



GUIDE TO
Transit Supportive
Land Use



1

INTRODUCTION

Defines transit supportive land use, VIA's Vision for transit in San Antonio, and the purpose and use of these guidelines.

2

BENEFITS OF TRANSIT-SUPPORTIVE LAND USE

Outlines the overarching benefits of transit supportive land use for people, the community, the economy, and the environment.

3

MARKET VIABILITY OF TRANSIT-SUPPORTIVE LAND USE

Highlight barriers and solutions for implementing transit supportive land use.

4

ELEMENTS OF TRANSIT-SUPPORTIVE LAND USE

Describes the basic elements of transit supportive land use, providing a reference for the transit typology definitions in Chapter 5.

5

GUIDELINES FOR TRANSIT TYPOLOGIES

Presents VIA's transit typologies and associated guidelines for transit supportive land use in context.

Content Overview

The Guide to Transit Supportive Land Use helps guide and provide resources for the development of transit supportive communities throughout San Antonio. It outlines the benefits, market viability and characteristics of transit supportive land use and then provides a matrix of transit typologies that can be applied in context.

VERSION 1.0
September, 2014





1. INTRODUCTION

What is TSLU?

Transit supportive land use (TSLU) just as it states, consists of land uses that support – economically and socially – the effective use of transit. These land use decisions and investments support transit usage, walkability and compact development forms and help to maximize exchange and activity within station areas and bus corridors. Transit supportive land use works to provide residents and workers a range of mobility choices, access to daily needs, commercial services, and recreational opportunities, as well as access to key destinations, like work and school, within a short distance from home.

VIA's Vision for Transit Supportive Land Use

Transit systems function more efficiently, and affordably, when they are integrated with the surrounding land uses and the activity and people generated by those land uses. Around the country, examples of well coordinated land use and transportation systems offer proof that giving people more choices about how to move around and access their daily needs creates more accessible, livable communities.

In San Antonio, VIA, the regional transit agency, is actively promoting this kind of coordinated approach through the development of transit supportive land use guidelines (this document) and through strategic partnerships.

In particular, VIA is pursuing ways to leverage existing transit service and better position the San Antonio region to receive federal funding for major capital investments in transit. To guide these efforts, VIA has developed a transit supportive land use vision and a set of land use goals to ensure that future agreements, policies and strategies foster the kinds of land development patterns that fulfill VIA's mission. ●

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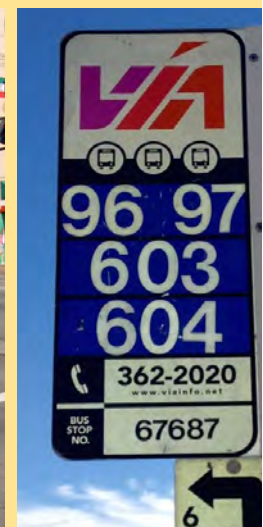
To enhance the community's environment and quality of life by providing regional and customer-oriented public transportation that is dependable, cost-effective, and enticing to more riders.

VIAS TRANSIT-SUPPORTIVE LAND USE VISION

VIAs vision is to **collaborate with regional partners in promoting human-scale street networks, neighborhoods and activity centers across the region that are safe, healthy, and inclusive of a range of housing, employment, and transportation choices.** Transit-supportive land use will help VIA provide efficient services for the transportation needs of citizens, help households reduce the cost of living, and support economic prosperity.

TRANSIT-SUPPORTIVE LAND USE GOALS:

- * Lead by example
- * Engage in regional planning and visioning
- * Engage in local planning
- * Engage with the development community
- * Engage with the public and elected officials



What is the purpose of this document and who will use it?

The primary purpose of this document is to help guide and provide resources for the development of transit supportive communities throughout San Antonio. It outlines the benefits, market viability and characteristics of transit supportive land use and then provides a matrix of transit typologies that can be applied in context. The transit typologies are presented in relation to these common elements of transit supportive land use – people, public realm and physical form – as well as through level and type of service.

When communicating with local governments, the development community, and the community at large, the guidelines provide the necessary framework for VIA to communicate land use goals associated with varying levels of transit service and investment. So that when it's time to build a new transit facility, for instance, the land uses (or the framework for these land uses) are in place that can support the service. These guidelines are intended to be flexible and sensitive to the variety of contexts where they may be applied.

Who will use the guidelines?



COMMUNITY AT LARGE

The guidelines highlight the kinds of public investments and policies designed to enhance the quality of life within San Antonio. The community can use the guidelines to understand the basic principles of TSLU and what it means for their community.



LOCAL GOVERNMENTS

These guidelines will provide some basic considerations for local governments and planners to help foster and develop vibrant walkable communities, as well as insights to include in comprehensive and area plan updates.



DEVELOPMENT COMMUNITY

These guidelines will provide the development community with a set of clear and understandable expectations that describe the type of development that is expected within transit communities.



COMMUNITY AT LARGE

Community at large refers to the general public, nonprofit developers, advocacy groups, neighborhood organizations and other groups who have an interest in land use that is adjacent to or within the areas impacted by transit, typically within a ¼ mile. Community groups are often at the forefront of establishing community goals and plans, and often advocate for improvements to an area to help bolster market value and increase accessibility for everyone, including low-income residents, the elderly and disabled. The guidelines highlight the kinds of public investments and policies designed to enhance the quality of life within San Antonio. The community can use the guidelines to understand the basic principles of TSLU and what it means for their community.

LOCAL GOVERNMENTS

Local governments have the greatest potential to influence development by making what they want to happen the easiest thing to do. A few ways to implement TSLU include zoning, development codes and public infrastructure investments. These guidelines will provide some basic considerations for local governments and planners to help foster and develop vibrant walkable communities. In turn, more efficient land uses can also help increase revenue for local governments through infill development and more efficient utilization of land, as well as reduced infrastructure costs since much of the infrastructure is already in place.

DEVELOPMENT COMMUNITY

The development community consists of property owners, developers and real estate professionals who influence development trends. These guidelines will provide the development community with a set of clear and understandable expectations that describe the type of development expected within transit communities. While acknowledging the financing challenges associated with a more compact style of development – including premium land costs, the relative complexity of infill development and the lack of present-day market comparisons – there remain major incentives to TSLU. Transit-supportive and transit-oriented development often generate a significantly higher return on investment through more efficient land use, creating more out of less, and by employing strategies that help create value within communities.



2. BENEFITS OF TSLU

TSLU Benefits VIA and the Communities it Serves

By working to center more people and activities around transit in both existing and planned communities, TSLU translates into increased demand and ridership, and therefore lower per rider costs to build and operate transit facilities. For VIA, per rider costs are important because it can be very costly and inefficient to serve areas that have low ridership. Service in these areas is also limited, and frequent service cannot be provided. Therefore a higher ridership demand can help support more frequent, cost-efficient service. TSLU also improves the speed and reliability of transit service, giving users predictable transportation options.

In addition to the bottom-line benefits for VIA and the transit rider experience, TSLU also provides measurable external benefits to a community, increasing quality of life factors like walkability and connectivity, air quality, and fostering long-term economic development potential. These external benefits of TSLU can be grouped into four categories: people, the community, the economy and the environment.



Why create transit-supportive places? They provide benefits to people, communities, the local economy and the environment.



PEOPLE

- * Reduces household transportation costs
- * Provides stable transportation costs even when gas prices rise
- * Reduces time spent in traffic
- * Increases physical activity providing health benefits and reductions in individual and public health costs
- * Increases transportation mobility and housing choices
- * Expands access to services jobs, and other destinations
- * Creates more attractive, walkable communities, generating a sense of place



ENVIRONMENT

- * Reduces GHG emissions
- * Preserves open space and natural resources
- * Improves air and water quality



LOCAL ECONOMY

- * Promotes redevelopment and reinvestment in existing communities
- * Increases revenue from more efficient land use
- * Increases value and revenue generated from new development
- * Leverages existing infrastructure investments
- * Reduces the need for expensive roadway expansions



COMMUNITIES

- * Public investments can enhance activity and the character of a place
- * Reduces road congestion
- * Improves the economy
- * Connects communities and people within them to each other and their daily needs
- * Creates value within a community and contributes to economic prosperity





3. MARKET VIABILITY OF TSLU

What factors influence market viability for TSLU?

The greatest challenge to implementing transit supportive land use, even in communities that desire it, is ensuring a return on investment for the developer and local governments. This might seem counterintuitive at first, especially after gaining a better understanding of the benefits TSLU offers. However, attracting private investment in TSLU is based not only on demand for more compact development, but on underlying market characteristics. *How much are land costs? What are achievable rents or mortgages in the area? What kinds of development regulations, such as parking requirements, are in place? What level of transit service is available to potential residents and businesses?*

Further, there is no one-size-fits-all approach to TSLU, but instead, transit-supportive principles that can be applied to many different development patterns. This flexibility is certainly a good thing when it comes to supporting the range of uses typical to transit-serving communities, but it also means that developers and local governments can be faced with a degree of uncertainty when it comes to financing or drawing from similar construction projects in the area.

This chapter highlights some of the common barriers to developing TSLU, tactics for overcoming them and a brief case study comparing TSLU to the kinds of lower density development primarily built today. The case study focuses on the potential for transit-supportive development to catalyze long-term economic return, offsetting any perceived risk of more expensive and less familiar development types.

1800 BROADWAY AT THE
SOUTHEAST CORNER OF
BROADWAY AND GRAYSON





Barriers to TSLU

Compact development forms are, by their nature, more complex and expensive to build. Compact development generally infers buildings with more stories and increased lot coverage. This equates to more square footage and greater material and construction costs than traditional lower density development such as single-story commercial and office buildings with surface parking, and housing such as townhomes.

Additional risks can include:

- Uncertainty in the entitlement process and community acceptance of new development forms for new development types (added time adds cost).
- New development forms that lack market comparables in the area which can make financing projects more difficult.
- Parking standards based on traditional suburban standards limit opportunity for compact development by requiring underground or structured parking which is far more costly to build than surface parking.
- Development and zoning regulations that do not allow the densities, mix of uses or other aspects of TSLU.

The added costs and perceived risks for building more compact development forms can be offset by strategies to help reduce uncertainty, incentivize development and foster a better understanding about the benefits – financial and otherwise – of transit supportive development.

Overcoming the Barriers of TSLU

Local governments play a major role in influencing development: through regulations and policies, investments in the public realm and incentives to catalyze private investment. While some actions require a financial investment on the part of the public sector, over the long term, these initial investments will generate positive returns for years to come including economic returns to local governments through tax revenue, higher return on investment for developers through more efficient land use, and most importantly beneficial returns for the community by creating safer, healthier and more active communities. Along with local government intervention, the long-term financial returns of TSLU to the private sector will also play an important role in motivating the development community.

REGULATION AND POLICIES

The regulatory framework is where the public sector has the most control over development outcomes. This includes zoning codes and policies that relate to land development, including parking requirements. Public sector policy changes that create a predictable and efficient regulatory framework, in turn, provide certainty for the private market and works to get high-quality development in desired locations.

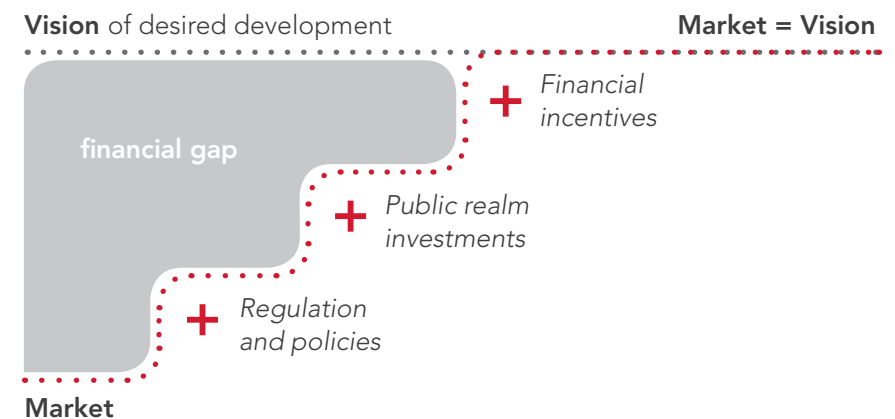
PUBLIC REALM INVESTMENTS

Strategic investments in the public realm help increase market values, enhance placemaking within a community and send a message to the private sector that something is happening. These investments can take various forms,

including streetscape enhancements (promoting walkability), pedestrian amenities (e.g. street trees, lighting and way finding), and parks, open space and trails (providing access to nature and recreation). Research has demonstrated that such investments can have a positive impact on land value and market demand.¹ Chapter 5 describes the ideal characteristics of the public realm within each transit typology, providing guidance for local governments when making investments.

FINANCIAL INCENTIVES

The public sector can also help catalyze development through the strategic financial incentives that support new development forms that may be “ahead of the market.” Through creative financing strategies and tools, the public sector can help build value in the market by supporting TSLU developments until private investments can be made without public support.



How does TSLU fare when compared to conventional and transit adjacent forms of development?

REALIZING THE FINANCIAL BENEFITS OF TSLU

While it's clear that when considering a transit supportive development, overcoming the initial financial hurdles and assumed risk with the help of local government is extremely important, realizing the long-term financial gains of TSLU will also go a long way in overcoming today's barriers. As the following case study demonstrates, when compared to other forms of development, transit-supportive development is extremely financially competitive.

Compact, urban form – a cornerstone of TSLU – increases the number of potential housing units on a given parcel and therefore, yields more potential revenue from rent. Other aspects of TSLU, such as access to high-quality transit and pedestrian-friendly urban design, translate into the need for fewer parking spaces than conventional development. While surface parking and smaller buildings typical of conventional development is less expensive to build than structured parking or taller buildings typical of TSLU, the trade-off of more efficient land use (i.e. more housing units) means that while TSLU incurs more upfront costs, in the long-run, project value can be substantially greater. Project value can also be positively affected by an increasing demand for the kind of attractive, walkable neighborhoods and expanded range of housing options that TSLU offers, raising attainable rents.

TSLU Case Study

To demonstrate how TSLU and transit-supportive principles can benefit property owners, developers and the community, the case study on the following pages presents a high-level comparison of three prototypical building types.

The building types represented include:

- **Conventional development forms** in San Antonio – *what the market is currently building and is easily financed.*
- **Transit adjacent projects** – *higher intensity, but still prioritizes the automobile by providing ample parking.*
- **Transit supportive development type** – *higher intensity and includes less parking than either a conventional or transit adjacent project.*

CONVENTIONAL DEVELOPMENT

- 1 At 38 units/acre this prototype is considered low density for an urban setting with high-quality transit service.
- 2 Design elements are supportive of a walkable environment, oriented to the street, with parking in the back.
- 3 Parking standards are consistent with conventional development (about one parking space/bedroom). Surface parking (about \$3000/space) and low-cost development form make this style of development financially feasible.

TRANSIT ADJACENT DEVELOPMENT

- 1 At 84 units/acre this prototype adds density and increases land use efficiency, increasing housing units and jobs.
- 2 Design elements are supportive of a walkable environment, oriented to the street, and with an active ground level. However, conventional parking standards require nearly half the site be dedicated to structured parking, detracting from the pedestrian environment and encouraging people to use their cars.
- 3 The cost of structured parking (ranging from \$12,500-40,000/space) makes compact development forms more expensive to develop and can significantly lower the rate of return.

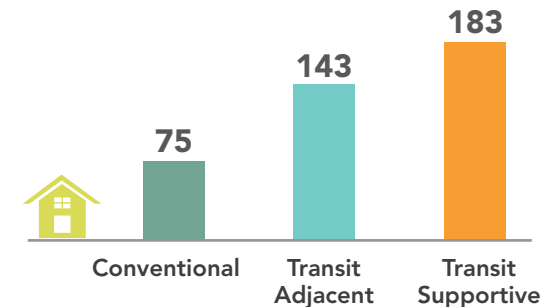
TRANSIT SUPPORTIVE DEVELOPMENT

- 1 With a lower parking ratio, this prototype yields 108 housing units/acre, 30% more than transit adjacent on the same land area, increasing density and land use efficiency.
- 2 Design elements are supportive of a walkable environment, oriented to the street with an active ground level. Parking is integrated into the building structure to eliminate gaps in the pedestrian realm.
- 3 The cost of structured parking (ranging from \$12,500-40,000/space) makes compact development forms more expensive to develop. However, lower parking requirements translates into more housing units to offset the higher parking costs.

Conventional Development



HOUSING UNITS



The transit-supportive land use type yields 140% more housing units than conventional development on the same site. This means there are nearly three times the people in the same area that could use transit and access local businesses.

Transit-Adjacent Development

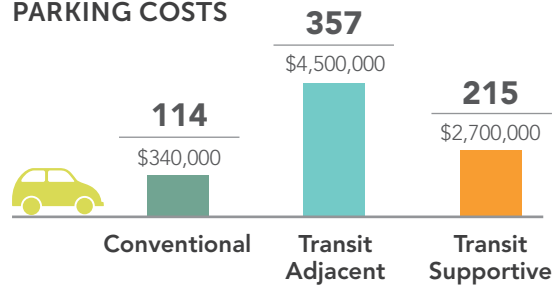


Transit-Supportive Development



These illustrations and analysis represent the high-level differences between the cost, return on investment and added activity (residents and employees) between the three development types compared. This case study is not intended to replace a professional pro forma.

PARKING SPACES / PARKING COSTS

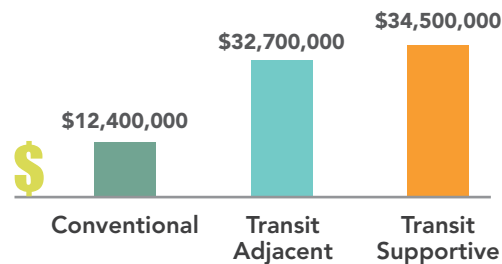


The transit-supportive prototype requires only half the parking of the transit-adjacent prototype which relies on conventional standards. Lower parking ratios are only successful when aligned with high-quality transit service and a pedestrian-friendly environment.

Parking Space Assumptions: **Conventional** = 1.5/HU;
Transit Adjacent = 1.5/HU (avg), 3/1000 sq ft Retail, 2/1000 sq ft Office;
Transit Supportive = 0.85/HU (avg), 1/1000 sq ft Retail, 1/1000 sq ft Office

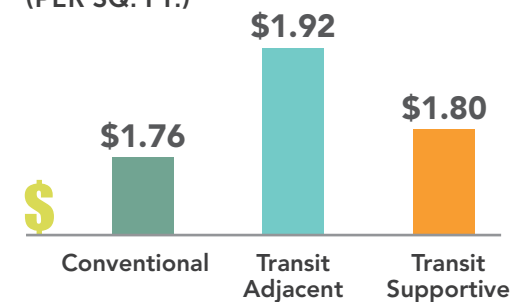
Parking Cost Assumptions: **Surface parking** = \$3000/space;
Structured parking = \$12,500/space

PROJECT VALUE



More compact development forms can result in nearly three times the value of a conventionally developed site. Not only is the land use more efficient, but the returns for building more compactly can be substantially greater.

RENT INCOME* (PER SQ. FT.)



Assuming a desired level of return (10%) for all three prototypes, the rents needed to support a conventional (and lower cost project) are close to that of the transit-supportive prototype. Lower parking requirements reduces the total development costs and makes a more expensive project more financially viable – and ultimately, contributes to more competitive rents.

* Needed to make the project financially feasible.

What does TSLU look like in San Antonio today?

Truly transit supportive types of developments are less prevalent in the San Antonio region – contributing to the uncertainty and lack of comparables to make financing projects easier. However, there are some projects in and near downtown that have less parking – or have demonstrated less need for parking – are more intense and incorporate high-quality urban design. These examples of transit-supportive projects provide new housing options for the community and provide “proof of concept,” meaning they put theory into practice.

Over time, as demand for more compact styles of development increases and as San Antonio creates more and more places that are supportive of and served by transit, VIA’s mission to enhance the community’s environment and residents’ quality of life through dependable and cost-effective transit will become easier.

To further this goal, Chapter 5 guides the application of transit-supportive principles and the role of the transit facility within the context of varying typologies. This guidance should serve local governments, developers and the community to achieve TSLU in San Antonio.



Investments in walkability and placemaking have measurable impacts on residential pricing.

There is a growing body of research supporting the assertion that investments in walkability, placemaking and high-capacity transit such as light rail, streetcar and bus rapid transit can have a positive effect on residential pricing. This implies that people are willing to pay more to live in areas with these kinds of amenities – ultimately, contributing to the feasibility of more expensive, transit-supportive projects. As market conditions swing in favor of TSLU development, the preservation of affordable housing will continue to be an important consideration.



Variable	Factor	Rent/Price Impact	Product Type	Study Area	Source
Distance to LRT Station	within 1/4 mile of station	+11-19%	Multi Family	Dallas	<i>Measuring the Value of Transit Access for Dallas County: A Hedonic Approach.</i> Leonard (2007)
Accessibility Increase	walking distance to station	+3-40%	All	California, New Jersey, Georgia, Pennsylvania, Florida	<i>Impacts Of Rail Transit On Property Values.</i> Diaz (2007)
Distance to LRT Station	within 500 ft	+11%	Single Family	Portland	Al-Mosaindet al. (1993)
Distance to LRT Station	1/4 to 1/2 mile of station	+6-45%	All Residential	Comprehensive review of studies undertaken between 1993 and 2004.	Cervero (2004)
Distance to LRT Station	within 1/4 mile of station	+40%	Commercial	Dallas	Cervero (2004)
Distance to BRT Station	within 1/2 mile of station	+10-21%	Residential	Pittsburgh	NBRTI (2009)
Proximity of “full package of amenities”	neighborhood amenity level	+20%	All Uses	Portland	<i>An Assessment of the Marginal Impact of Urban Amenities on Residential Pricing.</i> Johnson/Gardner (2007)



1221 BROADWAY AT THE
SOUTHWEST CORNER OF
BROADWAY AND ROY SMITH

21

4. ELEMENTS OF TSLU

The Basis of VIA's Transit Typologies

ELEMENTS OF TRANSIT-SUPPORTIVE LAND USE

This chapter sets the stage for the guidelines. Here, we define the primary elements of TSLU and how their varying characteristics provide the basis for each of VIA's seven transit typologies presented in the next chapter. We group the primary elements into three categories – **people, public realm and physical form** – and include things like pedestrian amenities, urban design principles, density and activity levels. In whole, the characteristics or quality of these elements describes the wide range of contexts represented through the typologies.



PEOPLE

density of people and the surrounding activity level

+



PUBLIC REALM

public facilities and amenities like sidewalks, landscaping and crosswalks

+



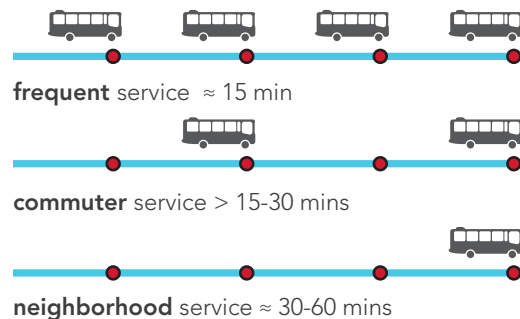
PHYSICAL FORM

physical structures, such as buildings and their attributes, and parking facilities

Along with the three major elements of TSLU, **other supplemental criteria specific to transit – including level of service and its role in regional system** – are also important factors. These criteria provide an overview for the role of the transit station within each typology and ultimately, will help guide decisions about which areas are best suited for transit investment. For instance, transit service that operates at appropriate times and frequencies, closely matching ridership demand, are the most efficient and productive.

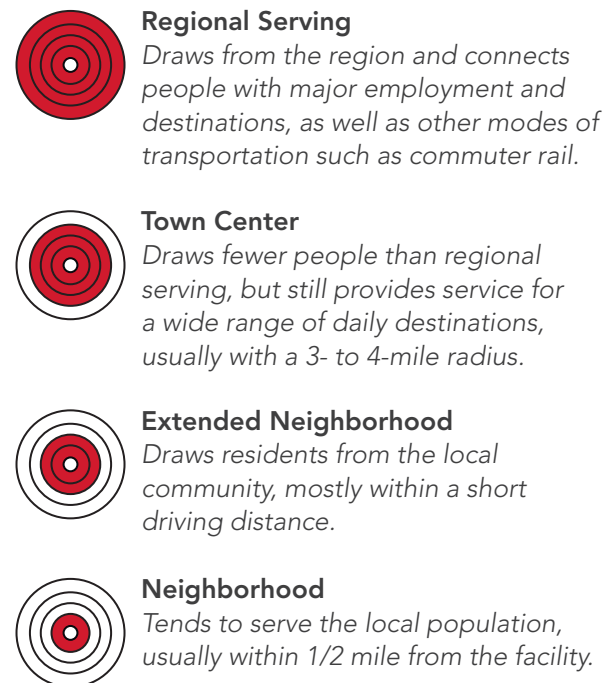
Level of Service:

Describes the frequency of transit service and the relative amount of ridership.



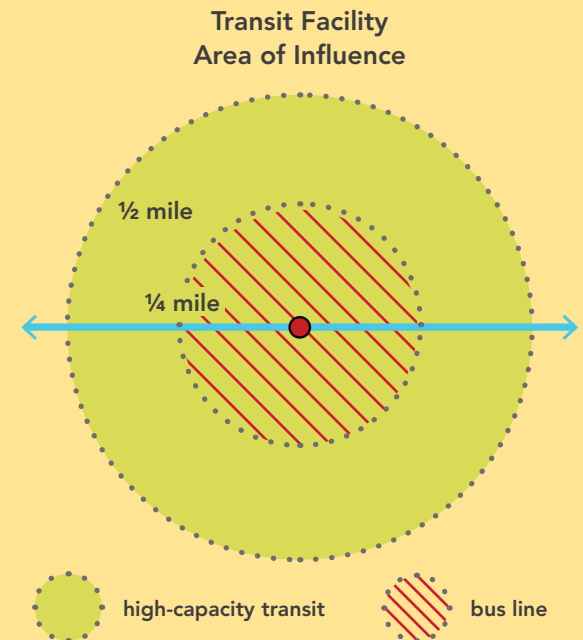
Role in Regional System:

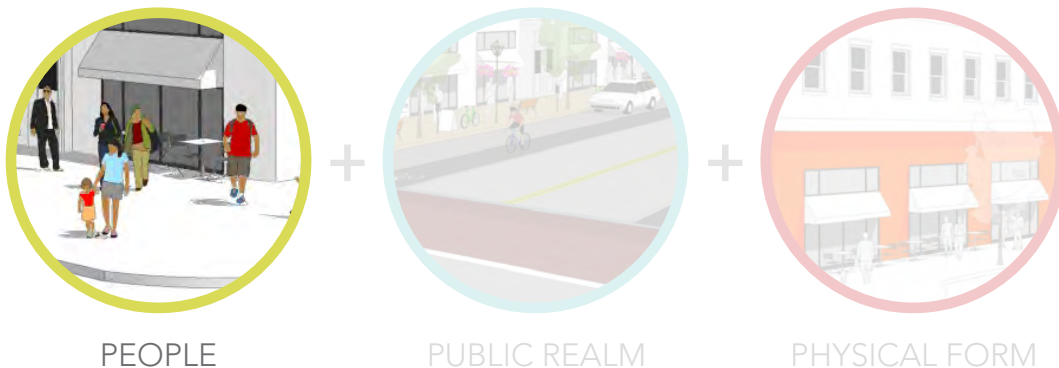
Describes the extent of service for a transit facility or station within each typology.



TRANSIT TYPOLOGIES

The typologies were established by VIA to guide transit facility development and the associated land use patterns necessary to support that facility. The goal of understanding the typologies is to assist local governments in developing specific strategies that consider market forces and engage the private sector to set realistic expectations for development within the transit area of influence. Generally speaking, this is the area surrounding and adjacent to a transit facility and varies in size depending on the access priority of the transit facility. For a major transit facility or high-capacity transit facility the area of influence is 1/2 mile from a station and a 1/4 mile from a bus line.





PEOPLE

Having enough people that live and work in a place is essential to sustaining local businesses and supporting transit service.

This measure highlights the range of people needed to support a given type of transit service, as well as the mix of uses that contribute to the activity level of a place. Areas that include a mix of civic and commercial amenities such as grocery stores, restaurant, banks and other such services increase the likelihood that residents and workers can complete daily activities without having to get into a car. The guidelines touch on a range of transit supportive activity levels and the people necessary to support them from high-frequency transit in the downtown to local bus service in neighborhoods.

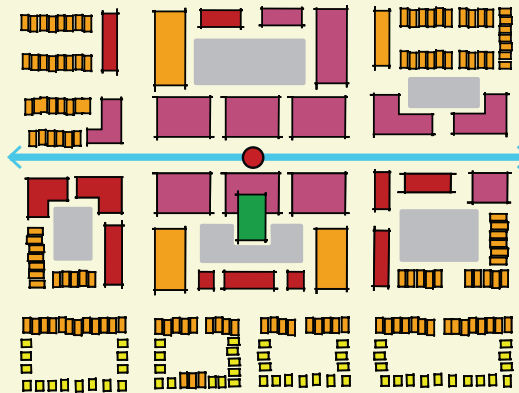
"People" includes:

- * Land Use Mix
- * Length of Activity (length and time of day)
- * Density (people/employees/residents - per acre)

HOW THE GUIDELINES ILLUSTRATE PEOPLE

Land Use Mix:

Illustrates the kinds of land use and activity necessary to support the transit facility.



- Transit route
- Transit stop
- Pedestrian routes/connections
- Mixed use
- Retail
- Office
- Duplexes/apartments/condos
- Single-family residential
- Parks

Note: Mixed use can include combinations of Retail, Office and Residential in the same building.

Length of Activity:

Indicates the typical amount of activity – as total hours and time of day – expected around a transit facility to support the service level.



8 hr



18 hr

Level of Activity:

Indicates the minimum amount of people per acre (including both residents and employees) required to financially support the service level.



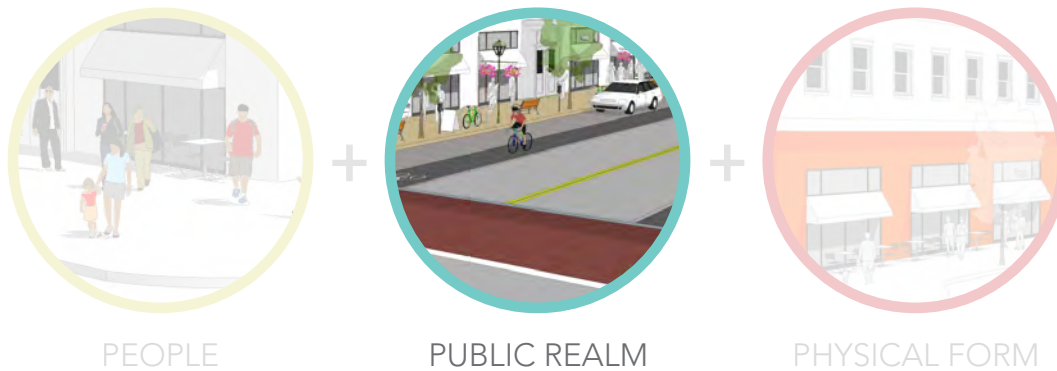
230

people / acre



117

people / acre



PUBLIC REALM

The public realm is the **physical framework for shared public spaces**, the spaces in which people move through on a daily basis. **This includes streets, public and civic spaces and the relationship between public and private spaces such as storefronts and pedestrian amenities.** The public realm is also where local governments can have the most impact by targeting investments that support and enhance walkability. Ideally transit supportive communities make it easy for people to get around on foot in a safe and attractive environment that welcomes and provides opportunity for exchange. A transit supportive community ideally is built around grid of small blocks (or include pedestrian access where road connectivity is limited), is connected to or with shared public spaces, includes sidewalks and bike facilities particularly within the transit area of influence and includes safety features such lighting, and way finding.

“Public Realm” includes:

- * Block dimensions/connectivity
- * Location of transit facility
- * Cross walks
- * Streetscape (street trees, furniture, lighting)
- * Complete streets
- * Active streets (ground-floor retail, public exchange)
- * Public spaces
- * Signage
- * Sidewalks (width and zones)

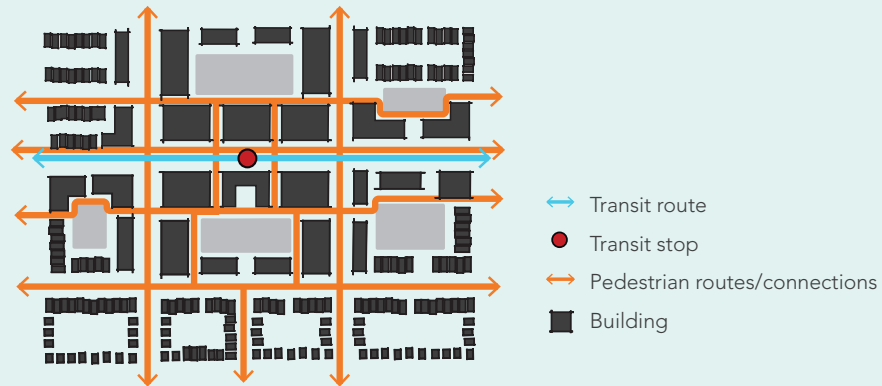
HOW THE GUIDELINES ILLUSTRATE PUBLIC REALM

The guidelines illustrate and label the varying characteristics of the public realm for each typology, for example:

- 1 Street trees and landscaping
- 2 Highly visible crosswalks
- 3 Complete Streets

Pedestrian Connections:

Illustrates the ways that pedestrians can access the transit facility from nearby sidewalks or pathways.



Public Realm Characteristics:

Illustrates the visual characteristics of the public realm.



Clear Walkway Zone

Street Furniture and
Landscape Zone



PHYSICAL FORM

Physical form focuses primarily on the built environment: the buildings that frame the transit area of influence, and in particular the buildings that are directly adjacent to a transit facility. Buildings frame the community and the way in which they are designed and parked greatly influence the pedestrian experience. TSLU building design prioritizes the pedestrian experience while supporting other modes including the automobile. For buildings, this means lower parking ratios, and building orientation and design focused on accommodating the pedestrian, interesting ground-floor design, active uses in strategic areas, façade transparency, setback, building frontage, and entrances.

“Physical Form” includes:

- * Building heights
- * Building orientation
- * Street frontage
- * Set backs
- * Façade transparency and design
- * Utilities
- * Parking (structured, surface)
- * Building form and transit
- * Block coverage
- * Density

HOW THE GUIDELINES ILLUSTRATE PHYSICAL FORM

The guidelines illustrate and label the varying characteristics of the physical form for each typology, for example:

- 1 Typical building heights
- 2 Buildings are oriented to the street with zero setback

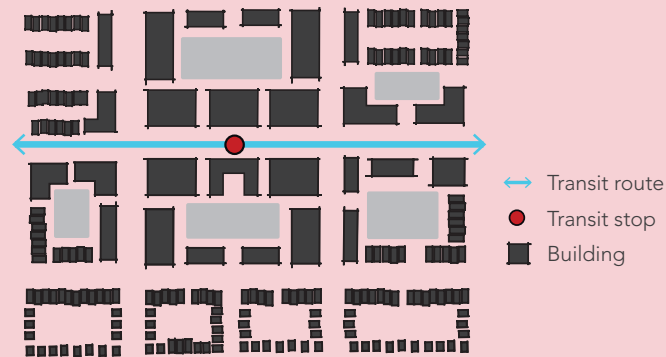
Physical Form Characteristics

Illustrates the visual characteristics of the built environment.



Building Form and Transit

Illustrates the typical footprint and location of the built environment. This helps to provide an understanding of the scale of development within each typology and its relationship to transit service and routes.



Housing Unit Density Minimum

Indicates the minimum amount of households per acre required to financially support the service level.



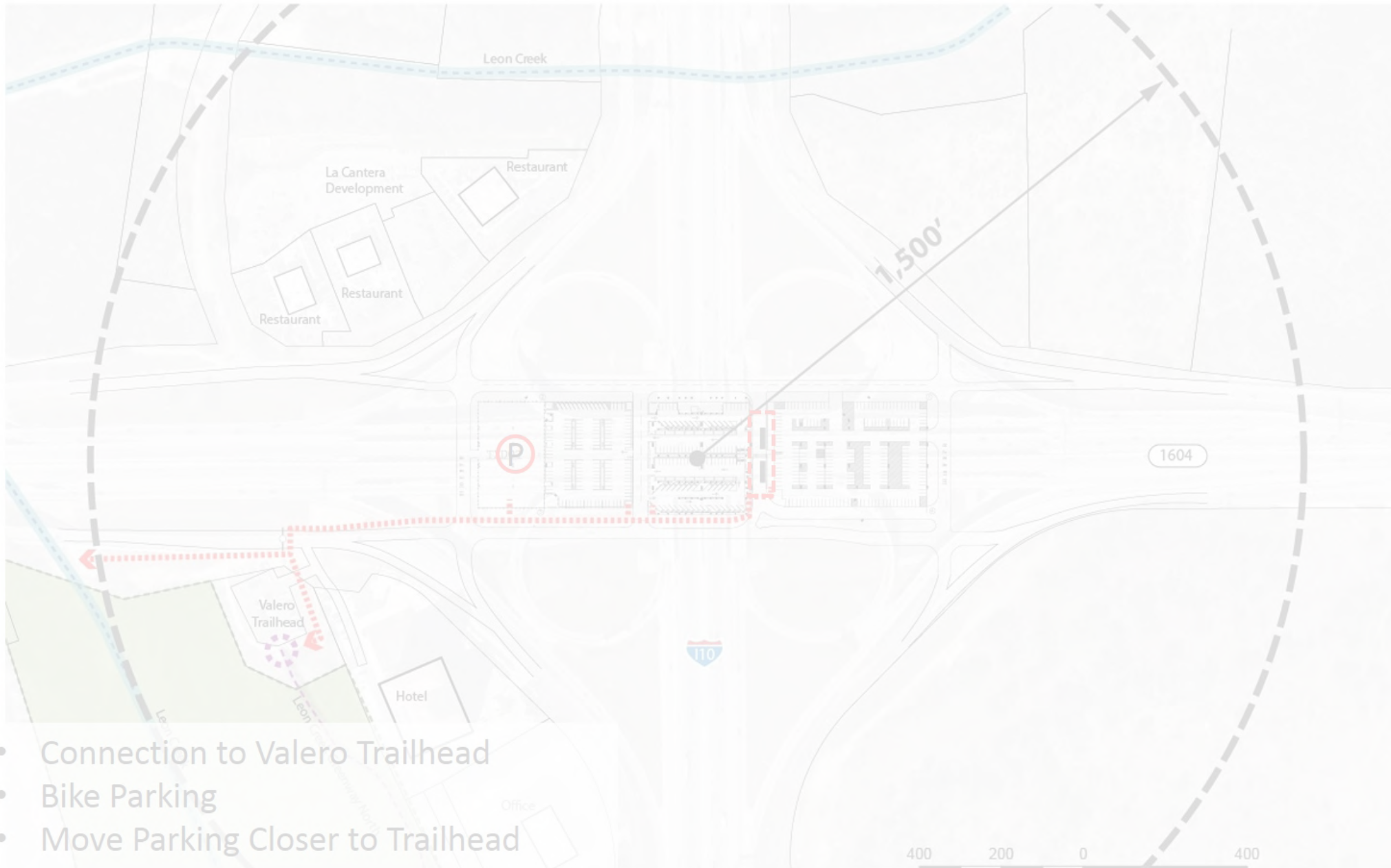
25

HU / acre



15

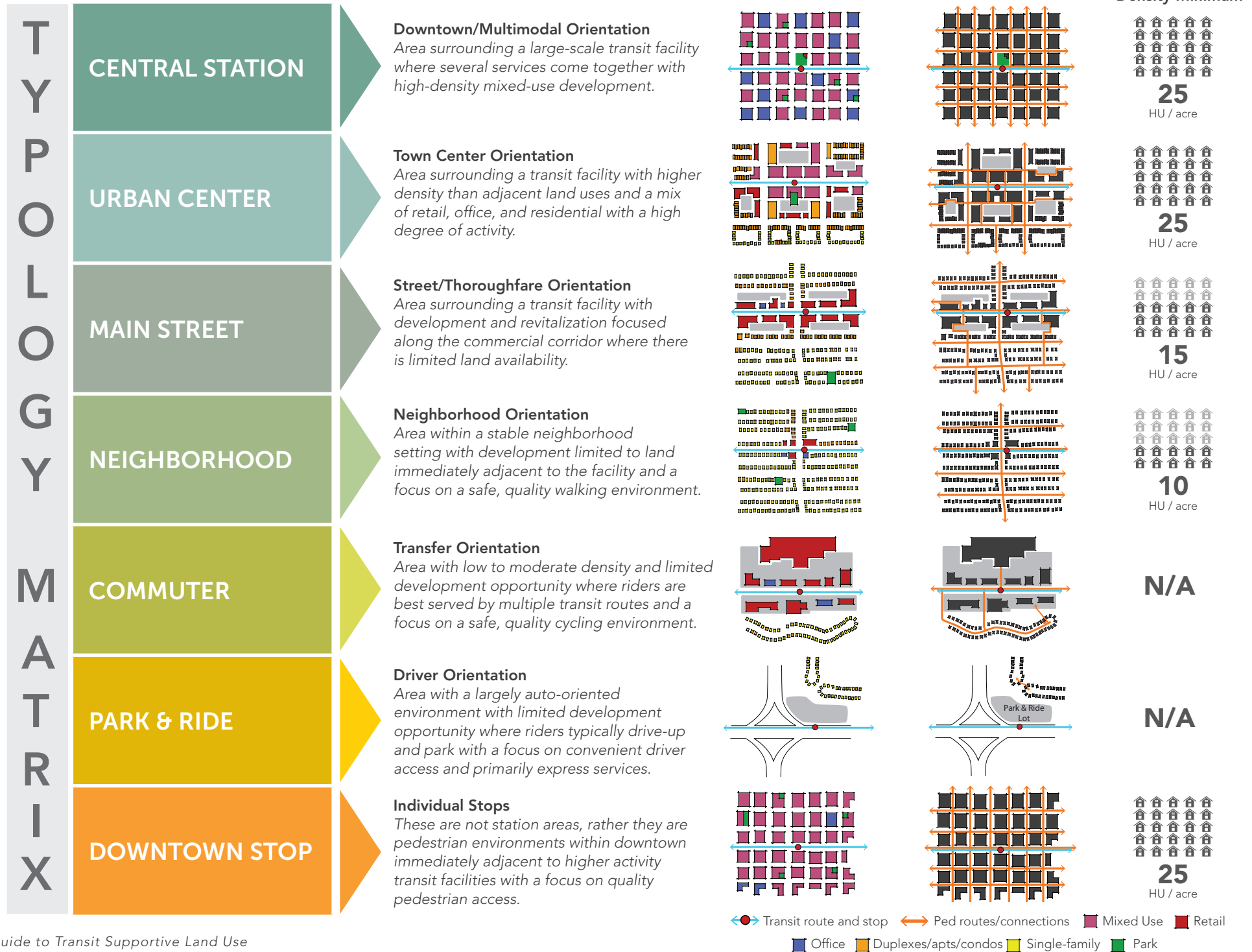
HU / acre


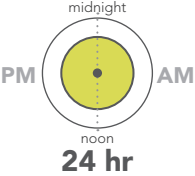



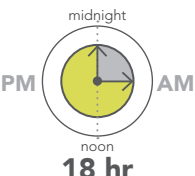



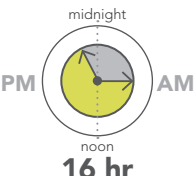



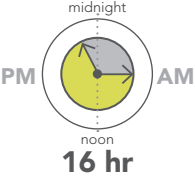

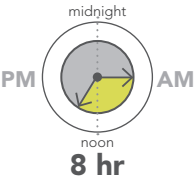


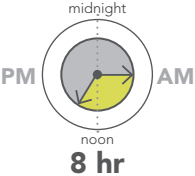



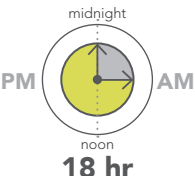




- Connection to Valero Trailhead
- Bike Parking
- Move Parking Closer to Trailhead



5. GUIDELINES FOR TRANSIT TYPOLOGIES



	Level of Activity	Activity Duration	Level of Service	Character/Physical Form
CENTRAL STATION	 230 people / acre	 24 hr	 frequent service ≈ 15 min	
URBAN CENTER	 117 people / acre	 18 hr	 frequent service ≈ 15 min	
MAIN STREET	 89 people / acre	 16 hr	 frequent service ≈ 15 min	
NEIGHBORHOOD	 65 people / acre	 16 hr	 neighborhood service ≈ 30-60 mins	
COMMUTER	N/A	 8 hr	 commuter service > 15-30 mins	
PARK & RIDE	N/A	 8 hr	 commuter service > 15-30 mins	
DOWNTOWN STOP	 117 people / acre	 18 hr	 frequent service ≈ 15 min	

CENTRAL STATION

Central Station is a multi-modal, signature facility serving as a major transportation hub and destination, and designed to be a gateway to the city. Central Station is regionally serving, connecting regional bus and commuter rail to frequent bus and local bus, with access to other travel modes – including bike share, car share and taxi service – all in one place.

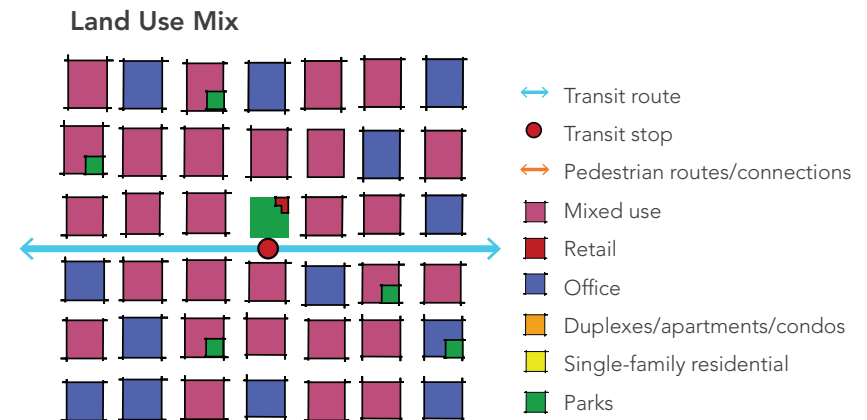
People: Central Station is nestled into the city center and surrounded by a mix of employment, commercial and retail destinations. A hub for tourism and residential development, it is surrounded by 24-hour activity. Central Station maintains the highest capacity transit service relative to the other station area typologies.

Public Realm: Central Station incorporates a high-quality public realm – such as a public plaza incorporated into the facility – oriented to the pedestrian and is surrounded by pedestrian connections.

Physical Form: Central Station presents opportunities for higher intensity development and could accommodate high-rise development. While parking may be available, it is marketed toward users of the regional transportation system.



CENTRAL STATION – PEOPLE

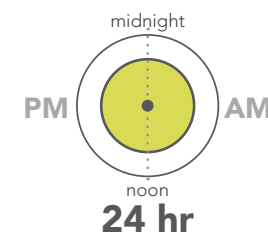


Level of Activity

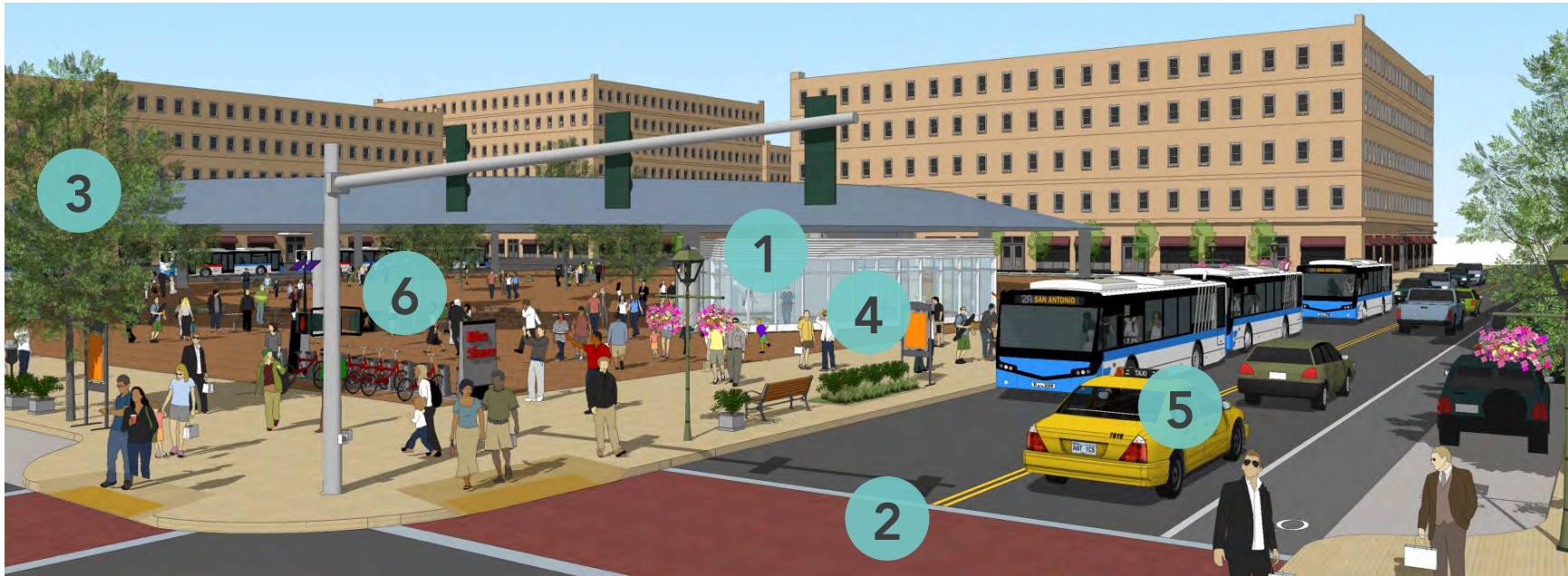


230
people / acre

Length of Activity



CENTRAL STATION – PUBLIC REALM



Public Realm Characteristics

- 1 Easily accessible transit facility with a high-quality waiting area, protecting riders from the elements.
- 2 Highly visible crosswalks with premium paving treatments improve safety for all users.
- 3 Street trees, seating and pedestrian lighting.
- 4 Way finding signage located at a height that is easily accessible to pedestrians.
- 5 Bike share, car share and taxi service are available in this active, high-pedestrian environment.
- 6 Multi-use public space.

CENTRAL STATION – PUBLIC REALM



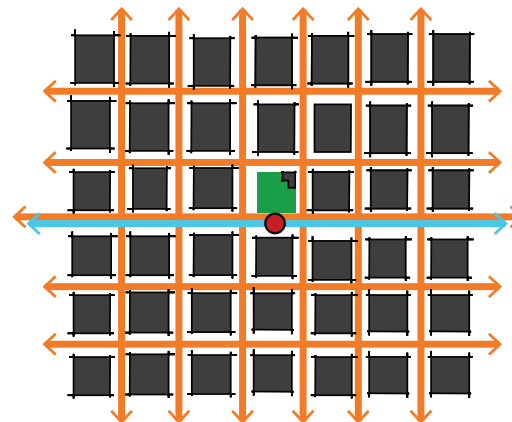
Street Furniture Zone

Clear Walkway Zone

Street Furniture and Landscape Zone

Sidewalk Characteristics

Central Station incorporates the widest sidewalks with the highest level of public investment. Sidewalks have a broad, clear walkway zone, street trees and benches in the furniture/landscape zone closest to the street and may have an additional furniture zone closest to the public plaza.



Pedestrian Connections

A highly connected street grid maximizes pedestrian access between the transit facility and surrounding areas. Central Station has the greatest level of access to the surrounding area.

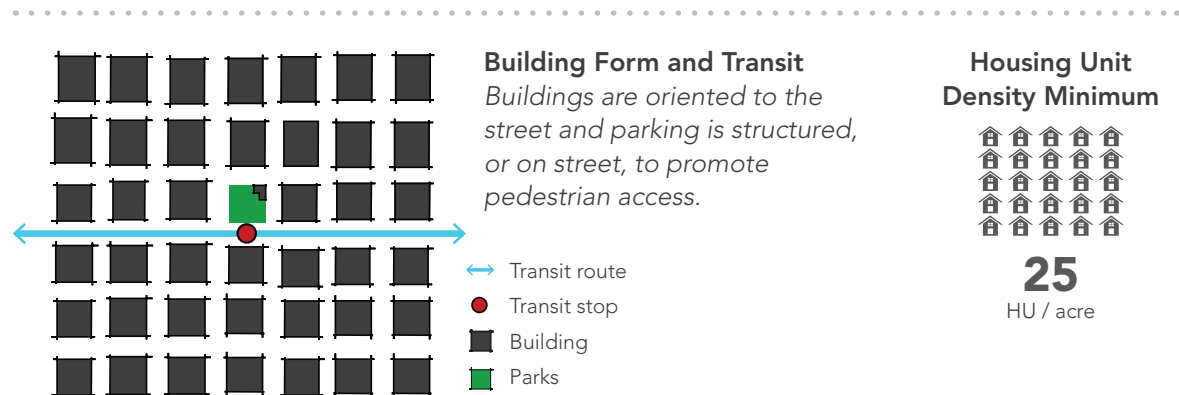
- Transit route
- Transit stop
- Pedestrian routes/connections
- Building
- Parks

CENTRAL STATION – PHYSICAL FORM



Physical Form Characteristics

- 1 Generally buildings are four or more stories.
- 2 Buildings are oriented to the street with active ground-level and zero setback. Windows provide a level of transparency of at least 75% of the street-facing building on the ground level.
- 3 Parking is located in structures and on street.



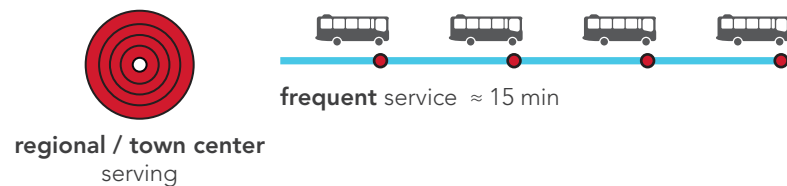
URBAN CENTER

An urban center is characterized by premium frequent local and express bus service, high ridership and serves as a key activity center for the surrounding community. This station area serves the local population, and acts as a “town center” for the people who live and work in the area.

People: An urban center station area can be located throughout the region so the physical character and use mix differs depending on the context. Urban centers can be located in areas largely dominated by employment and services surrounded by single-family and moderate-density housing, or within areas that are vertically integrated mixed use.

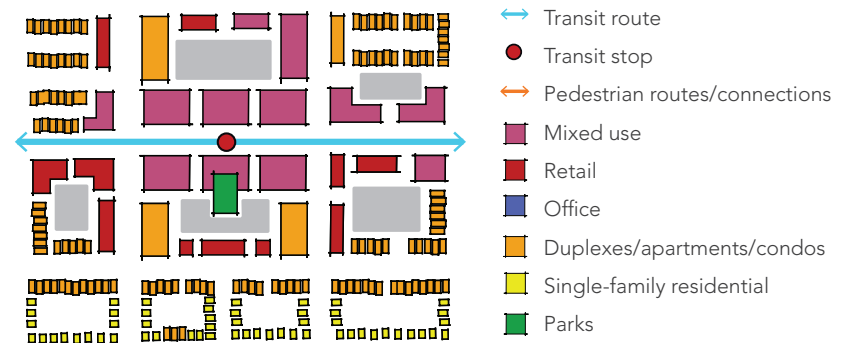
Public Realm: Urban Center incorporates a high-quality public realm oriented to the pedestrian and is surrounded by pedestrian connections. Although bike and pedestrian access are important in these station areas, they can also accommodate the automobile.

Physical Form: In more suburban contexts the mix of uses is likely to be horizontal in nature, but the physical form of buildings is oriented to pedestrians there are significant opportunities for higher intensity land use development surrounding the stations.

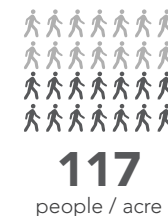


URBAN CENTER – PEOPLE

Land Use Mix



Level of Activity



Length of Activity



URBAN CENTER – PUBLIC REALM



Public Realm Characteristics

- 1 Easily accessible transit facilities with covered stops.
- 2 Highly visible crosswalks with premium paving treatments improve safety for all users.
- 3 Street trees, seating and pedestrian-oriented lighting.

URBAN CENTER – PUBLIC REALM

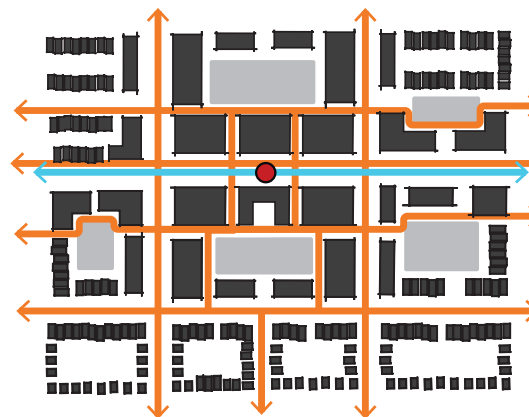


Clear Walkway Zone

Street Furniture and
Landscape Zone

Sidewalk Characteristics

Station areas in the Urban Center typology incorporate sidewalks with a high-to-moderate level of public investment. They have a clear walkway zone and street trees and benches in the furniture/landscape zone closest to the street.

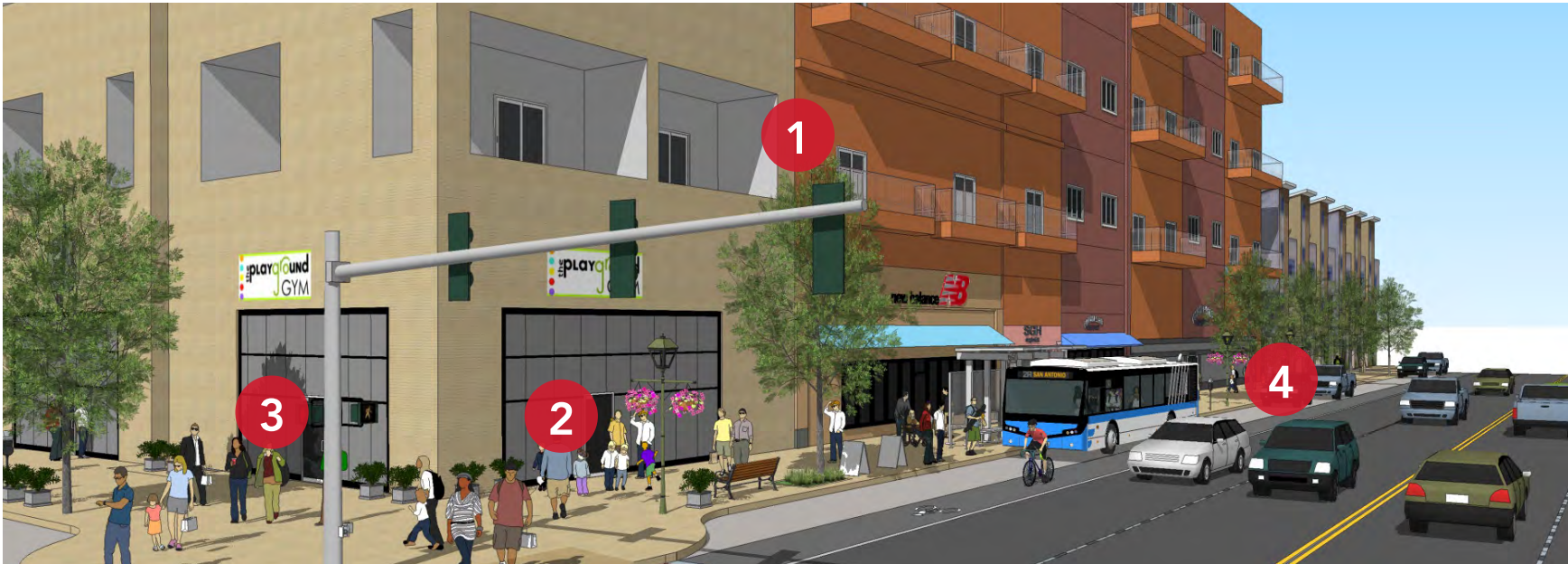


Pedestrian Connections

The street grid is well connected, although larger block sizes require pedestrian connections through mid-block paths. There is a high level of access to the surrounding area.

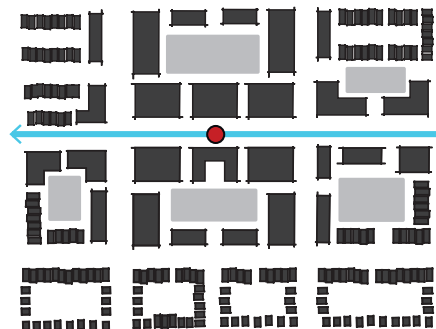
- Transit route
- Transit stop
- Pedestrian routes/connections
- Building

URBAN CENTER – PHYSICAL FORM



Physical Form Characteristics

- 1 Generally buildings are two or more stories.
- 2 Buildings are oriented to the street with a minimal setbacks, although setbacks for courtyards and outdoor seating are encouraged.
- 3 Windows providing a level of transparency of at least 75% of the street-facing building on the ground-level.
- 4 Automobile parking is generally located in parking lots, behind buildings and on-street.



Building Form and Transit
Buildings are oriented to the street and parking is located in lots are located behind the buildings or interior to the block to promote pedestrian access.

- ↔ Transit route
- Transit stop
- Building

Housing Unit Density Minimum



25

HU / acre

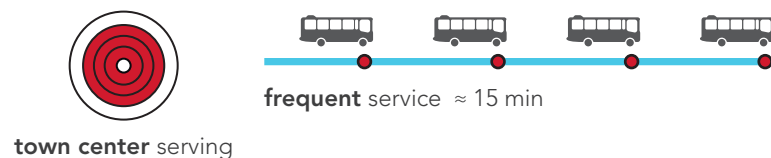
MAIN STREET

Main street stops offer premium frequent transit service and are located on a major thoroughfare or commercial corridor. Stations in this typology serve the local population, and commuters who pass through the area on their way to other destinations.

People: Significant portions of the primary corridor through a Main Street station area are either commercial, multi-family or mixed use in nature and transition into moderately dense single-family neighborhoods. Activity levels are slightly lower than an Urban Center or Downtown Stop.

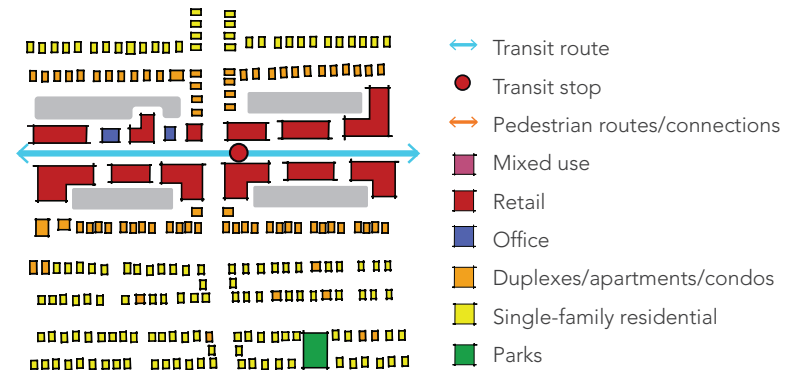
Public Realm: There is pedestrian access from the surrounding neighborhoods and at key intersections along the corridor.

Physical Form: The physical form of the corridor is oriented to both pedestrian and motorists, and includes some off street parking for the various services and uses along the corridor. There are opportunities for moderate intensity development near the stops.

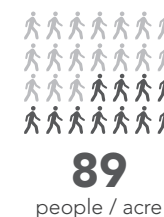


MAIN STREET – PEOPLE

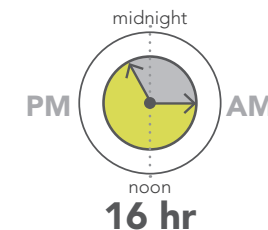
Land Use Mix



Level of Activity



Length of Activity



MAIN STREET – PUBLIC REALM



Public Realm Characteristics

- 1 Easily accessible transit facilities with covered stops.
- 2 Crosswalks with standard striping treatments.
- 3 Street trees, seating and pedestrian-oriented lighting.

MAIN STREET – PUBLIC REALM

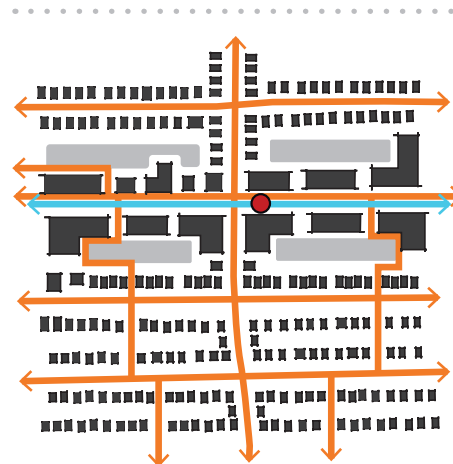


Clear Walkway Zone

Street Furniture and Landscape Zone

Sidewalk Characteristics

Station areas in the Main Street typology incorporate sidewalks with a moderate level of public investment. They have a clear walkway zone and street trees in the furniture/landscape zone closest to the street.



Pedestrian Connections

The street grid is moderately connected and larger block sizes require pedestrian connections through mid-block paths. Moderate-to-high level of access to the surrounding area.

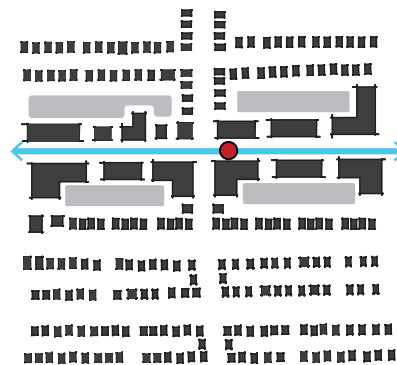
- Transit route
- Transit stop
- Pedestrian routes/connections
- Building

MAIN STREET – PHYSICAL FORM



Physical Form Characteristics

- 1 Generally buildings are one or two stories.
- 2 Buildings are oriented to the street with a minimal setbacks, although setbacks for courtyards and outdoor seating are encouraged.
- 3 Windows providing a level of transparency of at least 50% of the street-facing building on the ground-level.
- 4 Automobile parking is generally located in parking lots, behind buildings and on-street.



Building Form and Transit

Block sizes vary, but generally there are commercial uses along a major corridor, designed toward the street with parking in the back or on street. Smaller single-family homes within a block or two of the main street.

- ↔ Transit route
- Transit stop
- Building

Housing Unit Density Minimum



15
HU / acre

NEIGHBORHOOD

Neighborhood stops are located on primary or secondary arterials with minimal commercial uses and range from local bus to frequent service depending on the context. Stations in this typology serve the local population.

People: Neighborhood land uses are predominantly residential with a mix of single-family and multi-family housing. There are some commercial nodes along the corridor. Activity levels are the same as Main Street.

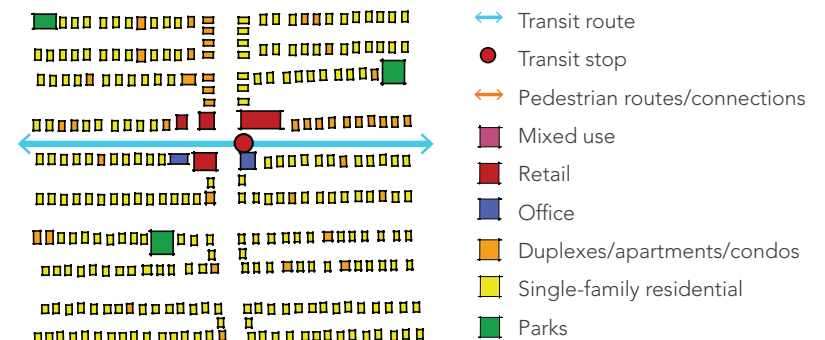
Public Realm: Neighborhood station areas should focus public investment on a high-quality pedestrian environment from the surrounding residential neighborhoods to the transit station or stop.

Physical Form: The physical form of these nodes is oriented to pedestrians, and there is on-street parking available. Small-scale development opportunities exist along key roadways and intersections.

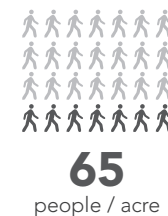


NEIGHBORHOOD – PEOPLE

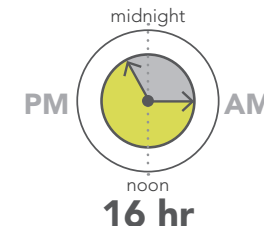
Land Use Mix



Level of Activity



Length of Activity



NEIGHBORHOOD – PUBLIC REALM



Public Realm Characteristics

- 1 Easily accessible transit facilities with covered stops.
- 2 Crosswalks with standard striping treatments.
- 3 Street trees, seating and pedestrian-oriented lighting.

NEIGHBORHOOD – PUBLIC REALM

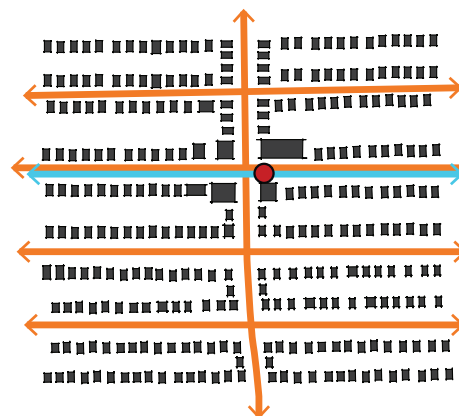


Clear Walkway Zone

Street Furniture and Landscape Zone

Sidewalk Characteristics

Station areas in the Neighborhood typology incorporate sidewalks with a moderate level of public investment. They have a clear walkway zone and street trees in the furniture/landscape zone closest to the street.



Pedestrian Connections

The street grid is moderately connected. Pedestrian connections are located along existing roadways and connectivity is dictated by neighborhood block size. There is a moderate level of access to the surrounding area.

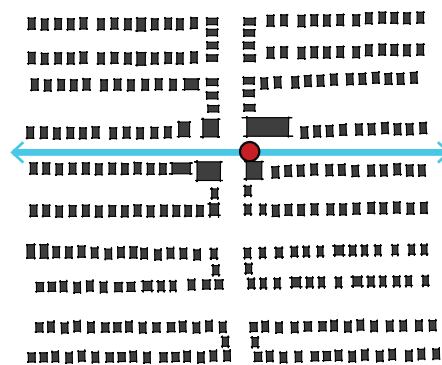
- Transit route
- Transit stop
- Pedestrian routes/connections
- Building

NEIGHBORHOOD – PHYSICAL FORM



Physical Form Characteristics

- 1 Generally buildings are one or two stories.
- 2 Buildings are oriented to the street with a limited setbacks for yards.
- 3 Automobile parking is generally located in parking lots, behind buildings and on-street.



Building Form and Transit

Commercial nodes are located at key intersections and built to the street. Parking is provided either on small lots adjacent to or behind buildings, or on street. Single-family homes are typically a half block to a block from the main street, while some housing is also along the corridor.

- ↔ Transit route
- Transit stop
- Building

Housing Unit Density Minimum



10

HU / acre

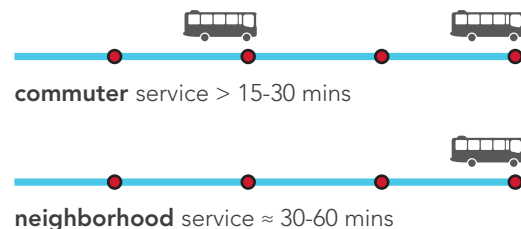
COMMUTER

Commuter facilities are primarily targeted toward transit riders transferring from neighborhood to commuter services, and may have accommodations for motorists from surrounding single-family residential communities. There is high-quality commuter and local bus service, and parking may be provided in either a structure or surface lot.

People: Adjacent uses typically include surface parking lots and some retail or commercial. Activity levels are much lower than the other typologies, but the same as Park and Ride stops.

Public Realm: Commuter station areas typically have less connected road networks resulting in less access for pedestrians to transit facilities. Therefore safe bike routes are encouraged within these station areas and high-quality pedestrian crossings at key intersections within the transit area of influence. The pedestrian amenities enable transit riders to access the station without a car, or access adjacent services from the station area.

Physical Form: Moderate-intensity development is encouraged here and targeted toward major streets adjacent to the transit facility.

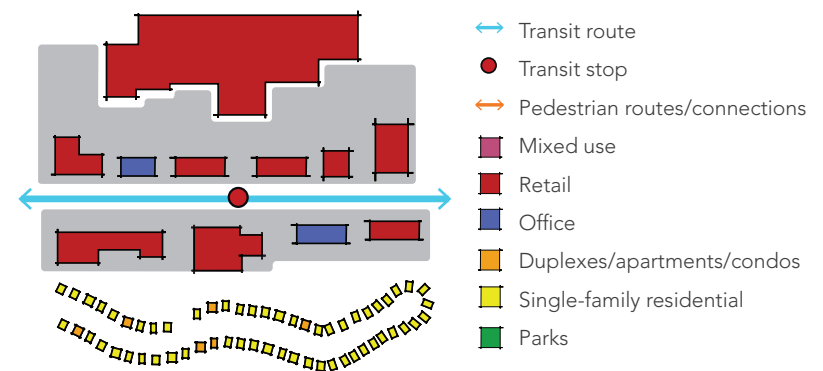


TRANSIT CENTER SERVING THE SOUTH TEXAS MEDICAL CENTER



COMMUTER – PEOPLE

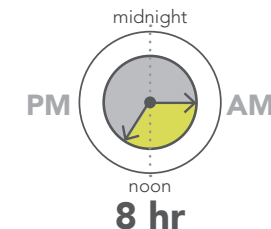
Land Use Mix



Level of Activity

N/A

Length of Activity



COMMUTER – PUBLIC REALM



Public Realm Characteristics

- 1 Easily accessible transit facilities with covered stops.
- 2 Crosswalks with standard striping treatments.
- 3 Street trees.
- 4 Safe bike access.

COMMUTER – PUBLIC REALM



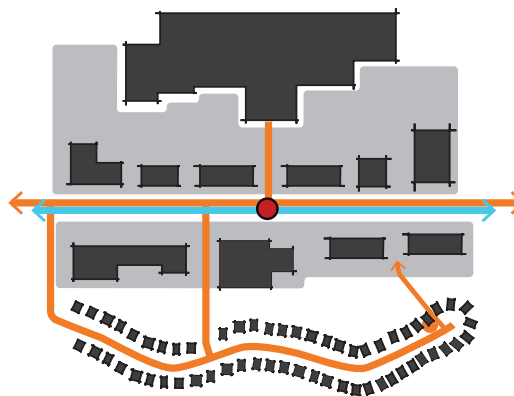
Landscape Zone

Clear Walkway Zone

Landscape Zone

Sidewalk Characteristics

Station areas in the Commuter typology incorporate sidewalks with a moderate-to-low level of public investment. They have a clear walkway zone and street trees in a vegetated landscape zone closest to the street.



Pedestrian Connections

A street grid may not exist. Pedestrian connections are encouraged through easements when connections to transit are particularly challenging, such as through shopping center parking lots. Access to the surrounding area is moderate-to-low.

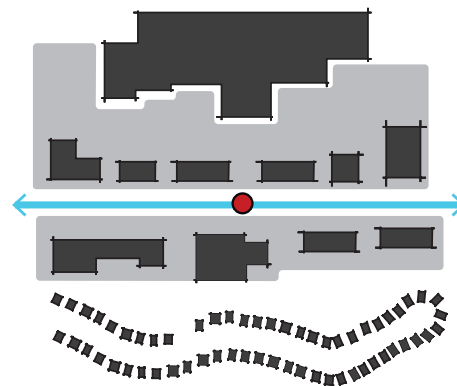
- ← Transit route
- Transit stop
- Pedestrian routes/connections
- Building

COMMUTER – PHYSICAL FORM



Physical Form Characteristics

- 1 Generally buildings are one story.
- 2 Windows providing a level of transparency of at least 50% are encouraged for ground-floor, street-facing building facades.
- 3 Buildings are sometimes set back to allow for one or two rows of parking between the building and the street.
- 4 Automobile parking is generally located in parking lots, in front, on the side and behind buildings.



Building Form and Transit

Larger scale buildings oriented to the station area with parking in the front, alongside and in the back. May have single-family homes within a block of the station.

- ↔ Transit route
- Transit stop
- Building

Housing Unit Density Minimum

N/A

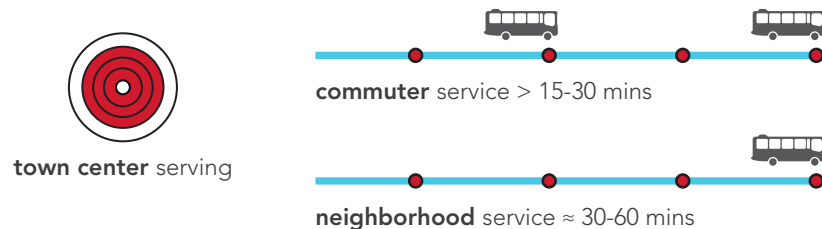
PARK AND RIDE

Park and ride facilities are targeted toward commuters and include parking for transit riders. These are often in surface, or sometimes structured lots. Because these stations are targeted to commuters who typically drive, pedestrian connections are encouraged but the car is the dominate form of access here.

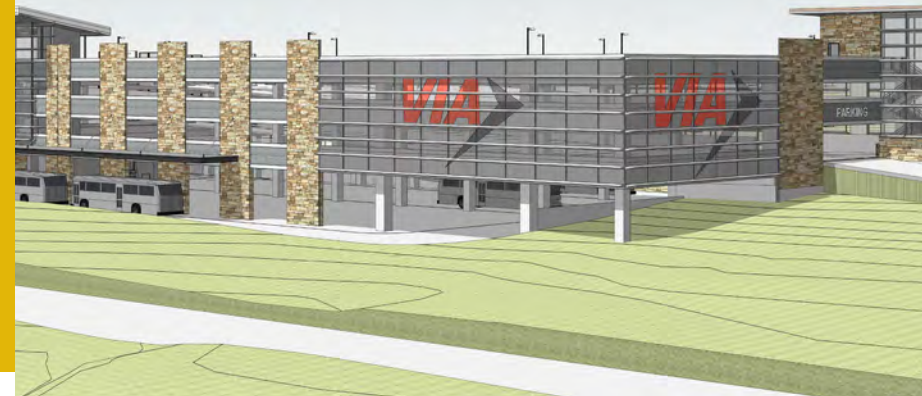
People: Surrounding development is either commercial, or residential in nature depending on the context. Activity levels are much lower than the other typologies, but the same as Commuter stops.

Public Realm: Park and Ride stops incorporate standard crosswalks for pedestrians access and connections to the available parking.

Physical Form: Pedestrian-oriented buildings are encouraged but the car is the dominate form of access here.

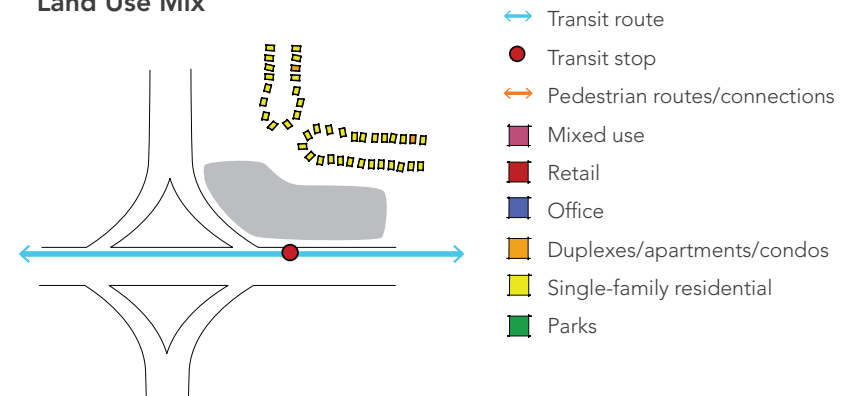


PARKING STRUCTURE AT U.S. 281
PARK & RIDE (UNDER CONSTRUCTION)



PARK AND RIDE – PEOPLE

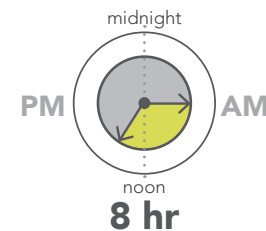
Land Use Mix



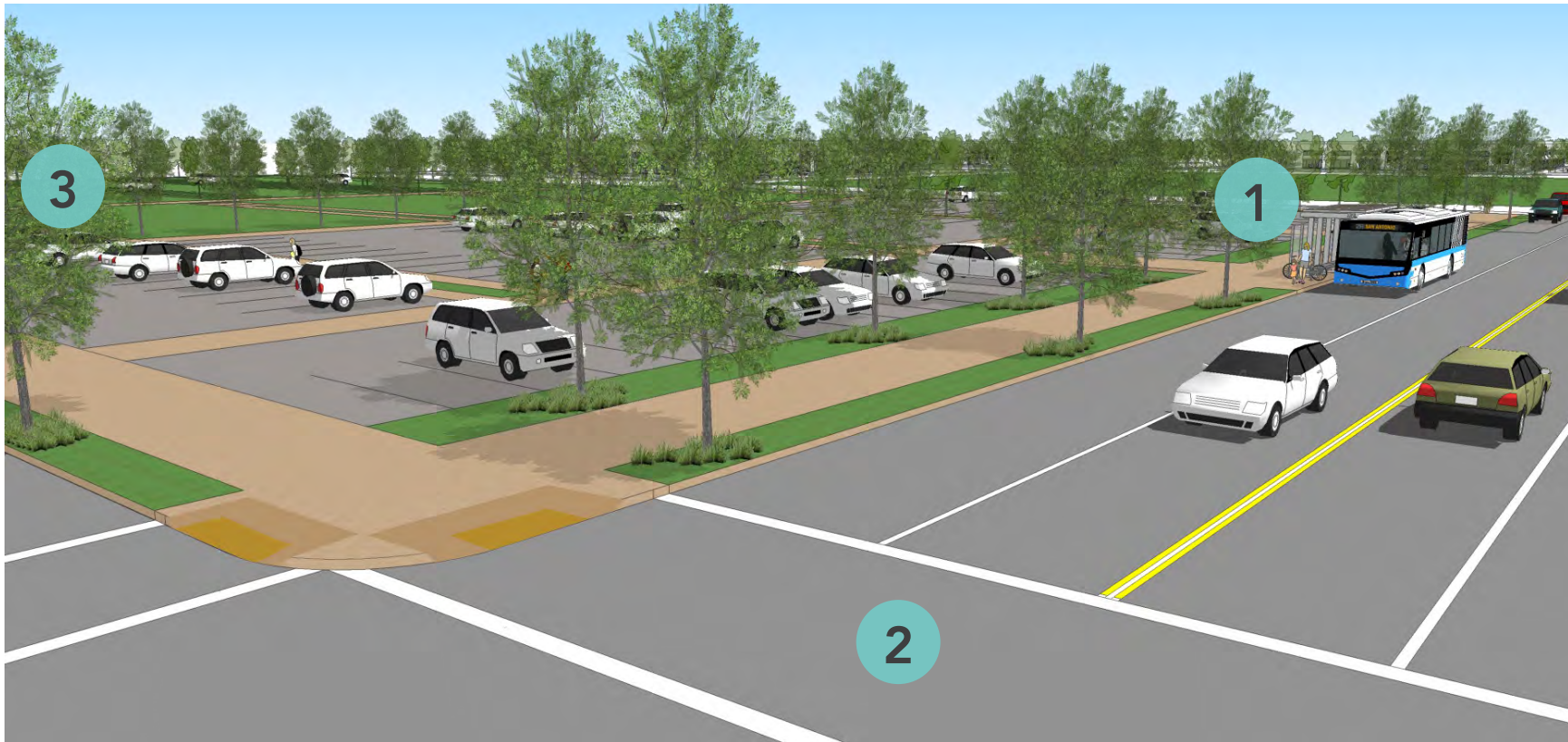
Level of Activity

N/A

Length of Activity



PARK AND RIDE – PUBLIC REALM



Public Realm Characteristics

- 1 Transit facilities with covered stops.
- 2 Crosswalks with standard striping treatments.
- 3 Street trees.

PARK AND RIDE – PUBLIC REALM



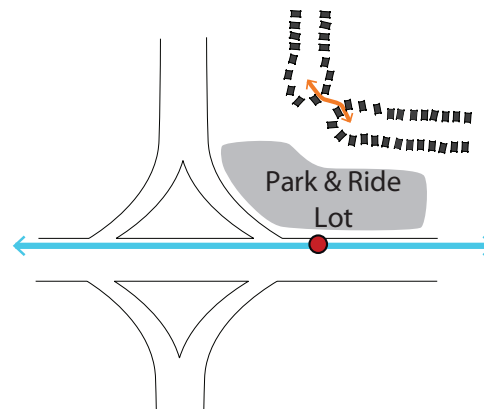
Landscape Zone

Clear Walkway Zone

Landscape Zone

Sidewalk Characteristics

Station areas in the Park and Ride typology incorporate sidewalks with a low level of public investment. They have a clear walkway zone and street trees in a vegetated landscape zone closest to the street and an additional landscape zone when sidewalks are located between parking lots and the street.

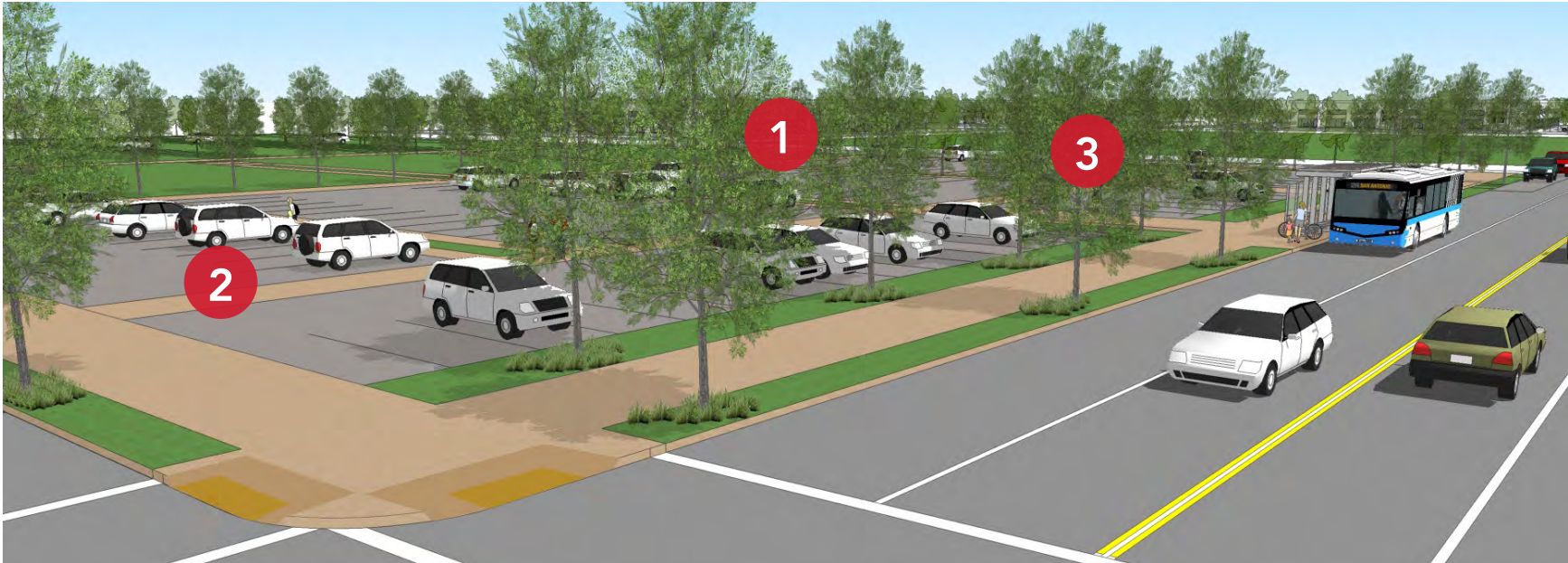


Pedestrian Connections

A street grid will typically not exist. Although this typology is primarily auto-oriented, pedestrian connections are encouraged when feasible through sidewalks located within park-and-ride parking lots and easements, such as through neighborhood cul-de-sacs. The level of access to the surrounding area is low.

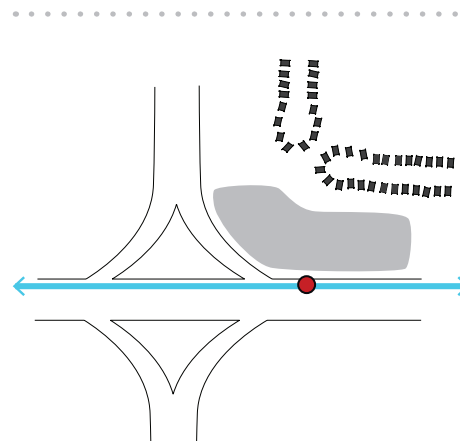
- Transit route
- Transit stop
- Pedestrian routes/connections
- Building

PARK AND RIDE – PHYSICAL FORM



Physical Form Characteristics

- 1 Generally, buildings are not directly adjacent to park-and-ride facilities.
- 2 Clear walkways through park-and-ride lots provide direct routes to transit stops.
- 3 Landscaping and trees within the park-and-ride parking lots provide shade and protection from the elements.



Building Form and Transit

Generally, buildings are not directly adjacent to park-and-ride facilities. May have single-family homes within a 1/4 mile of the station.

- ↔ Transit route
- Transit stop
- Building

Housing Unit Density Minimum

N/A

DOWNTOWN STOP

Downtown stops offer premium frequent local and express bus service within the central city. Stops are located along key corridors in the downtown and have the capacity to accommodate Streetcar, Primo (BRT) and Express Service, including transfers. Unlike the other typologies, Downtown Stops are not the center of Station Areas. Rather, they focus on the pedestrian environment immediately adjacent to higher capacity transit stops in the downtown area.

People: Downtown Stops are integrated into the urban core and surrounded by a range of land uses from hotels to residential buildings to office and retail, with 18-hour activity. The stops in this typology provide frequent transit service, are integrated into a high-quality pedestrian environment and are regional in nature.

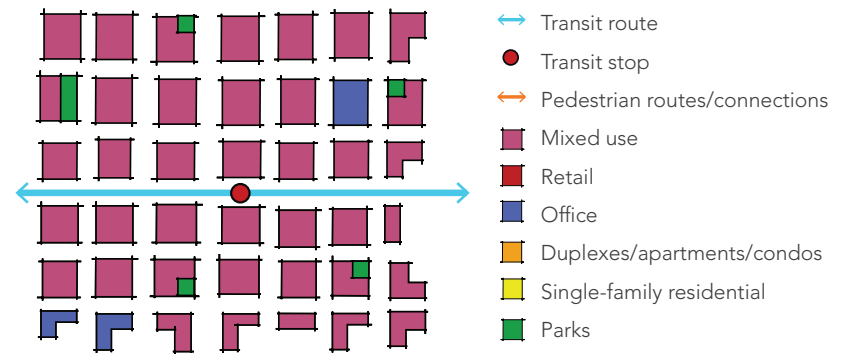
Public Realm: Downtown stops are closely spaced, and range from simple stations to more amenitized stations that are integrated into adjacent buildings or public spaces.

Physical Form: There is no parking available at these stops and they are geared toward pedestrians who live, work and visit the downtown. This typology has the potential for higher intensity development and could accommodate mid- to high-rise development.

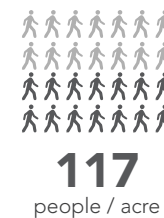


DOWNTOWN STOP – PEOPLE

Land Use Mix



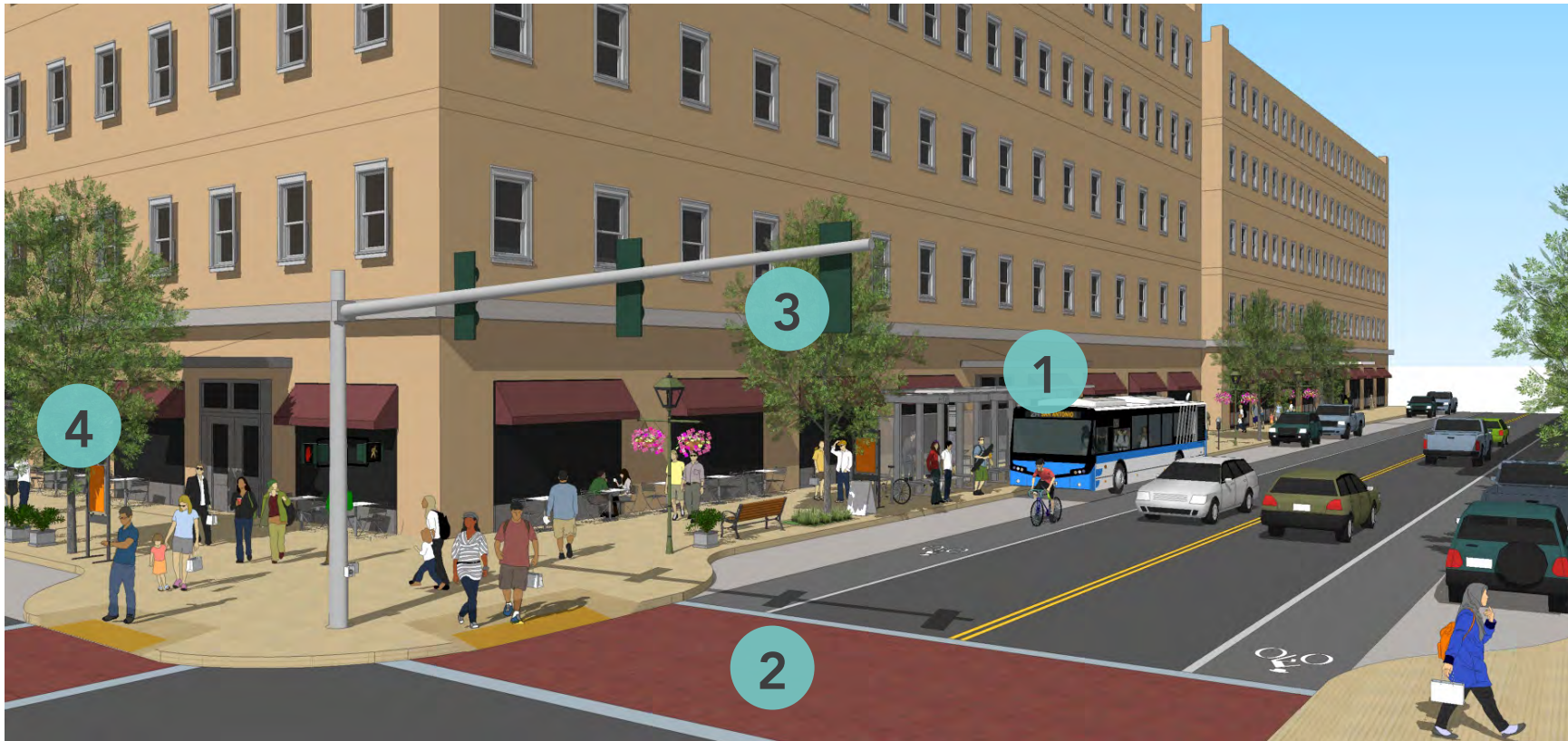
Level of Activity



Length of Activity



DOWNTOWN STOP – PUBLIC REALM



Public Realm Characteristics

- 1 Easily accessible transit facilities with covered stops and integrated with pedestrian realm.
- 2 Highly visible crosswalks with premium paving treatments improve safety for all users.
- 3 Street trees, seating and pedestrian-oriented lighting.
- 4 Way finding signage located at a height that is easily accessible to pedestrians.

DOWNTOWN STOP – PUBLIC REALM



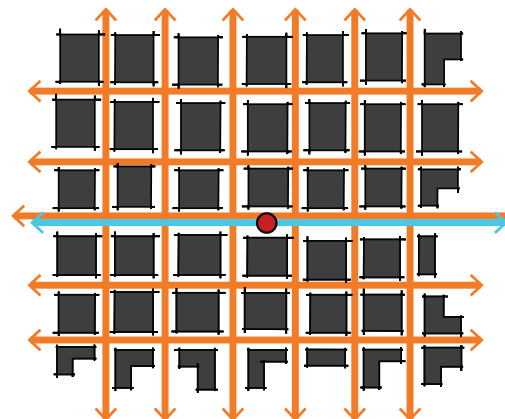
Street Furniture Zone

Clear Walkway Zone

Street Furniture and Landscape Zone

Sidewalk Characteristics

Station areas located in the Downtown Stop typology incorporate broad sidewalks with a high level of public investment. Sidewalks have a clear walkway zone, street trees and benches in the furniture/landscape zone closest to the street and may have an additional furniture zone with outdoor dining closest to the street-oriented buildings.



Pedestrian Connections

A highly connected street grid maximizes pedestrian access between the transit facility and surrounding areas. The level of access to the surrounding area is extremely high.

- Transit route
- Transit stop
- Pedestrian routes/connections
- Building

DOWNTOWN STOP – PHYSICAL FORM



Physical Form Characteristics

- 1 Generally buildings are four or more stories.
- 2 Buildings are oriented to the street with active ground-level and zero setback.
- 3 Windows providing a level of transparency of at least 75% of the street-facing building on the ground-level.
- 4 Automobile parking located in structures and on-street.

