UA  
(Source: Gruen)



\* **Infill development**

Orenco Station, OR (Source: Gruen)



\* **Non-compact single-use development with parking along the sidewalk discourages walking**

Whittier, CA (Source: StreetView)



\* **Compact mixed-use development located along the sidewalk fosters a safer and more lively pedestrian environment**

Pasadena, CA (Source: Gruen)



### Housing

- 12. Market Rate Housing:** Reduce barriers to the construction of market-rate housing such as restrictive development regulations (i.e low maximum density, low building heights, etc.) and lengthy development approval processes.
- 13. Affordable Housing:** Develop innovative strategies to introduce affordable housing into a TOD, such as:
- Remove maximum density and height restrictions for affordable housing projects and affordable housing in mixed-use developments with improved transportation infrastructure and public amenities/benefits.
  - Preserve and increase the amount of affordable housing by techniques such as rent stabilization, inclusionary zoning in the specific plan, and development of County-owned land.
  - Monitor State and County incentives and requirements regarding the production of affordable housing for consistency as they develop.



\* Older medium-density market-rate residential apartments

*East Los Angeles, LA County UA (Source: Gruen)*



\* Newer medium-density market-rate residential apartments

*Lancaster, CA (Source: Gruen)*



## Economic Development

**14. Attract Desirable Businesses:** Ensure land use restrictions and development standards are not prohibitive of the development of desired commercial activity. For instance, in TODs which do not have a grocery store, ensure grocers and markets are permitted with limited restrictions near the transit station.

**15. Innovative Neighborhood Funding Mechanisms:** Incorporate neighborhood funding strategies to fund community improvements and public development projects. Potential strategies include:

- **Tax Increment Financing (TIF) Districts:** Revenues that result from an increase in assessed values above the base year assessed value are called tax increment revenues. Two types of TIF Districts are Enhanced Infrastructure Financing Districts (EIFD) and Community Revitalization and Investment Authority (CRIAs).
- **Enhanced Infrastructure Financing Districts (EIFD):** Tax increment revenues generated on behalf of other agencies, may be allocated to an EIFD, but only for those agencies that approve an Infrastructure Financing Plan by resolution. School and college districts are not permitted to participate. An EIFD can use tax increment revenues to fund public improvements with a useful life of fifteen (15) years or more for a period of up to forty-five (45) years.
- **Community Revitalization and Investment Authority (CRIA):** CRIAs focus on the revitalization of impoverished neighborhoods and military bases. CRIAs are required to apply 25% of tax increment revenues to affordable housing. CRIAs provides added benefits compared to an EIFD, including property acquisition, eminent domain, and no vote required to issue bonds.



**\* Fast food chain with drive-thru encourages auto-use over the pedestrian**

East Los Angeles, LA County UA  
(Source: Gruen)



**\* Local unique business fosters walking and contributes to community identity**

East Los Angeles, LA County UA  
(Source: Gruen)

*A separate Funding Strategy Report was completed to accompany the LA County TOD Toolkit, as well as market analyses for each of the 10 TOD station areas. See these documents for more detail regarding economic development strategies tailored by area.*

## 03 Built Form and Design



Camarillo, CA (Source: Gruen)

The design of buildings at or near the transit stop plays a key role in the attractiveness, activity, and safety of the area. In areas designated for mixed-use, buildings are to be designed with pedestrian-friendly architectural features at the ground floor along the streets and walkways. The pedestrian realm is generally a 12'-30' area located between the face of the curb of a street and the face of the building. It includes parkways, sidewalks, and any landscaped areas, and can include public or private areas.

### Building and Site Access

- 1. Primary Building Access:** Require primary building access to buildings be oriented to the street.
- 2. Secondary Building Access:** Provide secondary access to buildings from internal pathways or adjacent streets or alleys where appropriate.
- 3. Visibility:** Design building access points and entryways to be highly visible and well-lit. Incorporate design features such as signage, awnings, and roof details to accentuate the entrance to a building.
- 4. Service Entries:** Service entries should be oriented to the side or rear of the building and not be visible from the primary street. Where possible, provide service access from a rear alley as opposed to the primary street.
- 5. Lighting for Security:** Place lighting to accent façades at night and provide security and wayfinding for public and private open spaces. Avoid lighting that interferes with residential uses.



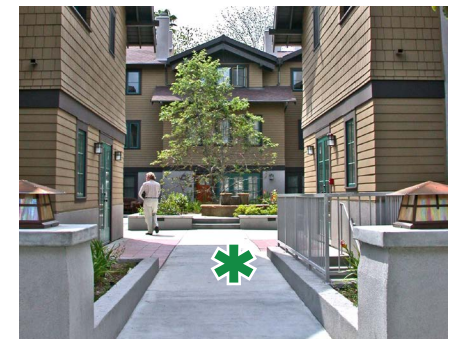
\* Clearly visible primary entrance

Los Angeles, CA (Source: Gruen)



\* Barrier to entry from sidewalk

El Monte, CA (Source: StreetView)



\* Un-obscured entry from sidewalk

Pasadena, CA (Source: Gruen)



## Ground Floor Uses and Design

6. **Transparency:** Use clear glass rather than dark tinted glass or reflective glass along ground level frontages of retail businesses, restaurants, and other active uses to increase a buildings visual and physical interaction with those on the sidewalk and create a safer and more vibrant pedestrian environment.
7. **Visual Interest at Street Level:** Design the form of buildings and architectural details to create visual interest for pedestrians at the street level using techniques such as:
  - Staggering the frontage of the building;
  - Recessing doors and windows;
  - Providing varied display windows;
  - Providing awnings, louvers, and canopies for weather protection and shade; and
  - Visually extending interior spaces outside through paving and glazing.
8. **Awnings:** Where appropriate, use awnings and other shade structures for sun protection and to give a building a distinctive identity to increase visual interest along a pedestrian corridor:
  - Mount awnings which have a design that is compatible with the architectural style the building.
  - Add awnings over doors to help identify building entrances and above windows. Do not mount awnings above blank walls.
  - Open ended awnings are preferred over closed in awnings.
  - Encourage creative steel, canvas, and glass awnings with signage incorporated over less-durable cloth awnings.
9. **Outdoor Dining:** Outdoor dining on private property and in the frontage zone along a commercial corridor should be encouraged where adequate space exists. Design food establishment buildings with walk-up order windows, bar style seating along the façade to encourage outdoor dining and an active storefront.



**\* Blank/opaque facade along major street**

East Los Angeles, LA County UA (Source: Gruen)



**\* Active storefront / outdoor dining**

Culver City, CA (Source: Gruen)



**\* Poorly maintained cloth awnings**

East Los Angeles, LA County UA (Source: Gruen)



**\* Durable awning/shade structure**

Claremont, CA (Source: Gruen)

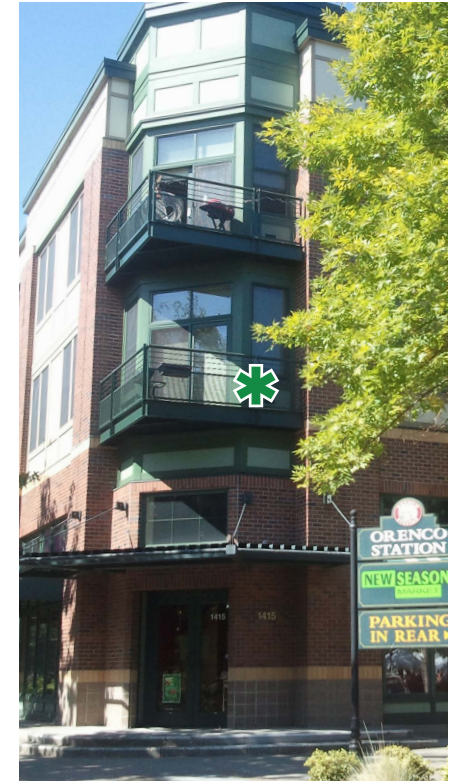
## Building Form and Façade Design

- 10. Building Heights:** Vary building heights within the TOD. Allow for and encourage the placement of relatively taller buildings near the station, along wider streets, and intermittently throughout the station area to serve as focal points.
- 11. Contemporary, Pedestrian-Friendly Design:** Design buildings to be visually attractive and to fit with the vision of a pedestrian-friendly, vibrant streetscape. Place unique features to differentiate neighboring businesses at eye-level with pedestrians.
- 12. Signage:** Provide storefront signage at multiple levels, such as wall signs above windows and hanging signs from awnings; avoid neon or fluorescent illuminated signage. Limit the size of new signage for pedestrian scale.
- 13. Building Shaped at Corners:** When located at the corner of an important pedestrian intersection or a focal point, design buildings to emphasize the corner by using a variety of techniques at the corner such as adding a strong vertical mass or a tower, a diagonal setback, a corner plaza, and/or a recessed building entrance. Treatments should be applied at all corners of an intersection.
- 14. Variety in Building Façades and Urban Form:** Vary building form and façades from building to building and from site to site to create interest along the street and a vibrant area.
- 15. Articulated Building Façades and Massing:** To create visual interest and to avoid large bulky façades and blank walls, articulate building massing using techniques such as some stepping back of upper floors, stepped terraces, changes in plane, recessed windows, bay windows, balconies, trellises, and varied roof lines.
- 16. Equal Design Treatment on Façades:** Where the rear or sides of the building are visible from streets and alleys these façades should receive equal design treatment to the main façade.
- 17. Materials and Colors:** Select durable and attractive materials and colors to unify the building appearance. For example, avoid chain link fences, imitation rock/stone veneer and extensive use of wood siding, heavily textured stucco walls, or slump stone masonry.



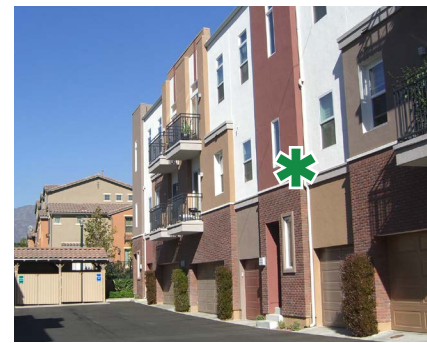
\* Varied heights along corridor

Claremont, CA (Source: Gruen)



\* Architectural detail at the corner

Lancaster, CA (Source: Gruen)



\* Design treatments on rear facade

Claremont, CA (Source: Gruen)



\* Varied colors and materials on façades to differentiate businesses

East Los Angeles, LA County UA (Source: Gruen)



### Environmental Design

- 18. Energy Efficient Designs:** Consider passive solar and ventilation techniques, as well as specification of “green” materials in building design and site planning.
- 19. Topography-Appropriate Design:** Design the site and buildings to capitalize on its unique topography where applicable such as terracing when there is considerable shifts in ground slope. Consider site designs which increase accessibility by adding stairs and ramps in heavily sloped environments.
- 20. On-site Environmental Features:** Where parcels include on-site creeks, riparian habitat, and other environmental features, require the preservation of the existing feature to the extent feasible such that it may be enjoyed as a publicly-accessible open space.



\* Unique site topography used to create tiered public open space

Montclair, CA (Source: Westsiderentals.com)



## 04 Open Space, Parks, and Public Spaces



East Los Angeles, LA County UA (Source: Gruen)

Parks and other forms of open space are critical for an active and healthy TOD. Parks can serve as neighborhood focal points, and provide opportunities for recreation, events, exercise, and more.

### Neighborhood Character in Public Spaces

- 1. Public Art:** Commission local artists to decorate County infrastructure such as utility boxes, blank walls adjacent to or visible from major arterials, and on pavement as part of temporary installations.
- 2. Cultural Preservation and Resiliency:** Preserve cultural institutions, events, public art, and urban design features wherever possible. Examples of cultural events include farmers markets, art walks, festivals, block parties, holiday parties, etc.
- 3. Wayfinding Signage:** Provide wayfinding signage at key points throughout the half-mile area to direct travelers to the station. Signs should be clear and use a unified style.
- 4. Monument/Signature Trees:** Where appropriate, establish a signature tree for the TOD to be planted at key locations throughout the half-mile area including in parkways as a street tree, in public parks and plazas, and at the transit station. Monument trees for a TOD should be relatively low maintenance, vibrant or colorful, preferably shade-providing, and historically significant to the area is applicable.



\* Art mural

East Los Angeles, LA County UA  
(Source: StreetView)



\* Preserved unique historic building

East Los Angeles, LA County UA  
(Source: Gruen)

## Open Space Network

- 5. **Transit User Amenities:** Collaborate with public agencies at transit stations to include park or plaza space with amenities for transit users such as benches, water fountains, waste receptacles, lighting, etc.
- 6. **Enhance Existing Parks:** Existing parks should have enhanced connections to the station.
- 7. **Publicly-accessible Open Space on Private Property:** Increase the amount of publicly-accessible open space by providing developers with density and intensity incentives in exchange for creating publicly-accessible open space on private property. Encourage participation in established County programs which aim to increase public space, such as the Parklet Program.
- 8. **Sound Walls:** Where possible, erect a sound wall between new development and an adjacent freeway to help serve as a noise and air pollution barrier.
- 9. **Vegetation Buffers:** Plant vegetation barriers between the freeway/high volume roadway and housing developments to help with pollution reduction.
- 10. **Green Streets and Air Pollution Mitigation:** Plant trees on neighborhood streets with housing development and along commercial corridors to mitigate air pollution and to help reduce temperatures in warmer months.



\* Open space with no amenities

East Los Angeles, LA County UA  
(Source: Gruen)



\* Enhanced public open space

Solana Beach, CA (Source: Gruen)



\* Publicly-accessible open space

Marina Del Rey, LA County UA (Source: StreetView)



**THIS PAGE HAS BEEN INTENTIONALLY LEFT BLANK**



**SECTION III**  
**Public Realm Mobility**

East Los Angeles, LA County UA (Source: Gruen)

# 01 Public Realm Mobility Overview

This section addresses the street circulation system, pedestrian and bicycle system, transit, and other mobility modes such as shared use services in a TOD area including potential multimodal network in the half-mile station area, First/Last Mile improvements, and “Complete Streets” components. 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. Transforming major corridors into a more multimodal, transit-supportive streets can result in several benefits to the community:

- **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 multi-modal transportation network can reduce VMT and greenhouse gas emissions.
- **Economic Development** – Multimodal transportation networks can improve economic activity of local business and attract new economic development.

## Relation to Adopted Plans

### General Plan Mobility Element 2025

The LA County General Plan Mobility Element adopted in 2015 was updated to reflect the California Complete Streets Act of 2008. The goals of the Mobility Element which relate to TODs include:

- **Goal M1:** Street Designs that incorporate the needs of all users.
- **Goal M2:** Interconnected and safe bicycle- and pedestrian-friendly streets, sidewalks, paths and trails that promote active transportation and transit use.
- **Goal M3:** Streets that incorporate innovative designs.
- **Goal M4:** An efficient multimodal transportation system that serves the needs of all residents.
- **Goal M5:** Land use planning and transportation management that facilitates the use of transit.
- **Goal M6:** The safe and efficient movement of goods.
- **Goal M 7:** Transportation networks that minimizes negative impacts to the environment and communities.

The Mobility Element includes policies for topics such as complete streets, active transportation design, infrastructure design, transit efficiency, multimodal transportation, land use and transportation integration. Refer to the full document for the policies which are relevant to TODs.



### Metro's First/Last Mile Strategic Plan

Metro's First/Last Mile Strategic Plan (FLM) planning guidelines outline a pattern for improving user experience by supporting intuitive, safe, and recognizable routes to and from transit stations. This FLM planning process involves conducting an analysis and producing diagrams of a multimodal network within the half-mile station area around a transit station that are essential in preparing a specific plan for an area. Key diagrams that should be prepared to help identify barriers to accessing a station within the TOD area include:

- The station's half-mile area including the street grid
- Land use and points of interest
- High vehicle speed streets
- Walkshed and barriers
- Pedestrian routes to the station
- Existing and planned transit corridors
- Existing and planned bike connections
- Bike and pedestrian collisions with an automobile

From this analysis at a specific plan level, a TOD's multimodal pathway network can then be studied and enhancements to the network can be planned by applying the components detailed in FLM's extensive toolbox of pedestrian and cycling facilities. During future TOD planning efforts the County will utilize the strategies and tools identified in FLM, the General Plan Mobility Element, and the County's Step by Step Pedestrian Plan in conjunction with the components described in the TOD Toolkit.

### Metro's TOC Implementation Plan

Metro will prepare TOC Corridor Baseline Assessments for Metro transit corridors, which will highlight opportunities and needs relating to potential public realm and mobility improvements. These Baseline Assessments should be used to inform future assessments during the specific planning process regarding the inclusion of the prototypical public realm investments detailed on the following pages.








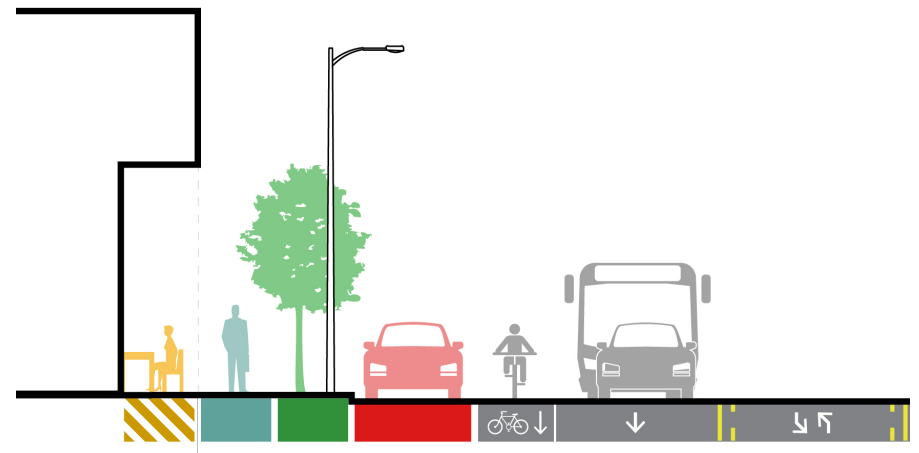
Example Station Pathways Diagram (Source: Metro FLM Plan)

## 02 Complete Street Design

The County’s Model Design Manual For Living Streets identified the different zones which makeup a typical corridor’s sidewalk: Frontage, Pedestrian, Furniture, and Curb. The TOD Toolkit uses consistent terminology for the Frontage, Pedestrian, and Furniture streetscape zones, but differs in that “Curb Zone” is used in this document to define portions of the roadway which are not for use by moving vehicles or bicyclists. Additionally, “travel lanes” in this document collectively refers to conventional vehicular travel/turn lanes as well as bicycle and transit lanes for the purpose of providing a multimodal overview of street design.

Each zone has its own function and purpose, which have been summarized at below:

-  **Frontage Zone:** The area on private property which abuts the public sidewalk. For high-activity commercial/entertainment uses, frontage zones are ideal for outdoor dining, product displays, etc.
-  **Pedestrian Zone:** The portion of the sidewalk which is used for pedestrian passage, and should be kept clear of obstructions.
-  **Furniture Zone:** The portion of the sidewalk which contains street lighting, utilities such as fire hydrants, traffic control equipment, and street trees, and may contain other landscaping or street furniture such as benches and waste receptacles. The furniture zone is sometimes referred to as a parkway when landscaped.
-  **Curb Zone:** A portion of the paved roadway not used for traffic. Curb zones are often used for on-street restricted parking, pick-up and drop-off zones, or parklets.
-  **Travel Lanes:** A lane of traffic which may be vehicular-only, transit-only, or bicycle-only, shared between various modes of travel when dedicated bicycle or transit lanes are not present.

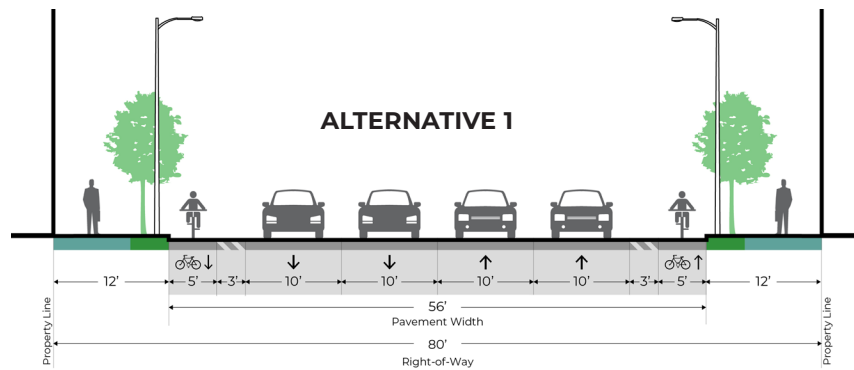
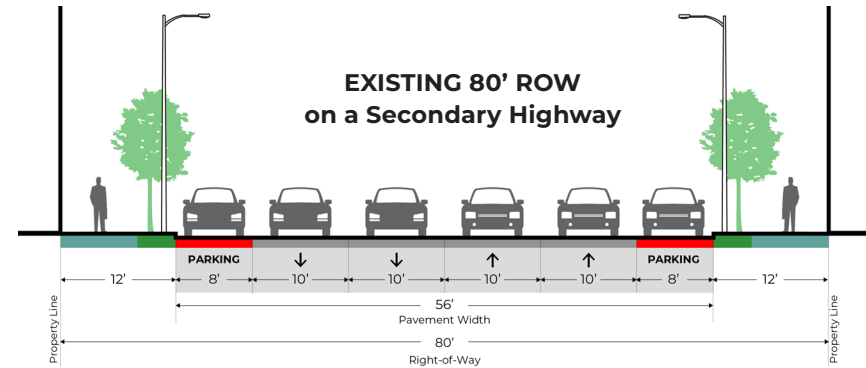


Source: Gruen

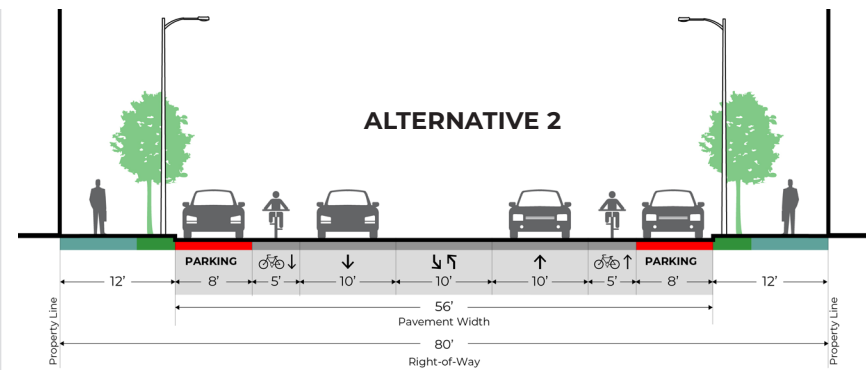
## Illustrative Examples

### Lane Re-purposing on 80' ROW for Multimodal Mobility

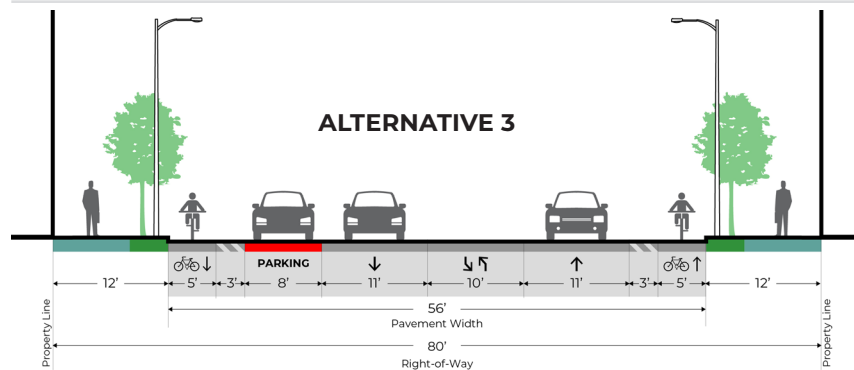
The Mobility Element defines roadways appropriate in most TODs as Major Highways with a right-of-way (ROW) of 100' (urban) to 108' (rural) and Secondary Highways with a ROW of 80'+. It is important to accommodate all modes of transportation in the pathway network, however, in many developed station areas, vehicular travel lanes have been prioritized over other forms of transportation. The alternatives below illustrate common lane re-purposing scenarios to address multimodal mobility in an existing ROW and the positive trade-offs that will need to be considered.



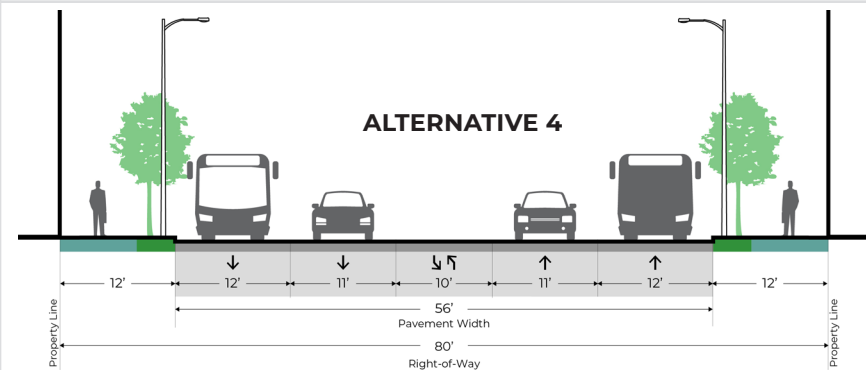
Replace on-street parking with buffered bicycle lanes on both sides.



Reduce travel lanes to three lanes and add bike lanes



Remove on-street parking on one side and add buffered bicycle lanes



Remove on-street parking and convert two travel lanes to transit lanes

## Travel Lane Width and Re-purposing

To make a TOD more walkable and multimodal, reduced travel lanes should be considered. In Station Areas with constrained right-of-ways, reduced vehicular travel lane widths allow more space to be devoted to other mobility modes. In addition, narrowing lane widths acts as a traffic calming measure by reducing vehicular speeds which can decrease pedestrian-auto collisions. Illustrative examples of roadway reconfigurations are provided in the **Lane Re-purposing on 80' ROW for Multimodal Mobility** diagram on page 37. When re-purposing travel lanes or reconfiguring the street, factors such as traffic conditions, nearby land uses, and parking availability should also be considered.

### Best Design Practices / Guidelines

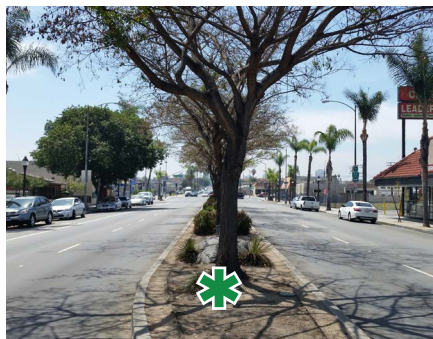
1. Currently, the County standards require minimum travel lane widths of 11 feet, right turn lane widths of 11', and left or center turn lane widths of 10'. However, the County General Plan Mobility Element has a policy supporting vehicular lane width reductions to 10' or 11' in low speed environments with low volume of heavy vehicles.
2. In constrained conditions, vehicular travel lane widths may be reduced to 10', parking lanes to 7' to 8', exclusive transit lanes to 11' to 13', one way Class II bike lanes to 5' to 7', one way buffered bike lanes to 8' to 10', and two way bike lanes to 12' including shoulders.

## Transit Lanes

Public transit can be accommodated on a complete street in a variety of ways including: 1) a bus that shares a vehicular travel lane, 2) a peak-period transit lane that prohibits curbside parking in peak period, 3) a transit-only lane (either curbside or in the median), 4) a streetcar, 5) a rail line, or 6) a shuttle. Peak-period transit lanes or exclusive transit-only improve transit efficiency, especially on congested streets. On exclusive transit-only lanes, high ridership buses with transit signal priority at intersections move more quickly than adjoining traffic which allows more people to travel by transit in less time. Mixed traffic is only allowed to enter or cross a transit-only lane to turn at an intersection, enter or exit a driveway, or park at designated parking areas. Transit-only lanes may be used by emergency vehicles, or by bicycles where permitted.

### Best Design Practices / Guidelines

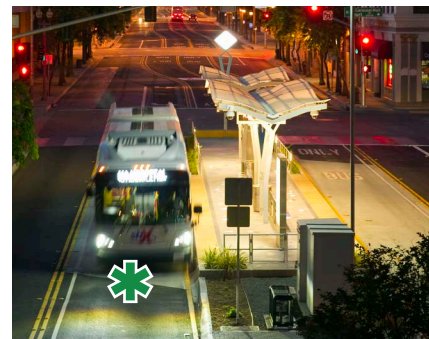
1. Exclusive transit lanes width varies from 11' to 13' depending on transit agency requirements and street constraints. These transit lanes may be either curbside or center running in the middle of the street.
2. Exclusive transit lanes require physical barriers to separate bus lanes from mixed flow traffic. Barriers can include a raised curb or median, bollards, delineators, or other devices.
3. Provide well designed and branded transit shelters where space permits. See "**Transit Stops and Shelters**" on page 51 for more detail.



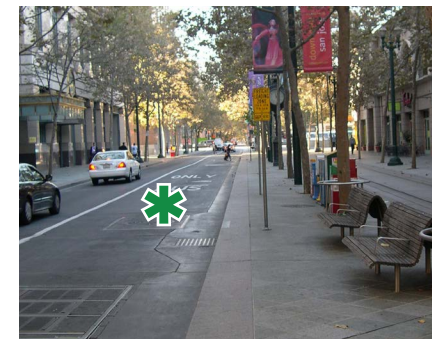
\* **Street with turn lane/median**  
Long Beach, CA (Source: Gruen)



\* **Narrow travel lanes to fit parking**  
San Jose, CA (Source: Gruen)



\* **Center transit-only lane**  
San Bernardino, CA (Source: Gruen)



\* **Center transit-only lane**  
San Jose, CA (Source: Gruen)



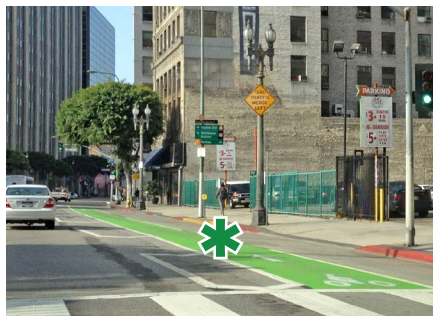
## Bicycle Paths, Lanes, and Routes

Bicycle routes, paths, and lanes which connect a transit station to destinations within 3 miles of the TOD are a critical component of first/last mile connections to the transit station and provide an alternative mode of transportation for those in the Station Area. The County’s bicycle network is composed of these types of bicycle facilities:

1. Class I - Bicycle Path: a paved right-of-way for exclusive use by bicyclists, pedestrians, and other non-motorized modes of travel.
2. Class II - Bicycle Lane: a portion of a roadway for exclusive use by bicyclists marked by pavement striping and signage.
3. Class III - Bicycle Route: a travel lane for shared use by motorists and bicyclists marked by signage.
4. Class IV - Separated Bikeway: a bikeway for exclusive use by bicyclists with a physical barrier separating it from vehicular traffic.
5. Bicycle Boulevard: streets that have been enhanced with signage, traffic calming, and other treatments to prioritize bicycle travel.

### Best Design Practices / Guidelines

1. Bike lanes should be at least 5’ wide; where space permits, 7’ wide lanes are desirable.
2. Where space permits, provide a minimum of 3’ buffer space between Class II bike lanes and vehicular travel lanes. Buffers could include pavement striping, a raised curb or median, bollards or landscaping.
3. Provide bicycle parking such as bike racks, bicycle lockers, bike corrals, bike bulbs and shared bike stations along all bike routes/lanes.



**\* Buffered Class II bike lanes**  
Los Angeles, CA (Source: Gruen)



**\* Bike parking along bike route**  
Portland, OR (Source: Gruen)



**\* Parking and curb extensions**  
Montrose, LA County UA (Source: StreetView)



**\* Parklet in curb space**  
East Los Angeles, LA County UA (Source: LA County)

## Curb Space

Corridors wide enough and with sufficient traffic patterns to resize or re-purpose lanes should utilize curb space between travel lanes and the sidewalk to provide additional pedestrian amenities, bicycle and transit infrastructure, **On-Street Parking** (see page 46), and **Pick-up and Drop-off Zones** (see page 46) for shared vehicles. Curb space can be designed to be flexible to accommodate multiple elements, allowing for temporary programming or for multiple installments at a time. The most common use of curb space is on-street parking, and replacing select parking stalls with **Curb Extensions** (see page 47), treelets, or bikeshare stations can further expand the pedestrian experience.

### Best Design Practices / Guidelines

1. If traffic patterns allow, re-purpose the outermost vehicular travel lane for on-street parking along residential and commercial streets.
2. Develop a parklet program for commercial corridors with on-street parking to allow adjacent businesses to utilize curb space for outdoor seating and dining.
3. Provide an additional 1’ to 3’ of buffer space between travel lanes and curb space amenities to increase pedestrian and bicyclist safety.
4. Encourage food trucks to gather at consolidated locations, such as an empty parking lot, so they do not compete with on-street parking demand, particularly along corridors with limited sidewalk width. At least 12’ of sidewalk width should be provided for at-curb food truck parking to allow for truck sales and operations, while maintaining adequate pedestrian movement.



## Sidewalks

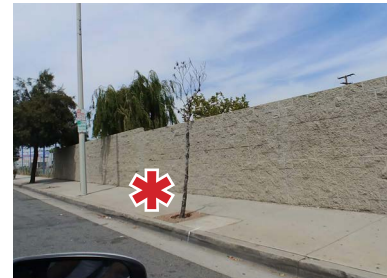
Sidewalks, which collectively describes the Pedestrian and Furniture Streetscape Zones, form the primary pedestrian pathways in a TOD. Adequate sidewalk width where a minimum of two people may walk side-by-side and pedestrian amenities will help create a walkable environment throughout the entire Station Area. In constrained roadway conditions where there is not enough space to add amenities to the furniture zone, devices such as **Curb Extensions** (see page 47) are methods to provide more sidewalk width. These curb extensions may be used for bus stops, additional landscaping, outdoor dining, bike and dockless shared vehicle parking, and other amenities.

### Best Design Practices / Guidelines

1. The furniture zone, sometimes occupied by landscaping in a parkway, can otherwise include 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. Items in the furniture zone should be at least 18" from the curb face.
2. The pedestrian zone includes at least enough walking area to meet Americans with Disabilities Act (ADA) requirements and should be kept free of obstructions to pedestrian movement. Tents, obtrusive plastic signs or installations, and flags should be avoided in the pedestrian zone.
3. 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. Frontage zone amenities should be encouraged in constrained roadway conditions where there is not adequate space for furniture zone amenities.
4. Combined 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 one another. A minimum of 5' clear walking area should be provided in the pedestrian zone; this number should be increased depending on pedestrian activity. The width of the sidewalk, which includes both the pedestrian zone and furniture zone, should not be less than 10'.
5. Paving patterns may vary by TOD and could include standard gray concrete, colored concrete, decorative paving, permeable paving, and others.

## Atlantic/Whittier TOD Case Study

The Atlantic/Whittier TOD has three major corridors: Whittier Boulevard, Atlantic Boulevard, and Olympic Boulevard. Whittier Boulevard generally has more streetscape improvements than either Atlantic or Olympic Boulevard. Amenities included along Whittier Boulevard include pedestrian-scale lighting, benches, trash receptacles, and street trees. Continuing these streetscape improvements along the other two major corridors and implementing a uniform pattern of shade-providing street trees will provide the station area with a defined sense of place. Additional amenities may be provided in the curb space using curb extensions where sidewalk widths are narrow.



**\* Limited pedestrian amenities along Atlantic Boulevard**

East LA, CA (Source: Gruen)



**\* Pedestrian amenities such as benches on Whittier Boulevard**

East LA, CA (Source: Gruen)



**\* Seating outside pedestrian zone**

Playa Vista, CA (Source: Gruen)



**\* Decorative sidewalk paving**

San Gabriel, LA County UA (Source: StreetView)

# 03 Intersections and other Crossings

## High Visibility Crosswalk

Marked crosswalks at controlled intersections and mid-block direct pedestrians to ideal locations at which to cross a street and indicate more clearly to motorists where to yield for pedestrians. Crosswalks should be highly visible to both drivers and pedestrians and can be installed with continental striping or decorative pavers. High visibility crosswalks can also include raised crosswalks or freestanding beacons to increase visibility; these enhancements are particularly important at mid-block crossings where motorists may need additional warnings of the presence of pedestrians. See “**Flashing Beacon / Pedestrian Hybrid Beacon**” on page 43 for more detail.

### Best Design Practices / Guidelines

1. A continental crosswalk has wide highly visible longitudinal strips paired with a stop line setback from the crosswalk.
2. Vertical elements such as street trees should set back from intersections and crossing points so as to not block visibility of pedestrians at the crosswalk.

## Curb Ramp

Curb ramps allow mobility-impaired persons and persons with strollers 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.

### Best Design Practices / Guidelines

1. All curb ramps should have ADA-approved ramps with detectable warning surface (min. width 24”) in yellow.
2. Curb ramps shall be designed to align with crosswalks and should be provided at each crossing approach as opposed to providing one curb cut per corner.
3. At least 48” of landing should be provided behind the curb ramp.



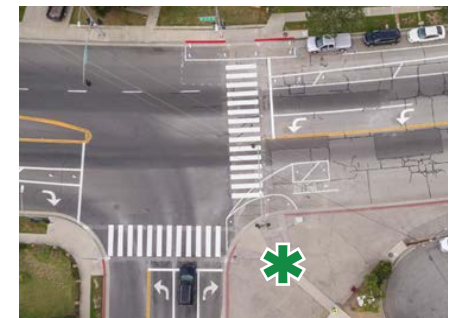
\* **Continental crosswalk**  
LA Crescenta, LA County UA (Source: LA County)



\* **Yellow continental crosswalk**  
East Los Angeles, LA County UA (Source: StreetView)



\* **Curb ramp with refuge island**  
La Crescenta, LA County UA (Source: LA County)



\* **Curb ramps at all crossings**  
Whittier-Los Nietos, LA County UA (Source: LA County)

## Pedestrian Signal Timing

Leading Pedestrian Intervals allow pedestrians to begin crossing the roadway before the vehicle signal turns green. Semi-exclusive or exclusive pedestrian (i.e. pedestrian scramble) operation involves alterations to traffic signalization which stop vehicular traffic, allowing pedestrians to cross at the intersection uninhibited by vehicular traffic. In exclusive pedestrian operation, also referred to as “scramble intersections” or “scramble crosswalks,” all vehicular traffic is stopped to allow pedestrians to cross in all directions including diagonally. Scramble crosswalks are advantageous at major intersections in areas with high pedestrian traffic, as they more efficiently allow pedestrians to cross directly to their desired corner and reduce pedestrian-vehicle conflicts.

### Best Design Practices / Guidelines

1. Scramble intersections have “pedestrian only” phase in signal light cycles during which vehicles at all approaches are prohibited from entering an intersection including right turns.

## Protected Bicycle Intersection

A protected bicycle intersection utilizes a **Curb Extension** (see page 47) at each corner to add a barrier between a bicycle lane and vehicular travel lanes at an intersection to make cyclists more visible to motor vehicles. This arrangement reduces bicycle-vehicle conflicts 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 vehicular traffic or other cyclists continuing straight.

### Best Design Practices / Guidelines

1. 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.
2. 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.
3. A protected bicycle intersection can include low height landscaping in raised corner safety islands.



\* Scramble intersection  
Long Beach, CA (Source: Gruen)



\* Scramble intersection  
Hollywood, CA (Source: Gruen)



\* Bike queuing space at intersection protected by curb extensions  
Chicago, IL (Source: John Greenfield)



## Flashing Beacon / Pedestrian Hybrid Beacon

Pedestrian Activated Warning Beacons are flashing yellow lights that provide additional warning to drivers that a pedestrian is crossing the roadway. This unique type of signal is more visible to drivers than traditional crosswalks which makes them ideal for mid-block crossings. Warning beacons often require pedestrians to activate a button, which alerts the signal system of the presence of a pedestrian requesting a “walk” signal.

### Best Design Practices / Guidelines

1. Push buttons should incorporate sound for the visually impaired.
2. Push buttons should be installed at all marked pedestrian crossings.



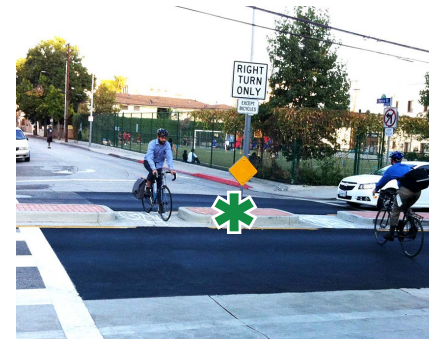
\* Pedestrian-activated warning beacon at a continental crosswalk  
East Los Angeles, LA County UA (Source: StreetView)

## Diverter

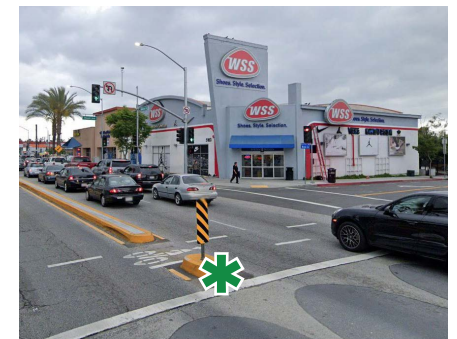
A traffic diverter is a roadway design feature which uses temporary low cost materials such as striping and planters or more permanent installations such as raised curbs to prohibit vehicular traffic from entering into, or from, a street. Diverters may be combined with a **Median Refuge Island** (see page 44) to make the crossing much easier and safer for pedestrians. Diverters may include landscaping or signage that can integrate them into the feel and fabric of the surrounding neighborhood.

### Best Design Practices / Guidelines

1. Use signs within the diverter and reflective point on the curb to improve diverter visibility.
2. Use permeable materials and low water landscaping within the diverter for storm water management and aesthetics based on the Los Angeles County Public Works’ Low Impact Development (LID) Standards Manual.
3. Bicycles can freely pass through the diverter. Utilize enhanced crosswalks and a “Z” pedestrian crossing to improve pedestrian safety.



\* Diverter with bike pass-through  
Los Angeles, CA (Source: LA DOT)



\* Diverter with bike pass-through  
East LA, CA (Source: StreetView)



## Median Refuge Island

Median refuge islands provide a protected space for pedestrians or bicyclists crossing the street at intersections or mid-block crosswalks on roads where a raised median exists. They are especially recommended for major and secondary highways or other wide streets that are unsignalized.

### Best Design Practices / Guidelines

1. Median refuges should accommodate pedestrians with disabilities and provide all pedestrians with a clear path of travel.
2. The minimum width of a median refuge island is 6', with a preferred width of 10'. The minimum length of the island is 13' or the length of the crosswalk whichever is wider, with a typical range between 13-20'.
3. Signage and reflective material should identify the refuge island.
4. Provide detectable paving for visually impaired users to indicate the presence of a pedestrian refuge.



\* Highly visible pedestrian/bicycle refuge with ADA warning strips

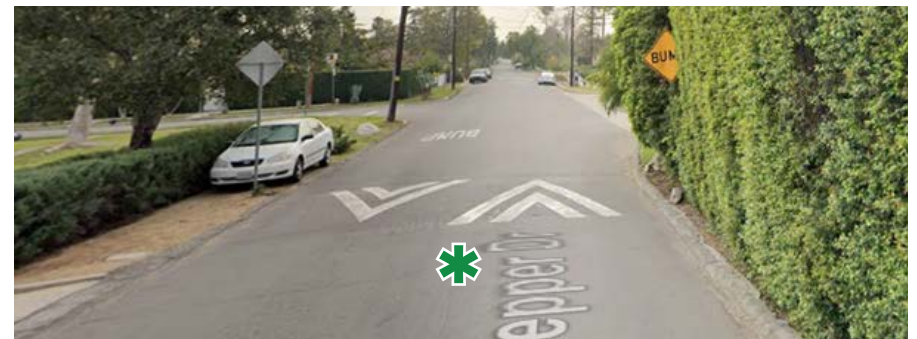
Hayward, CA (Source: Gruen)

## Speed Hump / Speed Cushion / Raised Crossing

Speed humps (also referred to as speed bumps) are mid-block vertical traffic calming devices that raise the pavement several inches to reduce traffic speed. A raised crossing may be designed to raise an entire intersection to the curb level facilitating easier pedestrian crossing and slower vehicle speeds.

### Best Design Practices / Guidelines

1. Raised crossings have a flat surface with sloped ramps for vehicles.
2. To shorten the distance of crossing a street and improve recognition of pedestrians, raised crossings are typically located in conjunction with a curb extension and with the flat surface at the level of the curb.



\* Residential street speed hump

Altadena, LA County UA (Source: StreetView)

## Traffic Circle / Roundabout

Traffic circles are intersections with a circular island in the center 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. Traffic circle intersections can be stop-controlled or yield-controlled. The center island slows the flow of vehicular traffic into intersections and reduces collision potential, 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

1. Use permeable materials and low water landscaping within the traffic circle center island for storm water management and create an attractive image.
2. Use signs and reflective paint on the curb to improve visibility.
3. Design speeds for vehicular movement at the traffic circle should be 10 to 15 mph.
4. Include red curb at the edges of the center circle to allow for fire engine access.
5. To reduce idling, traffic build-up, and associated emissions, roundabouts should be considered at intersections near the transit station.



\* **Landscaped traffic circle with signage for pedestrian crossing**

Long Beach, CA (Source: Center for Health Journalism)

## Atlantic/Whittier TOD Case Study

The map below shows the LA County Vision Zero Collision Concentration Corridors (half-mile roadway segments that contained three or more fatal or severe injury collisions between January 1, 2013 and December 31, 2017) in and around the Atlantic/Whittier TOD.



Source: Vision Zero Los Angeles County: A Plan for Safer Roadways, 2019

Based on this information, road crossing improvements including traffic calming devices and high visibility crosswalks should be prioritized along the following corridors:

- Whittier Blvd from Burger Ave to Hendricks Ave
- Atlantic Blvd from Olympic Blvd to Telegraph Rd

Future improvements should also utilize the Los Angeles County Vision Zero Action Plan as a reference for priority corridors.

## 04 Curb Zone Amenities

### On-Street Parking

Transit-oriented areas often encourage reduced off-street parking requirements, and the provision of on-street parking ensures that adequate parking for a TOD is maintained. Curbside on-street parking serves as a buffer for pedestrians from travel lanes. On-street parking is also desirable for streets with high commercial activity and allows patrons to retailers to park in one spot and visit multiple adjacent businesses.

#### Best Design Practices / Guidelines

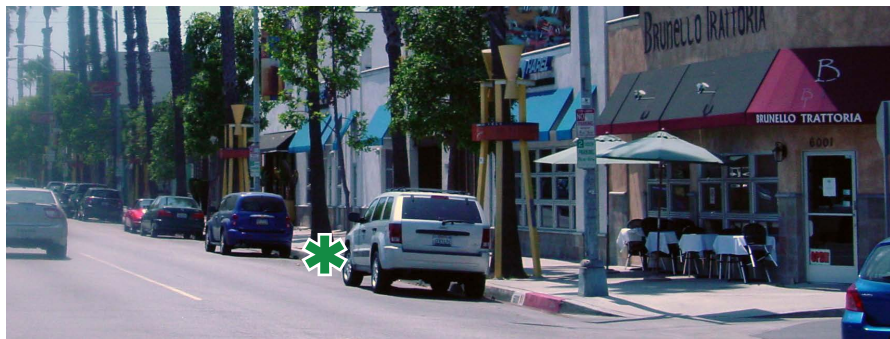
1. Along commercial corridors, establish an on-street parking strategy to enable short-term parking next to retailers, restaurants, and other businesses.
2. For residential areas adjacent to high-activity commercial corridors, consider the implementation of a residents-only permit parking district to ensure the preservation of street parking for local residents.

### Pick-up and Drop-off Zones

Pick-up and drop-off zones are marked areas in the curb zone which permit passenger loading or temporary parking, usually for an interval of less than 15 minutes, to facilitate carpooling to and from key locations. Transit stations, hotels, community buildings, schools, and businesses which include valet service are land uses which typically include pick-up and drop-off zones at the curb.

#### Best Design Practices / Guidelines

1. Ensure the curb in front of the transit station has a dedicated pick-up and drop-off zone area.
2. Require all curbside pick-up and drop-off zones be adequately marked along the curb and ensure appropriate signage is clearly visible from the sidewalk to indicate the area is only available for the loading of passengers.



\* On-street parking provided along a commercial corridor  
Culver City, CA (Source: Gruen)



\* Clear pick-up zone signage  
Van Nuys, CA (Source: Gruen)



\* White curb passenger loading  
El Monte, CA (Source: StreetView)



## Curb Extension

A curb extension is a portion of the sidewalk that is extended into the curb zone. Curb extensions are typically located at intersections and other crossing points. Curb extensions are used to improve pedestrian safety by reducing the necessary crossing distance and to provide additional space for landscaping and any of the amenities listed in “**Furniture Zone Amenities**” beginning on [page 51](#) where space in the furniture zone is limited. Curb extensions allow pedestrians and drivers to see each other when parked vehicles would otherwise block visibility, and cause drivers to reduce speeds by narrowing the roadway. Curb extensions must be installed with curb ramps that comply with ADA standards.

### Best Design Practices / Guidelines

1. A curb extension should not obstruct sight lines and allow motorists to clearly see pedestrians and bicyclists. Well designed curb extensions could include low height landscaping, bioswale planting, bike parking, or seating.
2. To avoid conflict with bike lanes, curb extensions often occupy a portion of a curbside parking lane.
3. 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 re-divert stormwater to existing catch basins.



**\* Landscaped curb extension**  
Long Beach, CA (Source: Gruen)



**\* Landscaped mid-block extension**  
Montrose, LA County UA (Source: StreetView)

## Bus Bulb

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 bus bulb 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

1. Bus bulbs are typically located on multi-lane arterials with curbside parking allowing for an extension of the sidewalk at intersections and for vehicles to pass stopped buses in adjoining lanes.
2. Bus bulbs are used in constrained sidewalk conditions where there is limited space for a transit shelter and other amenities.
3. Bus bulbs may be used in high bus ridership corridors for premium service such as Rapid or Bus Rapid Transit.
4. Far side bus bulbs are preferred over near side bus bulbs to avoid right turn interference.
5. The length of bus bulbs vary depending on the type of transit vehicle (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.



**\* Curbside bus bulb with seating, curb ramps, and bollards**  
Los Angeles, CA (Source: StreetView)



## Treelet

A treelet is a curbed tree well that is extended into the curb zone, often between on-street parking spaces. Treelets are typically used along constrained roadways with significant commercial or mixed-use frontage where there is not adequate space in the furniture zone for landscaping. A street may be able to maintain the same number of on-street parking stalls even with the addition of treelets as they are typically placed between existing stalls. A tree pit requires a saw-cut section of the street outside the gutter dimensions to prevent conflicts with existing drainage infrastructure.

### Best Design Practices / Guidelines

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

## Chicane

Chicanes are a type of **Curb Extension** (see page 47) that act as traffic calming devices to reduce vehicle speeds by narrowing the roadway and altering travel lanes from a straight orientation to a curved or “S”-shaped orientation. Chicanes be placed in an alternating pattern from one side of the street to the other. Like other curb extensions, chicanes can be used to provide additional landscaping or furniture zone amenities such as seating and signage to create a more pleasant walking environment and to create a buffer between the sidewalk and the street.

### Best Design Practices / Guidelines

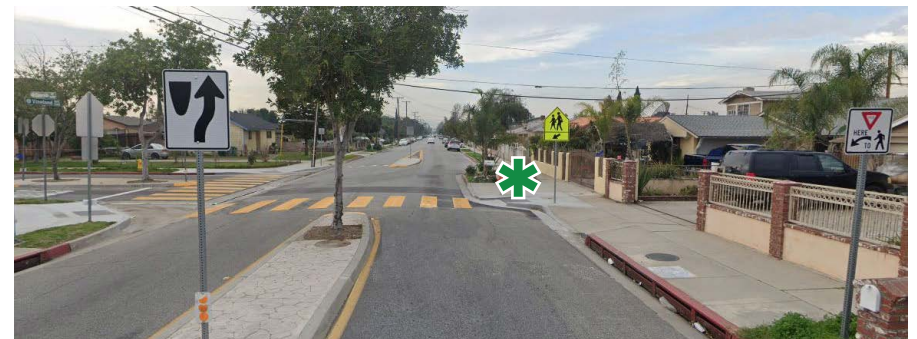
1. A chicane may require special striping of the street and signage reflective paint on the curb to ensure drivers are aware of the serpentine roadway.
2. Landscaping and storm water infiltration in the chicane contributes to a pleasant walking environment and can aid in wayfinding for drivers.



\* Shady treelet between car stalls  
San Jose, CA (Source: Gruen)



\* Treelet between angled car stalls  
La Mesa, CA (Source: Gruen)



\* Chicane placed at pedestrian crossing to slow traffic  
Baldwin Park, CA (Source: StreetView)

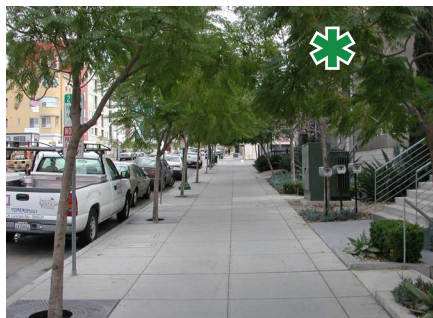
# 05 Streetscape/Landscape Infrastructure

## Street Trees and Vegetation/Landscaping

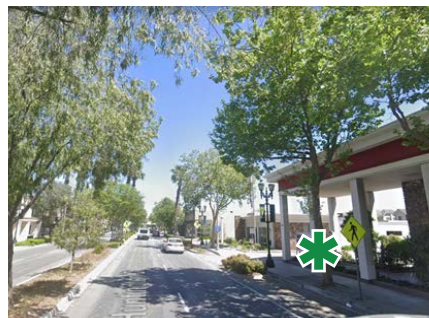
Street trees and other types of street vegetation will enhance the walkability, comfort and attractiveness of the Station Area streets. Street trees provide visual interest, unity and shade protection from the hot sun. Landscaping of parkways and tree wells compliment and support street trees and assist 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

1. 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.
2. 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.
3. Typical street trees should be spaced 25' - 30' apart while avoiding interference with street lighting, utilities and visibility of approaches to intersections and driveways.
4. Plant vegetation barriers between the freeway/high volume roadway and the housing site to help with pollution reduction.
5. Plant additional trees on neighborhood streets surrounding the housing development to further mitigate air pollution.



\* Sidewalk with tree canopy  
San Diego, CA (Source: Gruen)



\* Shade trees  
Arcadia, LA County UA (Source: LA County)



\* Parkway planters with trees  
Montrose, LA County UA (Source: StreetView)



\* Parkway bioswale  
Los Angeles, CA (Source: LA Times)

## Parkway Planter/Bioswale

Parkway 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. If infiltration is not feasible due to soil conditions, drainage pipes may be installed beneath the soil to carry the filtered water to the storm drain system.

### Best Design Practices / Guidelines

1. Parkway planters or bioswales may be designed in many ways. The illustration is one example of a parkway planter where the curb is broken to allow storm water in the gutter to flow into a bioswale planter in the sidewalk area.
2. If there is not curbside parking, place the parkway planter next to the curb. If there is curbside parking, place an accessible area between the curb and the parkway planter.
3. Allow for accessible breaks in the parkway planters periodically.

## Roadway Median

Medians are areas that divide the roadway. They may be painted, paved, elevated, landscaped. Roadways may include a raised landscaped center median to allow for additional street landscaping, monument signage, and pedestrian refuge islands to facilitate safer crossings. The introduction of a raised median may help to slow travel speeds and reduce the number of vehicle-pedestrian collisions. In constrained conditions, a landscaped median may replace a portion of an existing dedicated left-turn lane.

### Best Design Practices / Guidelines

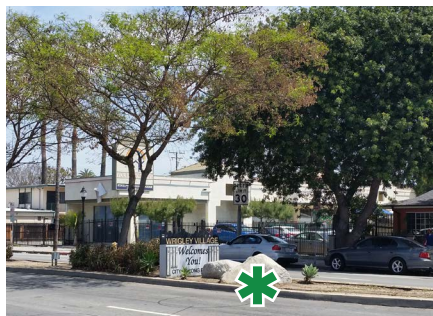
1. Raised medians should be no less than 6' wide with a preferred width of 8'.
2. If the raised landscaped median includes trees, they should be no less than 10' wide.

## Permeable Paving

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

1. 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.



\* Median with monument signage

Long Beach, CA (Source: Gruen)



\* Median with vegetation

Marina Del Rey, LA County UA  
(Source: StreetView)



\* Permeable intersection/crosswalk paving

Arcadia, LA County UA (Source: StreetView)



# 06 Furniture Zone Amenities

## Transit Stops and Shelters

Transit stops and shelters should be designed for a positive passenger experience and for safety and security by providing adequate lighting, equipment such as emergency telephones, and visibility from the surrounding area and streets. Shelters should be established in the furniture zone and not in the pedestrian zone to ensure adequate space for pedestrian passage and with sufficient room for bus wheelchair lifts to load and unload passengers.

### Best Design Practices / Guidelines

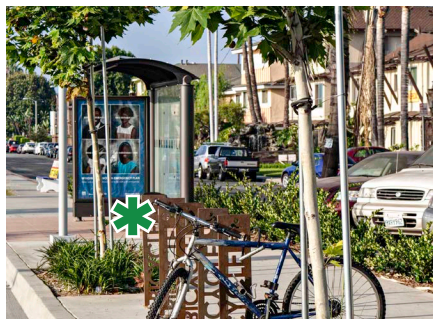
1. A shelter should be provided at all transit stops and stations where space permits to protect commuters from sun and from inclement weather. If the design of the transit shelters within the TOD deviate from County standards, the shelter should be designed to provide adequate lighting, seating, a 5'x8' passenger loading area at the front door of the bus, accessibility to the bus and the sidewalk, and information signage.
2. Benches or seats should be provided at all transit stops and stations for commuters to rest while waiting for the bus or train for those who have difficulty standing for long periods. Additional seating should be installed within close proximity of transit stops and stations and under shelter if feasible.
3. At a minimum, all transit stops and stations should provide signage displaying the route number, timetables, and maps to benefit patrons with transfers and those that are less familiar with the network. For major transit stations and terminals, displaying real time information on arriving transit vehicles should be considered.

## Street Furniture

Street furniture on sidewalks acts as a buffer between pedestrians and vehicular traffic and contributes to an active vital, walkable environment. Benches, trash 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

1. Except at bus shelters and when space allows, benches should face or be perpendicular to the sidewalk creating a seating node.
2. 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.
3. Bicycle racks should be located near transit stops, major destinations and bike paths.



\* Bus shelter with bike amenities  
Temple City, CA (Source: Gruen)



\* Bus shelter with seating  
Athens-Westmont, County UA  
(Source: StreetView)



\* Bench and waste receptacle  
Playa Vista, CA (Source: Gruen)



\* Bike parking on curb extension  
Los Angeles, CA (Source: Gruen)

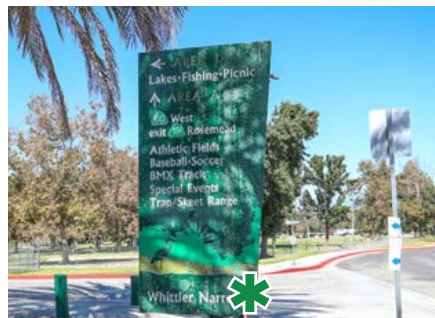


## Wayfinding

Including wayfinding signage in the furniture zone can help visitors navigate to major destinations, public facilities, and transit connections. Pedestrian wayfinding signage may be vertical signage or paved markings, and can have digital displays to show time to the station. Wayfinding can be used to help create an identity for an area and can contribute to placemaking in the TOD. Generally, wayfinding signage comes in three types: 1) Identification signs that mark key destinations and activity centers, 2) Informational signage that provide contextual information on a point of interest, and 3) Directional signage that show the optimal route between key destinations. A successful TOD will make use of all three types of signage with an emphasis on directional signage pointing to the transit station and informational signage for major destinations.

### Best Design Practices / Guidelines

1. The County currently follows Caltrans standards. In the future, the County may consider developing a uniform signage system for TODs that is clear and concise for each of the type of signage. Signs need to be coordinated with Metro’s signage standards.
2. Directional and informative signage should use a consistent color palette, fonts, materials and graphics and be scaled for its purpose.



**\* Major activity center wayfinding**  
Whittier, LA County UA (Source: LA County)



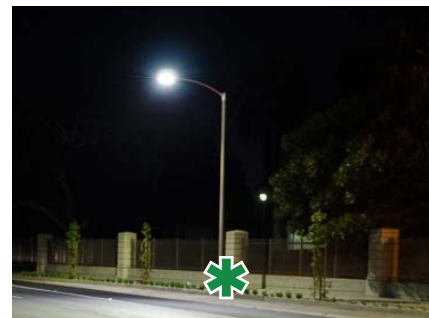
**\* Wayfinding signs for nearby areas**  
East Los Angeles, LA County UA (Source: StreetView)

## Lighting

Streetlights shall be installed in conformance with County street lighting guidelines and may be accompanied by shorter, pedestrian scale lighting at more frequent intervals to create a more aesthetically pleasing, comfortable, and safe environment for pedestrians. Decorative pedestrian-scaled lighting can add to the identity of TOD’s commercial corridor. However, the County does not currently have a process for requesting pedestrian lighting. Any costs associated with pedestrian lighting will need to be made available by others.

### Best Design Practices / Guidelines

1. Lighting should have energy efficient fixtures such as LED which provides even, uniform distribution of light enhancing visibility and safety while conforming to County Street Lighting Design Guidelines.
2. Streetlights can only be installed if the adjacent property owners are willing to pay for their installation and recurring costs through a petition process to annex territory to the County Lighting Maintenance District (CLMD) to collect revenues from the property owners.
3. The County is in the process of acquiring the streetlights from Southern California Edison. All new streetlights in the County will be County-owned and -maintained.
4. As per the California Streets and Highways Code, CLMD funds can only be used to fund the operation and maintenance of roadway lighting within the CLMDs and not pedestrian lighting. The design, construction, operation, and maintenance for pedestrian lighting costs will need to be made available by others.



**\* Pedestrian lighting in parkway**  
West Los Angeles, LA County UA (Source: County)



**\* Pedestrian lighting**  
East Los Angeles, LA County UA (Source: StreetView)

## 07 Rail Station Interface with Other Modes

An attractive, functional, and accessible rail transit station with easy inter-modal transfers from other modes should be the focus of the half-mile station area.

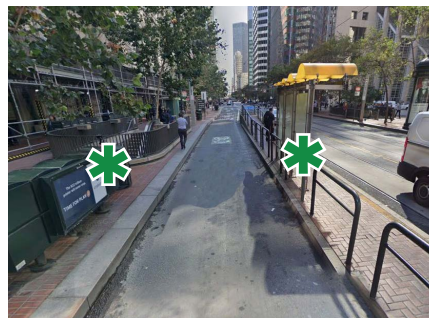
### Best Design Practices / Guidelines

1. Design transfer between modes (bus, shuttle, shared vehicles, etc.) at the rail station to be safe and to save patrons time improving the overall passenger experience, increasing ridership, and helping to reduce congestion around the station and in the half-mile area.
2. Locate the transit site and portal(s) to facilitate pedestrian access and capitalize on development potential.
3. Enhance the Metro systemwide design program for the station and plaza with additional art, placemaking amenities, and wayfinding signage that addresses the individual station area neighborhoods.
4. Using the components listed in the toolkit, provide comfortable and safe pedestrian and bicycle pathways linking the station to the surrounding neighborhoods and businesses and safe crossings on streets. Pathways should be along the major and secondary corridors, local neighborhood streets, and on paseos that pass through adjacent private properties when blocks are long.
5. Stations located in a TOD's secondary area will need to plan connections with other jurisdictions



\* Plaza and escalators leading to subway station at an intersection

Hollywood, CA (Source: Gruen)



\* Bus shelters adjacent to subway station portal

San Francisco, CA (Source: StreetView)

### Atlantic/Whittier TOD Case Study

The Metro rail station is currently planned to be currently located underground at the intersection of two major roadways, Atlantic and Whittier Boulevards. Bus service exists today on both streets providing a connection to the Metro rail station within the half-mile station area and neighboring areas. Design guidelines to consider for this station and its interface with other mobility modes include:

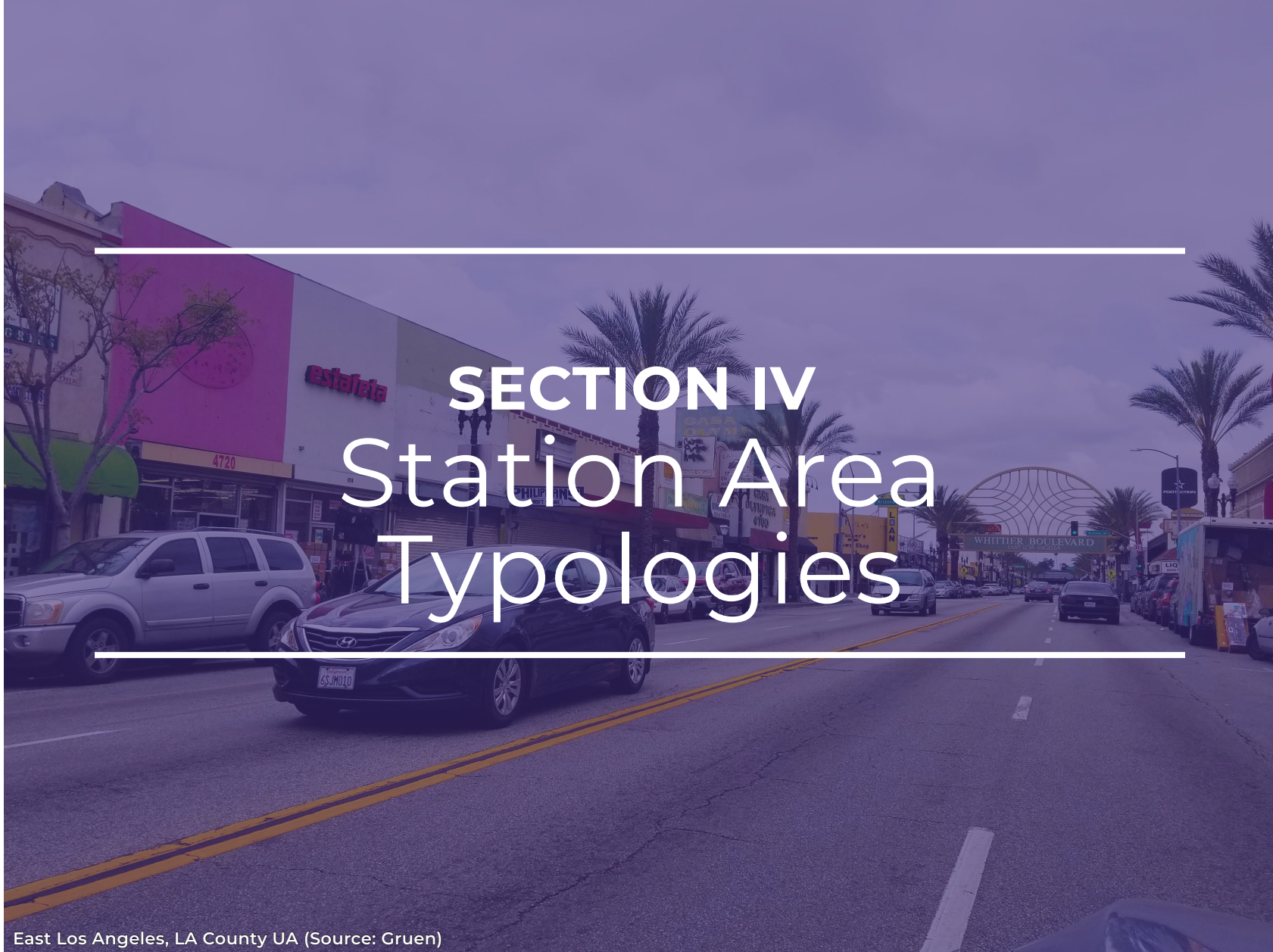
- Redesigning the intersection for ease of pedestrian crossing using items from the toolkit such as a scramble intersection, curb extensions at the curbs, a raised crossing, improved signals, and wayfinding, plus an additional transit portal on both sides of the street.
- Provide traffic calming toolkit components along major/secondary streets near the station to slow traffic through the intersection.
- Facilitate the flow of buses and other transit to the station by investigating the utility of transit-only lanes with stops near the station portal.
- Plan for a pick-up and drop-off zone in the curb zone on both sides of Whittier and Atlantic.
- Work with Metro to incorporate key placemaking elements and amenities such as public art, shade structures, and street/vendor furniture to aid in establishing a sense of place and identity for the neighborhood in the plaza area.
- During the Specific Plan process, explore alternatives for bike lanes along neighborhood streets which run parallel to Atlantic and Whittier with direct connections to the station. Provide bicycle amenities at the station such as a bike hub, bike lockers, and shared bike and scooter parking.

# 08 Summary Table

This table should serve as a guide to identify the roadway zones where it may be appropriate to add a street component to an existing roadway.

Potential Improvements for Major and Secondary Highways	Travel Lanes	Center Median	Curb Zone	Furniture Zone
Transit Lane	●	●		
Transit Shelter		●		●
Left Turn Lane	●	●		
Bike Lane	●			
Sidewalk				●
Enhanced/High Visibility Crosswalk	●	●	●	
Curb Ramp			●	●
Scramble Crosswalk	●		●	●
Protected Bicycle Intersection	●		●	●
Flashing Beacon / Pedestrian Hybrid Beacon		●		●
Diverter		●		
Median Refuge Island		●		
Speed Table / Speed Hump	●			
Traffic Circle / Roundabout	●			
On-Street Parking		●	●	
Pick-Up/Drop-Off Area			●	
Curb Extension			●	
Bus Bulb			●	
Parklet/Treelet			●	
Chicane	●		●	
Street Vegetation/Landscaping		●		●
Parkway Planter / Bioswale		●		●
Permeable Paving		●	●	●
Benches/Seating				●
Trash Receptacle				●
Bicycle Parking			●	●
Wayfinding Signage		●		●
Pedestrian Lighting				●





East Los Angeles, LA County UA (Source: Gruen)



# 01 Station Area Typologies Overview

## Process

The Project Team analyzed 10 potential station areas and has identified six TOD Station Area typologies which generally describe these areas. The shared characteristics amongst stations in a typology form the basis of recommendations shared in this section.

## Characteristics

The six typologies, presented at right, factor both existing conditions shown in as well as potential transit-supportive land-use, urban design, and infrastructure changes that may be feasible to implement as the station area develops.

## Typologies Summarized

### Urban Mixed-Use

Dense residential development supported by a mix of non-residential uses.

**Stations:**

- Atlantic Blvd/Whittier Blvd Station

### Urban Residential

A half-mile area dominated by single-family or medium-density residential uses.

**Stations:**

- Florence Ave/Salt Lake Ave Station
- Norwalk Blvd/Washington Blvd Station

### Mixed-Use Job Center

A significant presence of local-serving retail and/or a significant mix of non-residential uses.

**Stations:**

- Lambert Rd/Washington Blvd Station

### Institutional

One major institution, or a cluster of institutions, which anchors the half-mile area.

**Stations:**

- Westwood/VA Hospital Station
- Westwood/UCLA Station

### Regional Retail Center

One large regional-serving retail center which accounts for the majority of through traffic for the TOD.

**Stations:**

- Commerce/The Citadel Station
- The Shops at Montebello/60 Fwy

### Open Space-Dominated

A significant presence of agricultural land, parkland, river, cliffs, or other natural open space amenity.

**Stations:**

- Santa Anita Ave/60 Fwy Station
- Peck Rd/60 Fwy Station

Table IV 1: Existing Station Area Characteristics


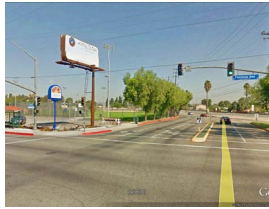




















		EXISTING CHARACTERISTICS				
		Potential TOD Station Areas	Mix of Uses and Densities/ Intensities	Built Form and Design	Open Space, Parks, and Public Spaces	Public Realm Mobility
Station Area TOD Typologies	Urban Mixed-Use	<p>Atlantic Blvd/ Whittier Blvd Station</p> 	<p>The majority of land uses within the half-mile area are medium-density residential.</p> <p><b>Atlantic/Whittier:</b> Multiple major corridors are lined with single-story commercial single-family to medium-density residential. There is a big-box and large industrial center as well.</p>	<p>Buildings in the half-mile area are primarily 2-4 stories.</p> <p>Parcels are typically less than 125ft in depth. Residential lots have short front yards, stoops, fences or lawn walls.</p>	<p>Public park space is limited in the half-mile area.</p> <p>The half-mile area experiences exposure to air pollution from nearby high-volume roadways or freeways.</p>	<p>The half-mile area has a street layout which forms a regular street grid with alleys. The half-mile area has 3 major corridors with some streetscape improvements, though they are not equally applied. There is high demand for on-street parking.</p>
	Urban Residential	<p>Florence Ave/ Salt Lake Ave Station</p> 	<p>The majority of land uses in unincorporated County are single-family residential.</p> <p><b>Norwalk:</b> Most uses in the half-mile area, including secondary areas, are residential.</p>	<p>Most buildings in the half-mile area, including secondary areas, are around 2-3 stories.</p> <p>Both residential and commercial parcel are roughly average in size.</p>	<p>Public park space is limited in the half-mile area.</p>	<p>The half-mile area has a street layout pattern which forms a consistent street grid but includes superblocks. There are no alleys. A major highway acts as a barrier in the half-mile area and pedestrian amenities are lacking along major corridors.</p>
	Mixed-Use Job Center	<p>Norwalk Blvd/ Washington Blvd Station</p> 	<p><b>Florence/Salt Lake:</b> Most uses in the half-mile area, including secondary areas, are single- to medium-residential.</p>	<p>The majority of land uses in unincorporated County are single-family residential. Most uses in the half-mile area, including secondary areas, are residential.</p>	<p>Most buildings in the half-mile area, including secondary areas, are around 2-3 stories.</p> <p>Both residential and commercial parcel are roughly average in size.</p>	<p>Public park space is limited in the half-mile area.</p>
		<p>Lambert Rd/ Washington Blvd Station</p> 				

Table IV 1: Existing Station Area Characteristics (cont.)

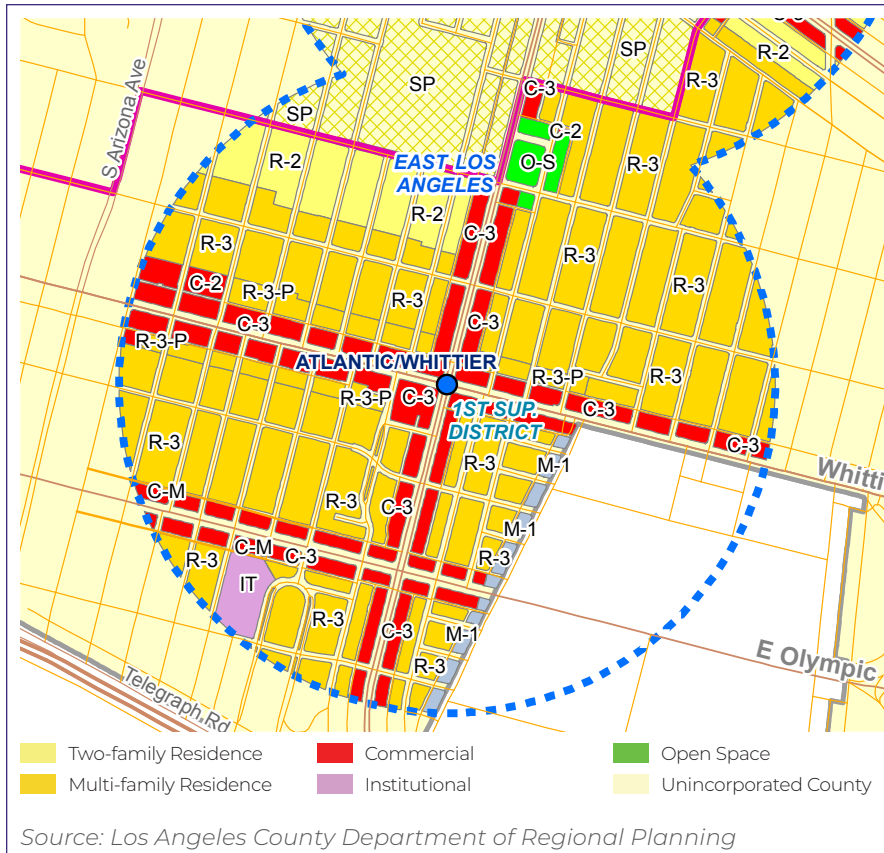
		EXISTING CHARACTERISTICS				
		Potential TOD Station Areas	Mix of Uses and Densities/ Intensities	Built Form and Design	Open Space, Parks, and Public Spaces	Public Realm Mobility
Station Area TOD Typologies	Institutional	Westwood/ VA Hospital Station 	The majority of land uses within half-mile area, including secondary areas, are medium- to high-density residential but are anchored by a large employment activity center (VA Hospital or UCLA). The VA Hospital and VA Cemetery are both within unincorporated LA County, but are federal jurisdiction.	Most buildings in the half-mile area are around 4-stories. Some buildings in and directly adjacent to the institution are 10+ stories.  Parcels directly adjacent to or containing the institution facilities are larger than average.	The half-mile area contains large publicly-accessible parks within or near the institution.	The street layout pattern does not form a consistent street grid and the major institution breaks the regularity of street grid. Alleys are present in select blocks.
		Westwood/ UCLA Station 				
	Regional Retail Center	Commerce/ The Citadel Station 	The half-mile area has one development which acts as a regional destination or commercial activity center.  <b>Montebello:</b> Aside from the mall, most uses in the half-mile area are open-space or single-residential.  <b>Commerce:</b> Most uses in half-mile area are a regional mall, industrial complexes, and medium-residential.	Most buildings in the half-mile area, including secondary areas, are around 2 stories.  Parcels containing the regional retail center are larger than average.	Public park space is limited in the half-mile area.	The major activity center is isolated and is difficult to walk to. Pedestrian amenities are lacking along major corridors.
		The Shops at Montebello/ 60 Fwy 				
	Open Space-Dominated	Santa Anita Ave/60 Fwy Station 	A significant portion of land within the half-mile area, including secondary areas, is designated as open space or agriculture.  <b>Santa Anita:</b> There is a somewhat even mix in the half-mile area of industrial, open space, and single-family residential.  <b>Peck:</b> Most land uses in the half-mile area are open space or single-family residential.	Most buildings in the half-mile area, including secondary areas, are around 1-2 stories.  Parcels within the half-mile area are larger on average than other, more compact TOD typologies.	The half-mile area includes a significant portion of a natural park, large regional park, cliffs, hills, stream, river, or other natural open space amenity.  The half-mile area experiences exposure to air pollution from nearby high-volume roadways or freeways.	The street layout pattern consists of cul-de-sacs and superblocks which make the half-mile area difficult to navigate on-foot. There are no alleys.
		Peck Rd/60 Fwy Station 				

**Table IV 2: Future Station Area Characteristics**

		FUTURE CHARACTERISTICS				
		Mix of Uses and Densities/Intensities	Built Form and Design	Open Space, Parks, and Public Spaces	Public Realm Mobility	
<b>Station Area TOD Typologies</b>	Urban Mixed-Use	 	<ul style="list-style-type: none"> <li>Office or residential above retail, restaurants, and other pedestrian-friendly uses</li> <li>Multi-family residential</li> </ul>	<ul style="list-style-type: none"> <li>Larger parcel patterns &amp; infill developments</li> </ul>	<ul style="list-style-type: none"> <li>Infill neighborhood parks</li> <li>Publicly-accessible private open space</li> </ul>	<ul style="list-style-type: none"> <li>Well connected street network</li> <li>Shared parking strategies</li> </ul>
	Urban Residential	 	<ul style="list-style-type: none"> <li>Residential above retail, restaurants, and other pedestrian-friendly uses</li> <li>Multi-family and single-family residential</li> </ul>	<ul style="list-style-type: none"> <li>Smaller parcel patterns &amp; infill developments</li> </ul>	<ul style="list-style-type: none"> <li>Playgrounds and other neighborhood amenities</li> </ul>	<ul style="list-style-type: none"> <li>Well connected street network</li> <li>Secondary pathways for pedestrian and cyclist circulation to neighborhood centers</li> </ul>
	Mixed-Use Job Center	 	<ul style="list-style-type: none"> <li>Office above retail, restaurants, and other pedestrian-friendly uses</li> <li>Multi-family residential</li> </ul>	<ul style="list-style-type: none"> <li>Larger parcel patterns &amp; infill developments</li> </ul>	<ul style="list-style-type: none"> <li>Parks and recreational space adjacent to major job centers</li> </ul>	<ul style="list-style-type: none"> <li>Well connected street network</li> <li>Pedestrian- and cyclist-friendly major roadways</li> </ul>
	Institutional TOD	 	<ul style="list-style-type: none"> <li>Institutional offices/facilities above retail, restaurants, and other pedestrian-friendly uses</li> <li>Limited residential (high density)</li> </ul>	<ul style="list-style-type: none"> <li>Larger parcel patterns &amp; infill developments</li> </ul>	<ul style="list-style-type: none"> <li>Parks and recreational space adjacent to or within major institution</li> <li>Publicly-accessible private open space</li> </ul>	<ul style="list-style-type: none"> <li>Well connected street network</li> <li>Safe, attractive internal pathways leading from major roadways to institutional centers</li> </ul>
	Regional Retail Center TOD	 	<ul style="list-style-type: none"> <li>Anchored by regional commercial uses</li> <li>Limited residential (high density)</li> </ul>	<ul style="list-style-type: none"> <li>Infill and adaptive re-use developments</li> </ul>	<ul style="list-style-type: none"> <li>Recreation areas to break up larger developments</li> <li>Publicly-accessible private open space</li> </ul>	<ul style="list-style-type: none"> <li>Well connected street network</li> <li>Pedestrian and cyclist circulation from residential areas to commercial core</li> </ul>
	Open Space-Dominated TOD	 	<ul style="list-style-type: none"> <li>Anchored by regional open space</li> <li>Limited residential (low density)</li> </ul>	<ul style="list-style-type: none"> <li>Limited development</li> </ul>	<ul style="list-style-type: none"> <li>Region-serving open space amenities</li> </ul>	<ul style="list-style-type: none"> <li>Limited street network</li> <li>Pedestrian trails with clear access from major roadways</li> </ul>



## 02 Urban Mixed-Use TOD



The Urban Mixed-Use TOD typology is characterized by dense residential development supported by a mix of non-residential uses. Urban Mixed-Use TODs may have one or more major commercial corridors.

As of 2020, the following proposed transit stations have half-mile TOD areas which match this typology: Atlantic/Whittier.

### TOD Typology Considerations

#### Mix of Uses and Densities/Intensities

- Concentrate development of new commercial uses and mixed-use buildings along major corridors on vacant or underutilized parcels.
- Preserve and foster infill development of medium-density residential throughout.
- Encourage development of key neighborhood resources such as grocery stores and daycare facilities near the transit station.

#### Built Form and Design

- Encourage the use of awnings on retail and restaurant storefronts along major commercial corridors to provide architectural character and shade for pedestrians to improve walkability.

#### Open Space, Parks, and Public Spaces

- Encourage residential uses to include porches or stoops on lots with shorter depths to ensure usable private open space.
- Where possible enhance existing alleyways to create green alleys or pedestrian malls to counteract the limited presence of traditional parks.
- Utilize parklets along commercial corridors where traffic patterns permit to reduce crowding from sidewalk dining and commercial displays.

#### Public Realm Mobility

- Implement traffic calming measures along high-traffic corridors to reduce vehicle/pedestrian collisions.
- Utilize shared parking strategies along major commercial corridors.
- Where possible utilize existing alleyways as bicycle corridors where roadway widths do not permit the addition of dedicated bike lanes.



### Profile Station: Atlantic/Whittier

The Atlantic/Whittier station area is largely residential, but has three major commercial corridors. Whittier Boulevard has some streetscape improvements already, but additional improvements are encouraged along other corridors. See Part III for a full case study of this station area.

(Source: Gruen)

### Atlantic/Whittier TOD Case Study

The map at right shows an illustrative view of improvements which may be considered for the Atlantic/Whittier TOD based on its Urban Mixed-Use TOD Typology. Currently vacant and underutilized parcels (i.e. parcels with considerable street frontage devoted to surface parking) may be reconfigured or redeveloped to provide the neighborhood with more public open space, public/shared parking lots or structures, or critical neighborhood resources which are currently unavailable in the half-mile area. Existing streetscape improvements may be improved and supplemented with additional future pedestrian amenities. To maintain vehicular flows and to reduce collisions, the existing north-south and east-west alleys throughout the TOD may be used to provide alternative routes for bicyclists with connection points near the proposed transit station.



**\* Fenced-off auto-oriented business with street-adjacent parking**










East Los Angeles, LA County UA (Source: Gruen)



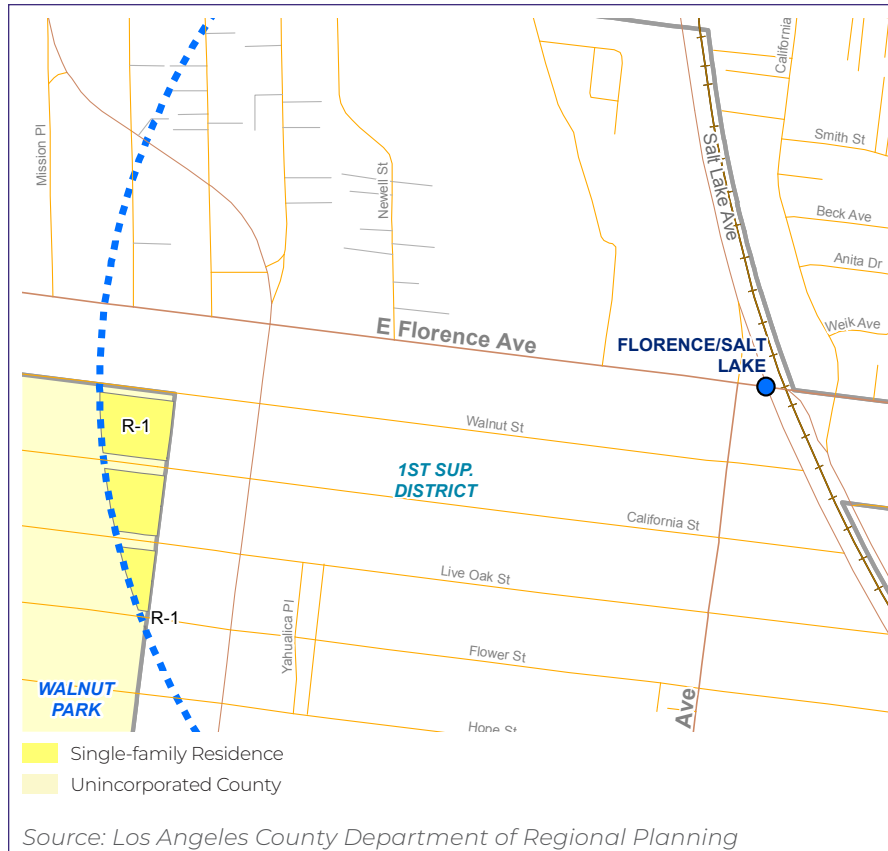
**\* Zero lot line development along major commercial corridor**

East Los Angeles, LA County UA (Source: Gruen)



-  1/2 Mile Radius from a Potential Transit Station
-  Potential Atlantic/Whittier Station
-  Commerce / Unincorporated County Boundary
-  Potential Street Trees, illustrative
-  Existing Alley
-  Potential Streetscape Improvements (i.e. improved bus shelters, seating, lighting, signage, etc.)
-  Existing Public Park/Facility
-  Primary Redevelopment Opportunity Sites
-  Potential Roadway Improvements (i.e. enhanced crossings)

# 03 Urban Residential TOD



The Urban Residential TOD typology is characterized by a half-mile area dominated by single-family or medium-density residential uses. This TOD typology often lacks a major commercial corridor or an employment hub to anchor the neighborhood.

As of 2020, the following proposed transit stations have half-mile TOD areas which match this typology: Florence/Salt Lake.

## TOD Typology Considerations

### Mix of Uses and Densities/Intensities

- Encourage development of accessory dwelling units on existing residential parcels.
- Encourage development of key neighborhood resources such as grocery stores and daycare facilities near the transit station.

### Built Form and Design

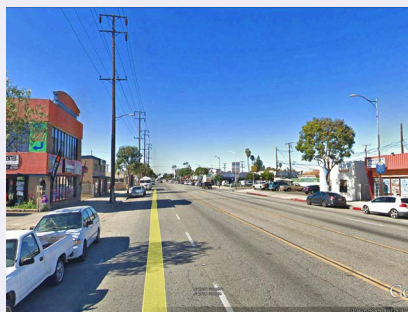
- Encourage more compact housing design to allow for greater amounts of private yard space for lower-density residential parcels.

### Open Space, Parks, and Public Spaces

- Convert lawns and open spaces at public institutions such as schools and civic buildings to neighborhood-serving public open spaces

### Public Realm Mobility

- Implement traffic-calming measures on corridors with out-bound traffic to adjacent areas with employment opportunities
- Prioritize enhanced connections to the transit station along main thoroughways



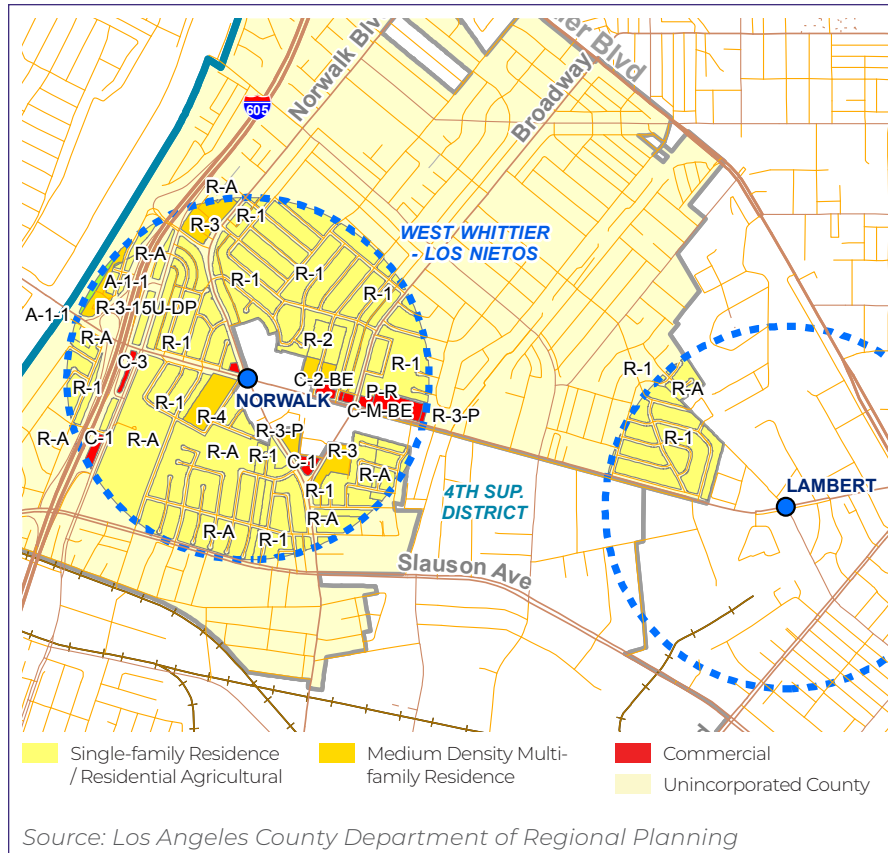
(Source: StreetView)

### Profiled Station: Florence/Salt Lake

Only portions of a few unincorporated area parcels are within the half-mile station area. These parcels are on the edge of the station area; the station itself is in Huntington Park. The station area parcels within the unincorporated area are designated as single-family residential.



# 04 Mixed-Use Job Center TOD



The Mixed-Use Job Center TOD typology is characterized by a significant presence of local-serving retail and/or a significant mix of non-residential uses.

As of 2020, the following proposed transit stations have half-mile TOD areas which match this typology: Norwalk, Lambert

## TOD Typology Considerations

### Mix of Uses and Densities/Intensities

- Preserve and expand the commercial or office core anchoring the station area.
- Permit a variety of residential typologies to support the job center and to fit multiple household types.

### Built Form and Design

- Target building heights of 2-5 stories throughout the station area.

### Open Space, Parks, and Public Spaces

- Provide publicly accessible private open spaces in the central employment core which are visible from the street.

### Public Realm Mobility

- Utilize parking strategies such as shared parking and Park Once Districts in and around the employment core.
- Preserve on-street parking along major commercial corridors and implement other traffic calming solutions to make the employment core pedestrian-friendly.



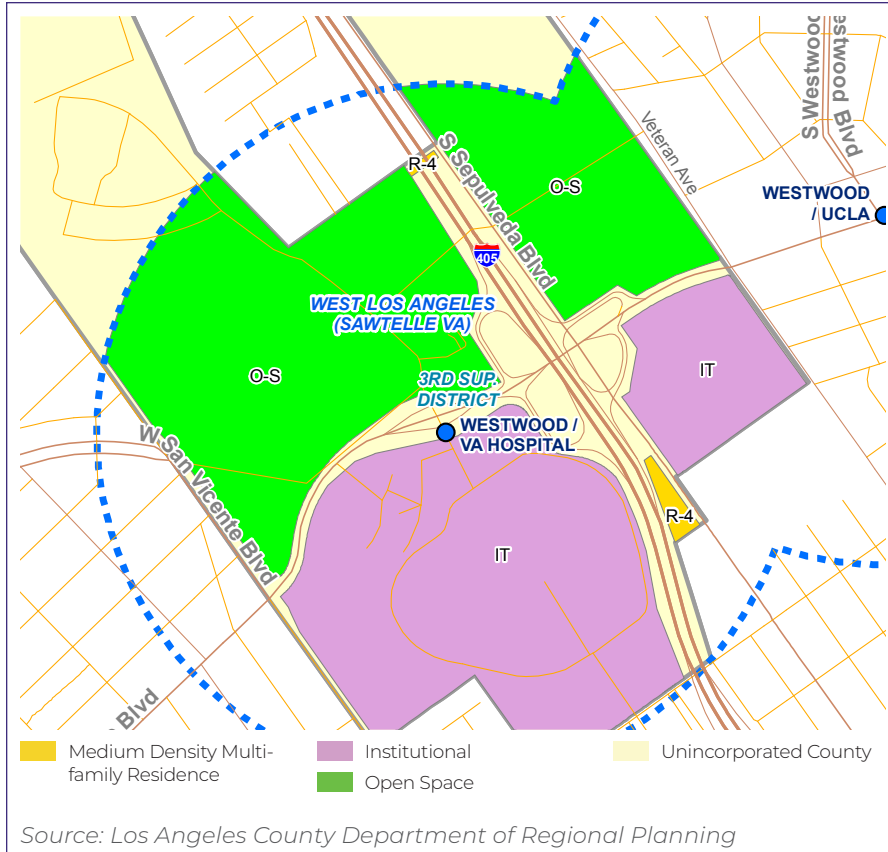
(Source: StreetView)

### Profiled Station: Norwalk

Only a small portion of the half-mile station area is not unincorporated County land. Though the Norwalk Station is under the jurisdiction of Santa Fe Springs, there is a potential for a coordinated development approach between the two jurisdictions. There are also a few parcels in the area that are zoned for commercial or multi-family development.



# 05 Institutional TOD



The Institutional TOD typology is characterized by one major institution, or a cluster of institutions, which anchors the half-mile area around a transit stop. Most uses are complimentary to the anchoring institution, and traffic congestion is highest at the entry and exit points to the institution. Institutions may be schools, hospitals, major employment centers, etc. Larger blocks typically comprise the institution and may break up a regular street grid from the surrounding area.

As of 2020, the following proposed transit stations have half-mile TOD areas which match this typology: Westwood/VA Hospital, Westwood/UCLA.

## TOD Typology Considerations

### Mix of Uses and Densities/Intensities

- Permit land uses which are complimentary to the institution, such as hotels and other hospitality uses, restaurants, and medium- to high-density housing.

### Built Form and Design

- Ensure building massing for institutional buildings do not create “street walls” and include pass-throughs and paseos where necessary to improve internal site circulation.

### Open Space, Parks, and Public Spaces

- Ensure and maintain presence of publicly-accessible private open space in and around the institution.
- Utilize wayfinding signage throughout the half-mile area, especially at the transit station, directing visitors to the major institution.

### Public Realm Mobility

- Implement pedestrian amenities which improve crossing conditions on all major roadways leading to the institution.
- Utilize parking strategies such as shared parking and Park Once Districts in and around the institution.

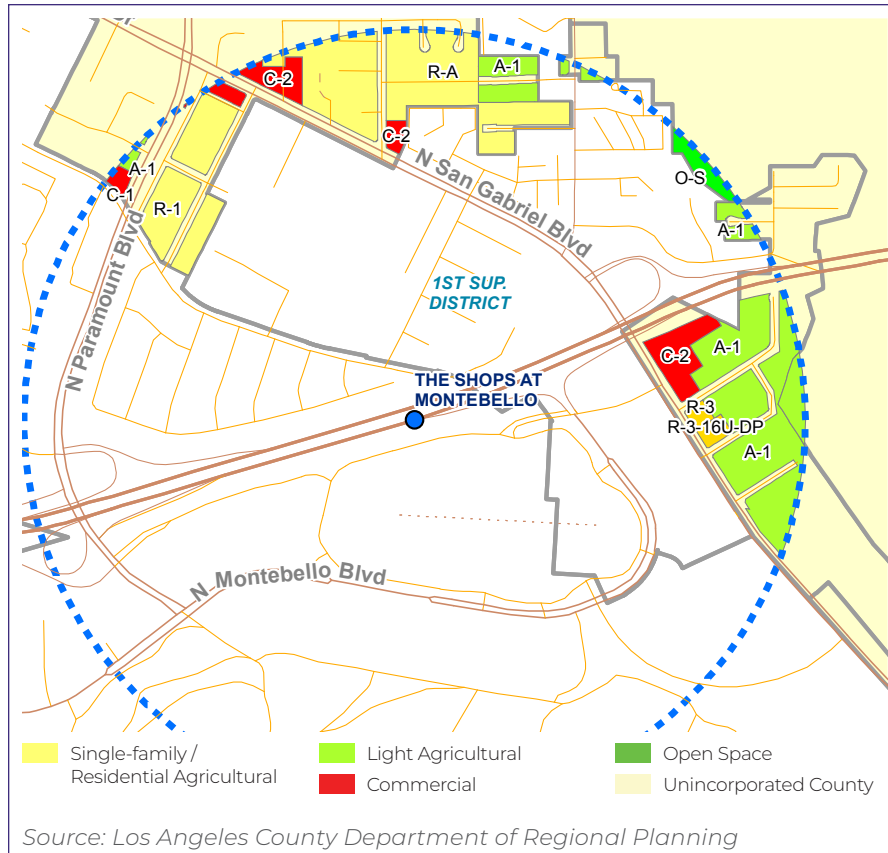


### Profiled Station: Westwood/VA Hospital

The majority of the half-mile station area is within unincorporated Los Angeles County area. The majority of the unincorporated area parcels are designated as institutional (IT) and open space (O-S). A very small portion of this area is designated as medium density multi-family residence (R-4).

(Source: StreetView)

# 06 Regional Retail Center TOD



The Regional Retail Center TOD typology is characterized by one large regional-serving retail center which accounts for the majority of through traffic for the TOD. Surrounding uses may be supplementary to the retail center, or may be isolated from the center.

As of 2020, the following proposed transit stations have half-mile TOD areas which match this typology: The Shops at Montebello, Commerce.

## TOD Typology Considerations

### Mix of Uses and Densities/Intensities

- Concentrate development in the area directly adjacent to the retail center to prevent isolation.
- Encourage complementary land uses in the area directly adjacent to the retail center, including entertainment and dining options.

### Built Form and Design

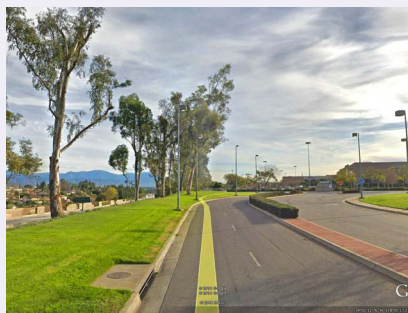
- Encourage flexible site plans and designs for retail and office buildings in the half-mile area which may be converted to another use if demand requires.

### Open Space, Parks, and Public Spaces

- Potential for significant publicly-accessible private open space in the form of plazas and paths through the shopping center.

### Public Realm Mobility

- Limited connectivity from regional shopping center to surrounding uses due to adjacent freeways and major roadways acting as barriers.

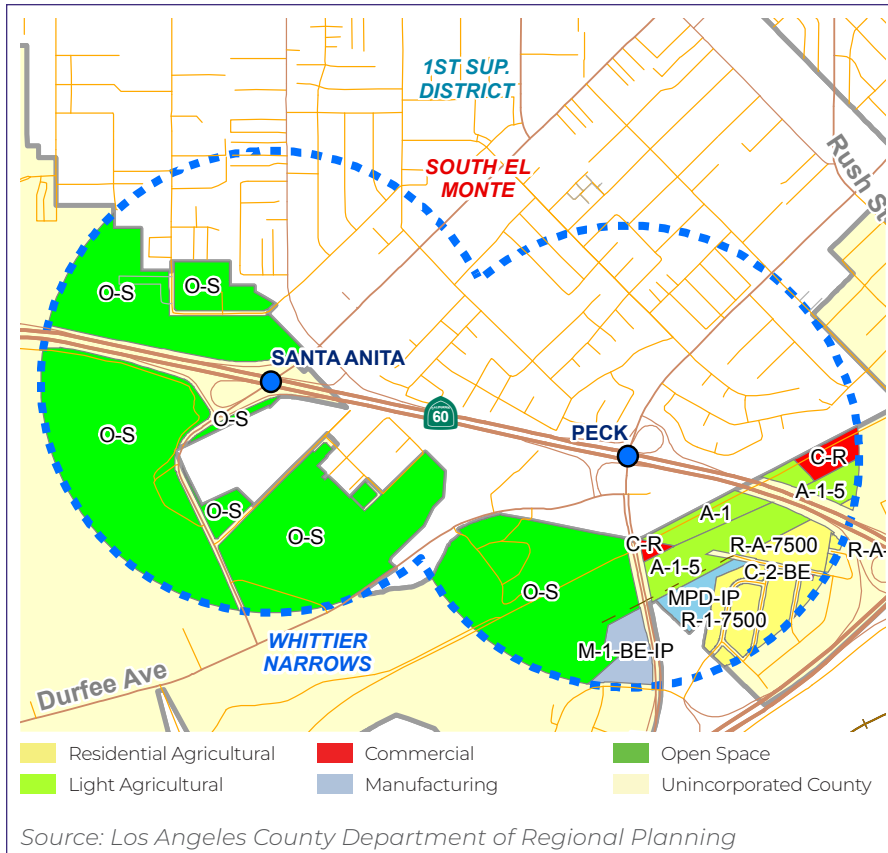


### Profiled Station: The Shops at Montebello

Less than 20% of the half-mile station area is in unincorporated LA County, plus the future transit station adjacent to the Shops at Montebello is outside the unincorporated County area. Land within the incorporated area is scattered on the perimeter of the half-mile station area cut off from the station by the 60 Freeway and major roadways.

(Source: StreetView)

# 07 Open Space-Dominated TOD



The Open Space-Dominated TOD typology is characterized by a significant presence of agricultural land, parkland, river, cliffs, or other natural open space amenity. Land use densities and intensities tend to be lower and more spread out in relation to those present in other TOD typologies. Open Space-Dominated TODs tend not to have major activity centers and have limited expansion potential.

As of 2020, the following proposed transit stations have half-mile TOD areas which match this typology: Santa Anita, Peck.

## TOD Typology Considerations

### Mix of Uses and Densities/Intensities

- Maintain lower- and medium-density development in the areas directly adjacent to the natural amenity or major open space.

### Built Form and Design

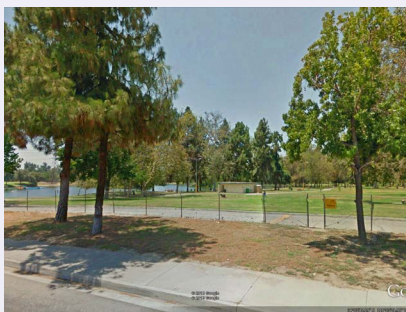
- Implement design requirements which prevent disruptions of viewsheds to the natural amenity or major open space.

### Open Space, Parks, and Public Spaces

- Where appropriate, plan for trails and other passive recreational uses of the natural amenity or major open space.

### Public Realm Mobility

- Integrate the publicly-accessible portions of the natural amenity or major open space with the roadway system with highly visible entrances and clearly visible signage.



(Source: StreetView)

### Profiled Station: Santa Anita

Less than 50% of the half-mile station areas is within unincorporated Los Angeles County, plus the future transit stations are outside the County unincorporated area. Aside from the area designated as open space, a small portion of the County area is designated for agriculture related uses and manufacturing.





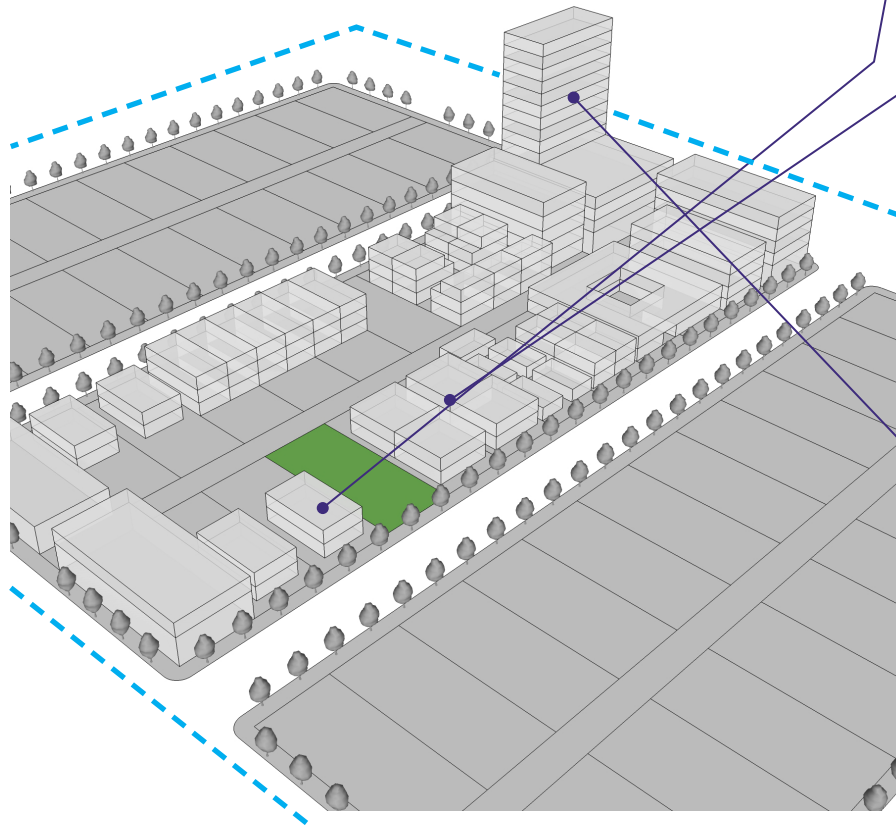
# SECTION V Building Typologies

Marina Del Rey, LA County UA (Source: StreetView)

# 01 Building Typologies Overview

Meeting residential and job density targets that support transit ridership and walkable communities can be achieved through a wide variety of building types. The TOD Toolkit recognizes the diversity of building stock throughout Los Angeles County by organizing building types into the three categories listed to the right (see the table on the following page for more detail). Each identified building typology will be defined and analyzed in the following sections. The typologies are informed by the following considerations:

- **Primary means of access:** external; internal from streets; blocks
- **Orientation to the street:** primary; secondary corridors and alleys
- **Construction type:** wood-frame; concrete block
- **Parking configuration:** surface; structure; podium; on-street



## Lower Density Buildings



- Accessory Dwelling Unit
- Shopfront House
- Bungalow Courtyard
- Rosewalk

## Medium Density Buildings



- Duplex
- Triplex/Fourplex
- Attached Townhouse
- Compact Lot Subdivision
- Live/Work
- Courtyard
- Hybrid Courtyard

## Higher Density Buildings



- Hybrid Podium
- Flex Apartment/Mixed-Use
- Liner Structure/Commercial Block
- Mid-Rise Tower
- High-Rise Tower

### Building Typology / Station Area Typology Matrix

	Building Typologies	Station Area Typologies					
		Urban Mixed-Use TOD	Urban Residential TOD	Mixed-Use Job Center TOD	Institutional TOD	Regional Retail Center TOD	Open Space-Dominated TOD
Lower Density	Accessory Dwelling Unit (ADU)	●	●	●	●	●	●
	Shopfront House	●	●	●	●	●	●
	Bungalow Courtyard	●	●	●	●	●	●
	Rosewalk	●	●				●
Medium Density	Duplex	●	●	●	●	●	●
	Triplex/Fourplex	●	●	●	●	●	●
	Attached Townhouse	●	●	●	●	●	●
	Compact Lot Subdivisions	●	●	●	●	●	●
	Live/Work	●	●	●	●	●	
	Courtyard	●	●	●	●	●	
	Hybrid Courtyard	●	●	●	●	●	
Higher Density	Hybrid Podium	●	●	●	●	●	
	Flex Apartment/Mixed-Use	●	●	●	●	●	
	Liner Structure/Commercial Block	●	●	●	●	●	
	Mid-Rise Tower	●			●	●	
	High-Rise Tower				●	●	



# 02 Lower Density Buildings

## Accessory Dwelling Unit (ADU)

Accessory dwelling units (ADU) are permitted statewide in California since the passage of SB 229 and AB 494 in 2017 and 2018. The bills and followup state legislation allow owners of single or multi-family residences to build a secondary residential 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.

### Best Design Practices / Guidelines

#### 1. Density

- **Dwelling Units per Acre:** 100+ 51-99 13-50 **< 12**
- **Floor Area Ratio:** 3.0+ 2.0-2.9 1.0-1.9 **< 1.0**

#### 2. Land Uses

- **Ground Floor:** Residential Commercial Office Industrial
- **Upper Floors:** Residential Commercial Office Industrial

#### 3. Access

- **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.
- **Vehicle Access:** Garages may be accessed from the driveway or from a rear alley or using the primary residences' driveway.

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



- ▼ Vehicular Entry
- ▲ Pedestrian Access
- Vehicular Path
- Pedestrian Path
- Primary Street
- Side Street



Illustrative Model



Piedmont, CA (Source: Gruen)

## 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.

### Best Design Practices / Guidelines

#### 1. Density

- **Dwelling Units per Acre:** 100+ 51 - 99 13 - 50 **< 12**
- **Floor Area Ratio:** 3.0+ 2.0 - 2.9 1.0 - 1.9 **< 1.0**

#### 2. Land Uses

- **Ground Floor:** Residential **Commercial** Office Industrial
- **Upper Floors:** Residential Commercial Office Industrial

#### 3. Access

- **Pedestrian / Bicycle Access:** Pedestrians and cyclists access shopfronts from the sidewalk.
- **Vehicle Access:** Vehicles typically access shopfronts from an alley.

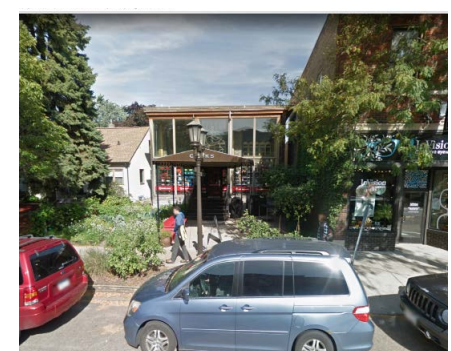
- **4. Parking:** If alley access is provided, conventional spaces for customers and tandem spaces for employees can be provided. On-street parking is encouraged.



- ▼ Vehicular Entry
- ▲ Pedestrian Access
- Vehicular Path
- Pedestrian Path
- Primary Street
- Side Street



Minneapolis, MN (Source: Gruen)



Saint Paul, MN (Source: Gruen)

## 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.

### Best Design Practices / Guidelines

#### 1. Density

- **Dwelling Units per Acre:** 100+ 51 - 99 13 - 50 **< 12**
- **Floor Area Ratio:** 3.0+ 2.0 - 2.9 1.0 - 1.9 **< 1.0**

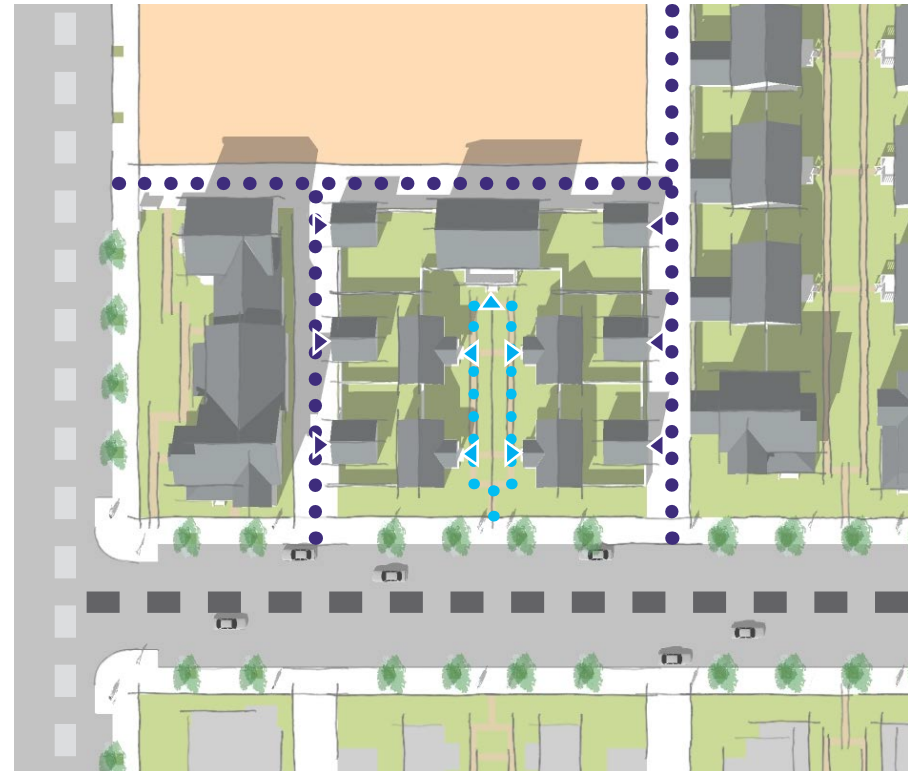
#### 2. Land Uses

- **Ground Floor:** Residential Commercial Office Industrial
- **Upper Floors:** Residential Commercial Office Industrial

#### 3. Access

- **Pedestrian / Bicycle Access:** Pedestrians access units from the courtyard. Secure bicycle storage should be provided in each garage stall.
- **Vehicle Access:** Vehicles can access units from driveways along the side lot line or alley.

- **4. 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.



Illustrative Model



Pasadena, CA (Source: Gruen)



## 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.

### Best Design Practices / Guidelines

#### 1. Density

- **Dwelling Units per Acre:** 100+ 51 - 99 13 - 50 **< 12**
- **Floor Area Ratio:** 3.0+ 2.0 - 2.9 1.0 - 1.9 **< 1.0**

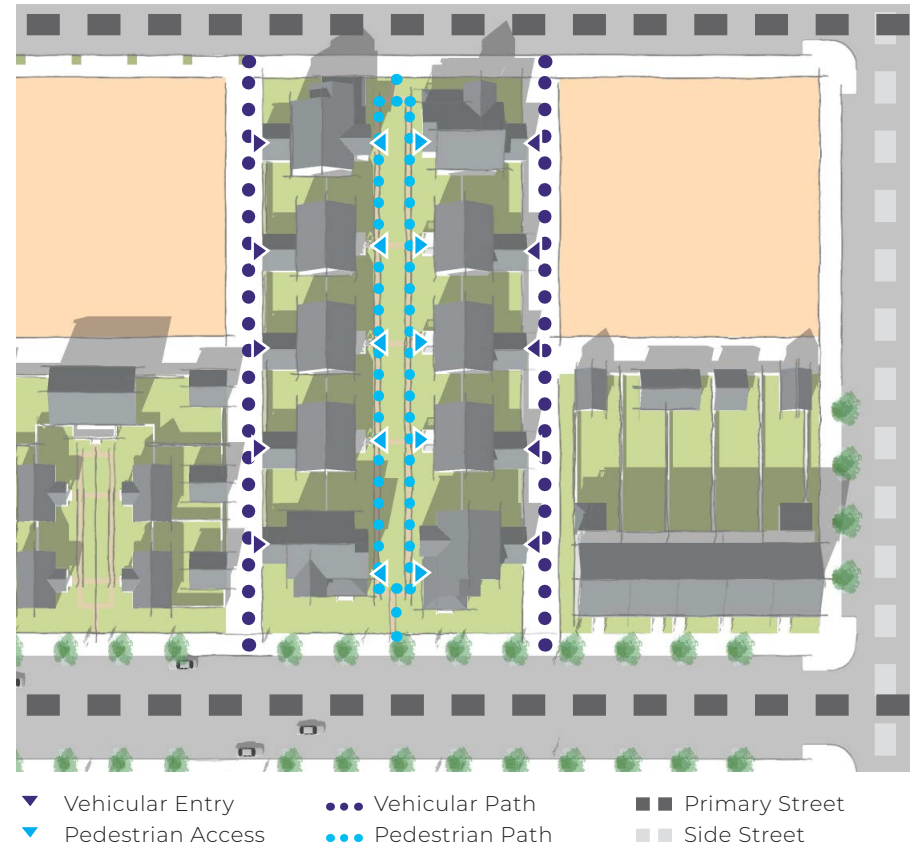
#### 2. Land Uses

- **Ground Floor:** Residential Commercial Office Industrial
- **Upper Floors:** Residential Commercial Office Industrial

#### 3. Access

- **Pedestrian / Bicycle Access:** Units are accessed from the mall, while bike storage should be provided at the rear of each unit.
- **Vehicle Access:** Driveways are provided along the side lot line.

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



Illustrative Model



East Los Angeles, LA County UA (Source: Zill)



# 03 Medium Density Buildings

## 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.

### Best Design Practices / Guidelines

#### 1. Density

- **Dwelling Units per Acre:** 100+ 51-99 **13-50** <12
- **Floor Area Ratio:** 3.0+ 2.0-2.9 **1.0-1.9** <1.0

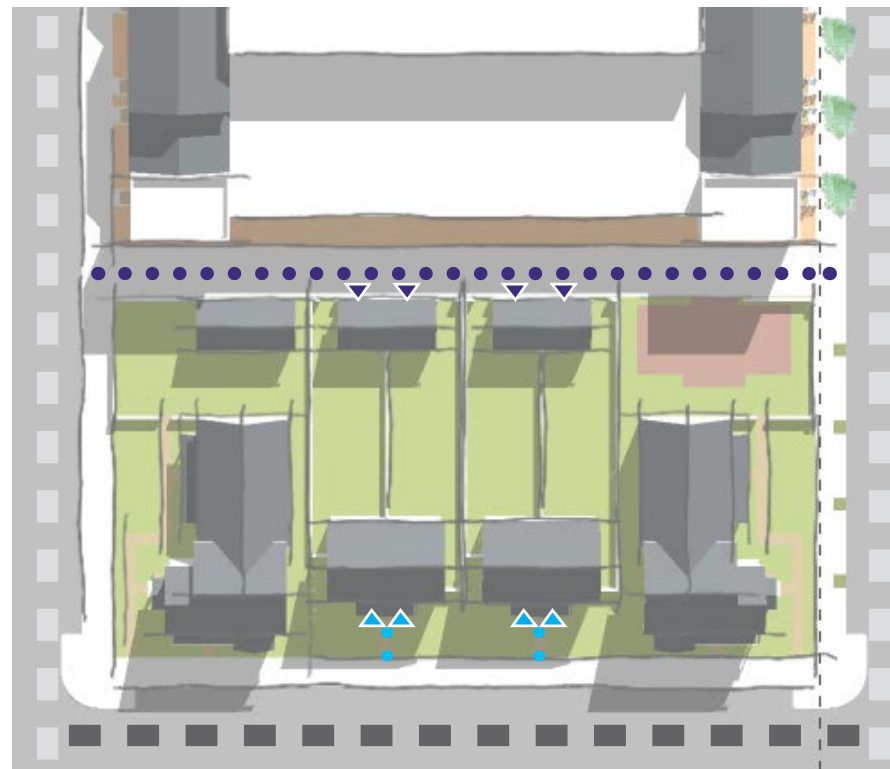
#### 2. Land Uses

- **Ground Floor:** Residential Commercial Office Industrial
- **Upper Floors:** Residential Commercial Office Industrial

#### 3. Access

- **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.
- **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.

- **4. 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.



- ▼ Vehicular Entry
- ▲ Pedestrian Access
- Vehicular Path
- Pedestrian Path
- Primary Street
- Side Street



Illustrative Model



Willowbrook, LA County UA (Source: Zillow)

## 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.

### Best Design Practices / Guidelines

#### 1. Density

- **Dwelling Units per Acre:** 100+ 51 - 99 **13 - 50** < 12
- **Floor Area Ratio:** 3.0+ 2.0 - 2.9 **1.0 - 1.9** < 1.0

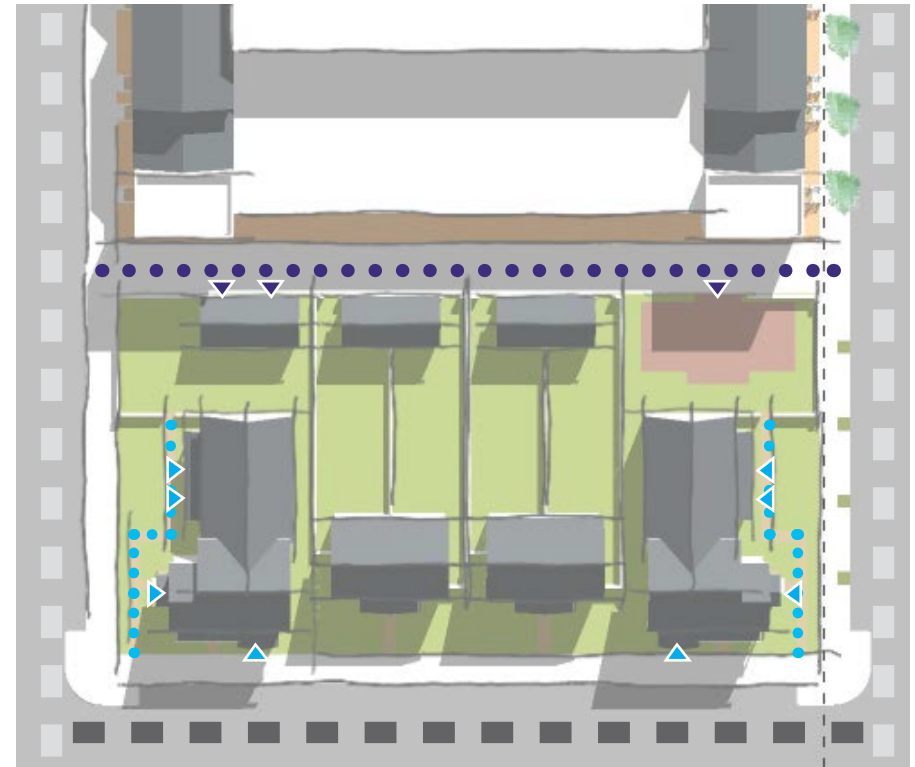
#### 2. Land Uses

- **Ground Floor:** Residential Commercial Office Industrial
- **Upper Floors:** Residential Commercial Office Industrial

#### 3. Access

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

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



- ▼ Vehicular Entry
- Vehicular Path
- Primary Street
- ▼ Pedestrian Access
- Pedestrian Path
- Side Street



Illustrative Model



East Los Angeles, LA County UA  
(Source: Zillow)

## 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.

### Best Design Practices / Guidelines

#### 1. Density

- **Dwelling Units per Acre:** 100+ 51-99 **13-50** <12
- **Floor Area Ratio:** 3.0+ 2.0-2.9 **1.0-1.9** <1.0

#### 2. Land Uses

- **Ground Floor:** Residential Commercial Office Industrial
- **Upper Floors:** Residential Commercial Office Industrial

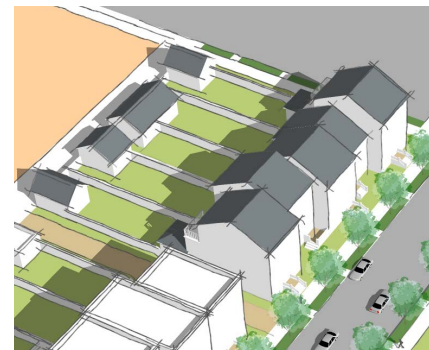
#### 3. Access

- **Pedestrian / Bicycle Access:** Pedestrians access units from the sidewalk and secure bicycle parking should be provided in each private garage.
- **Vehicle Access:** Guests arriving by car park on-street, while townhome owners access each garage from a shared alley.

- **4. 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.



▼ Vehicular Entry      ●●● Vehicular Path      ■ Primary Street  
 ▼ Pedestrian Access      ●●● Pedestrian Path      ■ Side Street



Illustrative Model



LA Crescenta, LA County UA (Source: Zillow)



## Compact Lot Subdivisions

Compact lot subdivisions are smaller, fee simple lots, in areas zoned for two-family and multi-family housing where infill development is encouraged. A “compact lot subdivision” is a land division that creates single-family residential lots with an area of less than 5,000 square feet. These compact lots are generally less than 50 feet wide, with modifications to other development standards, including but not limited to setback, street frontage, and access requirements.

### Best Design Practices / Guidelines

#### 1. Density

- **Dwelling Units per Acre:** 100+ 51 - 99 **13 - 50** < 12
- **Floor Area Ratio:** 3.0+ 2.0 - 2.9 **1.0 - 1.9** < 1.0

#### 2. Land Uses

- **Ground Floor:** Residential Commercial Office Industrial
- **Upper Floors:** Residential Commercial Office Industrial

#### 3. Access

- **Pedestrian / Bicycle Access:** Pedestrians access units from the courtyard. Secure bicycle storage should be provided in each garage stall.
- **Vehicle Access:** Vehicles can access units from driveways along the side lot line or alley.

- **4. 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.



- ▼ Vehicular Entry
- ▼ Pedestrian Access
- Vehicular Path
- Pedestrian Path
- Primary Street
- Side Street



Los Angeles, CA (Source: Gruen)



Los Angeles, CA (Source: Gruen)



## Live/Work

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.

### Best Design Practices / Guidelines

#### 1. Density

- **Dwelling Units per Acre:** 100+ 51-99 **13-50** <12
- **Floor Area Ratio:** 3.0+ 2.0-2.9 **1.0-1.9** <1.0

#### 2. Land Uses

- **Ground Floor:** Residential **Commercial** Office Industrial
- **Upper Floors:** Residential Commercial Office Industrial

#### 3. Access

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

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



- ▼ Vehicular Entry
- ▲ Pedestrian Access
- Vehicular Path
- Pedestrian Path
- Primary Street
- Side Street



Illustrative Model



Santa Ana, CA (Source: Gruen)

## 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.

### Best Design Practices / Guidelines

#### 1. Density

- **Dwelling Units per Acre:** 100+ 51 - 99 **13 - 50** < 12
- **Floor Area Ratio:** 3.0+ 2.0 - 2.9 **1.0 - 1.9** < 1.0

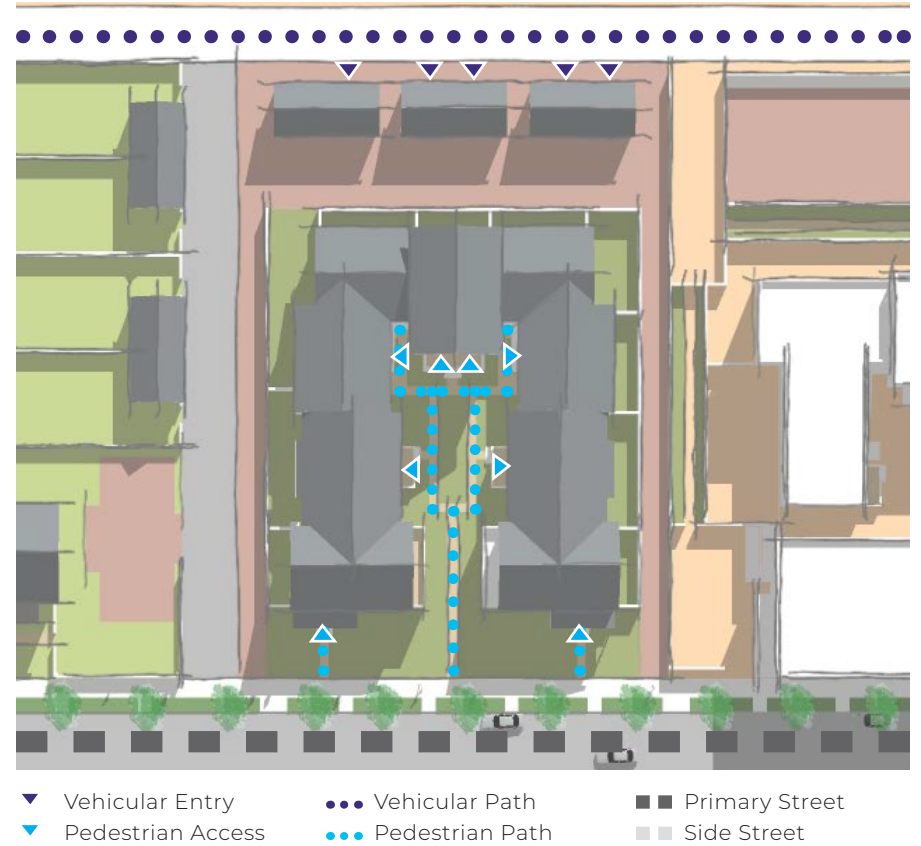
#### 2. Land Uses

- **Ground Floor:** Residential Commercial Office Industrial
- **Upper Floors:** Residential Commercial Office Industrial

#### 3. Access

- **Pedestrian / Bicycle Access:** Pedestrian/cyclist access to each unit is provided from the courtyard.
- **Vehicle Access:** Vehicles access to the complex is typically through a driveway along the side lot line.

- **4. 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.



Illustrative Model



Los Angeles, CA (Source: Gruen)

## 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.

### Best Design Practices / Guidelines

#### 1. Density

- **Dwelling Units per Acre:** 100+ 51-99 **13-50** <12
- **Floor Area Ratio:** 3.0+ 2.0-2.9 **1.0-1.9** <1.0

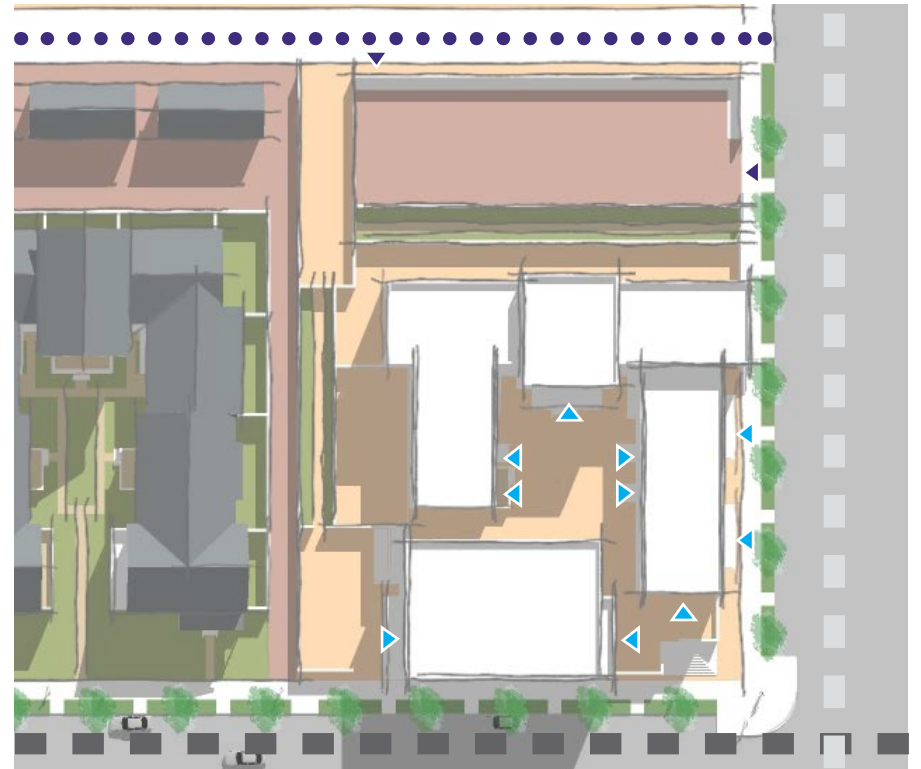
#### 2. Land Uses

- **Ground Floor:** Residential Commercial Office Industrial
- **Upper Floors:** Residential Commercial Office Industrial

#### 3. Access

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

- **4. Parking:** Parking is provided in a shared lot at the rear or in a garage below the complex. Provide bicycle parking and parking spaces for car-sharing programs.



- ▼ Vehicular Entry
- ▲ Pedestrian Access
- Vehicular Path
- Pedestrian Path
- Primary Street
- Side Street



Illustrative Model



South Pasadena, CA (Source: Gruen)



# 04 Higher Density Buildings

## Hybrid Podium

Hybrid Podiums are buildings with one or two stories of concrete or steel floors, typically occupied by retail or parking, and 2 to 5 stories of wood frame construction residential or office uses. Hybrid podiums are common building forms for mixed-use developments along commercial corridors.

### Best Design Practices / Guidelines

#### 1. Density

- **Dwelling Units per Acre:** 100+ 51 - 99 **13 - 50** < 12
- **Floor Area Ratio:** **3.0 +** 2.0 - 2.9 1.0 - 1.9 < 1.0

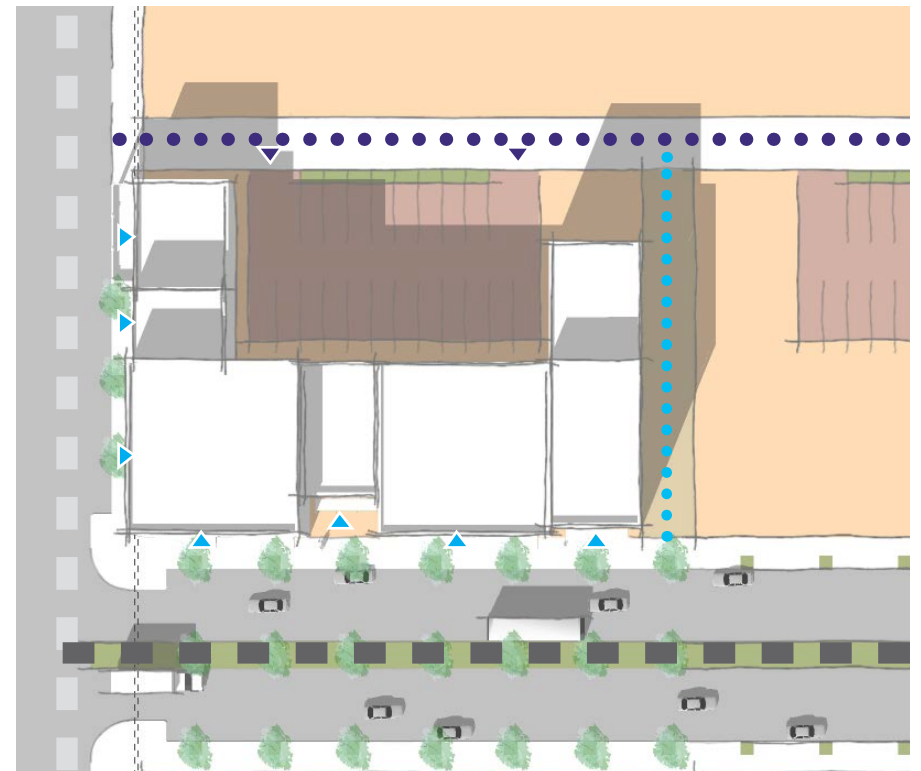
#### 2. Land Uses

- **Ground Floor:** Residential **Commercial** Office Industrial
- **Upper Floors:** **Residential** Commercial Office Industrial

#### 3. Access

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

- **4. Parking:** Parking for residents and customers is located below grade or at the rear of the property.



- ▼ Vehicular Entry
- ▲ Pedestrian Access
- ⋯ Vehicular Path
- ⋯ Pedestrian Path
- Primary Street
- Side Street



Illustrative Model



Williamsburg, VA (Source: Gruen)

## 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 site constraints.

### Best Design Practices / Guidelines

#### 1. Density

- **Dwelling Units per Acre:** 100+ 51 - 99 13 - 50 < 12
- **Floor Area Ratio:** 3.0+ 2.0 - 2.9 1.0 - 1.9 < 1.0

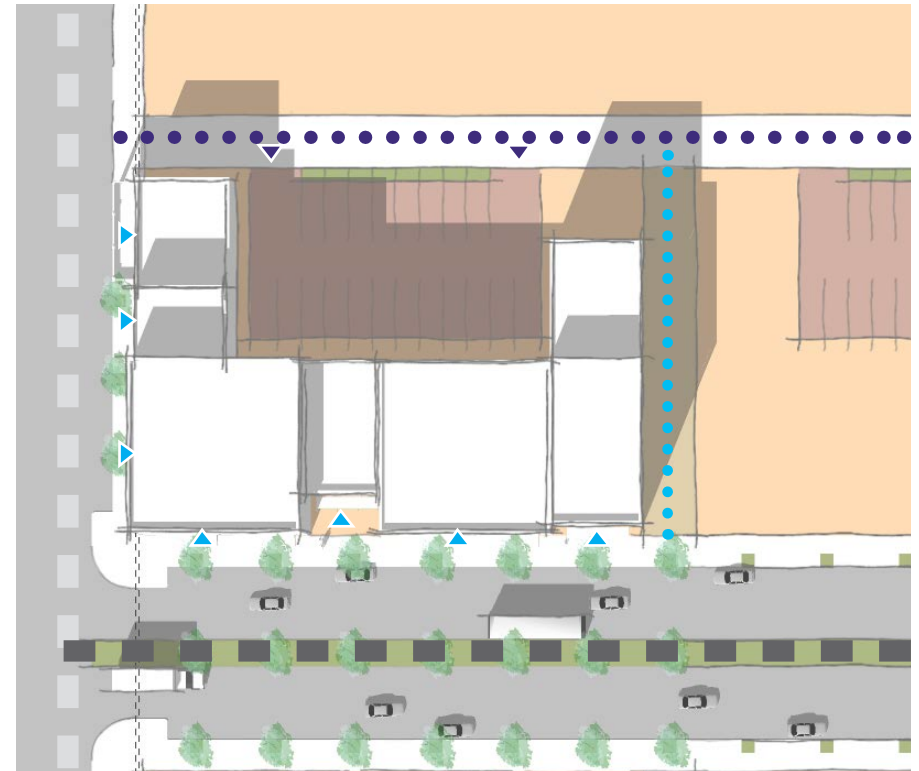
#### 2. Land Uses

- **Ground Floor:** Residential Commercial Office Industrial
- **Upper Floors:** Residential Commercial Office Industrial

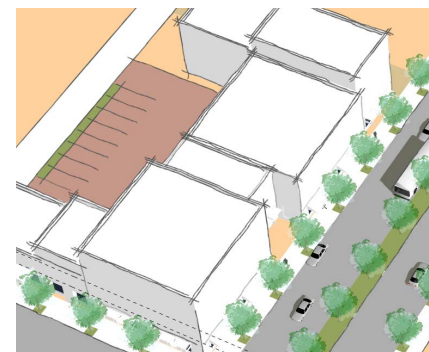
#### 3. Access

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

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



- ▼ Vehicular Entry
- ▲ Pedestrian Access
- Vehicular Path
- Pedestrian Path
- Primary Street
- Side Street



Illustrative Model



Marina Del Rey, LA County UA  
(Source: StreetView)

## Liner Structure/Commercial Block

Liner structures are single-loaded (units located along only one side of a corridor) and are used to screen the blank façades 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.

### Best Design Practices / Guidelines

#### 1. Density

- **Dwelling Units per Acre:** 100+ 51 - 99 13 - 50 < 12
- **Floor Area Ratio:** 3.0+ 2.0 - 2.9 1.0 - 1.9 < 1.0

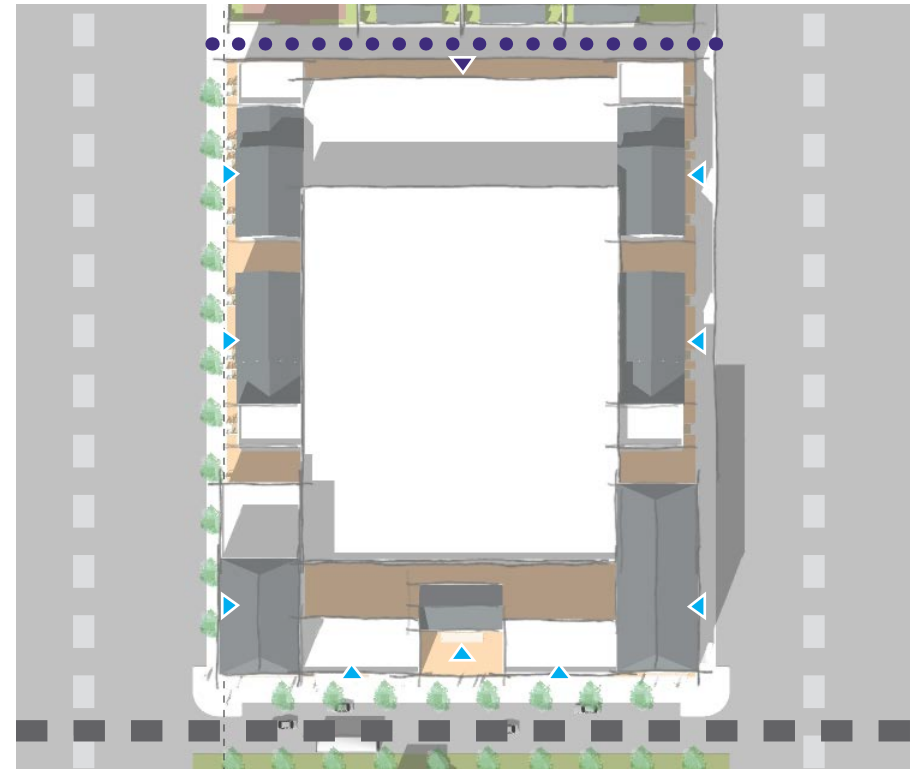
#### 2. Land Uses

- **Ground Floor:** Residential Commercial Office Industrial
- **Upper Floors:** Residential Commercial Office Industrial

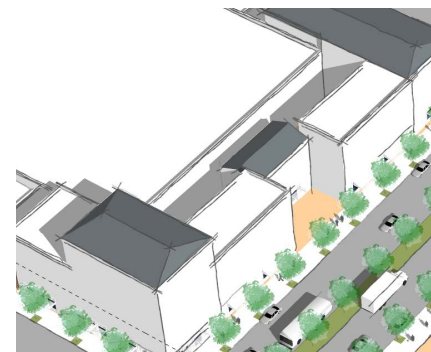
#### 3. Access

- **Pedestrian / Bicycle Access:** Pedestrians may access the building directly from the corridor, or from the rear through the parking structure.
- **Vehicle Access:** Vehicles park in a podium parking structure with entrances located around the block.

- **4. 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. Provide bicycle parking and parking spaces for car-sharing programs.



- ▼ Vehicular Entry
- ▲ Pedestrian Access
- ⋯ Vehicular Path
- ⋯ Pedestrian Path
- Primary Street
- Side Street



Illustrative Model



Boulder, CO (Source: Gruen)



## 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.

### Best Design Practices / Guidelines

#### 1. Density

- **Dwelling Units per Acre:** 100+ 51 - 99 13 - 50 < 12
- **Floor Area Ratio:** 3.0+ 2.0 - 2.9 1.0 - 1.9 < 1.0

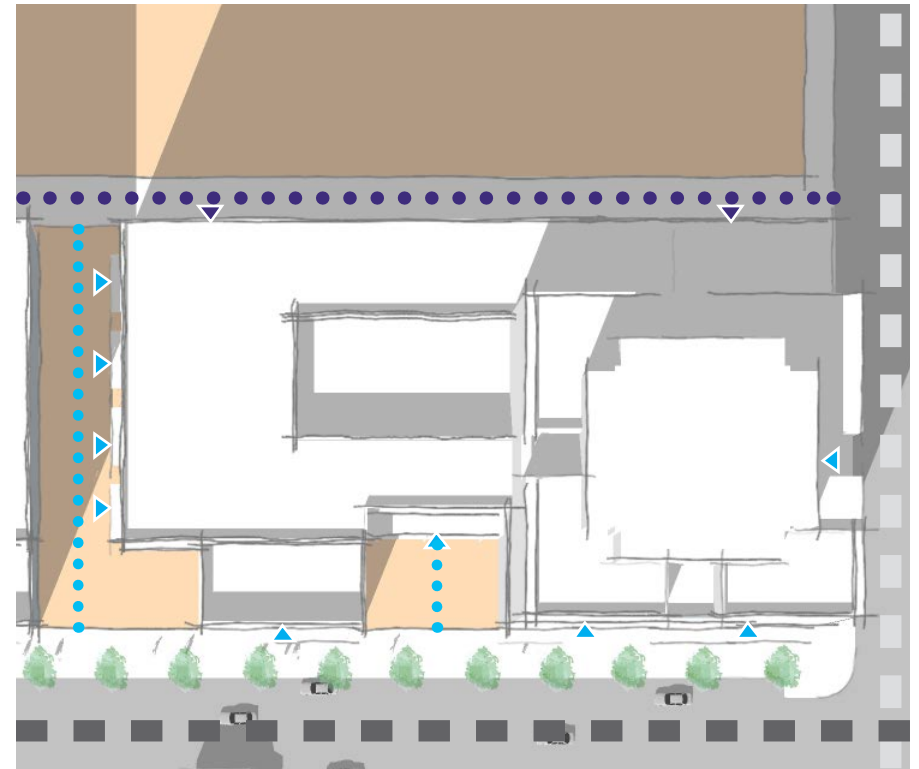
#### 2. Land Uses

- **Ground Floor:** Residential Commercial Office Industrial
- **Upper Floors:** Residential Commercial Office Industrial

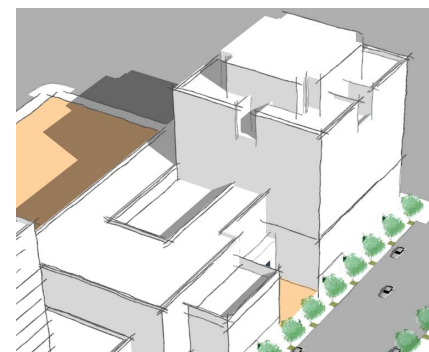
#### 3. Access

- **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.
- **Vehicle Access:** Access is provided from curb cuts located from an alley or from an adjacent street if permitted.

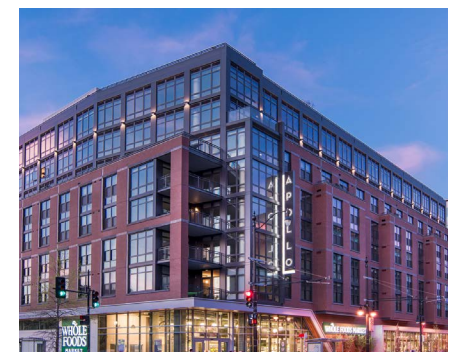
- **4. Parking:** Parking is located in upper-level podium structures or in below-grade garages. Encourage occupants to use zero-emission vehicles by providing preferential parking for these vehicles and by providing charging stations. Provide bicycle parking and parking spaces for car-sharing programs.



- ▼ Vehicular Entry
- ▲ Pedestrian Access
- Vehicular Path
- Pedestrian Path
- Primary Street
- Side Street



Illustrative Model



Washington, D.C. (Source: Gruen)

## 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.

### Best Design Practices / Guidelines

#### 1. Density

- **Dwelling Units per Acre:** 100+ 51 - 99 13 - 50 < 12
- **Floor Area Ratio:** 3.0+ 2.0 - 2.9 1.0 - 1.9 < 1.0

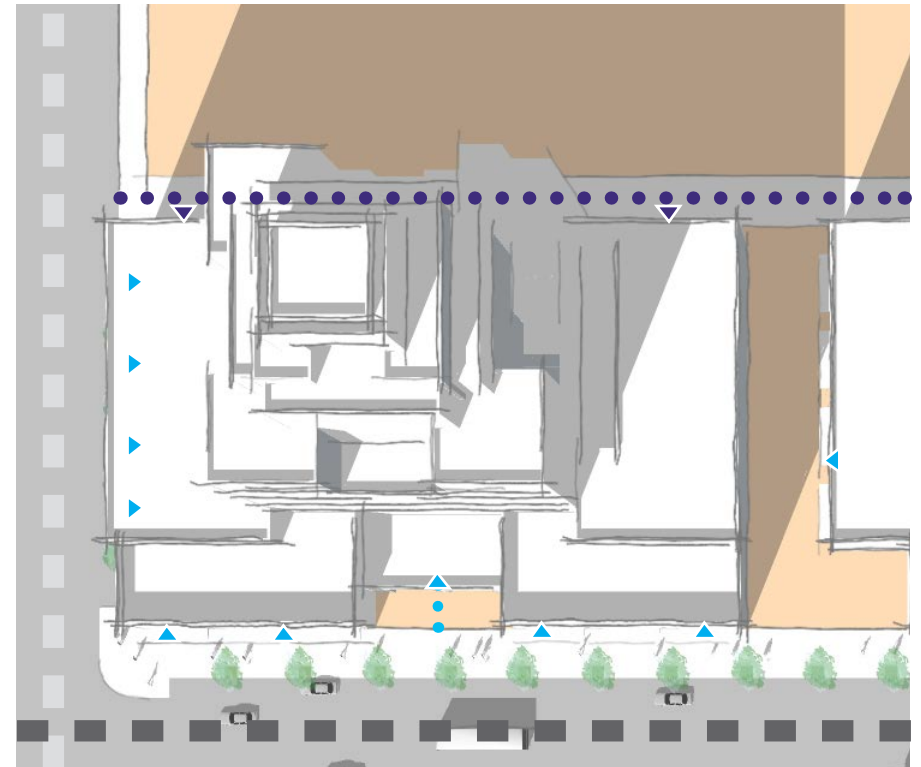
#### 2. Land Uses

- **Ground Floor:** Residential Commercial Office Industrial
- **Upper Floors:** Residential Commercial Office Industrial

#### 3. Access

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

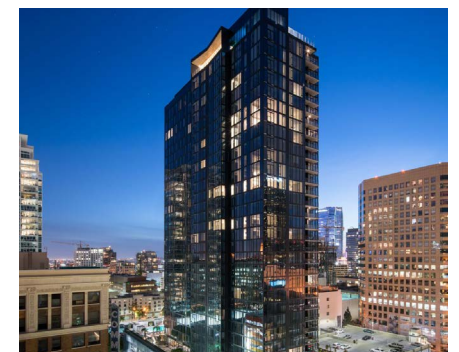
#### 4. Parking:

 See mid-rise tower description.


- ▼ Vehicular Entry
- ▼ Pedestrian Access
- Vehicular Path
- Pedestrian Path
- Primary Street
- Side Street



Illustrative Model



Los Angeles, CA (Source: Gruen)

**THIS PAGE HAS BEEN INTENTIONALLY LEFT BLANK**



---

# SECTION VI

# Open Space

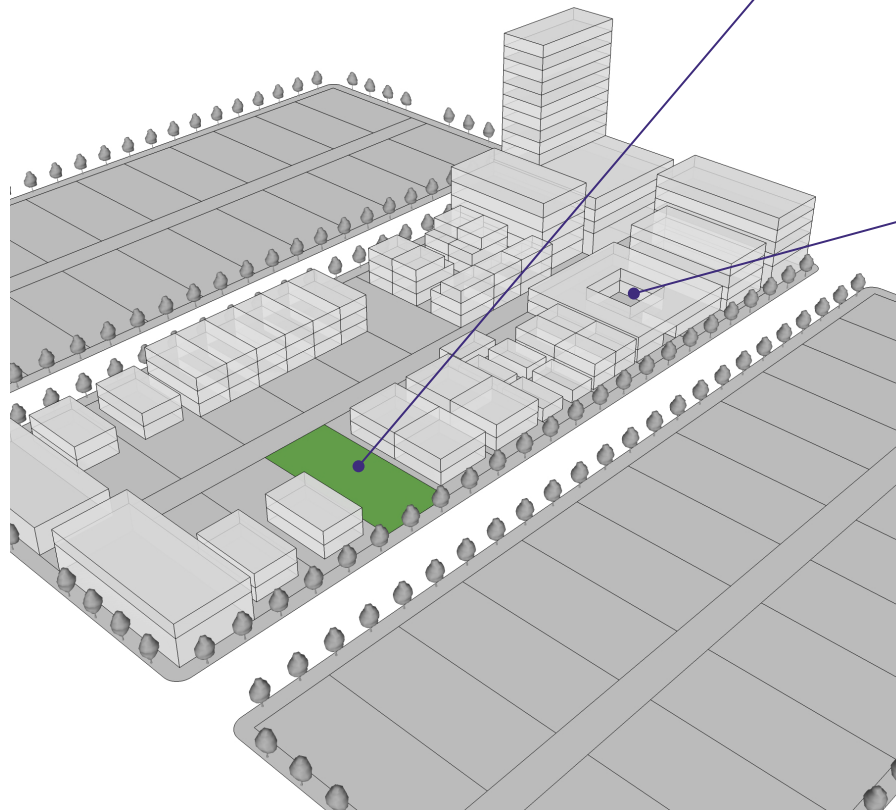
# Typologies

---

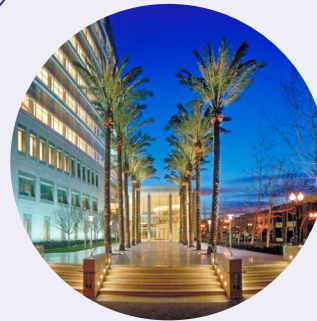
East LA Civic Center, LA County UA (Source: Gruen)

# 01 Open Space Typologies Overview

A key ingredient in creating a dynamic TOD 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.



## Public



### Passive

Passive public open space includes open plazas, paths, walkways, and trails

### Active

Active public open space includes areas for events, exercise equipment, etc.

## Private



### Passive

Passive private open space may include paths and outdoor seating

### Active

Active private open space may include event space, dining areas, etc.

## 02 Open Space Typologies

### Parklet

Parklets convert curbside on-street parking spaces into viable community spaces for recreation, seating and outdoor dining. By converting one or two parking spaces into gathering spaces, the sidewalk is extended for passive recreation or as additional sidewalk seating for adjacent coffee shops, restaurants or other businesses.

#### Best Design Practices / Guidelines

1. Parklets should not encroach into the walking path and should be flush with the sidewalk.
2. Parklets should not impede proper stormwater drainage of the street. Some parklets can be used to infiltrate stormwater. Electrical wires should not be exposed.
3. A buffer should be provided from the parklet of at least 2 ft from travel lanes.
4. If there are multiple parklets on a street, the programming of the activities should vary between passive recreation and revenue generation for nearby businesses, such as outdoor dining connected to restaurants.



East Los Angeles, LA County UA  
(Source: LA County)



East Los Angeles, LA County UA  
(Source: LA County)

### Public Pocket Park/Privately-Owned Public Space (POPs)

Pocket parks offer small areas for sitting, dining, recreation, and could be located on public or private property. Privately-owned public spaces may be internal courtyards, a sidewalk-adjacent easement designated for outdoor dining, or any other open spaces on private property 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, play equipment, and community information signage.

#### Best Design Practices / Guidelines

1. Design of parks should accommodate a diversity of users although some depending on simplicity; universal design could be devoted to specialty users, such as a children's playground or a dog park.
2. Sustainable features, such as bioswales, permeable paving, LED lighting, solar lighting, drought-tolerant landscaping, and canopy trees for shade should be incorporated.
3. Program parks to be integrated with surrounding uses, such as a coffee shop, restaurant, or other businesses.
4. Exercise equipment can be installed for public use.



Los Angeles, CA (Source: Gruen)



Black Cow Café, Montrose, LA County UA  
(Source: StreetView)



## Paseo

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

### Best Design Practices / Guidelines

1. Paseos are wider than normal sidewalks as they contain a wide pathway (min. 15' to 20') with landscaping in the middle of or on each side of the pathway. They can contain pedestrian scaled lighting, an occasional bench for resting, trash receptacles, artwork, and could contain pet waste bag dispensers.
2. Pathways could be serpentine or straight and in some communities are grade separated from major streets. Alternatively, bollards can be used in non-grade separated treatments to delineate the paseo.
3. For security and to create an active edge, blank walls causing limited surveillance should be avoided in favor of windows and active yards.



Claremont, CA (Source: Gruen)



Claremont, CA (Source: Gruen)

## Linear Park

A 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. While similar to paseos, linear parks can be seen as extensions of a standard street right-of-way. A linear park may also be in a wide landscaped median of a public street.

### Best Design Practices / Guidelines

1. Curb cuts and entrances for pedestrian/vehicular and bicycle crossings should be designed to provide safe, and attractive pedestrian access.
2. Pedestrian and bicycle pathways should cross at signalized perpendicular street intersections with consideration for separate striping for pedestrians and bicyclists.
3. Connecting pathways should meander through canopy trees for shade and colorful planting with active recreational and passive places dispersed as appropriate.
4. The character of linear parks could vary from low maintenance drought tolerant landscaping with bioswales to vibrant colorful planting with water features and art, and to an active market space atmosphere.



Proposed Linear Park, Walnut Park, LA County UA (Source: LA County)



## Pedestrian Malls

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 Station Area 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 area's culture.

### Best Design Practices / Guidelines

1. Pedestrian malls could be considered where they may operate as the main street, or in TODs with a strong market for retail, restaurants and entertainment uses such a tourist destinations and university settings.
2. For economic viability, pedestrian malls should extend on multiple 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.
3. 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.
4. Active ground level uses with large clear windows and entrances from the pedestrian mall is essential.



Minneapolis, MN (Source: Gruen)



Pearl Plaza, Rowland Heights, LA County UA (Source: StreetView)

## Green Alleys

While similar to pedestrian malls and paseos, green alleys are typically narrower passage ways designed for less frequent pedestrian and bicycle traffic. Vehicle traffic is often discouraged or limited using removable bollards. Green alleys typically form when vehicular service alleys are repurposed to include more pedestrian-friendly lighting and paving, as well as planting and permeable surfaces.

### Best Design Practices / Guidelines

1. Repurpose service alleys which are underutilized to create green alleys to improve pedestrian circulation.
2. Pave the main pathway with permeable paving and landscape the outer portion of the alley to allow surface water infiltration.
3. Line pathways with pedestrian lighting such that the alley is sufficiently lit for pedestrian traffic, but does not disturb adjacent residents.



Los Angeles, CA (Source: Gruen)



Willowbrook, LA County UA (Source: StreetView)

## Neighborhood Park

A neighborhood park is typically recreation-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 Design Practices / Guidelines

1. Each neighborhood park’s uses and design should respond to the individual needs and character of a neighborhood.
2. If on private property the park should be designed to intuitively welcome the public by its visibility through limited barriers from the sidewalks and streets.
3. The programming of existing neighborhood parks and recreation centers should be regularly monitored and adapt to new trends such as skate parks, soccer fields, or dog parks.



Belvedere Park, East Los Angeles, LA County UA (Source: LA County)



Whittier Narrows Rec. Area, Whittier, LA County UA (Source: LA County)

## Town Square

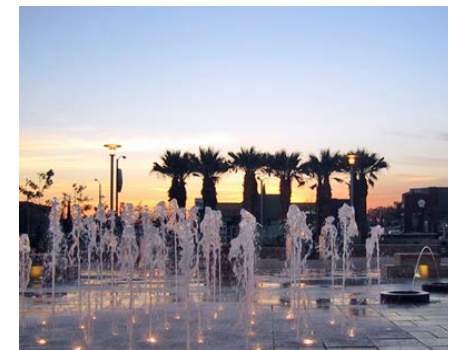
Historically, a Town Square is situated within a gridded street system and framed by active uses. Town Squares can also be defined as a civic space adjacent to a public building such as a cathedral or a civic building. They include features including a fountain, space for large events, performance space like a band shell, sculpture, sitting areas, cafes, and landscaping for storm water management. Seasonal activities such as temporary ice skating are also common to a Town Square depending on its size.

### Best Design Practices / Guidelines

1. The town square/transit plaza should be easy in walking distance of the most dense portions of the Station Areas, preferable in the core and appeal to diverse multi-generations.
2. Amenities to consider for the town square 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, out door 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.



Waterside at Marina Del Rey, LA County UA (Source: Gruen)



East LA Civic Center, LA County UA (Source: Gruen)

### Plazas

Plazas are diverse in scale and character, and typically create a vibrant pedestrian environment. Plazas are flexible in their programming and use which allows for a variety of plaza types such as a transit plaza, street plaza, and gateway plaza: **Transit plazas** are open spaces adjacent to a transit station and should serve rail or multiple bus lines or both with passenger amenities including vendors stands and route signage. **Street plazas** are small public open spaces immediately adjacent to a sidewalk or an extension of the sidewalk. **Gateway plazas** are open spaces in front of a major building to operate as a gateway or entrance to the building and may be privately owned but open to the public.

#### Best Design Practices / Guidelines

1. Each plaza should contain pedestrian amenities and be planned with enough flexibility for use in all seasons and times of day.
2. Plazas should be distinct places which as visible and easily accessible to people from the public street and connected to the pedestrian and bicycle network in the Station Areas.
3. Amenities to consider for the 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, wayfinding signs and kiosks, trees and landscaping with a variety of color and forms.



Willowbrook Station Plaza, LA County UA (Source: Metro)



South Pasadena, CA (Source: Gruen)

**THIS PAGE HAS BEEN INTENTIONALLY LEFT BLANK**





# SECTION VII Next Steps

Arcadia, LA County UA (Source: StreetView)

# 01 Lessons Learned from Atlantic/Whittier Station Area

The following are lessons learned from the planning process for development of the TOD Toolkit, including input from local stakeholders in the Atlantic/Whittier case study area. The content is divided by subject area related to the public and private realms.

## Streetscape and Walkability

- The concept that improving the streetscape encourages walking has a lot of local support.
- There is a strong desire to maintain and improve sidewalks where needed to complete pedestrian routes.
- Making alleyways more inviting and safe for walking is desired.
- Many would like the Toolkit to consider the effects of mobile food establishments, and provide tools to better manage food trucks and sidewalk vending that can at times lead to inaccessible sidewalks.
- Wherever possible, sustainable landscaping should be used, including shade trees.

## Built Environment

- Many residents desire a preservation of single-family neighborhoods, if not in actual density and type of building, then in character.
- There is a desire to encourage the re-use of unmaintained/abandoned buildings and use of vacant lands for mixed-use development.
- Many desire that the Toolkit discourages tall buildings and encourages developments that fit the East Los Angeles community, like Spanish bungalow styles.
- Encouragement of improvements to commercial business facades is a goal of the community.
- The need to add residential density and accommodate population growth, and the need to provide densities that support the future rail station, are at times in conflict with local aspirations to preserve single-family neighborhoods.

## Urban Design and Cultural

- There is a need for the creation of inviting parklets with shade trees and sitting areas.
- A desire exists for new cultural spaces including historical information on Chicano and indigenous people histories, and info on local heroes.
- Murals and public art are desirable in shared spaces.
- Historical and cultural landmarks should be preserved as part of any revitalization efforts.

## Support Local Business

- The community wants local businesses to remain, and new businesses can be encouraged, but they should not be developed at the expense of existing local businesses.
- Better walkability can help business traffic.
- Mixed-use should be encouraged with businesses at street level and housing in upper levels; create more parking for businesses.

## Parking

- Adequate parking supply for future demand should be created without sacrificing aesthetics.
- Station areas with substantial transit investments, active transportation improvements, and transit-oriented development including affordable housing allows people to live, work, and shop without driving and parking. Parking supply should be right-sized depending on the station area context.
- Parking structures should be used to consolidate parking spaces, especially around busy business areas.
- There is a desire to incorporate green infrastructure improvements with new parking spaces.
- There is a strong preference for Metro trains and stations to be underground as opposed to being at-grade.

## Traffic and Roadways

- The community desires fewer reductions in traffic capacity to

accommodate other modes such as bicycle lanes and light rail tracks, as many arterials are commute routes with high traffic volumes to and from downtown Los Angeles and other areas.

- The local population would like bicycle lane development to be more focused, as currently facility utilization is seen to be low. Future rail transit and stations should be underground to avoid the loss of travel lanes.
- County standards, General Plan aspirations, and local and national Complete Streets initiatives and other movements to accommodate travel modes equally are sometimes in conflict.

### Lighting

- Pedestrians would like to have improved lighting in the area at the sidewalk level at sitting areas (gathering points, plazas, or transit stops).
- Alleyways can become better mobility options, and would encourage walkability between neighborhoods and shopping areas, with better lighting.

### Bike Lanes / Safety

- Pedestrian and cyclist safety is important for mobility, and many desire more traffic-protected bike lanes, curb extensions, and more visible and controlled crosswalks.
- More protection for bicyclists against conflicting traffic movements (such as at vehicle right-turn locations) is desired.

### Affordable / Senior Housing

- There is a need for more affordable housing, and the use of abandoned or unmaintained buildings and vacant lots should be used for this purpose.
- Affordable housing should be provided for existing area residents but not necessarily to encourage new residents and potentially add additional traffic to the area.

## 02 TOD Specific Plans

The TOD Toolkit will be a guide for the County of Los Angeles and area residents and business owners to refer to when implementing public streetscape improvements, updating area land use plans, and improving or developing private property.

The Toolkit is not a regulatory document, in that it does not prescribe public improvements or private property treatments. A framework for future specific plan development efforts is discussed here.

A specific plan effort would be the next step in implementing the measures identified in the TOD Toolkit. A specific plan would define implementation at a more defined and measured level for station areas where TOD planning is being pursued by the County. The General Plan for the County of Los Angeles defines the Specific Plan framework, with the General Plan as the larger County-wide overarching document.

A specific plan is a tool to implement the General Plan within a focused area, and in the case of TOD planning the related specific plan area would be focused around a proposed or existing station location. The purpose of specific plans is to ensure that new development and mobility improvements both adhere to common plan details and specific guidance over a long-term period.

Specific plans must further the goals and policies of the General Plan, and they must be consistent with the General Plan. The specific plans then enforce local land use and design details as defined by directives and policies, but also enforce consistency within the plan area for local public works projects, tentative/parcel maps, and area zoning ordinances adoption or amendments.

California Government Code Sections 65450 et seq. require specific plans to include text and diagrams that detail the following:

- Distribution, location, and extent of the uses of land, including open space, within the project area;
- Proposed distribution, location and extent and intensity of major components of public and private transportation, sewage, water, drainage, solid waste disposal, energy, and other essential facilities proposed to be located within the project area and needed to support the land uses described in the specific plan;
- Standards and criteria by which development will proceed and,

where applicable, standards for conservation, development, and utilization of natural resources; and

- Implementation measures, including regulations, programs, public works projects, and
- Financing measures necessary to carry out the above

Specific plans may also address affordable housing, resource management, or other areas relevant to the project area. In addition, a specific plan must be prepared, adopted, and amended in the same manner as a general plan, except that a specific plan may be adopted by resolution or by ordinance and may be amended as often as deemed necessary by the Board of Supervisors.





# SECTION VIII Appendix

Montrose, LA County UA (Source: StreetView)