TRANSIT-SUPPORTIVE LAND USE TOOLKIT

VERSION 1.1

Best Practices, Recommendations, and Implementation Steps for the San Antonio Region

prepared for

VIA Metropolitan Transit

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1.0 INTRODUCTION

1.1 Background

Historically, transportation has influenced the development of cities. San Antonio was first developed as a walking city, then it expanded rapidly in the 1880's through 1930's with the advent of "streetcar suburbs" formed around trolley and later bus lines. In the mid-20th century, highway construction led to much more expansive development in patterns supporting automobile travel. This pattern is similar to what was seen in cities throughout the United States.

Now, in the early part of the 21st century, cities are once again rethinking their approach to transportation and development patterns. Rising fuel prices, energy security and environmental concerns, and declining funding for highways are bringing to an end the era of highway-building. The younger generation is much more interested in a return to urban living and a car-free lifestyle. Cities, including San Antonio, are renewing their investment in walkable neighborhoods, transit, and development patterns centered around people rather than cars. Such investment will be critical to keep regions thriving in the "new economy."

This Toolkit is intended as an aid for the City of San Antonio and other municipalities in the San Antonio region, to assist in developing transit-supportive land use policies, plans, and practice. "Transit-supportive land use" (TSLU) is characterized by:

- Design that respects the human scale and experience;
- People, jobs, and services clustered within a short walk of high frequency transit service;
- Walkable communities with safe, connected pedestrian facilities;
- A range of housing options with convenient access to transit;
- Streets that are safe and attractive for all users;
- Corridors with a mix of uses where people can live and work;

- Neighborhoods that can be conveniently served by planned and existing transit; and
- Site design that incorporates safe and convenient transit passenger access.

This guide is intended to support the development of land use forms appropriate to existing and planned transit in the San Antonio region, for both infill/redevelopment areas and new "greenfield" development sites. Transit-supportive land use can be built around any type of high-capacity transit service, including high-frequency bus, bus rapid transit (BRT), streetcar, light rail, and commuter rail. The basic principles of transit-supportive land use are the same for both existing, built-up areas as they are redeveloped and "retrofit" to improve their transit and pedestrian orientation; and for new, "greenfields" development that is planned from the ground up. However, the specific tools and techniques needed may vary between these two types of situations .

Two other documents serve as companions to this toolkit:

- The *Guide to Transit-Supportive Land Use* explains and illustrates the basic principles of transit-supportive land use, and presents a set of "typologies" for VIA station areas and corridors;
- The *Strategic Housing Policy Toolkit for Transit Corridors and Station Areas* contains best practices, recommendations, and Implementation Steps for the San Antonio Region to ensure that as the region's transit system develops, housing at a full range of income levels remains available near transit.

1.2 Toolkit Overview

This Toolkit provides best practice examples from other cities; reviews current practice in the San Antonio region; and provides options for plan, code, and other policy changes that municipalities can adopt to encourage more transit-supportive land use patterns. It also suggests near and mid-term implementation steps for the City of San Antonio, other municipalities, regional agencies, and other partners. The Toolkit document includes six sections and two Appendices as described below.

- **Section 1** provides an **introduction** to the toolkit, its intended use, and how it was developed.
- **Section 2** summarizes **recommended actions** that VIA, the City of San Antonio, other municipalities, and other partners can undertake to create more transit-supportive land use patterns.
- **Section 3** describes a **policy framework** for linking transit and land use planning, starting with regional planning and proceeding to the municipal, corridor, and neighborhood scales.

- **Section 4** describes the **elements of transit-supportive plans and development ordinances**. These basic elements include transit facilities, pedestrian-supportive design, transit-supportive density, a mixed-use environment, and parking.
- **Section 5** describes **other implementation tools** to help create transit-supportive land use.
- **Section 6** provides a conclusion to the document.
- **Appendix A** provides more detailed recommendations specific to the **City of San Antonio's Unified Development Code**.
- **Appendix B** provides a review of existing transit-supportive practices in **other municipalities'** plans and development codes, and recommendations for changes.

Two additional appendices are provided as a separate "Addendum" document in landscape (11x17) format. These are:

- **Appendix C:** A **review of specific language** in San Antonio neighborhood plans and the UDC, including transit-supportive language, language that could be improved or is not transit-supportive, and opportunities for improvement; and
- **Appendix D:** A matrix of "**best practices**" in transit-supportive policy and implementation from other cities. Many of the practices in Appendix D are also summarized in the main Toolkit document.

1.3 VIA's Role in Transit-Supportive Land Use

This Toolkit was developed by VIA Metropolitan Transit. VIA recognizes that transit-supportive land use patterns in the San Antonio region are essential to supporting the agency's mission, which is:

> *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.*

VIA's intent is to collaborate with partners across the region 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. VIA's interests in transit-supportive land use include:

- Supporting people-oriented communities;
- Providing more choices in transportation and housing;
- Reducing household costs;
- Enhancing quality of life;
- Achieving efficiencies/cost effectiveness in transit service; and
- Improving connectivity.

Strong transit-supportive land use policies also support the region's applications for Federal funding for transit investments. The Federal Transit Administration (FTA) is the regulatory agency that oversees federal transit funding for capital projects and transit operations. The New Starts and Small Starts program is FTA's capital funding program for new and expanded rapid transit projects. New Starts and Small Starts are highly competitive and require a detailed application and screening process in order to qualify. Land use and economic development together make up one-third of the overall project justification rating for a project, which in turn makes up 50 percent of the total evaluation score (financial support makes up the other 50 percent). The land use and economic development factors consider:

- Existing land use patterns, including transit-supportive densities and pedestrian design;
- Growth management policies to focus regional growth in transit corridors;
- Corridor policies to establish transit-supportive land use in the project's station areas;
- Zoning regulations that support TSLU;
- Tools to implement land use policies;
- Demonstrated performance of land use policies;
- Potential impact of the project on regional land use patterns; and
- Tools to maintain or increase share of affordable housing.

As municipalities adopt and implement transit-supportive plans and policies, ratings for Federal funding will be strengthened, greatly improving the region's ability to obtain Federal support for transit investments.

1.4 Process for Developing Toolkit

This Toolkit was developed in close collaboration with local partners in land development. City of San Antonio staff, including staff from the Planning, Transportation, and Development Services departments, were engaged through workshops and individual meetings over a six-month period. Staff of the Center City Development Office, and the San Antonio Housing Authority, as well as the nonprofit Hemisfair Corporation, were also consulted. Staff of other municipalities were engaged through a workshop to provide feedback on the draft Toolkit.

VIA researched best practices, consulted peer transit agencies, and examined transit supportive land use policies and programs in cities similar to San Antonio to inform the Transit-Supportive Land Use Toolkit. The products of the research included a reference "library" of relevant local and national documents, a 'best practices" matrix showing exemplary TSLU planning and implementation practices from other cities, and a review of the plans and codes of San Antonio and eight other municipalities.

Interviews with planning staff at seven other cities who have recently developed transit systems provided additional information on successful land use implementation efforts. The cities included Atlanta, Charlotte, Denver, El Paso, Houston, Memphis, and Salt Lake City. These cities have been active in strategic transit and land use planning and bear similarities to San Antonio in development patterns, growth and development history.

1.5 Benefits of Applying the Toolkit

The action steps identified in this document will support existing high-frequency bus routes, Primo BRT, and other high-capacity transit services such as streetcar and light rail, as they are developed. The timeframe for transit service development in some locations may not be defined yet. However, many of the action steps listed can be undertaken now with little or no risk – even if a specific future transit project or service has not yet been defined. Creating a transit-supportive environment can have numerous benefits for a municipality, such as:

- Strengthening development and achieving redevelopment in the historic core/downtown of the city;
- Creating new, mixed-use activity centers that are walkable, reducing the need for internal and external vehicle trips;
- Creating environments that are accessible to people unable to drive, such as children, seniors, and the disabled; and

- Providing a greater range of housing options to support families, single adults, and seniors of all income levels.

2.0 SUMMARY OF RECOMMENDED ACTIONS

This section summarizes recommended actions for implementing the concepts found in this Toolkit and the companion VIA TSLU Guide. Table 2.1 summarizes the key recommendations contained in the Toolkit, along with a brief rationale for undertaking each recommendation. The table also indicates the party or parties to which the recommendation is most relevant: the City of San Antonio, suburban municipalities, or another agency such as VIA or Alamo Area COG/MPO.

Table 2.1 also indicates the process(es) through which the recommendation should be implemented:

- The municipal comprehensive plan;
- A neighborhood, corridor, or subarea plan;
- Zoning/development code revision;
- Capital programming; or
- Another mechanism, such as a design review process or adoption of a tool.

Finally, Table 2.1 identifies the timeframe over which the action is recommended to be undertaken. The options include:

- **1-2 years** – Actions that an be undertaken in the short term, e.g., through the City of San Antonio's 2015 UDC update or the comprehensive plan development process.
- **3-5 years** – Should be initiated in the near future, but likely to require more deliberation or a process that has not yet been initiated (e.g., neighborhood plan updates).
- **3-5+ years** – Could be completed within the next few years, but might also occur further in the future depending upon the timing of transit investment and local plan updates.
- **Ongoing** – Will continue to occur over time as more detailed transit service plans are developed and capital programs are carried out (e.g., sidewalk improvements).

Table 2.1 Actions for Transit-Supportive Land Use Implementation

City of San Antonio	Suburban Municipalities	Other[a]	Recommendation	Rationale	Comp Plan	Neighborhood Plan	Zoning/Code Revision	Capital Programs	Other	Timeframe
Planning Framework										**Sec. 2.1**
		(A)	Provide a regional transportation funding set-aside and technical support to support municipal transit-supportive land use planning and infrastructure projects.	Regional funds and technical support can help leverage local actions.				✔		1-2 years
		(A)	Undertake a regional visioning effort to engage Alamo region residents in conversations about future growth and development patterns.	A regional vision can support a consistent approach to coordinating transportation investment and land use policy across jurisdictional boundaries.					✔	3-5 years
		(A)	Align regional transportation investments and project prioritization criteria to support local governments in making land use and infrastructure changes consistent with this vision.	Agencies at all levels must work together through specific implementation mechanisms to support the regional vision.					✔	3-5 years
✔	✔		In the Comprehensive Plan: Include goals, objectives, policies to link transit with TSLU; designate existing and future high-capacity transit corridors; designate transit corridor/ station typologies; develop land use guidelines; identify zoning changes needed to implement TSLU concepts.	The comprehensive plan sets the framework for more specific zoning and development guidelines to support transit.	✔					1-2 years (SA) 3-5+ years (other)
✔			Update neighborhood and community plans for areas in existing or planned high-capacity transit corridors to reflect principles in the comprehensive plan and to establish more detail for location and design of appropriate land uses near transit.	In a large municipality, neighborhood and community plans provide an opportunity to set land use policy in more detail than can be done in the citywide plan.		✔				Ongoing
✔	✔		Develop transit area-specific plans, such as corridor plans for major bus routes, or station area plans for new BRT or rail projects, that identify land use, urban design, and infrastructure changes to increase development around transit and improve access to transit.	Transit-area specific plans can help focus planning efforts around the needs of transit and its users.					✔	Ongoing

City of San Antonio	Suburban Municipalities	Other[a]	Recommendation	Rationale	Comp Plan	Neighborhood Plan	Zoning/Code Revision	Capital Programs	Other	Timeframe
Zoning Framework										**Sec. 2.2**
✔	✔		Create design guidelines for transit station areas and corridors and require design review .	Supports uniformity in application of pedestrian design principles in areas served by transit.					✔	1-2 years
✔	✔		Revise subdivision ordinances to promote transit supportive land use principles through the platting process.	Ensure that curb cuts, street geometries, rights or way and other components support transit and pedestrian accessibility.			✔			1-2 years
	✔		Create a zoning category for transit-oriented development.	Provides a mechanism in the code to define specific transit-supportive requirements and guidelines.			✔			3-5 years
✔	✔		Consider form-based zoning at and around transit station areas.	Form based zoning is particularly helpful when integrating the physical environment is important, as it is in transit areas.			✔			3-5+ years/ Ongoing
	✔		Transition to a Unified Development Code.	Combining separate chapters into a unified code makes the code more legible, easier to navigate, and easier to enforce.			✔			3-5+ years
Transit Facilities										**Sec. 3.1**
✔			Take steps possible to align VIA's long-range system planning with the City of San Antonio's comprehensive plan.	As the City identifies activity centers, those centers will influence VIA's ridership patterns.	✔					1-2 years
		(V)	Identify future park-and-ride sites that are accessible to the growing suburban/exurban San Antonio population.	Ensures that remote riders and commuters can still be served by VIA.				✔		1-2 years
		(V)	Develop design guidelines for all VIA facilities.	Creates continuity among the various facilities, increases legibility for the rider and improves the overall VIA brand.					✔	1-2 years

City of San Antonio	Suburban Municipalities	Other[a]	Recommendation	Rationale	Comp Plan	Neighborhood Plan	Zoning/Code Revision	Capital Programs	Other	Timeframe
Transit Facilities (continued)										**Sec. 3.1**
		(V)	Consider a branding study and/or public relations campaign, targeting new riders.	Help to promote VIA's new initiatives and create a more coherent strategy for serving the City as a whole.					✔	1-2 years
✔	✔		Use the typologies generated in the TSLU Guide as the tool to bring TSLU planning into municipal standards for infrastructure and development.	Tool for expressing uses and use intensity relative to various transit facility types.	✔	✔	✔	✔		3-5 years/ Ongoing
Pedestrian-Supportive Design, Access, and Connectivity										**Sec. 3.2**
✔	✔		Ensure that base zoning categories include context-appropriate requirements for pedestrian facilities and design.	Ensures that adequate pedestrian facilities are incorporated in all new development.			✔			1-2 years
✔	✔		Include connectivity requirements in subdivision ordinances.	Ensures that pedestrians have direct routes to transit stops and other destinations.			✔			1-2 years
	✔		Adopt a Complete Streets ordinance or incorporate Complete Streets principles into street standards.	Streets designed for transit can allow for faster transit passage, access to streets for people at various mobility levels, support for bicyclists, and safe transit stops.				✔	✔	1-2 years
✔	✔		Promote and apply context sensitive street design practices.	Conserve resources while supporting alternative modes by applying different standards to different area types.				✔		1-2 years
	✔		Develop a pedestrian facilities inventory and plan.	Safe, convenient pedestrian access to transit stops and stations is essential for transit riders.					✔	3-5 years
✔	✔		Revise standards and policies related to maintenance of pedestrian spaces.	Maintenance and code enforcement are important for promoting safe and usable pedestrian spaces.					✔	3-5 years

City of San Antonio	Suburban Municipalities	Other[a]	Recommendation	Rationale	Comp Plan	Neighborhood Plan	Zoning/Code Revision	Capital Programs	Other	Timeframe
Pedestrian-Supportive Design, Access, and Connectivity (continued)										**Sec. 3.2**
✔	✔		Apply overlays if needed to further improve pedestrian conditions along high-traffic pedestrian and transit corridors.	Pedestrian, transit, mixed-use, or other design overlay districts can all be used to create a more consistent pedestrian environment even if the base zoning in the area varies.			✔			3-5 years/ Ongoing
✔	✔		Improve sidewalk conditions at bus stops and in surrounding areas.	Ensures that pedestrians have safe, convenient access to transit stops.				✔		Ongoing
Transit-Supportive Density										**Sec. 3.3**
✔	✔		In the comprehensive plan process, identify where higher densities are more appropriate, and the ranges of densities appropriate in different transit contexts.	The comprehensive plan can set a citywide framework for focusing development around high-capacity transit corridors.	✔					1-2 years (SA) 3-5+ years (other)
✔	✔		In subarea or neighborhood plans, identify and map density levels appropriate for specific areas and parcels near transit.	Subarea/neighborhood plans provide a more detailed framework for focusing development near transit.		✔				3-5+ years
✔	✔		Update the zoning/development code to apply densities consistent with those designated in a plan.	The code implements the policies established in the comprehensive and neighborhood plans.			✔			3-5+ years
✔	✔		Establish minimum density requirements, as appropriate to existing or planned transit service and market conditions, in activity centers designated for growth.	For areas intended to be developed as higher-density activity centers, minimum requirements can ensure that non-compatible uses are excluded.	✔		✔			3-5+ years

City of San Antonio	Suburban Municipalities	Other[a]	Recommendation	Rationale	Comp Plan	Neighborhood Plan	Zoning/Code Revision	Capital Programs	Other	Timeframe
Mixed-Use Environment										**Sec. 3.4**
✔	✔		Evaluate the zoning of the properties in areas designated for future station facilities to ensure that mixed use components are present as approved uses.	Multiple uses should be clustered around transit stations and stops to allow transit travelers to efficiently link trips.			✔			1-2 years (SA) 3-5+ years (other)
✔			Revise the TOD and FBZD categories in the City of San Antonio UDC to incorporate some common regulatory approaches.	Modifying these zoning categories to should to make them more attractive to property owners and developers who are seeking re-zoning in areas of interest.			✔			1-2 years
	✔		Create a transit-oriented, form-based or mixed use zoning category if one does not already exist.	Such a category is needed to ensure that VIA stations promote development forms that are contextually appropriate and that preserve and enhance property values.			✔			3-5+ years
	✔		Modify an existing mixed use zoning category to promote transit supportive land use practices.	If a mixed-use category already exists, it may be modified to ensure that densities, use types, and design requirements support to transit.			✔			3-5+ years
✔	✔		In high-capacity transit corridors, increase connectivity between neighboring uses to promote land use integration.	A well-connected street and pedestrian network can create a mixed-use environment without moving buildings, allowing people to safely walk to nearby destinations.				✔		Ongoing

City of San Antonio	Suburban Municipalities	Other[a]	Recommendation	Rationale	Comp Plan	Neighborhood Plan	Zoning/Code Revision	Capital Programs	Other	Timeframe
Parking Supply										**Sec. 3.5**
✔	✔		Identify areas for parking management, and general parking management strategies, in comprehensive, neighborhood, and/or subarea plans.	This will help the city prioritize where to focus its efforts in managing parking to support transit.	✔	✔				1-2 years (SA) 3-5+ years (other)
✔	✔		Establish policies to allow shared parking and on-street-parking to count against off-street requirements in defined transit service areas.	Reducing off-street parking lowers costs for developers and supports a more walkable environment.			✔			1-2 years
✔	✔		Establish policies encouraging developers to "unbundle" the cost of parking for both commercial and residential tenants.	Passing the true cost of parking on to tenants can encourage reduced vehicle ownership and use, thereby reducing the need to provide parking.	✔					1-2 years
✔	✔		Establish requirements for bicycle parking.	Convenient, secure bicycle parking facilities can support reduced vehicle ownership and use.			✔			1-2 years
✔	✔		Reduce or eliminate minimum parking requirements in areas with high-capacity transit service.	Reducing minimum requirements allows the market to determine how much parking is necessary, and allows developers to reduce costs if they so choose.			✔			3-5+ years
✔	✔		Establish maximum parking requirements in areas with high-capacity transit service.	Maximum requirements can ensure that excessive amounts of parking, which can degrade the pedestrian environment, are not provided.			✔			3-5+ years
✔	✔		Plan for parking (including on-site requirements, shared parking, and parking pricing) at a district level.	District-level planning in areas of higher-intensity use can reduce costs for developers and create a more walkable environment while ensuring that customer demand is accommodated.		✔				Ongoing

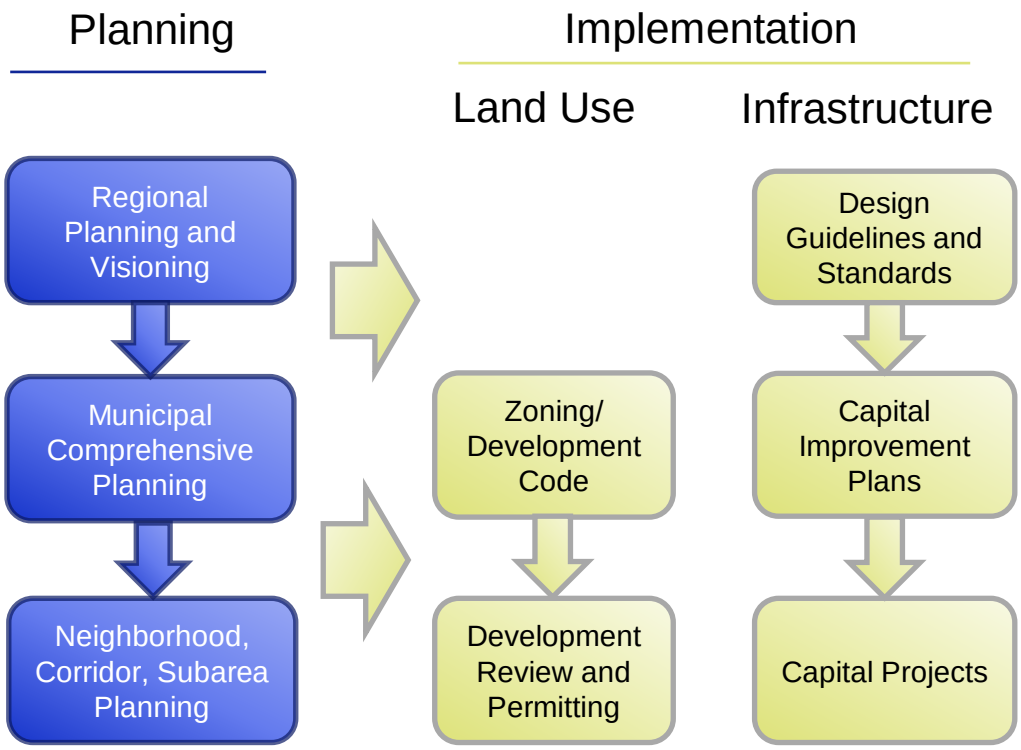
City of San Antonio	Suburban Municipalities	Other[a]	Recommendation	Rationale	Comp Plan	Neighborhood Plan	Zoning/Code Revision	Capital Programs	Other	Timeframe
Other Implementation Tools										**Sec. 4.0**
✔			Identify opportunities for reciprocal project promotion among public agencies.	Aggregating different agencies' resources and layering incentives in areas of interest provides a stronger pull for development in designated areas served by transit.				✔	✔	1-2 years
✔	✔		Establish a transit oriented infrastructure system (e.g., complete streets to support safe and efficient bus movement and walk access), building upon the typologies in the TSLU Guide.	Investment in transit-oriented infrastructure will providing the value reference point that organizes private investment.				✔		1-2 years
✔	✔		Define benchmarks for measuring plan outcomes.	Indicators or benchmarks will help the municipality monitor the extent to which transit-supportive policies and goals are being achieved.	✔				✔	1-2 years
✔			Use proximity to transit as a project qualification measure for a wider range of incentives offered by the city.	This would specifically align city incentives with the desire to promote development around transit.					✔	1-2 years
✔			Include land around VIA's anticipated transit stations in the qualified geographic areas for the different incentive programs of the City.	This would specifically align city incentives with the desire to promote development around transit.					✔	3-5 years
✔			Create special finance districts that encompass targeted activity hubs, including criteria that would promote transit supportive land use practices.	Would provide a source of funding for improvements in growth areas, with the nature of the improvements linked to transit.				✔		3-5 years
	✔		Identify municipal development tools and incentives that might be most appropriate for encouraging development around transit.	A wide variety of options are available; each municipality may have its own specific opportunities and needs.	✔		✔	✔	✔	3-5+ years

[a] (A) = Alamo Area Council of Governments and MPO; (V) = VIA

3.0 Policy Framework: Planning and Zoning for Transit-Supportive Land Use

This section deals with the overall policy and regulatory framework for implementing TSLU. Land use and transportation planning are conducted at multiple scales – regional, municipal corridor, neighborhood, and even the site or project level. At large geographic scales, broad vision, goals, objectives, and policies are articulated, for both land use and transportation. At smaller geographic scales, these principles are translated into specifics through zoning, subdivision regulations, street design, permitting, and capital projects. Planning progresses logically from broader scales – where the community articulates its vision – to smaller scales – where this vision is implemented. This progression in shown in Figure 3.1.

Figure 3.1 Progression of Land Use and Transportation Planning and Implementation



Section 3.1 discusses regional, municipal, and neighborhood planning practices. Section 3.2 discusses options for implementing transit-supportive land use through zoning and development codes. (Section 4.0 will discuss elements of plans and zoning in more detail, and Section 5.0 will address other supportive tools such as design guidelines and permitting processes.)

3.1 Planning

3.1.1 Best Practices

The various stages of planning illustrated in Figure 3.1 can be defined as follows:

- **Regional Planning and Visioning** – A regional (multi-jurisdictional) plan that sets a broad vision for growth and development. Typically it is led by a regional council of governments or metropolitan planning organization (MPO). It typically addresses multiple, interrelated issues, including land use, transportation, housing, economic growth, and the environment. While the transportation component may be formally adopted by the MPO as the region's Federally-required long-range transportation plan, the land use and other components are typically voluntary and must be implemented by municipalities through their own comprehensive plans and codes.

- **Municipal Comprehensive Planning** – A long-range guide to the physical development of a community, which translates values into a scheme that describes how, why ,when, and where to build, rebuild, or preserve the community. The plan covers the entire city and all the functions that make it work (land use, transportation, housing, utility systems, natural systems, etc.) [1]

- **Neighborhood, Corridor, and Subarea Planning** – Planning focused on a specific neighborhood, transportation corridor, or other subarea such as a central business district or transit station. It may be led by a municipality and/or a transportation agency. The scale and level of detail vary greatly. However, the plan usually sets forth general principles (such as designating areas of change and areas of stability), identifies transportation and other capital improvements, and proposes appropriate land use and zoning designations.

Land use planning at all scales can support traditional bus service as well as BRT and rail. For bus service, the primary emphasis may be on site design and accessibility to create a streetscape that supports pedestrian activity. For BRT and rail service, more emphasis may be placed on higher densities that are need to support these higher-capacity services.

Two examples are provided of how other regions have linked transit and land use across different scales of planning – Charlotte, North Carolina; and Denver, Colorado. A third example illustrates a systematic approach to station -area planning in Austin, Texas.

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[1] International City Management Association, The Practice of Local Government Planning, 2nd Edition, Ch. 3.

Charlotte, North Carolina

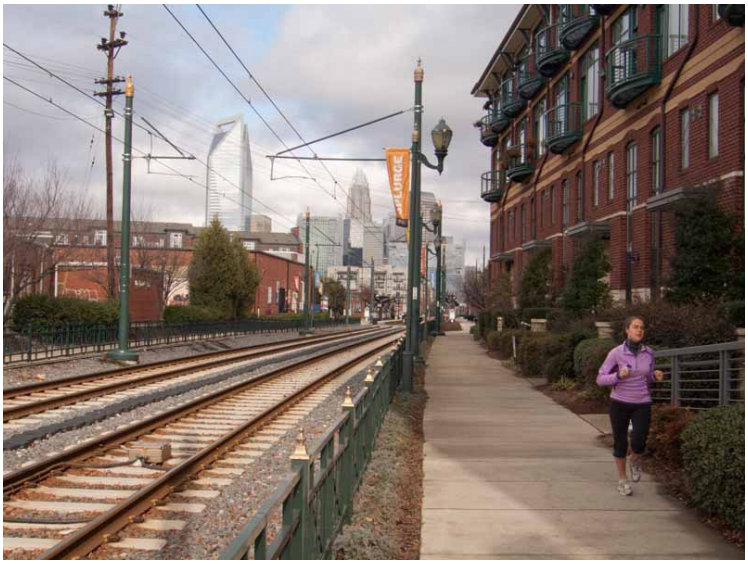
Like San Antonio, the Charlotte region in North Carolina has grown rapidly in recent years, with the urbanized area expanding from 210,000 inhabitants in 1960 to over 1.2 million in 2010. Charlotte and Mecklenburg County have a combined city-county government, but the region includes other smaller municipalities. In the early 1990s the region made a decision to invest in rapid transit lines and to steer regional development into corridors served by these lines. The first of these was the South Corridor (Blue Line) Light Rail (opened in 2003), and a northeast extension is anticipated to open in 2017. The city's first streetcar line is anticipated to begin service in 2015.

The **2015 Plan and 2025 Integrated Transit/Land Use Plan**, adopted by the Charlotte-Mecklenburg Planning Commission in 1997, targets over half of all future higher density housing and office employment to transit corridors. These plans were developed in conjunction with the six incorporated towns in the County. A principal objective is to target the majority of all future higher density housing and office employment to "centers and corridors" areas (targets are 75 percent of employment, 70 percent of multi-family housing units, and 40 percent of all new housing), aligned with the region's transit system plan.

The City of Charlotte's **"Centers and Corridors"** development framework (adopted in 1994) set the city's overarching policy for organizing and guiding growth and development. A 2010 update broadens the original transportation oriented focus to include other aspects of planning and development, such as public facility needs and environmental concerns, and provides more specific definitions and guidance for Centers and Corridors.

The **Center City 2010 and 2020 Plans** is a planning study to make Charlotte more "viable, memorable and livable" through better land use, growth, city form, open space, parks and red, transportation, street networks, parking and neighborhood planning. The vision emphasizes transit supportive urban form.

The **South End/Uptown Rail Corridor Plan**, adopted in 1998, was created to guide development along Charlotte's first light rail line, the South Corridor. It is divided into a Concept Plan and an Implementation Program. The plan addresses the use and improvements of the multi-modal

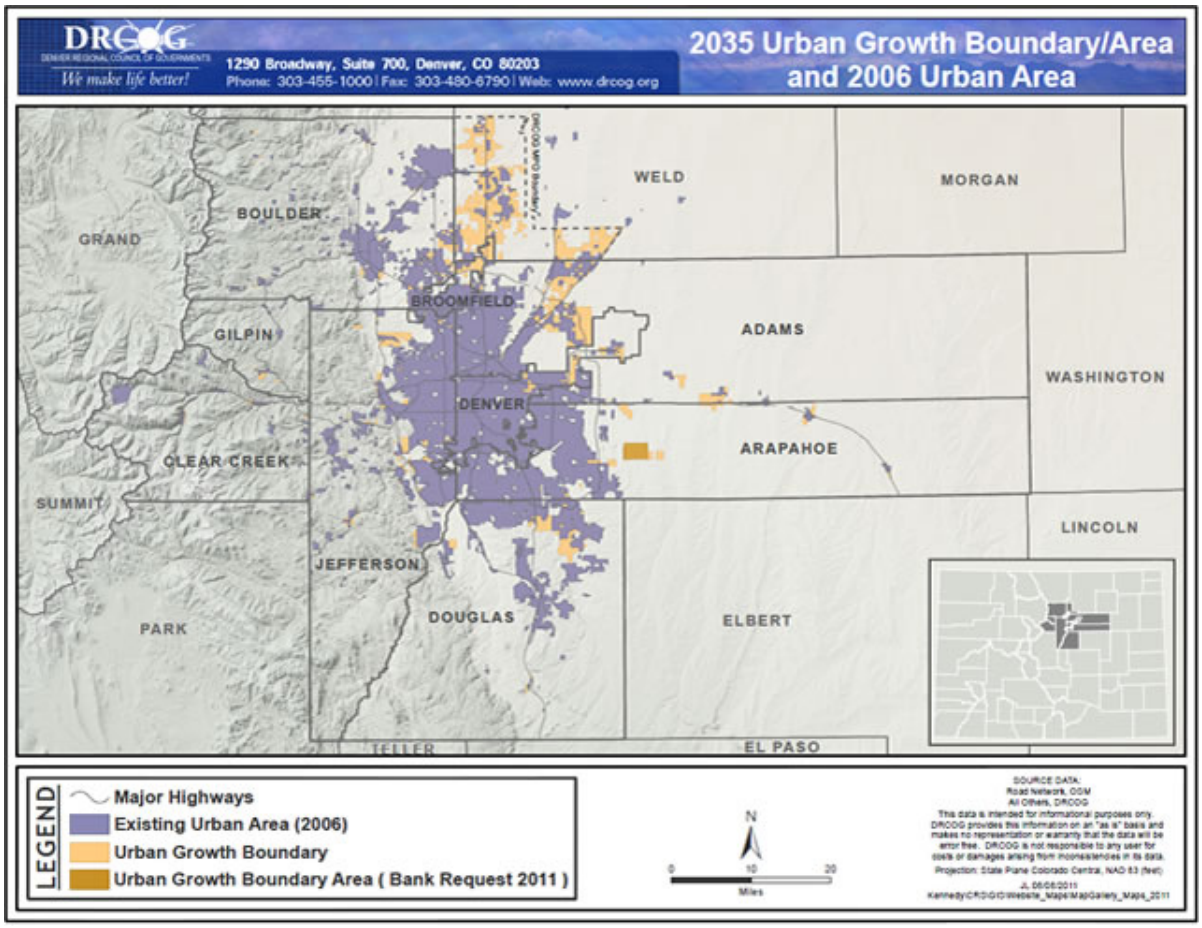


This residential development is the result of citywide and station area planning for Charlotte's South Corridor light rail.

rail corridor as well as development standards for adjacent properties. Station area planning has also been undertaken for stations on the northeast extension of the Blue Line.

Denver, Colorado

In 1990, the Denver Regional Council of Governments (DRCOG), with over 50 city and county members, began the **Metro Vision** planning process to develop a unified growth concept for the region – a contrast to previous regional growth plans, which were simply a compilation of local plans. After an extensive outreach and consensus-building process, Metro Vision 2020 was formally adopted in 1997. Metro Vision integrated the Regional Transportation Plan, Regional Development Plan, and Clean Water Plan into a single plan for the future. It has been updated regularly since then.



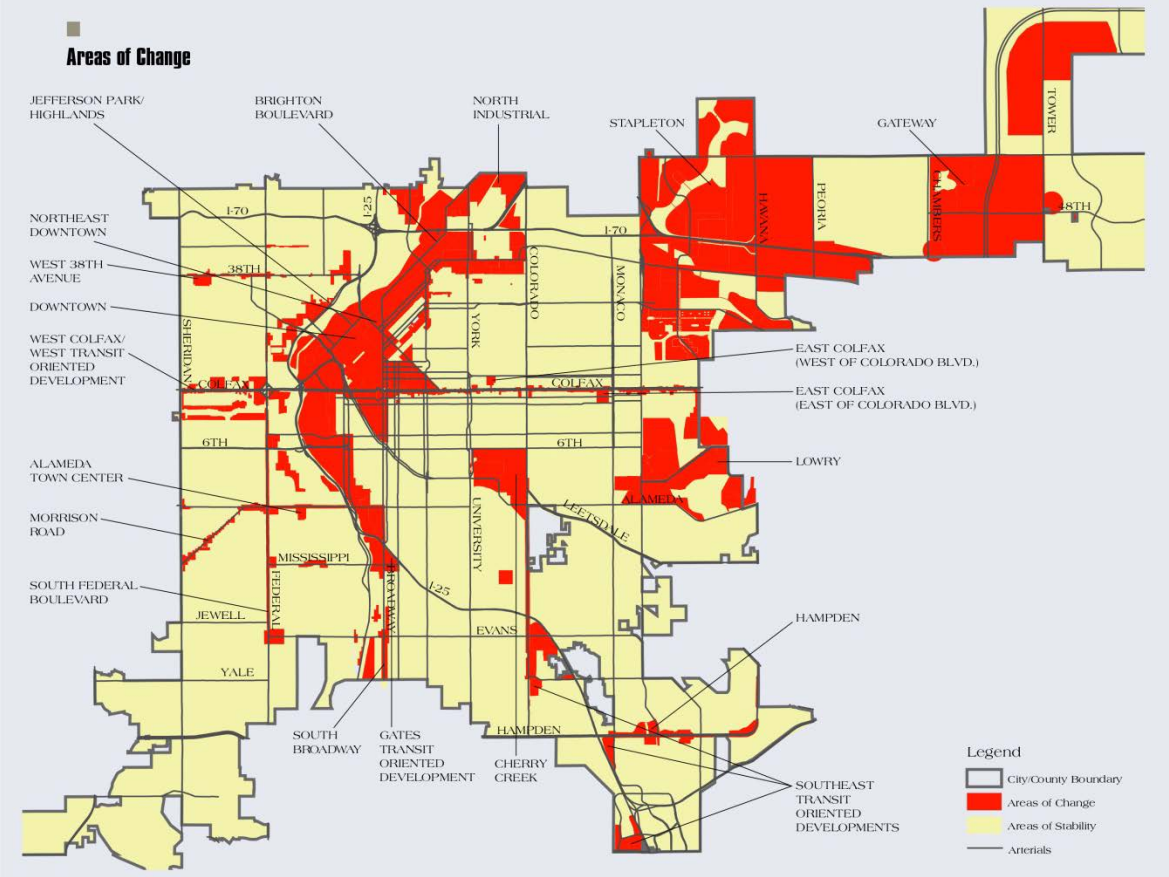
Denver region's voluntary growth boundary calls for development to occur within a 747 square mile area, compared to 1,100 miles of build-out identified in local comprehensive plans.

Source: Denver Regional Council of Governments, 2011. http://gis.drcog.org/datacatalog/content/2035-urban-growth-boundaryarea-and-2006-urban-area.

The plan is voluntary, meaning that local jurisdictions choose to meet its core elements without mandate. Plan principles also are applied by DRCOG in developing the Transportation Improvement Program (TIP).

Metro Vision calls for increasing growth in designated urban centers, while preserving open space and reducing infrastructure needs by limiting development to a growth boundary area of 747 square miles. The latest version – the Metro Vision 2035 Growth and Development Plan – contains an Urban Centers Element that outlines policies and guidelines to define Urban Centers throughout the Denver region. Transit plays an important role in the Metro Vision, with growth centers targeted around an expanding system of light rail, commuter rail, and bus rapid transit. Denver's first light rail line opened in 1994 and the system is expanding rapidly, with three lines completed and four additional BRT, light rail, and commuter rail lines under construction.

Blueprint Denver is the City and County of Denver's transportation and land use plan (adopted in 2002) that supports Metro Vision. Blueprint Denver facilitates infill by designating "areas of stability" and "areas of change," where areas of stability preserve existing neighborhoods and areas of change provide opportunities for higher-density development served by high-capacity transportation. The plan includes "building blocks" (e.g., land use districts, centers, corridors, multimodal streets) and "tools." The plan also includes street function/classification criteria that relate street design to the land use context, rather than just their role in moving traffic.



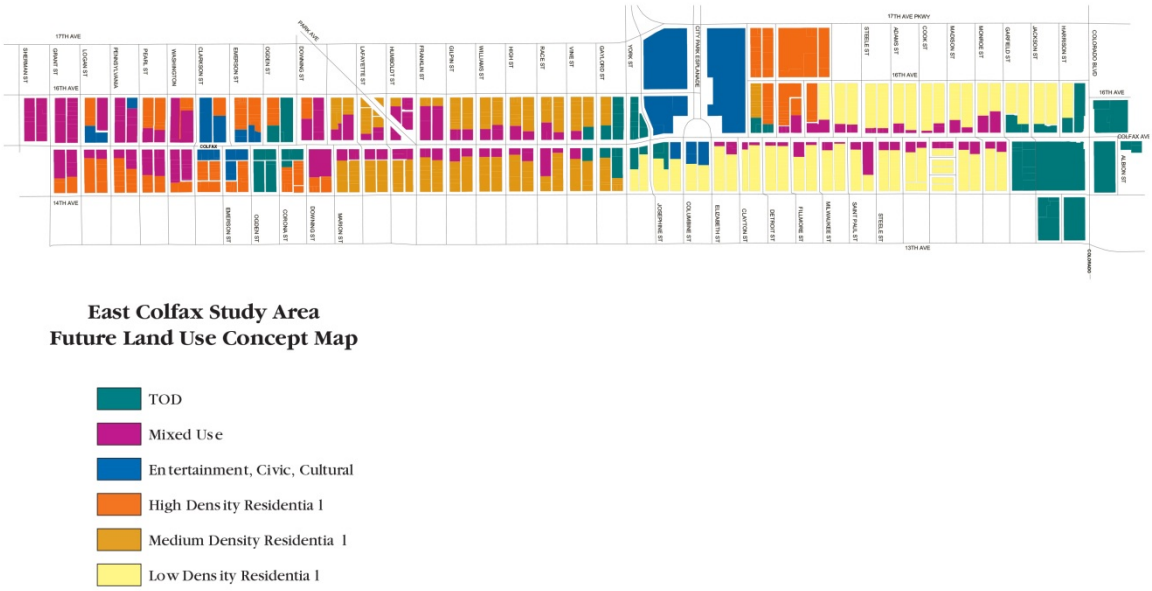
Blueprint Denver denotes areas of stability (yellow) and areas of change (red).

Source: City and County of Denver, Blueprint Denver (2002).

Station Area & Urban Center Planning Funds — The DRCOG Board has established a goal of locating 50 percent of all new housing units and 75 percent of all new jobs in regionally designated urban centers between 2005 and 2035. In support of this goal DRCOG has allocated TIP funding to assist local governments in developing smaller area plans for station areas and urban centers. For example, this program is supporting Adams County in developing the **Federal Boulevard Framework Plan** to address development, health, and safety concerns along a major arterial corridor. This corridor has experienced disinvestment over several decades but will be the location of two new light rail stations opening in 2016, with associated TOD plans. The program is also supporting planning for the **I-25 and Broadway** infill station area in Denver, the site of abandoned factories that are being converted to mixed-use development.

The City and County of Denver adopted the **East Colfax Plan** in 2004 as an amendment to the 2000 Comprehensive Plan. This plan addresses an arterial street with aging commercial and residential development that is also one of the highest-frequency bus transit corridors in the city. The East Colfax Plan identifies the potential for 60 acres of transit supportive infill and redevelopment of vacant or underutilized parcels along the corridor , which could bring

significant new residential and commercial development and generate millions in tax revenue. The plan includes frameworks for land use, urban form, transportation, parking, and economic activity; district-specific plans; and an implementation strategy. The City adopted "Main Street" zoning for the corridor, which was updated to a form-based code in 2010. The **Colfax Avenue Concept Plan**, adopted in 2011, provided further guidance to City staff in the development review process and to property owners along the Colfax corridor, focusing specifically on improvements to the pedestrian realm.



The East Colfax land use concept map shows mixed use and TOD along the arterial street, with adjoining residential uses that decrease in density moving away from the Denver CBD (left to right).

Source: City and County of Denver, East Colfax Small Area Plan (2004).

The **City and County of Broomfield's 2005 Comprehensive Plan** anticipates bus rapid transit and commuter rail service along the U.S. 36 corridor north of Denver. The plan designates Transit-Oriented Development districts that are "appropriate locations for a mix of uses that cater to the needs of transit commuters, including moderate and high-density residential, employment-generating uses and convenience and specialty commercial." These TOD districts are referenced throughout the plan in goals, policies, and action steps. The City also worked with RTD to examine opportunities for TOD at BRT stations along U.S. 36.

Austin, Texas – Station Area Planning Approach

This example from Austin illustrates how station area planning can be broken into defined stages. The City's TOD ordinance establishes six TOD districts, along with a multi-phase process for implementing TOD regulations. The process includes the following steps:

- Identify the location and boundaries of a TOD district;
- Create a TOD Profile;
- Identify Category Zones (Gateway, Midway, and Transition); apply interim regulations (overlay);
- Develop and adopt a Station Area Plan through a neighborhood process, to replace interim regulations; and
- Develop and adopt a Regulating Plan to accompany the Station Area Plan to apply design standards and implementing tools.

Land use concept and design plan, from the Regulating Plan for the MLK TOD Station Area Plan in Austin. Dark brown in TOD mixed-use. Source: City of Austin, Texas.

Source: *Regulating Plan for the MLK TOD Station Area Plan.* 2009. ftp://ftp.ci.austin.tx.us/npzd/Austingo/mlk_regplan_revised.pdf.

Austin's approach is noteworthy for defining districts of varying intensity in each area, establishing interim controls, and then conducting a more detailed process to develop a plan and implement regulations. This process may be helpful for BRT stations, Transit Center areas, streetcar service areas, and other areas served by current or future high-capacity transit in the San Antonio region.

3.1.2 Current San Antonio Region Practice

Some initial steps have been taken to establish a framework for linking transportation and land use in the San Antonio region:

- The Alamo Area Metropolitan Planning Organization's latest **Metropolitan Transportation Plan**, Mobility 2040, considered three growth scenarios as the basis for the plan – 15-year trend, recent (5-year) trend, and activity centers/corridors. The 5-year trend scenario was selected as the most representative for the future and is being used to evaluate transportation project needs and benefits.
- **SA2020** is a community vision for the future of San Antonio. It is a list of goals created by the people of San Antonio in 2010 based on their collective vision for the city in the year 2020. The nonprofit SA2020 organization is tracking performance measures to determine the success at achieving that vision.

- The City of San Antonio's new **Comprehensive Plan** (which will include a Multimodal Transportation Plan) provides the first opportunity to explicitly link transit and land use in the city's policies. Development of this plan was initiated in 2014. The plan is being coordinated with transit corridor planning being undertaken by VIA.

- A few municipalities include some transit-supportive elements in their master plan or unified development code. For example, the City of **Schertz** Unified Development Code includes a Mixed Use Planning Development District (MUPDD) intended to contain a complementary mix of residential, office, retail, civic, and service uses, a network of pedestrian-oriented streets and open spaces. The MUPDD implements goals for "rail-ready development" in Mixed Use Core, Neighborhood, and Transition sectors. The **Balcones** Master Plan identifies BRT, TOD, mixed-use, transit-supportive density, and pedestrian design as desirable. Balcones, **Boerne, Leon Valley**, and **New Braunfels** also include mixed-use districts in their code which are potentially transit-supportive.

3.1.3 Recommendations

Additional actions could be taken at all levels of government in the San Antonio region to more consistently link transit and land use planning.

Alamo Area COG/MPO

- Undertake a **regional visioning** effort to engage thousands of Alamo region residents in conversations about future growth and development patterns, transportation investments, and the relationship between the two; and to establish a "preferred" vision for the region's development.

- Align **regional transportation investments**, through the MTP and TIP, with this vision, through MTP goals and objectives and TIP prioritization criteria.

- Initiate **voluntary programs** to support local governments in making land use and infrastructure changes consistent with this vision. For example, this may include grants or technical assistance for land use plans for redeveloping town centers, new transit-oriented activity centers, or infill development; or providing transportation funding for supportive infrastructure.

City of San Antonio

- In the **Comprehensive Plan**:

  - Include specific goals, objectives, and policies to link transit with transit-supportive land use.

  - Designate existing and future high-capacity transit corridors and associated areas appropriate for development or redevelopment adjacent to these corridors, while also designating areas of preservation/stability that are not appropriate for change.
  - Designate typologies appropriate to different transit corridor and station area environments, and develop guidelines for appropriate densities, mix of uses, urban design, and pedestrian environment for each typology (see TSLU Guide).
  - Identify zoning changes needed to implement the development principles established in the Comprehensive Plan.

- Update **neighborhood and community plans** for areas in existing or planned high-capacity transit corridors to reflect principles in the comprehensive plan and to establish more detail for location and design of appropriate land uses near transit.

- Develop **transit area-specific plans**, such as corridor plans for major bus routes, or station area plans for new BRT or rail projects, that identify land use, urban design, and infrastructure changes to increase development around transit and improve access to transit.

Other Municipalities and County Governments

- In **comprehensive plan updates**, include policies to link transit and land use; identify areas of existing transit service or appropriate for potential future transit service; identify development characteristics that may be appropriate to support such services; and identify zoning and other policy changes that may be needed to better support transit.

3.2 Development Codes and Zoning

Transit-supportive land use can be identified and targeted in the vision, policies and plans of a city, but it is the municipal code that governs exactly what gets built. It is therefore important to consider what regulations are in place for future development, in order to ensure that visions, plans and policies that promote transit-oriented development can be implemented through the municipal code.

Development codes may include both zoning and subdivision regulations:

- **Zoning** – Established by a municipality, regulations that divide the city into zones and impose different land use controls on each zone, specifying allowed uses, intensity of uses, and the form of development. The code typically includes a map defining districts as well as text defining requirements for each district.

- **Subdivision Regulations** – Municipal regulations that control how land can be divided into smaller lots for building and sale. Subdivision regulations have important implications for

transit-supportive land use through their effect on the connectivity of the street and pedestrian networks.

Development codes are implemented and enforced through the **development review and permitting process**. This is the formal process, as established by a municipality in its code, of determining whether a proposed development project conforms to the municipality's regulations and policy objectives. Development that conforms with the zoning code is typically allowed "by-right," meaning that it only needs to be approved by city administrative staff for consistency with the code. However, discretionary authority may be exercised through requests for variances, special exceptions, and special permits, which may be issued by an entity (such as the Planning Board or Zoning Board of Appeals). Projects in certain districts (such as historic districts) may also be required to undergo design review for consistency with written design guidelines. Finally, the code may also be amended at any time by the City Council.

These alternative processes create the possibility that development may be permitted that is not consistent with the original intent of the framing policy plan(s). It is not just the code, therefore, that must be supportive of TSLU. The implementing bodies must be committed to enforcing the code consistent with TSLU principles. Conversely, these alternative processes provide the opportunity to approve transit-supportive developments when they are not consistent with the plan or code; however, this is not a desirable long-term approach since it requires additional effort on the part of the developer and city, and does not ensure the consistent implementation of transit-supportive principles.

Where do I Look in the Code?

Municipal codes often have multiple sections that deal with different components of transit-supportive land use. Relevant sections often include:

- Zoning districts – Defines districts and states purpose and intent of each district; provides tables showing allowable densities and/or other dimensional requirements (e.g., setbacks, heights).
- Development standards – Describes standards that apply across districts, such as sidewalk and landscaping requirements.
- Off-street parking and loading – typically includes tables showing parking standards by district, and text identifying other parking-related requirements.
- Zoning Map – identifies where each zoning district is applied within the City.

Every municipality's code is organized somewhat differently. Reviewers should be sure to look at all sections of the code that are relevant to TSLU. Most municipal codes are now accessible on-line.

3.2.1 Best Practices

Transit-supportive principles can be incorporated into the zoning code through a number of mechanisms, which may be defined differently in different municipalities.

- **Base Zoning Districts –** Base Zoning Districts establish the general pattern of land use in the City, defining approved uses and regulations for how individual sites can be developed. Examples of common base districts include General Office, Neighborhood Commercial, Light Industrial, Multi-Family or Single-Family Residential, and Downtown or Central Business District. Districts are often designated with different intensity levels (e.g., based on maximum number of dwelling units per acre).

- **Special Districts –** Special Districts, when adopted, define uses and standards that replace those of the base zoning district. This approach is helpful when planning at the project scale rather than the site scale, so that mixture of development envelopes can be defined in a coherent manner, promoting contextual continuity in a mixed-use setting. Examples of transit-supportive special districts may include Transit-Oriented Development (TOD) Districts, Mixed-Use Districts (MXD), and Form-Based Zoning Districts (FBZD). These districts may also be adopted as base districts.)

- **Overlay Districts** – Overlay Districts specify additional regulations that apply on top of the base zoning district. For example, a TOD overlay district may exclude auto-oriented uses (such as gas stations or drive-thrus) within ¼ mile of a transit station, or establish minimum density thresholds. A pedestrian overlay district may set detailed guidelines for streetscape and building frontage to ensure a pedestrian-supportive environment along a commercial street.

Characteristics of TOD districts typically include: higher maximum densities, and possibly minimum densities; vertical and horizontal mixing of uses; pedestrian-oriented site design; and reduced parking. All of these characteristics are discussed in more detail in Section 3.0. Mixed-use districts typically also have these features, but with less emphasis on density and parking, as they may be intended not just for areas with high-capacity transit service.

As transit projects proceed through the planning process, a number of cities have used TOD overlay districts as an interim measure to protect against unwanted types of development, while more detailed station area planning is being conducted to revise the base zoning. For example, in 2001 the Seattle City Council adopted **Station Area Overlay** legislation, which applies restrictions on the development of new auto-oriented uses and parking facilities, and modified development standards in other ways to support TOD, such as removing an upper level setback density limit. This designation was applied to various areas in anticipation of LRT construction, such as the Capitol Hill station of the North Link LRT.

In Charlotte, **Transit Oriented-Development Districts** are zoning districts meant to create high density transit supportive development and design around transit stations, typically the area within 1/2 mile walking distance from the transit station. The districts include: Mixed-Use Oriented (Including Multi-use Developments) (TOD-M), Employment Oriented (TOD-E), and Residentially Oriented (TOD-R). Specific design and use standards are established, differentiated by primary use type.

Charlotte's Transit-Oriented Development Districts: Sample Language

The purpose of the Transit Oriented Development (TOD) zoning districts is to create a compact, and high intensity mix of residential, office, retail, institutional, and civic uses to promote the creation and retention of uses in areas with high potential for enhanced transit and pedestrian activity.

Residentially Oriented (TOD-R): Residential developments and residential components of multi-use developments shall have a minimum density of twenty (20) dwelling units per acre within ¼ mile walking distance from a transit station or a minimum density of fifteen (15) dwelling units per acre between ¼ mile and ½ mile walking distance from a transit station….

Retail, institutional, civic, and office uses are permitted. Only up to 20% of the total development gross square footage that is composed of these uses may be credited toward meeting the minimum residential densities at a ratio of one (1) dwelling unit to 2,000 square feet of development.

Employment Oriented (TOD-E): This transit oriented employment district is established to accommodate high intensity office uses, office support services, or residential uses in a pedestrian oriented setting. High intensity office uses and office support services shall have a minimum FAR of .75 within ¼ mile walking distance from a transit station, or a minimum FAR of .5 between ¼ mile to ½ mile walking distance from a transit station…

Source: Charlotte Code, Part 12: Transit Oriented Development Districts

Charlotte has also designated **Pedestrian Overlay Districts** (PED). This designation is applied to older districts where the city wants to improve the pedestrian environment. The purpose of this zone is:

> *"to reestablish an urban fabric by promoting a mixture of uses in a pedestrian-oriented setting of moderate intensity…. The standards also encourage high quality design, mixed use development, the use of public transit, and development, which complements adjacent neighborhoods."*

Form-based zoning is an emerging approach to zoning that is very different that traditional zoning regulations. Form-based codes address the relationship between building facades and

the public realm, the form and mass of buildings in relation to one another, and the scale and types of streets and blocks. This is in contrast to conventional zoning's focus on the micromanagement and segregation of land uses, and the control of development intensity through abstract and uncoordinated parameters (e.g., floor area ratios, dwelling units per acre, setbacks).[2]

San Antonio has applied form-based zoning in the **River North** and Verano areas and is likely to apply it more broadly in the future. Form-based zoning has the potential to be highly transit-supportive, as it inherently supports mixing of uses and pedestrian design characteristics. However, details such as density levels, setbacks, parking, and other site design features still must be specified and may be more transit-supportive in some districts than others.

The **East Colfax corridor** in Denver is an example where form-based zoning has been applied to an urban arterial with high-frequency bus service. Form-based zoning was adopted for the corridor in 2010 as part of a larger effort to simplify and modernize the City's zoning code. The properties fronting East Colfax are zoned with various "Urban" and "Urban Edge" "Main Street" designations allowing buildings of three to five stories maximum height. The purposes of the Main Street districts include,

- *The Main Street Zone Districts are intended to promote safe, active, and pedestrian-scaled commercial streets through the use of shopfront and row house building forms that clearly define and activate the public street edge.*
- *The Main Street Zone Districts are intended to enhance the convenience, ease and enjoyment of transit, walking, and shopping and public gathering along the city's commercial streets.*
- *Main Street Zone Districts are typically applied linearly along entire block faces of commercial, industrial, main, mixed-use, and residential streets (as designated in Blueprint Denver…)*[3]

[2] Wikipedia.

[3] Denver Zoning Code, Section 5.2.5, Main Street Districts.

Old and new development along East Colfax in Denver. Form-based zoning is intended to preserve and enhance the pedestrian-oriented character of the street.

The **Town of Addison, Texas** – a suburb of Dallas – provides an example of a zoning district that is transit-supportive although not specifically designed for transit. The Urban Center District Zoning Ordinance, adopted in 1995, establishes a new mixed use residential district with accompanying new definitions (Town of Addison, TX Ordinance No. 095-019). The district was adopted following a 1991 comprehensive plan update that called for creating an "urban center" in the Old Addison area. This area has since been intensely developed with multi-story residential, office, and mixed-use buildings with retail in a walkable environment. It is served by multiple bus routes at the Addison Transit Center.

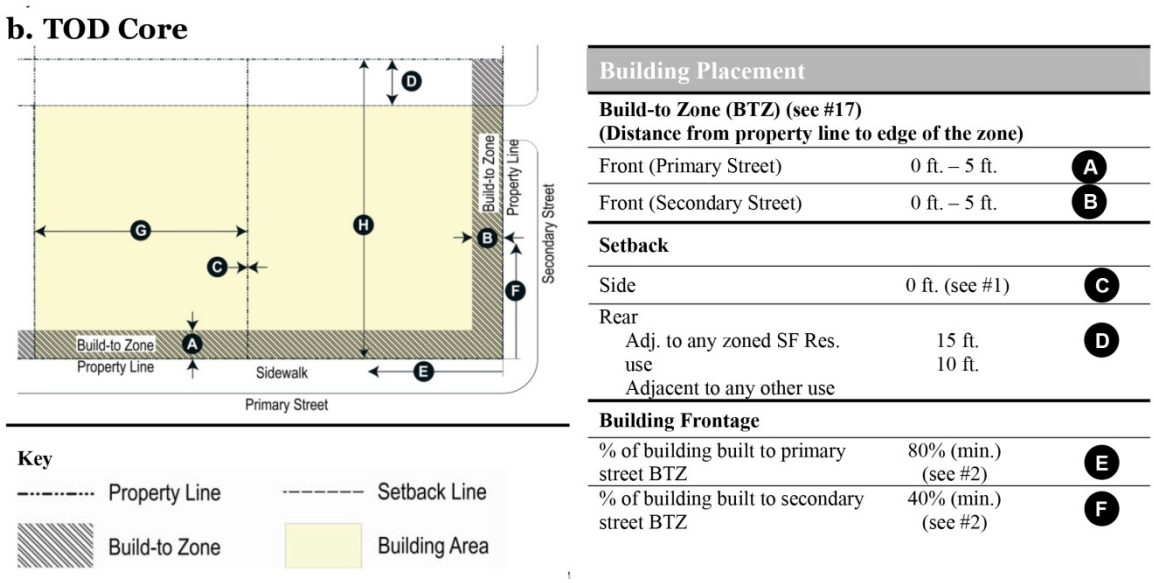
A "mews" provides shared car and pedestrian access to residences in Addison Town Center.

Another suburb of Dallas, the **City of North Richland Hills**, shows how development code can be revised in anticipation of future rail service. The Code for Transit Oriented Mixed Use

Development governs development around two future rail station sites, implementing the vision for each station area as established in the city's Comprehensive Land Use Plan and Illustrative Master Plans. Adopted in 2009, the code defines unique character districts, building and streetscape guidelines, civic and open spaces and parking. The code was developed in consultation with property owners and other stakeholders, through public meetings and design workshops. The code states,

> *The purpose of the Transit Oriented Development (TOD) Code is to support the development of the community's Station Areas into pedestrian-oriented, mixed-use urban development environments, with convenient access to rail transit, shopping, employment, housing, and neighborhood retail services.* [4]

The code includes clear graphics and simple tables showing dimensional, use, and parking requirements in a two-page spread for each district.



Building Placement		
Build-to Zone (BTZ) (see #17) (Distance from property line to edge of the zone)		
Front (Primary Street)	0 ft. – 5 ft.	A
Front (Secondary Street)	0 ft. – 5 ft.	B
Setback		
Side	0 ft. (see #1)	C
Rear Adj. to any zoned SF Res. use Adjacent to any other use	 15 ft. 10 ft.	D
Building Frontage		
% of building built to primary street BTZ	80% (min.) (see #2)	E
% of building built to secondary street BTZ	40% (min.) (see #2)	F

Example of a dimensional diagram from the City of North Richland Hills TOD Code.

Source: City of North Richland Hills Transit Oriented Development Code 2009. http://gspermit.nrhtx.com/pdf/NRHTODCode.pdf.

[4] City of North Richland Hills , Transit Oriented Development Code, Section 118-561

3.2.2 Current San Antonio Region Practice

City of San Antonio

The San Antonio Unified Development Code (UDC) is a compilation of those ordinances that deal with site development within the corporate limits and extraterritorial jurisdiction of the City of San Antonio. It addresses land uses, development densities, site design, land subdivision procedures, and urban design (including historic preservation). Provisions are included that define interpretation of those regulations and procedures for their implementation.

Relevant articles of the UDC include:

- Article III – Zoning;
- Article II – Use Patterns;
- Article IV – Procedures;
- Article V – Design Standards;
- Article VI –Historic Preservation and Urban Design; and
- Appendix B-122 – Traffic Impact Analyses.

Currently the VIA bus system serves as the transit system for the City of San Antonio. Existing codes have therefore been developed to regulate land use and development patterns that accommodate vehicular traffic and bus transit. However, the City has taken some steps to revise the code in ways that better support a variety of transit forms, including fixed-guideway transit such as streetcar and BRT. In particular:

- The Code includes a "Transit Oriented Development" (TOD) Special District which provides for a mix of use types and design standards (such as limited setbacks) that support transit.
- Two other districts – the Form-Based Zone District (FBZD) and the Mixed-Use District (MXD) also contain use types and design standards that are supportive of transit.
- Some other districts, such as the Downtown (D) District and the Infill Development Zone (IDZ) District, contain provisions which allow for transit-supportive forms. The D District is in fact quite unrestrictive, allowing unlimited heights and no parking, but it only allows for (and does not require) transit-supportive development.
- The City has included a separate set of land use regulations that are collectively called Use Patterns. Developers have the option of submitting under a use pattern instead of submitting under a zoning category. TOD and Form-Based Zoning are included as use patterns.

The transit-supportiveness of specific provisions of the San Antonio UDC are discussed in more detail in Section 3.0.

Suburban Municipalities

Plans and codes were reviewed for nine suburban municipalities to assess their level of support for transit. Suburban municipalities in the region have various forms of municipal codes. Given the nascent stage of development of high-capacity transit in the region, none have adopted ordinances specifically directed at transit such as a TOD district. However, some have adopted mixed-use districts or other special districts that contain features supportive of transit. The status of the reviewed municipalities is as follows:

Group One – Currently Supportive of TSLU. The first group could rapidly form a part of a regional drive towards TSLU consistency, perhaps after minor or modest code updates or amendments.

- Schertz.

Group Two – Somewhat Supportive of TSLU. The second group of municipalities might support TSLU through their codes in the near future, after more significant code additions, amendments, and possible reorganizations.

- Balcones Heights.
- Boerne.
- Leon Valley.
- New Braunfels.

Group Three – Not Supportive of TSLU. The third group of municipalities is not currently supportive of TSLU in their codes, and would require a significant initiative to implement code that could be consistent with TSLU at some future point.

- Bulverde.
- Converse.
- Seguin.
- Shavano Park.

3.2.3 Recommendations

Specific recommendations for revisions to San Antonio's Unified Development Code are provided in Appendix A. The remainder of this section provides general recommendations for any municipality hoping to revise codes and zoning to be more transit-supportive.

Work through appropriate processes of local governance in promotion of transit supportive land use principles. Successful implementation of transit supportive land use principles depends on appropriate navigation of the process of local governance. Municipal departments are created through a town's charter and endowed with whatever powers are defined in that charter. In general, their purpose is enforcement of ordinances enacted by the City Council and advisement to designated discretionary bodies (e.g., the Planning Department advises and supports the Planning and Zoning Commission). Council members are elected by the constituency to govern the municipality according to the preferences of that constituency, promoting health, safety and welfare of all community members.

Plans are important in that they provide Council and other city officials with a roadmap to guide the decision-making process, ensuring fidelity to the vision of the community at large. Ordinances – particularly those related to use and development of private property – are most defensible when they follow the policies defined through such plans. Therefore introduction of transit supportive land use practices should begin with inclusion in the comprehensive plan and/or small area plans for a city. Once transit supportive land use practices are defined through the plans of the City, the ordinances would be revised to reflect the priorities identified in those plans. This sequence strengthens the defensibility of municipal decisions and rulings that related to private property use and development.

Transition to a Unified Development Code. Many communities in the VIA service area still maintain development regulations in separate chapters of the code of ordinances. Combining these chapters in the form of a unified development code helps both city officials and property owners. It makes the code more legible and thereby easier to navigate for private parties. It also aides in enforcement by minimizing conflicts and duplications. Typically, unified development codes contain separate chapters that address zoning, subdivision procedures and development standards. Frequently streets and public works will be brought into the UDC as well. There is no fixed structure for a unified development code in Texas. However, zoning and subdivision regulations are always guided by the Local Government Code of the State of Texas, regardless of how they are incorporated into the municipal code. UDCs merely provide a mechanism of organization that is more effective in promoting preferred development forms. In cases of transit facilities, where infrastructure and transportation are strong determinants of form, a unified development code helps to manage the development process more effectively.

Consider form-based zoning at and around transit station areas. Form based zoning is an approach that is particularly helpful when integrating the physical environment is important. In areas around transit facilities, integration is critical. Pedestrian-oriented development practices, mixed use development, complete streets and continuity in buildings are factors that are addressed more easily in form based zoning than in conventional Euclidean zoning methods. Although form-based zoning is not appropriate for every part of the city, it can be helpful in certain areas, particularly around transit facilities.

Create a zoning category for transit-oriented development. As the population continues to grow in VIA's service area, transit facilities are likely to be located in municipalities other than the City of San Antonio. As surrounding municipalities become part of the transit service system, it is recommended that they create a zoning category for transit oriented development.

Promote transit supportive land use principles through the platting process. Curb cuts, street geometries, rights or way and other similar components are defined before a property enters the zoning process. Therefore, the orientation of a site to transit or pedestrian use in many ways is determined in the platting process. The subdivision code should therefore revisit procedural requirements related to platting to ensure that city staff has oversight needed to require properties in transit corridors and in areas around proposed transit facilities to follow transit-supportive and pedestrian-oriented development practices.

Require design review in defined areas around transit stations. The City of San Antonio has made a commitment to the integrity of development in historically sensitive areas through the Historic and Design Review Commission. Any improvement of properties that meet certain criteria requires the review and approval of plans by this commission. Likewise, the City's planning department has a division called City Design Center which provides design review services to properties slotted for redevelopment. This office has worked closely with many of the successful projects in the downtown area of the City. Design review is a service that a city can provide to developers that ensures continuity of the development with community vision, making for a more predictable development process and a more successful contribution to the city. In a likewise fashion, design review services could be provided for properties at and around transit facilities to promote the principles defined in this toolkit.

Create design guidelines for transit station areas. Uniformity in the treatment of station areas can be achieved in a number of ways. As a first step, it is recommended that design guidelines be created, which could be adopted by multiple cities and applied at and around station areas. The creation of stand-alone guidelines allows for flexibility of the tool used to codify them, whether that be creation of a new zoning category, an overlay district, a zoning suffix, or development standards for a unified development code. VIA would be an appropriate party to create these guidelines, as they service all of the municipalities' interests related to transit. This would

strengthen the relationship between the transit facility typologies and the development standards for the areas identified for these typologies.

4.0 TRANSIT-SUPPORTIVE PLAN AND CODE ELEMENTS

4.1 Transit Facilities

Transit systems include a range of facility types, each performing a discreet function within the overall transit system. These types depend on the transit modes employed within the community. Bus rapid transit (BRT) systems will include some components that differ from those found in light rail transit (LRT) systems, subways and other forms of mass transit. Although streetcars are very similar in form and function to LRT, they are not always classified as LRT. In this discussion they are not treated as an LRT system type, but rather as a modified component of an existing BRT system.

Each type of transit facility engages with surrounding uses in a different way. Transit stations, for example, tend to aggregate activity and therefore stimulate transit supportive development patterns. Transit stops are demand responsive, and therefore are inserted into a development context. The design of transit facilities must therefore consider the context in which the particular facility is located, and the impact that facility will have on surrounding development patterns.

Most transit stations are located outside of the public right of way of the city, and are therefore zoned like any other property in the municipality. In this sense, transit facility design is impacted by the development regulations of the municipality. In cases where special districts exist – like historical districts or the RIO district in San Antonio – contextualization will require navigation of city standards so as to ensure continuity with surrounding uses. In these cases, the transit objectives must find a way to align with the other objectives for preservation of public welfare.

Although size, level of activity and modal interface may vary, the three general BRT and streetcar facility types include stops, stations, and park and ride facilities. They are illustrated in Figure 4.1.

- **Stop** – a point within the public right of way where riders enter the transit system. These are waiting areas with relatively small footprints, often located in the sidewalk space. At stops, buses do not have to exit the right of way to board passengers. Bus stops are the most common type of transit facility within BRT systems.

- **Station** – a point of entry into the transit system that consists of more than a waiting area. Stations are located outside of the public right of way, meaning that buses have to exit the right of way to board passengers. They also have a greater footprint, due to bus queues and parking/loading areas. Stations often have an enclosed structure on site, providing public restrooms and vending areas. They service more routes and, therefore, more passengers, and the passengers often have longer waits at stations than they do at stops.

- **Park and ride facility** – typically located in suburban and ex-urban areas, park and ride facilities provide a point of entry into the transit system for people driving cars. They are temporary car parking facilities, where passengers (typically commuters) can store their car, taking the bus into the center parts of a metropolitan area. Park and rides are designed to bring commuters into the transit system, drawing riders from a larger geography in the outer reaches of a transit system service area.

Figure 4.1 Types of Transit Facilities

	Type	*ROW relationship*	*scale*	*general location*
	***Stop***	inside	smallest	all over – most common
	***Station***	outside	larger than stops	at strategic nodes
	***Park & Ride***	outside	largest footprint	outer reaches

4.1.1 Best Practices

Transit facilities are the points at which a rider enters (or exits) the transit system. Although the placement and design of these facilities must respond to functional needs associated with capacity and service demand, placement and facility design should also consider the rider experience, impact on surrounding property performance, and contribution to form and legibility.

Design

- **Comfort and safety.** Regardless of facility type, the comfort and safety of the rider are high priorities of the transit agency. Therefore this consideration should also be of primary importance when designing transit facilities. Design principles that contribute to comfort and safety include:
  - Sitting area(s)
  - Shade and weatherproof structures (above and around)
  - Adequate and reliable lighting at night
  - Trash receptacles that are maintained
  - Curb and sidewalks in good repair

  - ADA accessible
  - Minimize conflict with non-transit related pedestrians, including store patrons and residents of adjacent buildings.

- **Wayfinding.** Wayfinding is a vital component of a transit system, as the system exists to help people move between a vast array of spaces in the community. Poor wayfinding is a disincentive to use transit systems, and can cause significant problems for riders. The following are guidelines for wayfinding related to transit facilities:

  - Legible signs that convey information about routes, times and fare information;
  - Map indicating relationship of the particular facility to the overall service area;
  - Uniform placement of information;
  - Where possible, use colors and symbols over numbers and words, as they are more helpful in terms of navigation;
  - Transit stop signage visible from both directions during approach (normally 300 – 500 feet).

- **Branding and design continuity.** Signage for transit facilities not only aid the rider; it is an important marketing tool for the transit agency itself. Uniform treatment of facility features (including signage) helps increase recognition in the local and regional marketplace. Additionally, the design of the facilities themselves say a great deal to the rider about the quality of experience they can expect. As VIA seeks to expand its ridership within an ever-growing service area, brand recognition, public perception and service expectations should be considered during the facility design process.

- **Context, form, and function.** The Charlotte Area Transit System's "Station Type Report" is an example of a policy document that outlines the functionality threshold and guidelines for each station type in terms of three roles: place-making, transportation, and land development. These three roles should come together with the inputs of contextual community form and the station's function in the community. As the VIA system expands and adds new mode typologies, the new operational and environmental contexts into which it expands will necessarily influence facilities.

Locational determinants

- **System configuration.** Conventional considerations for system configuration will dictate general placement of future stops, stations and park and ride facilities. Factors to consider include:

  - Location of major cross streets and transfer points

  - Density and land use patterns in the corridor
  - Maximum acceptable and desirable walking distances
  - Availability of parallel local service (this impacts stop or station spacing)
  - VIA's particular speed and service objectives

- **Ridership.** There are several ways in which ridership will influence location of future stops, stations and park and ride facilities. These include:

  - Location of major origins, destinations and activity nodes
  - Density distributions and growth projections
  - Demographics
  - Community expectations and preferences

- **Right-of-way/land availability.** Once a general area has been identified for a future facility, the availability of land or right of way must be determined. Because bus stops are typically located in the public right of way, dimensional constraints and adjacent property interests will factor into the decision-making process. Stations and park and rides, which are both found outside of the public right of way, will require an evaluation of land availability for the intended use. This includes land ownership, existing zoning and other municipal regulations for the site in question.

- **Capitalization.** Another key factor when planning for future facilities is capitalization requirements. Stops do not normally require a high level of capitalization, but stations can be fairly cost-intensive to construct. Park and ride facilities do not require a significant amount of vertical improvement, but land values and feasibility of acquisition can be a deciding factor when comparing two potential sites. When identifying future stations, the relationship of cost to community benefit must be considered.

4.1.2 Current San Antonio Region Practice

VIA's system has been evolving ever since the agency was established in 1977. The VIA brand has also evolved during this time. However, at each point of change, some remnants were retained of the previous style. This has led to an eclectic mix of colors, materials and design principles for VIAs facilities. Understanding that a comprehensive redesign of all system components is cost and time prohibitive, consideration should be given to establishing a higher level of uniformity among VIAs facilities. Transit facilities have traditionally been icons of our communities. Defining standards for these facilities and promoting general design principles that characters each of them will improve facility identification and help the rider to navigate the system more effectively.

The high-capacity transit system currently employed by San Antonio is bus rapid transit. Consistent with the historic presence of a trolley system that ran through the City in the early part of the previous century, there are plans underway to bring a streetcar line back to the City. Although there are obvious differences in design and operation of a bus and a streetcar, the facilities required for the streetcar still fall under the general categories previously defined, particularly stops and stations.

VIA's BRT system, Primo, has stations spaced farther apart than typical bus stops, with the investment in the stations apparent in the materials and infrastructure present. Passenger waiting platforms and real-time bus arrival information displays, as well as an attractive design and build quality, contrast sharply with past bus stop expressions. The Primo route terminals are the Medical Center Transit Center (complete) and the Westside Multimodal Transit Center (proposed). The investment in the Medical Center Transit Center establishes a high level of facilities quality, and includes indoor and outdoor waiting areas, real-time system information display, parking and bike racks, and security. The proposed Westside center and future Primo facilities should mirror this level of investment, providing a complement to the higher level of bus service that Primo has brought to San Antonio. Future streetcar facilities should also match the established Primo standard, in which each stop has consistent materials themes while fitting with the character of the context.

4.1.3 Recommendations

As VIA will be designing their own facilities, some of these recommendations are intended for VIA's use, whereas others are intended for the municipalities that VIA services.

Recommendations for VIA

Develop design guidelines for all VIA facilities. These guidelines should be applicable for all facility types, including stops, stations and park and ride locations. They should create continuity among the various facilities, increasing legibility for the rider and improving the overall VIA brand as the public transportation arm of the greater San Antonio area. Guidelines will help greatly in costing future facility projects and with communications with interest groups when new facilities are being planned. The following are some of the elements that facility guidelines should address:

- Hardscape elements (waste receptacles, shelters, benches, etc.)
- Platform standards
- Landscaping
- Facility placement and dimensions
- Bicycle and vehicle parking standards

- ADA compliance
- Facility access/on-site parking and loading
- Lighting
- Signage at facility
- General VIA signage

Identify future park-and-ride sites that are accessible to the growing suburban/exurban San Antonio population. It is difficult for VIA to service the remote reaches of greater San Antonio, due to the land area encompassed by the service area, and to the high rate of growth that San Antonio is experiencing. To ensure that remote riders and commuters can still be served by VIA, it is recommended that park and ride facilities be used as a way to reach this segment of the population. This will require land assembly and occasionally rezoning in order to accommodate the surface parking required for such a facility.

Consider a branding study and/or public relations campaign, targeting new riders. If VIA desires to reach a greater segment of the San Antonio population and see a demographic shift in its ridership, it might be helpful to conduct a branding study and/or public relations campaign. Although San Antonio is seeing an increase in inner city residents, the problem of perception impacts bus ridership. A branding study and/or public relations campaign may help to promote VIA's initiatives and create a more coherent strategy for serving the City as a whole. As this region continues to grow, this will prove a critical element in ensuring VIAs ability to provide excellent transit service throughout the greater San Antonio area.

Recommendations for Municipalities

Use the typologies generated in the TSLU Guide as the tool to bring TSLU planning into municipal standards for infrastructure and development. The typologies developed in the TOD guide are very effective at expressing uses and use intensity relative to various transit facility types. The municipalities in VIA's service area can bring this guide into their code by ordinance or by resolution in order to ensure that land use and land development practices are consistent with VIA's vision for transit-oriented development.

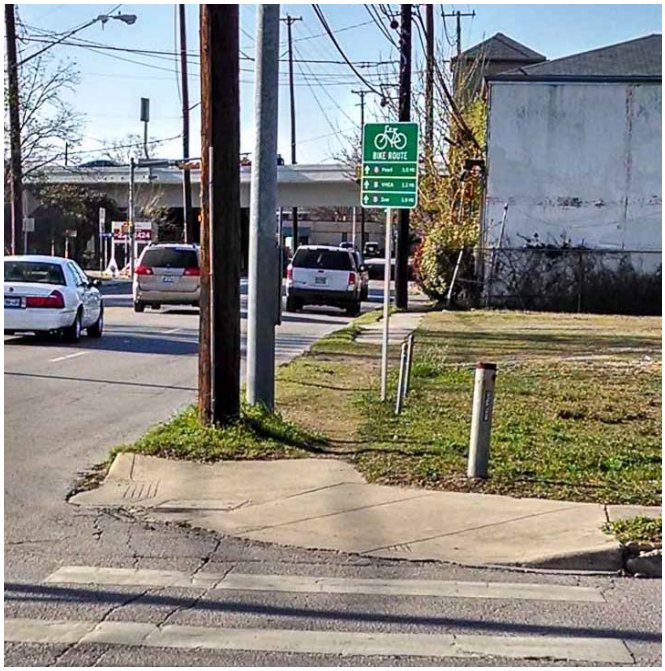
Take steps possible to align VIA's long range system planning with the City of San Antonio's comprehensive plan. As the City of San Antonio is about to embark on a comprehensive planning process, it would be wise to take what steps are possible to align VIA's long range system planning with the City of San Antonio's comprehensive plan. As the City identifies activity centers, those centers will influence VIA's ridership patterns.

4.2 Pedestrian-Supportive Design, Access, and Connectivity

Pedestrian oriented design is an important consideration for areas around transit facilities, as people enter transit systems on foot. Certain types of facilities (especially bus stops) are integrated into the larger pedestrian system of a city. Other facilities, such as stations and park and rides, require standards for treatment of these spaces outside of the public right of way.

Another factor to consider is that the rider experience is from door to door, not stop to stop. If routes to and from transit facilities are unsafe, undesirable or difficult to navigate, this is a deterrent to the use of the transit system. The treatment of pedestrian spaces in areas around transit facilities is therefore essential to the creation of a positive rider experience.

Pedestrian supportive design is implemented both through land use and development practices – which affect privately-developed individual parcels and platted sites – and through public works projects, including street design and reconstruction. Sidewalks and other pedestrian facilities may be developed either as part of property development, or as part of street construction. The characteristics of buildings and sites (such as internal connectivity and building orientation) also affect the pedestrian environment. Plans can set the overarching framework to ensure that the private and public realm activities are coordinated, while zoning and subdivision ordinances, street design guidelines, and capital programs cover implementation through these various means.



Zoning (requiring sidewalks in new development) and municipal capital improvements are both strategies for fixing gaps in San Antonio's sidewalk network.

4.2.1 Best Practices

Much effort has been given to the improvement of pedestrian spaces in our cities. Some aspects of pedestrian space are operational, such as sidewalk widths and placement of hardware. Others are experiential, such as scale, enclosure and legibility. Walking, however, is behavioral, and therefore reactions are also important: the "feel" of the space also matters. Is it safe? Is it comfortable? Is it interesting?

A number of standards have been created for pedestrian oriented design, such as complete streets and context sensitive design. The focus of this discussion, however, will not be on a

particular model, but rather on three organizing principles: physical features, urban design qualities and pedestrian experience,[5] and some of the more important considerations associated with each.

Physical Features

- **Street width.** The wider the street, the more vehicle trips are intended to be accommodated on that street. The greater the vehicular traffic capacity, the more difficult a street is for pedestrians to cross. In this sense, wide streets are a type of impediment to pedestrian mobility.

- **Sidewalk width.** Just as street width determines the capacity of vehicles that can travel in a certain route, the width of the sidewalk determines the level of pedestrian activity that is possible in an area. Where sidewalks are narrow, pedestrians must walk uncomfortably close to buildings and traffic, and infrastructure such as utility poles can impede circulation by those who use walking aids or wheelchairs. Wide sidewalks accommodate diverse users, facilitate passage, and support a context more amenable for adjacent businesses.

- **Block length.** Longer block lengths reduces the number of streets in an area. This in turn reduces the number of street edges in an area, and, consequently, the available pedestrian space. Shorter blocks also create more intersections, therefore more opportunities for pedestrians to cross safely.

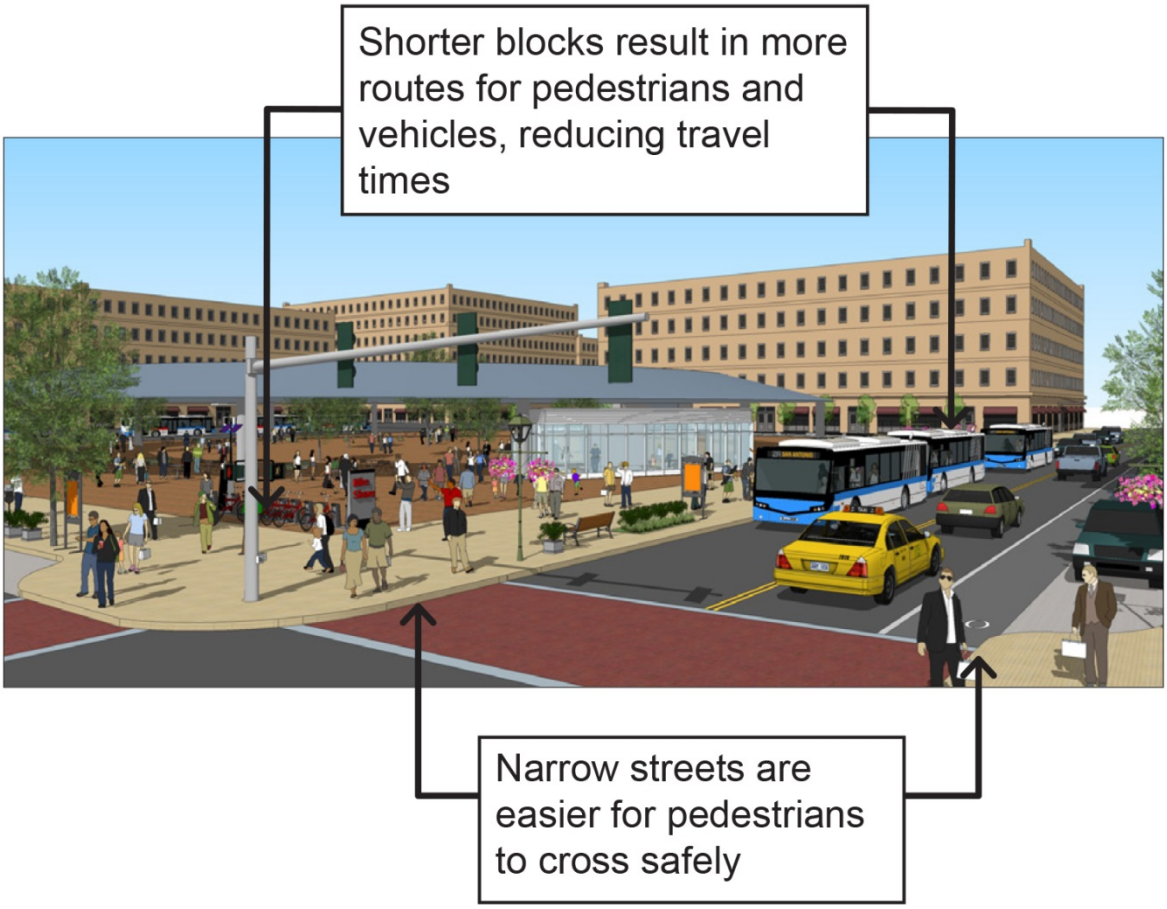
- **Continuous sidewalks.** The continuity of sidewalks in a city depends on a number of factors, and invariably some parts of town are better than others in this respect. Right of way widths, parcelization, sidewalk standards and code enforcement are a few of the determinants of continuity of the sidewalk system. However, continuity is critical to connectivity. Therefore, in areas around transit stations, defined pedestrian routes that provide continuous sidewalk space are needed.

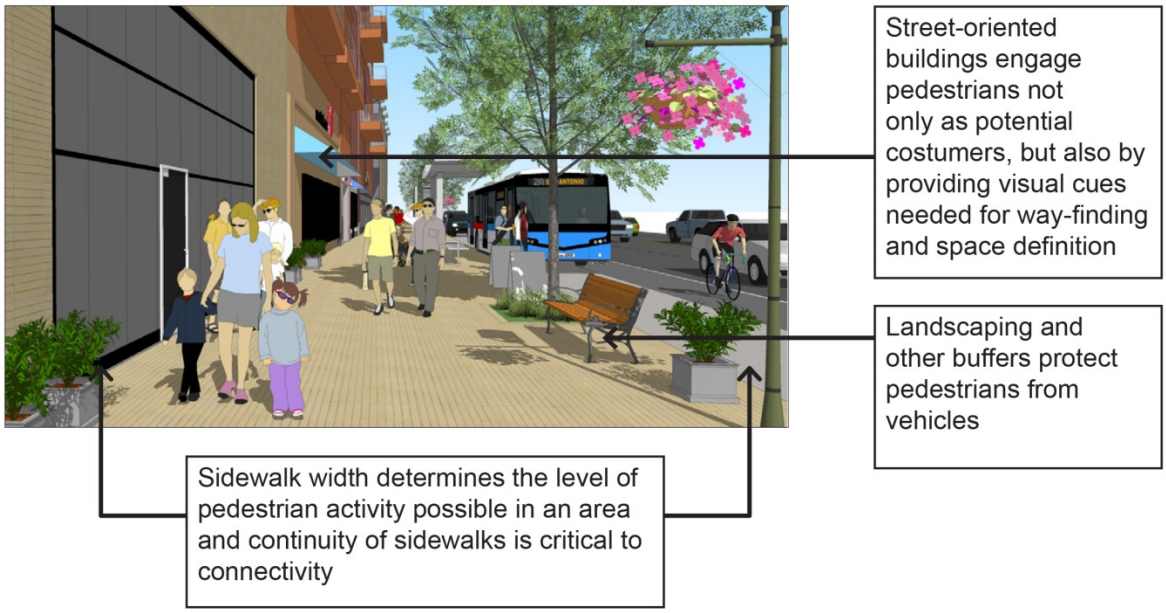
- **Safe crossings.** Regardless of street widths, safe crossing areas are an important consideration for pedestrian mobility. Where streets are wide and intersections are controlled by lights, street diets, raised medians and other techniques should be considered to improve pedestrian navigation of intersection crossing. Where streets are narrow and intersections are controlled by stop signs, pavement design and treatment of street corners are helpful.

[5] As articulated in Pedestrian- and Transit-Oriented Design (Ewing and Bartholomew, 2013)

- **Landscaping or other buffers separating pedestrians from vehicles.** Pedestrians need a defined space for walking. This space should be protected from vehicles to maximize both the perception and the real safety of this space. Landscape buffers that include street trees and hardscape elements give greater definition to sidewalk space and protect pedestrians from vehicles. On-street parking also serves as a buffer for pedestrians.

- **Street-oriented buildings.** Street-oriented buildings engage pedestrians not only as potential consumers, but also by providing visual cues needed for way-finding and space definition. When a building is separated from the street space by a parking lot, two things happen. The building disengages with the block, and the traveler lose the continuity needed to define a place. Enclosing the pedestrian space with street oriented buildings is a helpful tool in improving pedestrian mobility.





Urban Design

The design of pedestrian spaces is not merely a function of their dimensions and specifications. There are certain attributes of these spaces that are more nuanced than width, depth and height. These are the attributes that promote identity and form, and, consequently, place-making. For purposes of this discussion, urban design will therefore focus on pedestrian considerations for place-making. Those place-making factors include:

- **Imageability and identification.** Various factors combine to confer an identity on a place, a quality that makes the place recognizable. Landmarks, views, signage, and a consistent visual theme work together to evoke a strong identity, in contrast to anonymous locations such as an industrial park or strip mall.

- **Enclosed spaces**. Street-oriented buildings are one of the components used to enclose pedestrian spaces, but other factors should also be considered. Enclosing pedestrian spaces simply means that proportions that give definition to the actual pedestrian realm should be defined. These include the relationship between building setbacks and street width, building height to width ratios and the creation of a continuous street wall through uniform setbacks.

- **Legible routes and pathways.** A legible place has a street and pedestrian network that allows people to orient themselves and construct a mental map of the area. Edges, landmarks, districts, and nodes of activity help to make sense of and successfully navigate the place.

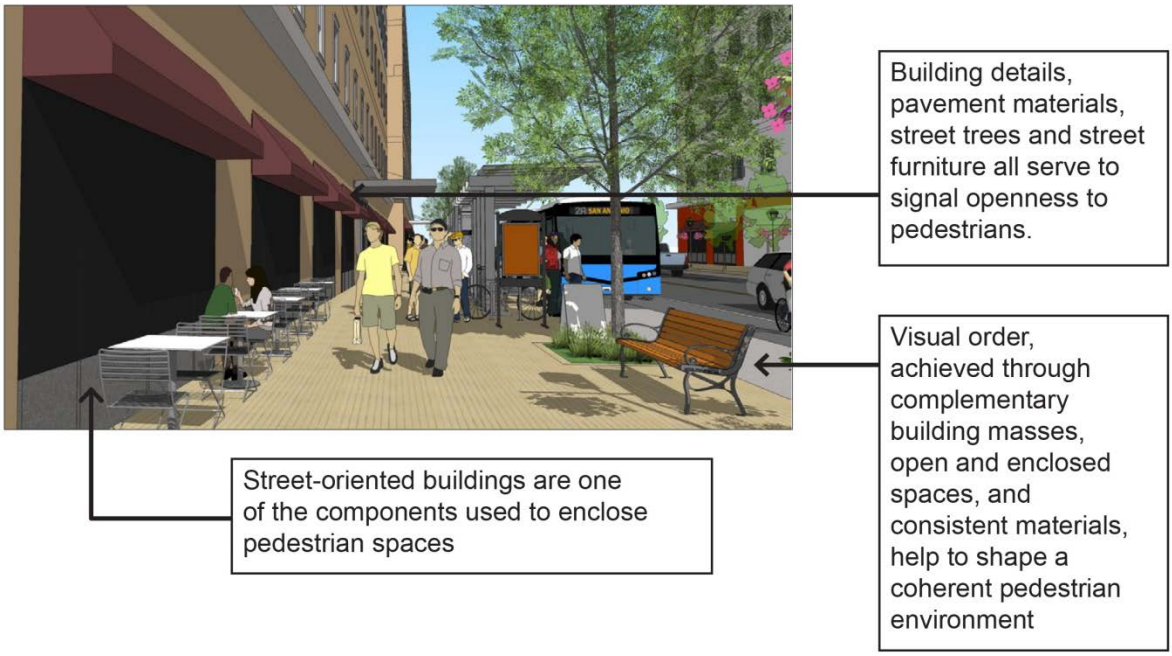
- **Human scale and proportions.** The pedestrian space is intended to serve a very broad group of users, including store patrons and residents, dog walkers and transit riders. A human-scaled place is oriented to people, allowing for movement, rest, access, and comfort. Building details, pavement materials, street trees, and street furniture all serve to signal a place's openness to humans, in contrast to auto-oriented roadways, parking structures, large buildings, and large signage.

- **Transparency.** People perceive higher levels of transparency when city blocks have display windows, multiple entry doors, landscaping, and other elements which allow pedestrians to see or perceive human activity beyond the edge of immediate surroundings. Transparency suggests human activity both on the street and beyond, affording an inviting awareness of space.

- **Linkage.** Physical and visual connections between buildings, street, and pedestrian spaces together create linkage. These elements stitch a space together, allowing for a consistent identity. Street tree spacing, pedestrian crossings, and block length mark edges and zones, and support connectivity for pedestrians.

- **Complexity.** Complexity adds to the visual richness of a space, and an interesting level of variation in the built environment can contribute to promoting pedestrian mobility. Variation in building materials, street trees, urban furniture, and architectural facades, along with the presence of other people, all serve to enliven a space.

- **Coherence.** Visual order, achieved through complementary building masses, open and enclosed spaces, and consistent materials, provides for a coherent, welcoming pedestrian context. Consistent community scale, character, and placement in the environment holds pedestrian interest and activates a space by encouraging lingering and longer visits to the space.



Pedestrian Experience

Transit riders connect to transit facilities via pedestrian pathways. Furthermore, most bus stops are located within the sidewalk space of public rights of way. Therefore the overall rider experience is impacted not only as they traverse the pedestrian network of the City, but also as they wait at bus stops. There are many factors that contribute to their experience. Some of the more significant factors are discussed here.

- **Maintenance.** The condition of pedestrian spaces greatly influences a person's experience of that space. Repairs, replacement of damaged components and regular cleaning ensure that the spaces adequately serve people, and that they aren't a deterrent to their use. In areas where pedestrian spaces (including transit access) receive heavy traffic, appropriate maintenance protects transit investments and positively affects pedestrian perception of the space.

- **Lighting.** Pedestrian access pathways and transit waiting areas must be adequately lighted, with street lights shining down on the sidewalk. Pedestrian-oriented lighting increases safety for pedestrians, improves pedestrian visibility to automobile traffic, and creates a human scale environment.

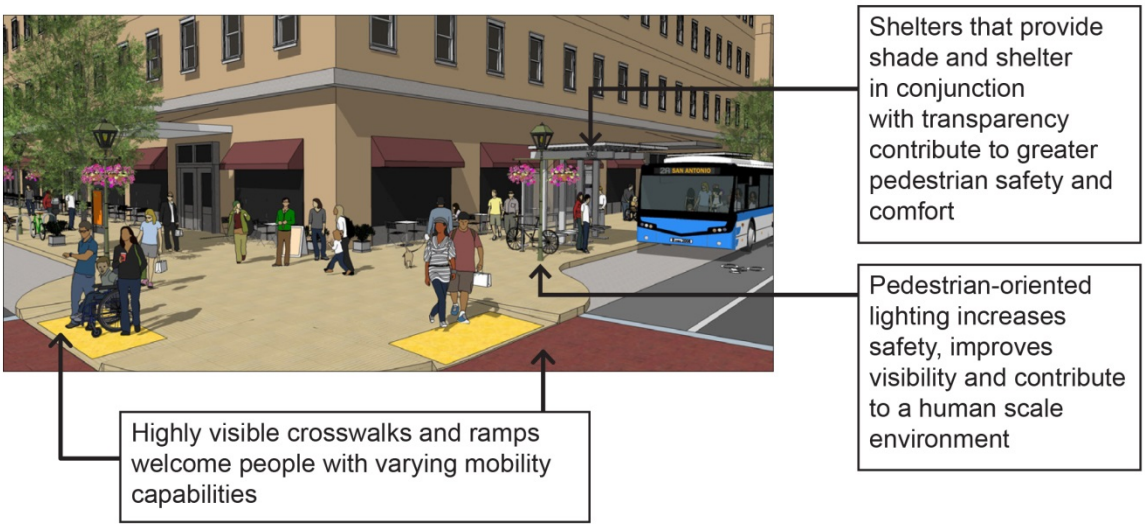
- **Visibility.** Pedestrian crosswalks must be clearly marked and delineated for pedestrian and automobile safety, and sidewalks and transit waiting areas must have open lines of sight to maximize open flows and to allow for personal safety.

- **Seating areas.** Street furniture such as benches signals that an area is a potential gathering space, as well as providing a potential resting spot for transit riders and pedestrians. Well-designed seating areas allow those seated and those walking past adequate clear paths, and are placed to create small human-scaled spaces.

- **Shade/shelter.** A transparent transit shelter structure contributes to greater pedestrian safety and comfort, much like appropriate lighting and visibility factors. Shelters can provide shade or cover from rain and display transit information. Shelters must be designed for all uses, and in particular must be built for accessibility for all, which may influence placement of access ramps and seating.

- **Architectural variety and visual interest.** Variety and interest attract and retain pedestrian interest, with benefits to transit users and businesses. Sidewalk materials, street furniture, street trees and landscaping, varying architectural styles, and the combination of all of this spatially to form spaces that have identity are essential.

- **Accessibility.** A vibrant pedestrian space welcomes people with varying mobility capabilities through careful design of street crosswalks, access ramps, seating and waiting areas, and transit boarding zones. In a separate sense, interesting pedestrian spaces should also be accessible across a community, with public and private investment in pedestrian amenities well distributed.



Community Examples

Numerous municipalities in the United States have adopted policy specifically addressing objectives, standards, and metrics for linking pedestrians to transit. Many of these policies would be ideal models of best practices for San Antonio as it plans for a more pedestrian-friendly transit

future. For example, the City of Houston's Urban Corridor Planning effort comprises ordinances that regulate built form, streetscape, pedestrian access along METRO light rail corridors.

Denver's Form Based Zoning Code emphasizes pedestrian-friendly developments. The RTD Transit Access Guidelines provide guidelines and standards that promote safe and efficient pedestrian access to RTD transit stations.

Charlotte, North Carolina has adopted complete streets guidelines, which call for improved street crossings and traffic signal timing for pedestrian safety and access to transit. To provide policy guidance for areas surrounding transit stops, Charlotte has adopted the Transit Station Area Principles, which call for building and site design supportive of a pedestrian-oriented environment. Charlotte has also adopted **Pedestrian Overlay Zoning (PED)** for older districts where the city is looking to improve the pedestrian environment. A PED is established when a rezoning petition is approved designating the boundaries for the particular corridor and a streetscape plan is approved by the City Council. The City's Sidewalk Improvement Program awards points for project prioritization scoring for locations on a transit route.

Examples of Language from Charlotte's Pedestrian Overlay District

- "The purpose of the Pedestrian Overlay District (PED) is to reestablish an urban fabric by promoting a mixture of uses in a pedestrian-oriented setting of moderate intensity….
- No surface parking or maneuvering space is permitted within any required or established setback, or between the permitted use and the required setback, except that driveways providing access to the parking area may be installed across these areas…
- Parking that is located to the side of the primary structure may cover no more than 35% of the total lot width…
- The first floor of all buildings designed and/or used for retail or office uses fronting directly to a street must include transparent windows and doors arranged so that the uses are visible from and/or accessible to the street on at least 50% of the length of the first floor building elevation along the first floor street frontage. Expanses of blank walls may not exceed 20 feet in length…
- Canopies, awnings and similar appurtenances are encouraged at the entrances to buildings and in open space areas….
- At least one operable pedestrian entrance per building must face a street or transitway and be distinguishable from the rest of the building…
- Sidewalks and trees will be installed in accordance with a streetscape plan approved by the City Council…"

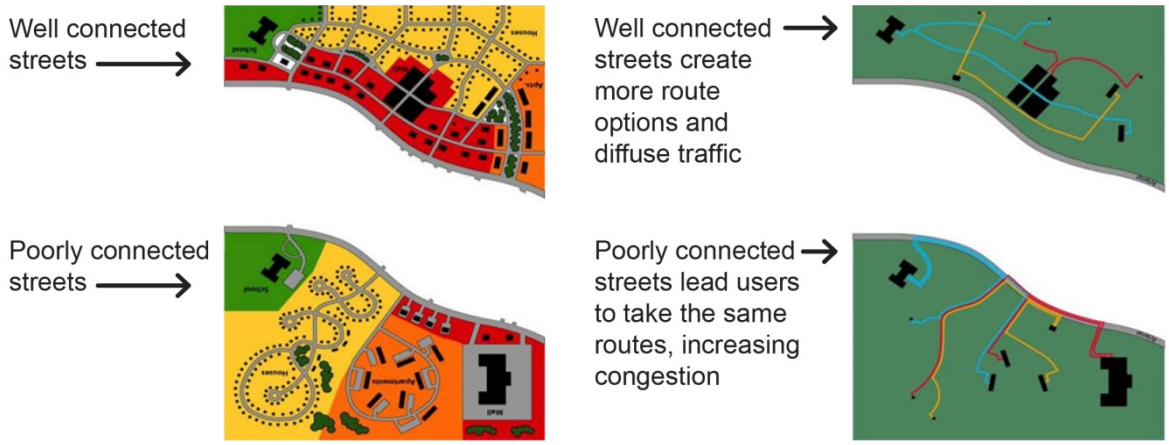
Nashville, Tennessee has adopted detailed pedestrian design guidelines in its Downtown Code. Development is regulated by subdistricts. Standards specific to each subdistrict set requirements for minimum and maximum setbacks (by frontage type), façade width (minimum percentage of lot frontage), heights, and upper floor step-backs. The subdistrict standards ensure that unique character and massing appropriate to each subdistrict are retained. The Code also includes general standards that apply to all subdistricts.

Examples of Pedestrian-Supportive Language in Nashville's Downtown Code

Nashville's Downtown Code states that, "interaction of the building with the street should enliven the street, making it comfortable, safe and interesting for pedestrians." Examples of General Standards (Section IV) include the following:

- Buildings shall front a street (excluding alleys), open space, or a pedestrian passage.
- All buildings fronting open space [or a pedestrian passage] shall have a minimum
- of one primary pedestrian entrance on the open space [pedestrian passage].
- When the existing sidewalk does not meet with the Downtown Streetscape Design Guideline standards for sidewalk width, the sidewalk should be widened on site and the Build-to Zone begin at the back of the new sidewalk.
- All street level exterior windows must have a minimum light transmission of 60 percent.
- An active use [a habitable space occupied by retail, office, residential, institutional or recreational uses] is required on the ground floor of all Primary streets, Secondary streets, Open Space and pedestrian passages.
- On the ground level, parking structures shall be located behind a liner building with an active use that is a minimum of fifteen feet deep.

Subdivision regulations are important for pedestrian connectivity, especially in developing suburban areas. It has been common practice since the middle of the 20th century to develop suburban streets in a "hierarchical" form that only provides a few access points. Winding streets and cul-de-sacs require access by car and rarely allow pedestrians or bicyclists to access arterial streets or commercial districts. This creates problems for anyone needing or wanting to use transit, or who cannot drive themselves (such as children).



A subdivision with good internal and external connectivity (left) and poor connectivity (right).

Source: Kentucky Transportation Cabinet

Increasingly, municipalities and states are establishing connectivity requirements for subdivisions to ensure that access by non-auto modes is preserved. These requirements often make use of a "connectivity index," defined as the number of street links divided by the number of nodes (intersections) and link (street) ends. The higher the connectivity index, the more connected the road network. External connectivity can also be specified by a maximum spacing between access points. For example, the Kentucky Transportation Cabinet has published a **Street Connectivity Zoning and Subdivision Model Ordinance** as a guide for local jurisdictions. Charlotte has also adopted connectivity standards, stating that the preferred street spacing ranges from 400 to 600 feet, and Austin, Texas has set a maximum block length of 600 feet.[6]

[6] Walksteps.org

Examples of Language from the Kentucky Transportation Cabinet's Street Connectivity Zoning and Subdivision Model Ordinance

- The desired minimum connectivity index is 1.60.
- No dead-end streets shall be permitted except in cases where such streets are designed to connect with future streets on abutting land.
- Cul-de-sacs shall only be permitted if they are: a. less than 400 feet in length, or b. less than 660 feet in length and have a pedestrian connection from the end of the cul-de-sac to another street.
- To ensure future street connections where a proposed development abuts unplatted land or a future development phase of the same development, street stubs shall be provided to provide access to all abutting properties or to logically extend the street system into the surrounding area.
- Streets within and contiguous to the subdivision shall be coordinated with other existing or planned streets within the general area as to location, widths, grades, and drainage.
- Street connections shall be spaced at intervals not to exceed 660 feet (1/8 mile) along each boundary that abuts potentially developable or redevelopable land. Blocks longer than 400 feet in length shall have a mid-block pedestrian pathway connecting adjacent blocks.
- Gated street entryways into residential developments shall be prohibited.

4.2.2 Current San Antonio Region Practice

As pedestrian and bicycle mobility increases in our cities, the notion of connectivity has shifted its significance toward these two modes of transportation. Compact, walkable communities are growing in preference and alternative modes of transportation, such as bikes and transit, are also in higher demand.

City of San Antonio

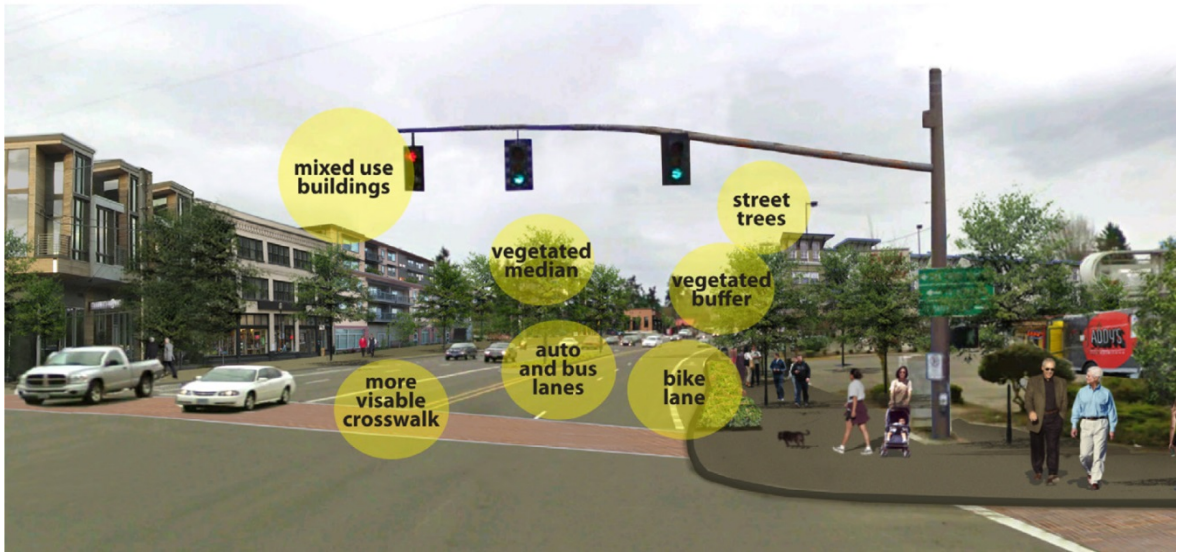
In the San Antonio area, a number of plans, policies and initiatives have been established to promote alternatives to automobile travel. SA Bikes, the bicycle master plan for the City of San Antonio, includes the Bicycle grey bike program where stations with interchangeable bikes are located in designated areas throughout the City. Most of these B stations are located along the San Antonio River floodplain, with additional stations placed downtown.

The City of San Antonio, via the Unified Development Code, has compiled site development ordinances into a document that reflects the City's desired end development product. Zoning categories in the UDC that include transit facilities as a permitted use present an opportunity for evaluation of how the UDC treats pedestrian-supportive design within a transit context. Many of the districts, including Multi-Family, Office, Neighborhood Commercial, Urban Development

District, Infill Development Zone, and Planned Unit Development have minimal or no site design standards that accommodate pedestrians. Form Based Zoning, Arts and Entertainment, Mixed Use, and Transit-Oriented Development do have provision for pedestrian connections, and a mention is present in the Downtown zoning district. Some design standards are also provided in corridor overlay districts and neighborhood conservation districts. Specific guidelines are lacking for Downtown and the Urban Development Districts, which state purpose and intent but no further specifics. Pedestrian connectivity is not emphasized in the UDC, though language which states intent could be expanded to form a more robust supporting code, with specific design standards added as well.

The City of San Antonio passed a Complete Streets ordinance in 2011 with a primary purpose of creating improved pedestrian and cycling connectivity throughout the city. Complete Streets are "roadways that take into account all users, including people driving cars, using transit, riding bikes, walking, and using wheelchairs (Goal 1A). Complete Streets in residential and mixed-use neighborhoods will promote safe pedestrian, bicycle, and automobile travel within the neighborhood through well connected street networks and pedestrian paths (Goal 3A)."

The City has identified several model current Complete Streets as examples for the community of characteristics of local complete streets. Main Avenue, Espada Road, West Woodlawn, and McCullough Avenue are exemplar roads, and are current benchmarks for San Antonio. West Commerce and Main are two streets with planned improvements, including landscaping and expanded pedestrian realm. Transit objectives are present, though at risk of not being a central element of the initiative, as much of the Complete Streets push seems to have been related to parallel public health initiatives currently ongoing in San Antonio.



Complete streets provide accommodations for all modes, all users.

Implementation of the Complete Streets ordinance is in the initial stages, and will be furthered through the Transportation Master Plan component of the City's new Comprehensive Plan. The first built expressions of the ordinance may come from the area encompassed by the Midtown-Brackenridge TIRZ Master Plan, which details recommended street typologies and cross sections for Broadway that include specifics of 8' to 12' sidewalks including the pedestrian realm and landscaping. The Downtown Transportation Study is closer to integrating pedestrian access with transit, as several of the streets detailed with cross sections and plans are Primo corridors or future streetcar corridors. Adding a stronger emphasis on pedestrian and bicycle accessibility to

transit corridors throughout the city would reinforce the Complete Streets ordinance and provide the potential for people to access transit-supportive land use areas.

San Antonio Neighborhood Plans also contain goals relevant to pedestrian access as it relates to transit, though as with the UDC, specifics that would be relevant to implementation of the goals are lacking. The West/Southwest Sector Plan calls for special zoning districts in which tools should be used to create pedestrian-oriented nodes in enhanced corridors. The Dignowity Hill Neighborhood Plan supports integrating mixed use developments with existing uses, road and pedestrian networks. Central city neighborhood plans detail a more specific view of pedestrian-supportive development, as exemplified by the Downtown Plan, with its call for enhancement of pedestrian areas with enhanced sidewalks/brick pavers, trees, water fountains, shade, benches, small urban spaces, public restrooms and measures to comply with the Americans with Disabilities Act. The Lone Star Community Plan also calls for improvements to support walkable mixed-use, redevelopment opportunities, and Complete Streets.

Suburban Municipalities

Other municipalities in the San Antonio region have also expressed support for pedestrian connectivity, though in most cases more specific guidelines and details related to transit access are lacking. Some municipalities do not include any consideration for pedestrian accessibility in their codes and ordinances.

The City of Schertz, through its Unified Development Code, outlines a vision for transit-supportive land uses, though language that specifically addresses pedestrian access to transit is lacking. Schertz includes goals for pedestrian-oriented streetscape that is safe and facilitates access to mixed land uses in new developments, calls for human-scale buildings and facades, and other pedestrian realm improvements. Specific streetscape elements called for include street trees, street light standards, street furniture, and trash receptacles. Pedestrian, bicycle, and automobile traffic should occupy the streets, though no meaningful integration of transit is present in the code, and no consideration of pedestrian access to transit is included.

Boerne includes discussion of pedestrian spaces in its Commercial district, with specifics on access, dimensions, and character of the pedestrian realm. As with Schertz, however, an objective of linking pedestrians to transit and specifics of how to implement that link are lacking.

Balcones Heights and Leon Valley both express support for pedestrian spaces in their Mixed-Use districts, but omit mention of a link to transit facilities. Balcones Heights does include specifics on design standards and accessibility for pedestrians. Other communities surveyed, including Seguin, Shavano Park, Bulverde, and Converse, do not currently support TSLU, nor do they include support for pedestrian access or transit access in their code.

Transit Supportive Cross-Sections Resource Document

VIA developed a technical resource document for use by regional municipalities as a guide for designing transit supportive cross-sections throughout a range of right-of-way (ROW) widths. Attached to this toolkit as Appendix E, this document reviewed existing conditions at 10 different locations across the region to determine and recommend transit supportive treatments affecting, for example, lane widths, sidewalk widths, bike lane widths, etc., that could be implemented to increase pedestrian safety. While designed to be a supporting document for the Transit-Supportive Land Use Toolkit, it also serves well as a standalone document to help VIA showcase prescriptive treatments municipalities can make on any roadway, regardless of ROW, to increase pedestrian safety and become transit supportive.

4.2.3 Recommendations

Each community in the VIA service area has a unique plan and a unique code of ordinances. Additionally, the expectations of each individual community regarding regulation of the built environment are also unique. Understanding that there are a number of ways to promote pedestrian-oriented development in transit areas, some measures have been included here that can improve the pedestrian environment through policies, plans, codes, and capital programs of the municipalities in VIA's service area. Where and how these measures get incorporated will depend on the structure of development regulations, the ability to amend existing plans and policies, and local political will.

Planning and Policy

Adopt a Complete Streets ordinance or incorporate Complete Streets principles into street standards. The National Complete Streets Coalition defines Complete Streets as "streets for everyone," in which the entire street right of way is designed and operated for safe access for all users. Notably, transit users and modes are featured as an integral part of the policy standards. The Coalition has prepared a fact sheet specifically about the interface between the street and transit, and states that Complete Streets can make transit safe, convenient, and comfortable. Issues that can be mitigated by a Complete Streets policy include obstacles to pedestrian access to transit, lack of safe street crossings, unappealing or nonexistent transit stops, and traffic issues and delays that discourage transit use. Streets designed for transit can allow for faster transit passage, access to streets for people at various mobility levels, support for bicyclists, and safe transit stops.

Connectivity should be accompanied by appropriate interfaces with transit routes and stops for mobility and for an improved pedestrian experience. A complete street in this sense would be one that not only allows for multiple modes of travel, but also allows for modes to be combined (pedestrian access to transit, for example) in a context rich in physical features, urban design, and pedestrian experience as outlined above.

Those communities that do not currently have standards in place to promote pedestrian mobility and/or connections to transit facilities should consider adopting a complete streets ordinance or something similar, in order to codify some of these practices that promote pedestrian and bicycle mobility.

The City of San Antonio, which has already adopted a Complete Streets policy, should work to ensure that pedestrian access to transit is included in implementation activities, through more specific design standards, sample cross-sections, and implemented capital improvement projects.

Promote and apply context sensitive street design. As part of the Multimodal Transportation Plan component of its new Comprehensive Plan, the City of San Antonio is analyzing roadway design criteria according to land use context. The analysis is a good example of context-sensitive design, which avoids universal interventions and instead calls for initiatives that respond to a place's context. To understand the context, benchmarking and assessment must first be completed.

This initiative meets goals of SA2020 for walkable communities and seeks to expand on the Complete Streets standards by more fully incorporating roadway typology and context considerations. The MTP analysis focuses on three land use contexts: Urban Mixed Use Streets, Urban Neighborhood Streets, and Suburban Commercial Streets. This analysis is a recommended practice from the Institute of Transportation Engineers, and the rigor and breadth of analysis is promising. Relevant to the pedestrian-transit interface are two categories of analysis of land use context, Streetside (covering pedestrian environment and sidewalk realm) and Transit (detailing level of service and transit stop spacing). This approach introduces a Level of Service analysis for pedestrians, evaluating sidewalk width, number of travel lanes, traffic volumes, vehicle speeds, separation between sidewalk and travel lanes, driveways, and medians/refuge islands. Transit is evaluated for pedestrian LOS, service frequency, amenities at travel stops, reliability, and travel time. After adding LOS for autos and bicycles, a segment receives a score (LOS A, B, C, etc.), and improvements to the segment can be measured against the baseline LOS to mark progress. Priority initiatives for pedestrians will include implementing pedestrian refuge islands and street trees, and for transit, improving transit stops and adding mid-block crossings. The MTP analysis and LOS scores for pedestrian and transit service is a worthy approach, and the recommendation would be to continue the analysis and implement proposed improvements to better pedestrian access to transit in the city.

Develop a pedestrian facilities inventory and plan. For municipalities that do not have one, an inventory in the form of a geographic information systems (GIS) layer of pedestrian facilities is a starting point in understanding where improvements may be needed. Improvements can be prioritized by comparing connectivity gaps and other deficiencies with areas where pedestrian

access is a priority, including bus stops as well as business districts, schools, hospitals, and other trip generators.

Codes and Zoning Ordinances

Ensure that base zoning categories include context-appropriate requirements for pedestrian facilities and design. Cities are increasingly requiring sidewalks as part of all new development, providing for safe travel and recreation even in lower-density, single-use areas. Minimum standards should be specified (e.g., 5' width, buffer between the street where feasible, connectivity to adjacent properties). Districts where more intensive pedestrian activity is anticipated should specify appropriate standards related to sidewalk widths, buffers, pedestrian amenities, and building and site design, such as illustrated in the sample language provided under "Best Practices."

Apply overlays if needed to further improve pedestrian conditions along high-traffic pedestrian and transit corridors. Pedestrian, transit, mixed-use, or other design overlay districts can all be used to create a more consistent pedestrian environment even if the base zoning in the area varies.

Include connectivity requirements in subdivision ordinances. Examples of connectivity requirements are provided under "Best Practices" above. Both internal and external street connectivity should be assured.

Capital Programs

Improve sidewalk conditions at bus stops. Where bus stops are located, sidewalks are shared spaces between riders and others passing by. Where possible, the waiting space for buses should be clearly defined, with a shelter and seating area, as well as a trash receptacle and signage to assist with way-finding. This may require not only modification to sidewalk standards in the Code, but also identification of funding sources for the needed capital improvements, as most sidewalks at bus stops are in the public right of way.

Improve sidewalk conditions in the area surrounding bus stops. Riders generally walk to their point of entry into the transit system. Therefore the transit experience begins before they reach the transit facility. For this reason, the condition of sidewalks in the surrounding area facilitates access to stops and stations and provides for a safer and more enjoyable rider experience. Wider sidewalks should anticipate an increase in pedestrian traffic near stops and stations that demonstrate high levels of activity. Like the conditions at the actual bus stops, improvement of sidewalks in the area surrounding bus stops will require not only amendment of sidewalk standards in the code, but also identification of funding sources for needed capital improvements to the public right of way.

Improvements to Route 99 near Seattle included wider sidewalks, bus shelters, and street trees along this suburban arterial.

Ensure that the citywide pedestrian network connects to bus stations. Bus stations are outside of the public right of way, and should therefore be treated as a private development, in terms of site design. All on-site pedestrian spaces should connect in a legible and usable manner (dimensions, orientation, etc.) to the existing pedestrian system of the city. There should be continuous sidewalks connecting bus facilities to the surrounding community fabric. This is an issue that should be addressed in city plans, as well as in site plan approvals. When it can be done without crossing private property, pedestrian connections may be added between cul-de-sacs and adjacent arterials where access to a bus stop is needed.

Revise standards and policies related to maintenance of pedestrian spaces. Each municipal budget will be structured a bit differently, with varying levels of staff capabilities related to public works. Maintenance and code enforcement are important for promoting safe and usable pedestrian spaces. As annual budgets are determined, municipalities should ensure that appropriate funds are designated for maintenance of pedestrian areas at and around transit facilities.

4.3 Transit-Supportive Density

4.3.1 Best Practices

A critical mass of people (residents, workers, and other visitors) is needed to support high-quality transit service. At low densities, very few people are traveling between the same origins and destinations, and it is uneconomical to provide transit service. As density increases, more people are traveling along the same path, and it is possible to provide higher frequency and higher capacity services, during peak as well as off-peak hours.

Pushkarev and Zupan (1977) performed pioneering research into densities necessary to support different types of transit. While their research was from the New York region, the general density levels have been validated by researchers and transit agencies in other parts of the country. Table 4.1 shows minimum density levels needed to support different types of transit services as presented in a Transportation Research Board manual.

Table 4.1 Density Levels to Support Transit Services

Transit Service	Minimum Residential Density
Local bus, 1 bus/hr	4.5 dwelling units/net acre
Local bus, 2 bus/hr	7 dwelling units/net acre
Local bus, 6 bus/hr	15 dwelling units/net acre
Light rail, 5 min peak headway	9 dwelling units/net acre in 25-100 sq mi corridor
Rapid transit, 5 min peak headway	12 dwelling units/net acre in 100-150 sq mi corridor
Commuter rail, 20 trains/day	1-2 dwelling units/net acre

Source: Transportation Research Board (2006). Transit Capacity and Quality of Service Manual. Transit Cooperative Research Program Report 100.

The Federal Transit Administration also provides guidelines for densities appropriate to support fixed guideway transit investments, including BRT, streetcar, and light rail. Table 4.2 shows the benchmarks set by FTA for rating New Starts and Small Starts projects. The "population density" column shows benchmarks for existing density, measured in terms of persons per square mile. (This value is "gross" density including nonresidential land, streets, water, etc.) The remaining columns show benchmarks for zoned or built density as measured in terms of residential dwelling units (DU) per acre or floor area ratio (FAR). (These values are per "net" acre for the site being developed, not including streets, public space, etc.) Different FAR benchmarks are provided for central business district (CBD) vs. other locations. This table shows that residential densities within station areas should average at least 10 to 15 units per acre to support a "medium" rating, and FAR for commercial or mixed-use buildings should be at least 1.0 to 1.75.

Table 4.2 Federal Transit Administration Benchmarks for Density

Rating	Population Density (persons/sq mi)	Residential DU/Acre	CBD FAR	Other Commercial FAR
High	>15,000	> 25	> 10.0	> 2.5
Medium-High	9,600 – 15,000	15 – 25	8.0 – 10.0	1.75 – 2.5
Medium	5,760 – 9,599	10 – 15	6.0 – 8.0	1.0 – 1.75
Medium-Low	2,561 – 5,759	5 – 10	4.0 – 6.0	0.5 – 1.0
Low	<2,560	< 5	< 4.0	< 0.5

Figures 4.2 and 4.3 provide descriptions and illustrations of these densities. The density does not need to be the same across the entire transit service area. Often, it is appropriate to place higher-density uses (such as multi-family residential and mixed-use commercial) in the blocks directly adjacent to the transit stop or station, transitioning to lower-density uses (such as small-lot single family or duplexes) in adjacent areas (Figure 4.4).

Figure 4.2 Illustration of Typical Residential Densities

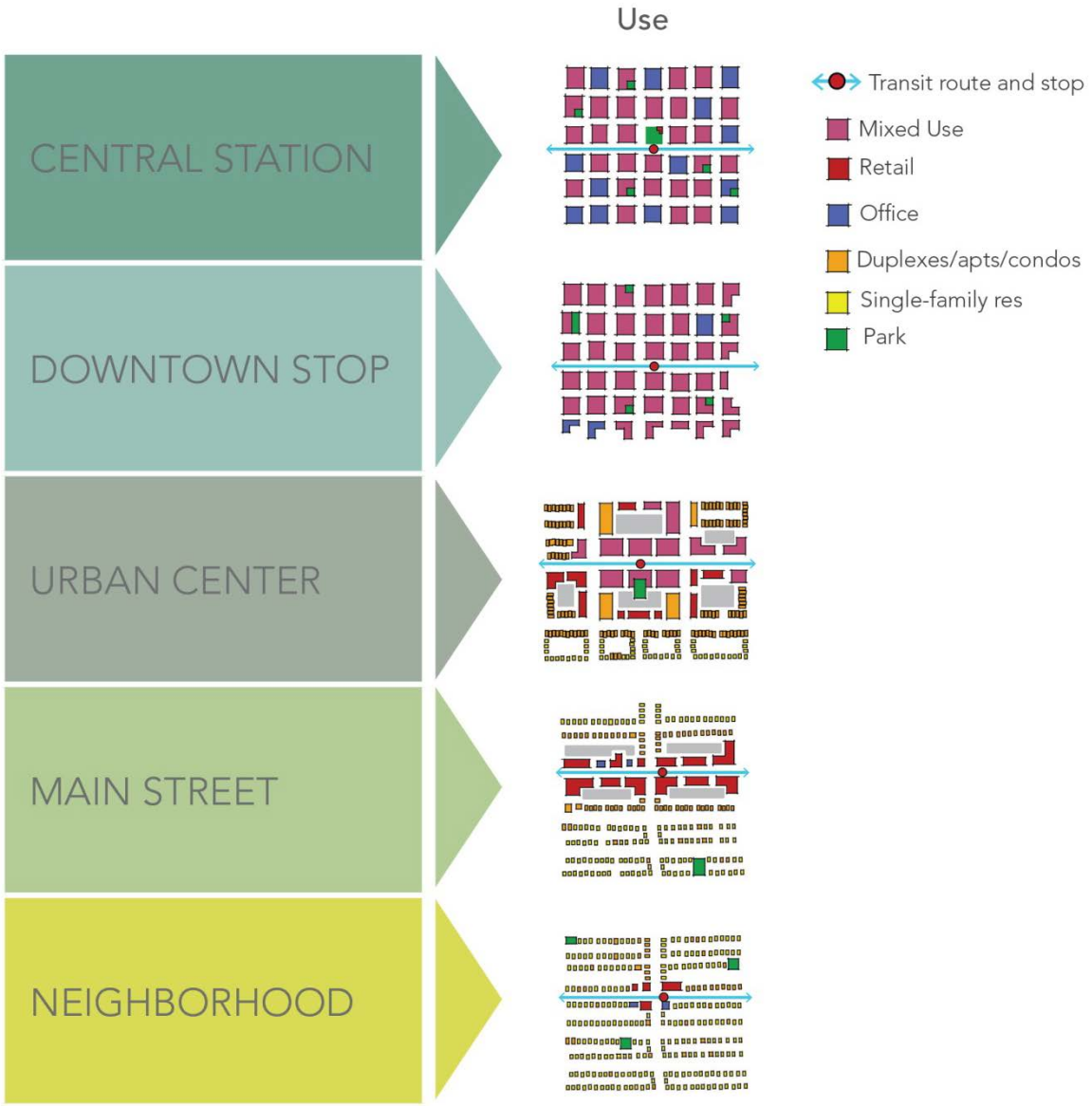
Residential DU/Acre	Typical Forms	Examples
> 25	4-story walkups Mid-rise buildings	
15 – 25	2-4 story apartments and condos	

Residential DU/Acre	Typical Forms	Examples
10 – 15	Duplex "Garden-style" 2-3 story apartments and condos	
5 – 10	Small-lot single family Duplex	
< 5	Medium to large lot single-family	

Figure 4.3 Illustration of Typical Commercial and Mixed-Use Densities

Floor Area Ratio	Typical Forms	Examples
> 2.5	Multi-story mixed use	
1.75 – 2.5	Three to five-story commercial/mixed use	
1.0 – 1.75	Two-story commercial	
0.5 – 1.0	One-story commercial	
< 0.5	One-story commercial	

Figure 4.4 Illustration of Distribution of Density in Transit Station Typologies



Minimum or maximum density? Zoning codes usually specify maximum densities. However, in some cases, to ensure transit-supportive land use it may be appropriate to set minimum density requirements in transit corridors or station areas. This should only be done after an evaluation of the market to ensure that developers will be willing to build to at least minimum density. If the market does not support the desired minimum density, it may also not be an appropriate corridor for high-capacity transit service.

Examples of Minimum Density Guidelines

The City of Charlotte, North Carolina's Transit Station Area Principles set minimum density targets of 20 dwelling units per acre and 0.75 floor area ratio within ¼ mile of transit stations, and 15 units per acre and 0.5 FAR within a ¼ to ½ mile radius. Specific minimum and maximum density requirements are enacted through zoning.

In Portland, Oregon, Metro's Urban Growth Management Functional Plan requires that cities and counties define minimum densities for all residential zones. Policy targets are typically 45 to 60 persons per acre in transit station areas designated as growth centers.

In Nashville, Tennessee, the Gallatin Pike Specific Plan establishes form-based requirements for properties fronting on Main Street in this area, which is also the alignment of a proposed BRT corridor. The Plan requires a two-story minimum and six-story maximum height along Main Street.

Sample Density Policies

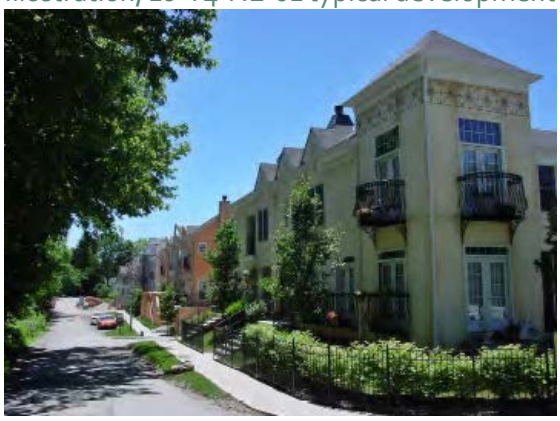
Nashville's Midtown Community Character Plan (2012) establishes a form-based planning and zoning framework for this eclectic, redeveloping mixed-use area just west of downtown. The following are examples of density-related policy from this plan, from the section on "Community Character Special Policies:"

T5 Center Mixed Use Neighborhood Area 2 (10-T5-MU-02) – "Lower building heights and masses are intended in this area than in Area 10-T5-MU-01 because of the area's structural constraints to development. Maximum building heights of up to twenty stories are generally most appropriate in this area."

T5 Center Mixed Use Neighborhood Area 3 (10-T5-MU-03) – "Lower building heights and masses are intended in this area than in Areas 10-T5-MU-01 and -02 because of the area's numerous residential size lots. Maximum building heights of about eight stories are generally most appropriate in this area."

T4 Urban Neighborhood Evolving Area 1 (10-T4-NE-01) – "Residential density in this area may be higher than is typical for T4 NE areas because of the area's Midtown location and support role in providing a planned high level of public and private mass transit service."

Illustration, 10-T4-NE-01 typical development



Illustration, 10-T5-MU-02 typical development

Source: Midtown Community Character Plan, 2012.

Other controlling factors. Density is typically expressed and regulated in terms of dwelling units per acre or FAR for commercial or mixed-use buildings. However, in form-based zoning, density may be controlled by limits on building height, setbacks, and lot coverage requirements. Even under traditional zoning, height, setback, lot coverage, or parking requirements may limit the density that can be achieved to lower than that specified. These requirements should be evaluated to ensure that transit-supportive density levels can be achieved in practice.

4.3.2 Current San Antonio Region Practice

City of San Antonio

Because of the diversity of zoning districts in the City, any existing or proposed transit corridor would need to be evaluated on a case-by-case basis to determine whether existing zoned density levels are transit-supportive. However, considerable flexibility exists in City code to allow for transit-supportive density in areas where the City desires it. For example, the Downtown (D) District provides no restrictions on density levels. The San Antonio UDC also contains a TOD Use Pattern which specifies minimum and maximum densities as shown in Table 4.4. These densities would perform well against the FTA benchmarks, especially consider that a minimum density range is specified.

Table 4.4 Densities Specified in the San Antonio TOD Use Pattern

	Min.	Max.
Residential (DU/ac)	8 – 16	32 – 40
FAR	1.0 – 2.5	2.0 – 6.0

San Antonio's Form-Based Zoning District also provides guidelines for transit-supportive densities (if the "density bonus" or "infill option" guidelines are used, which specify minimum rather than maximum residential densities). These are shown in Table 4.5.

Table 4.5 Density Guidelines for the San Antonio Form-Based Zoning District

	T4 (General Urban)	T5 (Urban Center)	T6 (Urban Core)
Residential Density (units per gross acre)			
By Right	4 max	6 max	12 max
Density Bonus	8 min	12 min	No min
Infill Option	4 min	6 min	No min
Building Height (stories)[a]	4 max	6 max, 2 min	15 max, 2 min

[a] In the Form-Based District, building size is regulated by height, setback, and lot coverage requirements rather than FAR. See Sec. 35-209, Table 209-18 for details.

The proposed Streetcar corridor is generally zoned to allow high density. Phase 1 of the LPA primarily traverses the D district as well as the River North FBZD, which is specified as Transect 6 (T6), the highest intensity level.

Many of the other districts that permit transit facilities in the City also permit moderate to high densities. For example, the UDC includes multi-family (MF) districts permitting up to 18, 25, or 33 units or even more per acre, and the O-2 Office district allows unlimited building height. (FAR is not specified for base districts in the San Antonio UDC.)

Other Municipalities

A limited review was performed of the extent to which the ordinances of other municipalities in the San Antonio region include transit-supportive parking requirements. While specific high-capacity transit service has not been proposed in these communities, this review will help municipalities to assess changes that may be needed should such service by considered in the future. Table 4.6 summarizes density provisions in each of the municipalities reviewed.

Table 4.6 Assessment of Parking in Other Municipal Plans and Ordinances

Municipality	Transit Supportive Density	Overall Assessment	General Recommendations
Balcones Heights	Absent	MXD density specifics are lacking. Commercial setbacks, design standards present, but not density guidelines.	Provide density framework beyond setback standards in revised MXD zoning district.
Boerne	Present	Commercial density defined via lot coverage, setbacks, height restrictions. Residential density at R-4 MF standards; MF limited to 28' height, 50 units max.	Provide more specific density framework in revised MU zoning districts.
Bulverde	Absent	MF density limited, commercial density limited by setbacks and height restrictions.	Amend for TOD/TSLU support.
Converse	Absent	Single-use districts, no TSLU density.	Amend for TOD/TSLU support.
Leon Valley	Absent	MX-1 density specifics dependent on site plan submission.	Provide more specific density framework in revised MX-1 zoning district.
New Braunfels	Present	R-3L, MU-A – 12DU/Ac; R-3H, C-2A, C-4A, C-O, M-1A, M-2A – 24DU/Ac; MU-B – no density maximum	MU-B provides the most appropriate residential, commercial density for TSLU.

Municipality	Transit Supportive Density	Overall Assessment	General Recommendations
Schertz	Present	40-acre sites as minimum, uses/ density/scale as appropriate to context/character of proposed district. Density limits only via design standards, building height max from 3 to 8 stories.	Ideally, flexibility for sites less than 40 acres. Include specifics on PDD process that establish framework for evaluation of developer-proposed density.
Seguin	Absent	MF-3 district – 24DU/AC maximum; Commercial zoning relies on setbacks.	Address density in revised MU zoning district.
Shavano Park	Present	MXD district limited in density.	Amend for TOD/TSLU support.

4.3.3 Recommendations

- In the comprehensive plan process, identify general policies for where higher densities are more appropriate, specific areas for higher density considering transit service availability, and the ranges of densities appropriate in different contexts (e.g., different types of transit service, commercial vs. residential areas, transit station typologies).
- If the comprehensive plan includes a map of future land uses, ensure that transit service areas are designated with appropriate use types and densities.
- When developing a subarea plan (neighborhood, corridor, transit station), identify and map density levels appropriate for specific areas and parcels in areas near transit.
- Update the zoning/development code to apply densities consistent with those designated in a plan. This may be done in different ways:
  - By changing the zoning designation (map) to apply existing, higher-density zoning districts to specific parcels in transit service areas;
  - By changing the text of existing zoning district(s) applied in transit service areas to allow higher density levels; and/or
  - By creating a new zoning district or overlay specific to transit corridors or station areas, with its own density specifications.
- Municipalities should also consider establishing minimum density requirements, as appropriate to the existing or planned transit service and market conditions, especially in activity centers that are designated for future growth.

4.4 Mixed-Use Environment

Transit systems serve many different types of riders, connecting a various array of origins and destinations. These encompass all general land use categories, from residential areas to employment centers. One of the contributors to traffic congestion in our cities is homogenous zoning and development practices. Large residential areas that are geographically removed from shopping and employment areas require regular trips to connect the dots.

As transit seeks to alleviate congestion and provide a more efficient pattern of movement for passengers, land use patterns at station areas should incorporate a heterogeneous mixture of the uses and activities that are common to every day community living. This is the intent behind mixed use development patterns. By minimizing the number and distances of required daily trips, people can enjoy the same activities, while making a smaller traffic impact.

Old and new mixed-use provide aesthetic contrast but both support pedestrian activity (Metuchen, New Jersey and Las Vegas, Nevada)

4.4.1 Best Practice

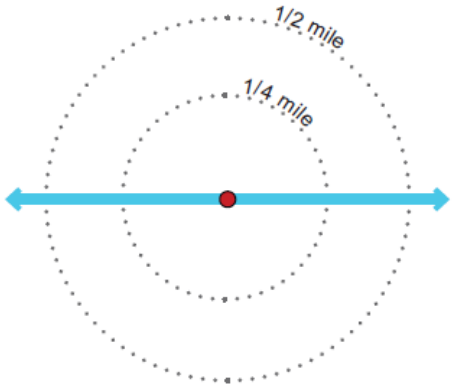
Mixed use development patterns are complementary to transit systems because they promote minimization of trips and aggregate activity. This is true of all forms of transit facilities, not merely station areas. The relationship between development and transit varies, however, depending on the type of facility. Stops are demand responsive, whereas stations are demand generative. Stops are located in response to demand, and therefore their location will not stimulate development. Stations, however, have the capacity to stimulate demand, as they aggregate riders and promote longer durations of stay. The emphasis in this section is therefore on the integration of mixed use patterns at station areas because of the ability of stations to

generate demand. Stops are needed in mixed use environments, but they do not generate spending at the same level as stations do, due to duration of stay and level of infrastructure investment. However, the principles of mixed land use are still relevant to various forms of activity centers, such as town centers, business districts, or neighborhood commercial districts, that are served only by transit stops rather than stations.

Attributes of the Station Area

The creation of a functional mixed use environment at station areas is dependent not only upon effective regulatory practices, but also on market receptivity to the preferred pattern.

- **Walking radius.** There are thresholds of preference and tolerance with respect to how far people will walk to reach a destination. Current standards define the radius of preference as ¼ mile and the radius of tolerance as ½ mile. These distances should influence the boundaries of the station area, but not rigidly define it, as parcel configuration and existing uses would also come into play at time of station area definition.



- **Use distributions in relation to the station.** Sites that are adjacent to a transit station should be used for activities that do not conflict with transit operations. Typically these sites would be used for retail, office and other commercial, vertical mixed use (residential or office above retail/commercial), civic, and institutional purposes. Sites that are within the prescribed station area but not adjacent to the station should serve a more transitional function, giving the station a context within the surrounding community. The uses in these non-adjacent parts of the station area would also consist of the previously mentioned uses, but could also include multi-family and higher density single family expressions.

- **Building scale.** The scale of development should be context sensitive. In the downtown area, vertical mixed use and larger building footprints are appropriate. In suburban areas, the mixture of uses would be primarily horizontal in nature (i.e., compatible uses occurring adjacent to one another), with the exception of loft apartments and second and third floor live/work space that would be an expression of vertical mixed use. The footprints in suburban areas would also be smaller than in a downtown area, as densities are lower. This preserves the variation in uses among buildings that provide a more human scale.

- **Orientation to station.** The placement of the station within the area of interest will also determine the use composition of the zone. In areas where the station serves as the

predominant center of activity, the building context should be subject to the activity at that station. In areas where the station is a supportive element to another activity center (e.g., a stadium or shopping mall), deference should be given to the primary use, when it comes to defining the mixture of uses in the area. Regardless of the station's role as dominant or supportive, all uses adjacent to the transit station should be complementary in nature (e.g., retail, office/other commercial, vertical mixed use, civic, institutional).

- **Parcel configuration and existing entitlements.** Defining a mixed use project area is a complicated process that requires much more than re-zoning. Parcel configuration will play a key role in determining the physical boundaries of the station area. The current zoning and other existing entitlements will also influence the types of uses that can be accommodated in the station area. For example, it would be difficult to create a mixed use station area in an area that is zoned low density single family residential with adjacent subdivided lots already developed. Other entitlement-related considerations include restrictive covenants, dedicated easements, surface and subsurface water restrictions, and subsurface mineral rights. For this reason, when defining the approved uses in a particular station area, existing property owners need to be consulted early in the planning process.

In Hillsboro, a transit-oriented suburb of Portland, Oregon, residential development is placed over retail.

Plans and Policies Promoting Mixed Use

Cities can promote mixed use environments around transit facilities in a number of ways. The first step is typically through policy measures. This provides the groundwork for more particular regulations and incentives to be developed. A city's future land use plan sometimes identifies the character of certain land use districts that are intended to accommodate these expressions.

Small area plans can articulate these expressions with greater detail, indicating land use distributions at the site scale, as well as their relationship to transit facilities. If the City is not in a position to create new plans, memoranda of understanding, white papers, resolutions and other policy documents can serve as first steps toward promotion of mixed use environments in areas surrounding transit facilities.

Common Regulatory Approaches

There is a great deal of innovation right now in promoting livable mixed use communities. Below is a list of some of the ways in which municipalities promote a mixed use environment. These strategies are not mutually exclusive, but they do range in intensity of development regulation, with the first options being least restrictive and the last being most restrictive. It is important to note that these solutions are not intended to be applied city-wide. Each zoning category should be evaluated for the appropriateness of mixed use, and the measures included herein.

- Include vertical mixed use as an approved use type for the identified zoning category;
- Include residential, retail and office as approved uses for the identified zoning category;
- Require first floor retail/commercial for all residential projects in the station area, or articulate another specific combination of uses approved for the particular zoning category;
- Require integrated parking throughout the station area, based on shared parking standards and parking maximums;
- Require a minimum percent composition of the desired uses (e.g., minimum 15 percent office, 15 percent retail, 40 percent residential, and 10 percent open space) at project build-out;
- Require a minimum percent composition of desired uses in the first phase; and/or
- Establish development agreements defining project performance measures for incentivized mixed use development projects. Structuring appropriate claw-back provisions and protective measures in the agreements ensures that the entitlements that are granted are consistent with the developer's intent. This is particularly important for mixed use development projects where certain percentages or ratios are required, as the developer in all likelihood will be dealing with the challenges associated with a long term build-out (mixed use projects are a real challenge). Such guarantees ensure that the rezoning is not just aimed at increased entitlement. This approach is not always advisable, however, in that it can disincentivize development of a project type that is fairly high risk to begin with.

An example of a comprehensive policy regarding mixed uses and land planning is provided by Charlotte's **Transit Station Area Principles**, which sets minimum density targets of 20 dwelling

units per acre and 0.75 floor area ratio within ¼ mile of transit stations, and 15 units per acre and 0.5 FAR within a ¼ to ½ mile radius. They further encourage a mixture of complementary station area land uses, an interconnected street network and a comprehensive pedestrian and bicycle network, reduced parking, and building and site design supportive of a pedestrian-oriented environment. The updated policies limit the opportunity for higher-density housing outside of activity centers served by transit.

Charlotte's Transit Station Area Principles: "Mix of Complementary Transit-Supportive Land Uses"

- Provide a range of higher intensity uses including residential, office, retail and civic uses.
- Disallow automobile-dependent uses.
- Provide uses that attract/generate pedestrian activity.
- Consider locating special traffic generators, such as stadiums or colleges, adjacent or within station areas.
- Encourage multi-use developments.
- Encourage a mixture of housing types.
- Preserve and protect existing stable neighborhoods.
- Encourage development of workforce/ affordable housing.
- Encourage upgrading of existing uses to make them more pedestrian friendly.

PACE's Transit Supportive Guidelines may provide a point of departure for planning for bus service TOD. This transit agency, serving suburban Chicago, published design guidelines to support municipal and developer decisions. These guidelines are especially focused on bus service in a suburban setting as opposed to rail-oriented TOD. Given that many of the densities of the built environment in San Antonio are not currently intense enough for some TOD models, the Chicago precedent (focused on suburban, not urban contexts) is a notable reference.

Market Considerations

- **Demand.** Before attempting to establish regulations for a proposed station area, with respect to uses and intensity of uses, care should be given to ensure market receptivity to the preferred scenario. Should a prescribed mixture of uses be proposed, thought should be given to the demand for each of those respective market sectors, and how property owners will have to deal with carrying land that is obligated to uses for which there is no current market demand. For example, if there is a minimum 20 percent retail requirement for a district but no demand for retail, one-fifth of the project will sit empty, probably impacting the financial viability of the project. Both macro demand (for the entire station area) and micro demand (for specific sites) should be considered; for example, a parcel that is located on a quiet side street is not likely to support retail even if a site on the main street would.

An office/retail site in a residential building near Boston has sat empty, despite being adjacent to a transit station, probably because there is no convenient parking and not a critical mass of pedestrian traffic on the street.

- **Impact on value distributions.** Activity centers tend to significantly impact value distributions in a geographical area. They serve as the value reference point for surrounding properties, setting a maximum capture capability that those surrounding properties can hope to gain. Shopping malls, office complexes, stadiums and civic complexes are examples of activity centers. As transit stations are also centers of activity, consideration must be given to surrounding property values and performance to determine the impact the station will have on its neighbors. Transit may not depress property values, but neither does it always improve them. Property values, comparable sales, vacancy rates, retail sales/performance, crime rates and existence of special property owner groups (Property Owners Association, PID, etc.) will give an indicator not only of the relative value of the land in the area of interest, but also in the stability of that value. This type of evaluation will serve as an indicator of the impact a new station would have on value distributions in the area of interest, and what particular mixture of uses would be both market and community appropriate.

- **Activity types and duration.** The uses that are found in the station area will impact traffic (ridership), but the converse is also true. To promote two way traffic and a more vibrant mixed use environment around transit stations, the type of pedestrian activity and the duration of that activity in the station area are important.

Integration of Transit into Mixed Use Environments

Transit is most effective when it connects people to a variety of destination types, as this minimizes trip generation. This is why transit and mixed use are typically complementary. However, efforts to strengthen this relationship are often one-directional: promote mixed use development around transit stations. The converse, however, is also a valid and necessary approach: introduce transit facilities to mixed use areas. There will be occasion in the VIA service area where a mixed use project may be located in an area that is not designated for a transit station. This does not mean that the mixed use environment should be off line. The design of stops and routes for mixed use projects is an important part in the integration of transit and mixed use development.

4.4.2 Current San Antonio Region Practice

Mixed Use vs. Transit Oriented Development

Project scale mixed use development has proven quite successful in the greater San Antonio area. A number of examples can be observed in and around the center city, and newer mixed use developments, such as Eilan on I-10 north of 1604, can also be seen in the suburban reaches of the City. As growth continues between Austin and San Antonio, key intersections such as I-35 and 1604 will continue to attract commercial and multifamily projects. Such intersections would benefit from mixed use designations, as they are aggregating the individual components of mixed use, but not alleviating the traffic burdens associated with growth.

When planned correctly, mixed use developments help municipalities manage growth, in that new residents can be accommodated in a way that is less burdensome on existing infrastructure. The challenge is that very few of these new mixed use projects incorporate transit as a significant activity. Stops may be provided for, but the environments themselves are not oriented toward the transit operations. As new station areas are planned, considerable thought will need to be given as to how to attract TOD projects to a bus station area.

City of San Antonio

In the City of San Antonio Unified Development Code, there are three zoning categories that were designed to promote transit-oriented, mixed use development: the Transit Oriented Development (TOD) category, the Mixed-Use District (MXD) category, and the Form Based Zoning Development (FBZD) category. The application of these categories has been minimal to sites within the City, with the two examples to date being the River North and Verano FBZD. This is both a problem and an opportunity.

While the existing bus transit system may not provide the motivation for developers to request these districts, the lack of application may also indicate that these districts are either too onerous

for landowners and developers, or that they are too complicated and thus turn applicants away. This is a problem, in that, technically the City has the means of promoting desirable development forms for station areas, but until property owners agree to rezone according to these categories, they do the City very little good.

That being said, the lack of current utilization of these categories provides the City with an opportunity to revisit them and revise. It is much easier to revise an unapplied category than it is to revise one that already applies to particular properties. The City should take advantage of this time to consider an amendment of these zoning categories. Given the timetable for amendment of the Unified Development Code, this may be the time to take on such a project.

A new mixed-use building on Broadway in San Antonio's River North Form-Based Zoning District. This building fronts the alignment of the proposed Streetcar.

Suburban Municipalities

In a review of the codes for nine suburban municipalities in the San Antonio region, it was found that about half have a mixed use zoning category that could serve as the tool for promoting transit-oriented mixed use development. These cities include: Balcones Heights, Boerne, Leon Valley, New Braunfels and Schertz. Although mixed use categories are not always oriented toward transit, they are a starting point in considering tools available for promoting transit supportive land use practices. Municipalities that are in VIA's service area but that do not have any type of mixed use or transit oriented category include: Bulverde, Converse, Seguin and Shavano Park. There are various reasons for omission of such zoning categories, but in their absence, it will be difficult to demonstrate readiness in these municipalities to promote transit supportive land use practices. The exception to this is the City of Seguin. Although the City lacks a mixed use or transit oriented zoning category, their comprehensive plan demonstrates long range anticipation of transit-related activity. Additionally, all land use districts in Seguin are

mixed use districts based on character and intent, and could therefore serve as a basis for a zoning code update.

4.4.3 Recommendations

Re-evaluate the zoning of the properties in areas designated for future station facilities to ensure that mixed use components are present as approved uses. In the City of San Antonio, the two zoning categories that are most conducive to transit oriented development around the station are the TOD category and the Form Based Zoning Development category. If possible, the properties in these areas should be rezoned to one of these categories.

Revise the TOD and FBZD categories in the City of San Antonio Unified Development Code. To strengthen the relationship between transit and mixed use in the code, it is recommended that the City modify these zoning categories to incorporate some of the identified "common regulatory approaches" discussed in Section 3.4.1, and to make them more attractive to property owners and developers who are seeking re-zoning in areas of interest.

Create a transit-oriented, form-based or mixed use zoning category. Some of the municipalities in the VIA service area do not have a zoning category that is specifically dedicated to mixed use environments. Transit-Oriented Development categories are not common among the other municipalities, either. To ensure that VIA stations promote development forms that are contextually appropriate and that preserve and enhance property values, it is recommended that municipalities that anticipate future VIA stations create a Mixed Use zoning category or a Transit-Oriented Development zoning category.

Modify an existing mixed use zoning category to promote transit supportive land use practices. Some municipalities already have an existing mixed use zoning category. In such cases, it may be possible to modify this existing category to promote transit supportive land use practices. However, this could be more complicated, should this zoning category already be applied to certain properties in town, or should the category serve other priorities than transit.

In high capacity transit corridors, increase connectivity between neighboring uses to promote land use integration. Traffic corridors – particularly in Texas – attract commercial and multi-family uses. Care should be given to incorporate these uses when they are adjacent to one another. A well-connected street and pedestrian network can create a mixed-use environment even without moving or redesigning buildings, allowing people to walk to nearby destinations that otherwise might require a circuitous drive. This not only improves connectivity for pedestrian traffic, but enables the transit system to serve a wider array of users.

4.5 Parking Supply

4.5.1 Best Practices

Experience throughout the U.S. has shown that many jurisdictions have been able to reduce parking requirements in areas well served by transit, as a result of higher non-automobile mode shares and reduced automobile ownership. Reducing parking requirements, and implementing other forms of parking management, has multiple benefits for transit-supportive land use:

- Areas with less parking are more attractive urban environments – large parking lots are at odds with a human-scale environment that encourages walking and transit use.
- Constraining parking supply provides a greater incentive for travelers to use transit.
- Lower parking requirements can also reduce costs to developers, making development more financially viable.

While transit and supportive land use and reduce the number of automobile trips generated by development, many residents, workers, and customers of transit-supportive development will still drive. A parking management approach must not limit parking to such a large extent that the development will lose its viability from a customer standpoint. Parking management strategies can help ensure that parking demands are accommodated without overly degrading the urban environment.

1. Reduce or Eliminate Minimums for Proximity to Transit

For rail transit, cities typically reduce minimum parking requirements by 10 to 25 percent or more. Minimum requirements may be reduced for proximity to high-quality bus transit. Many cities – including San Antonio – have eliminated minimums altogether in their central business district, allowing the market to determine how much parking is needed. A few, such as Charlotte, have eliminated minimums in other TOD areas. Some, including Cambridge, Portland, and Seattle, have adopted generally low minimum requirements (e.g., one space per residential unit) reflecting that urban neighborhoods in these cities typically support a variety of travel options. For example, in 2005 the City of Seattle reduced residential parking requirements in the First Hill/Capitol Hill and University District urban centers to between 0.5 and 1.0 spaces per housing unit, to support transit use, promote pedestrian-friendly environments, and increase affordable housing options.

The extent to which parking can feasibly be reduced depends upon the urban context (density, mix, and pedestrian accessibility of surrounding uses) and the level of transit service to the area.

Table 4.7 shows FTA guidance for rating the number of minimum required parking spaces for office use, which may be representative of a broad range of commercial use types. While FTA has not set guidance on residential parking ratios, a minimum requirement of 2.0 spaces per unit would be considered on the low end of the rating scale, while 1.0 spaces per unit would be on the high end.

Table 4.7 FTA Guidance for Parking Ratings

Rating	Parking Spaces/ 1,000 sq. ft. Gross Floor Area (Office)
High	< 1.5
Medium-High	1.5 - 2.25
Medium	2.25 - 3.0
Medium-Low	3.0 - 3.75
Low	> 3.75

2. Establish Maximum Levels in Station Areas

Some cities have set maximum levels of no more than 100 to 125 percent of minimum levels. This helps to ensure that excessive amounts of parking are not provided. For example, Charlotte has implemented parking maximums in TOD zoning for the South Corridor Light Rail of 1.6 spaces per unit and one space per 300 square feet (3.3 per 1,000) for commercial uses. Pasadena, California has reduced minimums by 25 percent (office) or 10 percent (other nonresidential uses) from baselines of 3 spaces per 1,000 square feet (office) and 3 to 4 spaces per 1,000 square feet (most retail uses), and set maximums at the same level, for areas surrounding the Gold Line Light Rail.

3. Allow Shared Parking

In this suburban development outside of Portland, Oregon, parking is accommodated on-street and in lots behind buildings.

Sharing of common parking by two or more different uses can result in a net reduction of the total parking required compared to the needs of each use as calculated separately, as long as the uses have parking needs that peak at different times of the day. The Urban Land Institute has developed a methodology for calculating total parking requirements when two or more uses share the same parking.[7] This methodology involves calculating total parking demand for different time periods and identifying the time period with the greatest demand. For any given use (e.g., office, residential, retail) a percentage is assigned to each time period signifying what percent of the use's maximum parking demand occurs during that time period.

A mixed-use environment is key to the success of shared parking. Uses with complimentary demand cycles may be part of the same development, or shared parking agreements must be negotiated between adjacent developments. Public or private lots can also serve as shared parking for nearby developments. Shared parking may be implemented as part of a district-wide parking management strategy as discussed below. At its simplest, developers of new buildings or uses may be able to purchase the rights to "excess" parking at existing nearby developments.

4. Allow On-street Parking to Count Against Off-Site Requirements

On-street parking is consistent with a transit-supportive environment. It serves as a buffer between pedestrians and street traffic and can help to slow on-street traffic. By reducing off-street needs, it further enhances the pedestrian environment by reducing the amount of land devoted to surface lots or structures. It also can provide important "teaser" parking located near the front door of retail uses.

If on-street parking is provided, it is logical that off-street requirements can be proportionately reduced. The most common way of doing this is to revise the zoning code to allow a reduction in

[7] Smith, Mary, et al. *Shared Parking Second Edition.* Urban Land Institute, 2005.

off-street requirements equivalent to the number of street spaces fronting the particular parcel that is being developed.

On-street parking in transit station areas, as well as areas with significant concentrations of employment, generally requires additional management strategies to ensure that transit commuters or local employees do not take all of the available street spaces. Resident-only parking can be established, via a permit system, to ensure that commuters do not spill over into neighborhoods. In business districts, time limits can ensure that spaces remain available for local retail uses. Metering street spaces at market rates also can help ensure that there is always space available for people desiring quick access to retailers.

Sample TOD Parking Policies: City of Charlotte

- New permitted uses within [the TOD] zoning district shall be required to meet the required to meet the minimum/maximum number of off-street parking spaces as follows…
  - Residential - Maximum of 1.6 parking spaces per dwelling unit
  - Office - Maximum of one (1) parking space per 300 square feet of office space. Mixed-use developments and multi-use developments of residential and office uses may share parking spaces…
  - Retail - Maximum of one (1) space per 250 square feet…
- A 25% parking reduction in the minimum number of parking spaces required is allowed if the principal use is located within 800 feet of a parking facility with parking spaces available to the general public, or within 800 feet of public transit park and ride facilities with an approved joint use agreement.
- No surface parking or maneuvering space shall be permitted within any required or established setback, or between the permitted use and the required setback…
- On-street parking spaces located along the portion of a public street(s) abutting the use where parking is currently permitted may be counted toward the minimum number of parking spaces…
- The vehicular parking requirements may be met on-site or off-site at a distance of up to 800 feet from the permitted use…

Source: Charlotte Code, Part 12: Transit Oriented Development Districts

5. Require Bicycle Parking

Cities are increasingly setting requirements for bicycle parking. This ensures that residents of multi-family buildings who wish to own one or more bicycles have a secure place to store it with convenient access to the street. San Antonio's UDC requires a minimum of 10 percent of the number of vehicle spaces. Design guidelines are also helpful to ensure that appropriate types of facilities are provided and access and egress is clear and convenient.

6. Establish Standards for Parking Facility Placement and Design

To support a pedestrian-friendly environment, the footprint of parking facilities should be minimized, or at least broken up into small chunks. The frontage of parking against streets and alleyways with high pedestrian traffic should especially be kept to a minimum. Structured or underground parking can be the most efficient way to minimize the footprint of parking. However, this is expensive and rarely financially feasible except in dense business districts and other areas where land values area high. Parking can be addressed in the design standards of zoning codes, for example:

- Requiring that surface parking be placed at the side or rear of buildings;
- Limiting the length of contiguous street/sidewalk frontage that is parking;
- Requiring that parking structures be "wrapped" with ground floor uses such as retail or offices; and
- Requiring landscaping and screening of parking facilities.

Parking is screened from the street by plantings, and an out-building reduces the amount of street and sidewalk frontage bordered by parking.

The amount of parking frontage on streets can also be reduced through the addition of "liner" buildings at corners and along the frontage of commercial areas that currently have parking lots fronting the primary street.

7. Manage Parking at the District, Not Site, Level

Parking requirements can be set at a district level when a development or redevelopment plan is created for a large site or subarea. A parking management plan can identify requirements by parcel and for shared (public or privately operated) facilities, accounting as well for on-street parking, considering the anticipated mix of development in the area. The parking management plan considers changing needs over time as more development occurs. The plan may anticipate reducing parking ratios over time even as the number of total spaces increases, as more complementary uses are developed and more trips are taken by transit, walking, and bicycling.

Formal parking management districts have been established as independent, non-profit entities in some locations, such as Montgomery County, Maryland, Bellevue, Washington, and Boise, Idaho. The district operates parking, sets pricing within a defined area, provides enforcement, and in some cases generates revenue for public purposes.

8. Price Parking to Achieve 85 Percent Occupancy

Pricing parking is one of the most effective strategies at encouraging travel by alternative modes (including transit). Pricing can most easily be implemented parking supply is constrained and land values are high, in areas that are attractive for residents, businesses, and customers. The value of the district must be such that people choose to come there over alternative locations where parking is free. Parking pricing is therefore something that may need to be phased in slowly, over time.

Pricing is an important way of managing on-street and off-street public and private parking. Prices can be varied by location and time of day to set a target occupancy level, ensuring that spaces are always available for people. Prices are lower (or free) in "fringe" areas where workers and long-term visitors can park, while higher prices in "core" areas encourage turnover, benefiting local businesses. San Francisco and Los Angeles have recently implemented successful experiments in variable on-street parking pricing.

9. Encouraging Developers to Unbundle Parking from Rents

Another simple approach to paid parking is to encourage developers to "unbundle" the cost of parking from leases and property purchases. For example, a residential developer would price each parking space separately from the cost of the unit, making it an option for the resident. Or the developer might provide one space for free, and charge for each additional space. This approach can actually save the developer and the tenants money. By providing an incentive not to own more vehicles than necessary, the cost of providing parking in the development can be reduced. It also increases fairness, since people who have fewer cars are not subsidizing the costs of providing parking for people with more cars.

4.5.2 Current San Antonio Region Practice

City of San Antonio

The City of San Antonio Unified Development Code includes parking standards in the following sections:

- Sec. 35-526. Parking and Loading Standards (Table 526-3 establishes minimum and maximum standards by district and use type)
- Sec. 35-208. Transit-Oriented Development (Table 208-2, provides reductions for TOD parking)
- Sec. 35-209. Form Based Development (Tables 209-14A and 209-14B set minimum and maximum standards by transect zone)

The proposed Streetcar Corridor in San Antonio would rate well against FTA criteria for parking requirements. Much of the corridor is covered by the "D" downtown district, which has no minimum requirements (although it also does not have maximum requirements). The corridor also traverses the River North Form-Based Zoning District. San Antonio's FBZD sets ranges based on the transect zone identified for the area to which the designation is applied. River North is designated a T6 district (Urban Core), which sets guidelines of no more than 1.25 spaces per residential unit (which would evaluate well) and 2.0 to 4.0 spaces per 1,000 square feet of office space (which would evaluate moderately well although the wide range allows for potentially high parking levels). The FBZD also notes that "transit-oriented" Villages, Regional Centers, and Infill Development Patterns shall reduce parking requirements by 30 percent; provides design requirements for parking; such as a liner building on structures; and requires bicycle parking.

Standard requirements in other districts in San Antonio include a range of 1.5 (minimum) to 2.0 (maximum) spaces per residential unit for multifamily use types, a minimum of 1.0 spaces per single family unit, and a minimum of 3.3 spaces per 1,000 sq. ft. for office space and many other commercial uses. The residential standards are fairly flexible in terms of allowing reductions compared to normal uses, although the commercial standard would rate "medium-low" against FTA benchmarks. The TOD Use Pattern allows for reductions in minimum requirements by 25 to 50 percent, and the MXD district includes provisions for shared and on-street parking.

Other Municipalities

A limited review was performed of the extent to which the ordinances of other municipalities in the San Antonio region include transit-supportive parking requirements. While specific high-capacity transit service has not been proposed in these communities, this review will help

municipalities to assess changes that may be needed should such service by considered in the future. Even in the absence of high-capacity transit service, measures such as shared parking, on-street parking, and pedestrian-supportive design can help communities develop more walkable neighborhoods and business districts, supporting long-term reductions in vehicle use. Table 4.8 summarizes parking requirements in each of the municipalities reviewed.

Table 4.8 Assessment of Parking in Other Municipal Plans and Ordinances

Municipality	TSLU Supportive Parking Requirements	Overall Assessment	General Recommendations
Balcones Heights	Present	Zoning Code Article VI establishes standards for adjacent uses shared parking and parking credits for on-street, bicycle, transit adjacencies.	Address standards and design of parking structures.
Boerne	Present	Shared parking by written agreement. Time period-based shared-parking requirements and parking credits for on-street parking, bicycle parking, walkable neighborhood, valet parking, tree preservation.	Include transit as potential adjacent land use for shared parking.
Bulverde	Present	Shared parking by written agreement.	Specify mixed uses as potential adjacent land use for shared parking.
Converse	Absent	No TSLU-oriented parking language.	Amend for TOD/TSLU support.
Leon Valley	Present	Cooperative shared parking allowed. MX-1 character includes reduction of parking areas.	Expand shared parking options specifically in MX-1 district.
New Braunfels	Absent	standard square-foot/DU-based approach	Provide shared parking credits for MU.
Schertz	Present	Flexibility, developer-proposed standards off-street. Structured parking limited as percent of frontage. Parallel parking on-street.	Include shared parking for mixed uses, transit stop/station parking standards.
Seguin	Absent	standard square-foot/DU-based approach	Provide shared parking credits for MU.
Shavano Park	Absent	No TSLU-oriented parking language.	Amend for TOD/TSLU support.

4.5.3 Recommendations

Table 4.9 presents general options for transit-supportive parking policies in comprehensive plans, neighborhood plans, and zoning ordinances in the San Antonio region. These include policies

that may be considered in San Antonio's new comprehensive plan and updates to neighborhood plans, as well as updates to municipal comprehensive plans and zoning codes.

Table 4.9 Options for Transit-Supportive Parking Policies

Option	Mechanism(s)
1. **Identify areas for parking management.** Identify areas with high-capacity existing and/or potential future transit service, which may be subject to changes in parking requirements. These may include high-frequency bus corridors, BRT station areas, and streetcar and rail station areas. These may be defined based on a geographic radius, e.g., ¼ or ½ mile from stations, stops, or alignments.	Comprehensive, Neighborhood, and/or Corridor Plan (map, text)
2. **Reduce minimum requirements.** Establish guidelines for reducing or eliminating minimum parking requirements for these areas. The specific levels of reductions will depend upon the transit service and geographic context.	Comprehensive or Neighborhood Plan (policy/objective) Development code (text changes for applicable districts or overlays)
3. **Adopt maximum requirements.** Establish maximum requirements (if not already in existence) for these areas. The most appropriate levels will depend upon the transit service and geographic context.	Comprehensive or Neighborhood Plan (policy/objective) Development code (text changes for applicable districts or overlays)
4. **Make use of shared and on-street parking.** Establish policies to allow shared parking and on-street-parking to count against off-street requirements in defined transit service areas. These policies may be appropriate for other areas as well.	Comprehensive or Neighborhood Plan (policy/objective) Development code (text changes for applicable districts or overlays)
5. **Plan for parking at a district level.** Identify districts of higher-intensity use that may be appropriate for parking management planning, including shared parking and parking pricing. Identify mechanisms (studies, development master planning, etc.) for developing parking plans for these areas.	Neighborhood or Subarea Plan (element of plan) Development code (text changes for applicable districts or overlays)
6. **Unbundle parking costs.** Establish policies encouraging developers to "unbundle" the cost of parking for both commercial and residential tenants.	Comprehensive Plan (policy/objective) Development review guidelines
7. **Encourage bicycle parking.** Establish requirements for bicycle parking that define required parking per unit and set guidelines for type of parking, location, and design. The guidelines should promote both security and ease of access.	Comprehensive Plan (policy/objective) Development code (general text changes)

5.0 OTHER IMPLEMENTATION TOOLS

5.1.1 Best Practices

Supportive planning and zoning may be necessary, but not sufficient, conditions to achieve TSLU. The development review process should ensure that principles established in the city's plans and zoning are adhered to. Furthermore, market conditions may not always support the initial creation of transit-supportive forms in a new transit corridor. Financial incentives, infrastructure improvements, and/or demonstration projects may be needed to catalyze the market. Outreach to developers, property owners, and institutions in the corridor also may be needed to help stakeholders understand the principles and benefits of TSLU. Tracking performance over time can help demonstrate successful policies and identify efforts that may need to be redirected.

The specific tools that are most appropriate will vary depending upon the physical, economic, and demographic context of an area. This section provides a menu of options from which local planners can draw based on their understanding of conditions in the transit service area. The following types of tools are discussed:

- The site plan/project permitting/review process;
- Financial tools and incentives;
- Institutional relationships, partnerships, and management of the development process;
- Infrastructure investment;
- Land banking and assembly; and
- Measuring success.

Site Plan/Project Permitting/Review

Transit service areas can be particularly challenging environments for private developers. Infill and redevelopment sites can pose barriers such as out-of-date zoning; demolition costs if structures already exist in the property; small or irregularly shaped parcels; presence of contamination on former industrial sites; and abutters concerned about aesthetics, traffic, parking, and other impacts. Lengthy approval processes can increase development costs that are already higher than on suburban "greenfields" sites – making many projects financially unfeasible.

There is no "one-size-fits-all" approach to streamlining development approvals ,and important issues must be given due process. However, cities can examine their permitting and approval processes to ensure that they are as efficient as possible. Strategies may include:

- Ensuring that transit-supportive forms are permitted "by-right" through the application of appropriate zoning;
- Establishing clear design guidelines and criteria for projects in transit service areas;
- Clearly communicating the steps and requirements of the approval process to developers;
- Establishing time-targets for city completion of each step of the process;
- Allowing certain departmental reviews to take place a the same time rather than sequentially;
- Instituting electronic application submission and tracking procedures; and
- Assigning staff "liaison" to assist a developer with obtaining approvals.

Funded by Bloomberg Philanthropies, the Mayor's Innovation Delivery Team is a pilot program conducted over three years in five cities, including Atlanta, Chicago, Louisville, Memphis and New Orleans. Its goal is to help mayors effectively design and implement solutions to pressing challenges in their cities. "**Concierge planning**" is one approach being implemented by the team, and involves working on a case-by-case basis with potential developers and entrepreneurs to reduce development and business barriers by providing an elevated level of customer service through the planning and permitting process, and working with local property owners to reduce vacancies in commercial areas. The program also helps grow public sector capacity for encouraging neighborhood economic development and transit-supportive densities in commercial areas.

Financial Tools and Incentives

Municipalities may offer a variety of financial incentives to encourage development in specific locations and/or forms. Table 5.1 lists and describes different types of financial incentives.

Table 5.1 Financial Tools and Incentives

Tool/Incentive	Description
Property tax abatement	Reductions in property taxes for projects meeting specified criteria. Texas law permits abatements for up to 10 years duration.
Tax increment financing (in Texas, known as Tax Increment Reinvestment Zones or TIRZ)	Dedicating all or a portion of the incremental property tax revenue generated by a project to supportive improvements that stimulate future development or redevelopment.
Public improvement districts	Areas where special assessments are leveraged on properties to fund improvements in the district.
Private activity bonds	The State of Texas Private Activity Bond Program is designed to provide taxable and tax-exempt low-interest and long-term bond financing for eligible projects that include multi-family or economic development projects. Private activity bonds are administered by the Texas Bond Review Board.
Low-interest loans	Provide development funds to developers at a lower interest rate compared to conventional loans.
Fee and lien waivers	Waive development fees or delay fees until the developer sees a positive cash flow.
Façade improvement financing	Grants or loans to property owners to improve the exterior of buildings, which can raise property values in an area and make it more attractive for other development.
Brownfields cleanup assistance	Grants or loans to support cleanup expenses for contaminated properties.
Affordable housing trust funds	A pool of funds for revolving loans or grans to support gap finance for projects that include an affordable housing component.
Public-Private Partnerships (P3)	Agreement between public and private entity for development/infrastructure/public service project. Concessionaire P3 model likely relevant for TSLU in San Antonio.
EB-5 Visa Program Funding	Federally regulated program for foreign investment from individuals with flexible potential project types. Important source of funding for economic development projects.

Note Most of the descriptions in this table are adapted from the Fort Worth Comprehensive Plan, Chapter 23: Financial Incentives.

It is important to establish clear criteria for the geographic areas and project types to which the incentives may be applied. The scope of the incentives should be limited, both to preserve limited municipal resources, and to ensure they have the effect of encouraging development only in desired areas. Different incentives may be appropriate for different station area typologies. Some general guidelines for project qualification for transit-supportive projects include:

- Geographic areas should include, although they may not be limited to, areas served by high-capacity transit (e.g., ¼ mile radius of high-frequency bus service, ¼ to ½ mile radius of BRT and rail stations).

- Eligible project types should be limited to those development forms that are consistent with generally established transit-supportive principles, as well as desired forms specific to the area in question.

- Areas where TSLU is already supported by market conditions may be excluded, to preserve resources for use in other priority areas.

- Cities may wish to limit funding to verified financing gaps that do not exceed incremental dollars generated by the investment.

The **City of Fort Worth's** Comprehensive Plan describes finance tools available to support development in desired areas and establishes guiding principles and preference areas for using those tools. Eligible areas include commercial corridors and "urban villages," which are strategic commercial districts designated along commercial corridors within the central city. Incentives may include tax abatements, tax increment financing, public improvement districts, private activity bonds, and others.

The **City of Portland**, Oregon, has offered property tax abatements for multi-family developments located in MAX light rail station areas. Over $10 billion of new development has occurred in transit station areas in the region, including thousands units of new housing.

A variety of finance tools are relevant to ensuring a mix of housing income levels in transit service areas, including the creation and preservation of affordable housing stock. These are discussed further in the Strategic Housing and Transit Toolkit.

Institutional Relationships, Partnerships, and Management

Achieving TSLU patterns, especially in the initial stages of development, may require the cooperation of multiple stakeholders. These may include:

- The municipality, which sets land use and zoning policy, approves projects, and may offer development incentives;

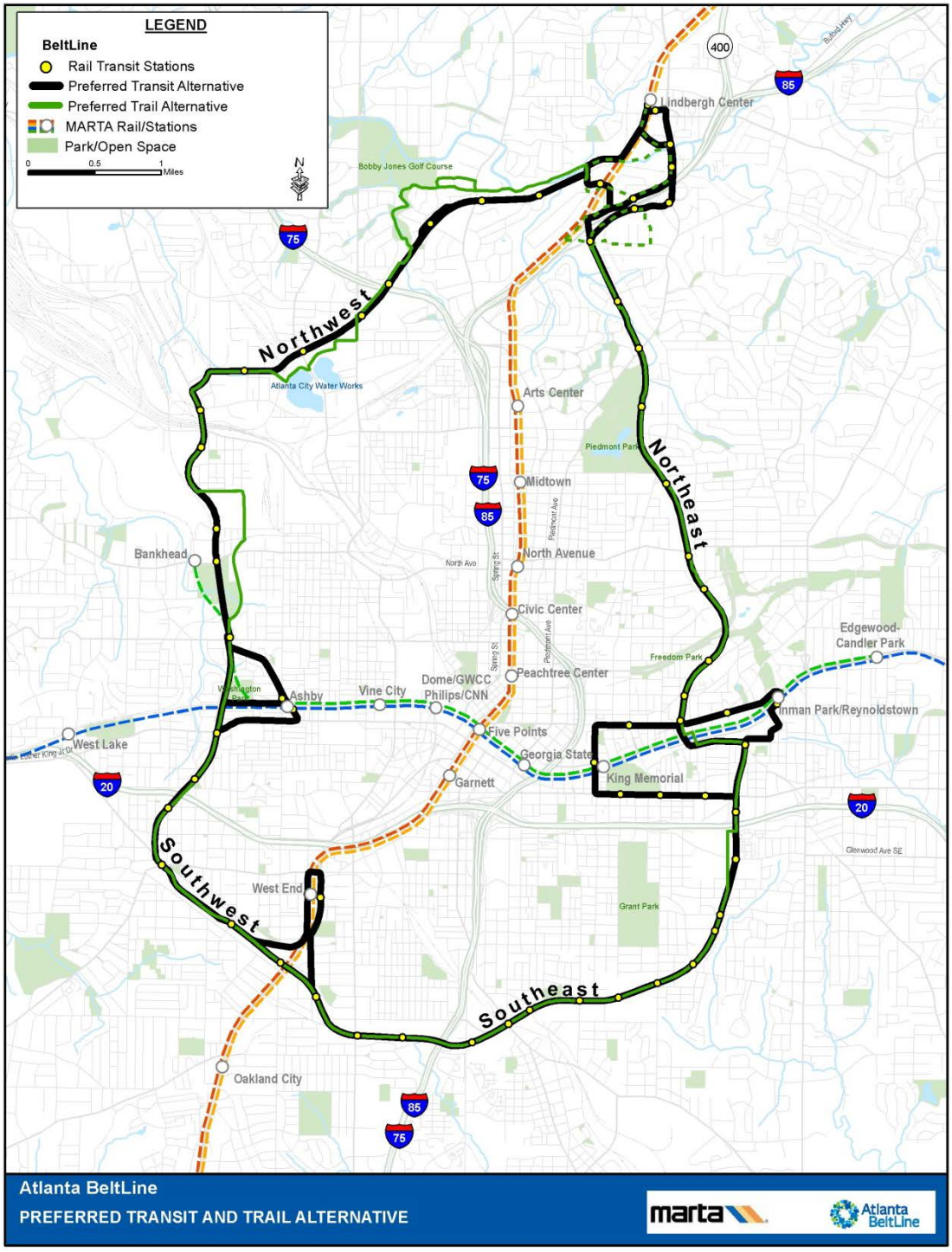
- Regional agencies, which direct funding for transportation investments;

- Institutions in the corridor, such as a college, university, hospital;

- Chambers of commerce or other business associations;

- Housing agencies, such as the San Antonio Housing Authority;
- Community development organizations;
- Foundations that may support finance of investments with a public benefit; and
- Advocacy groups.

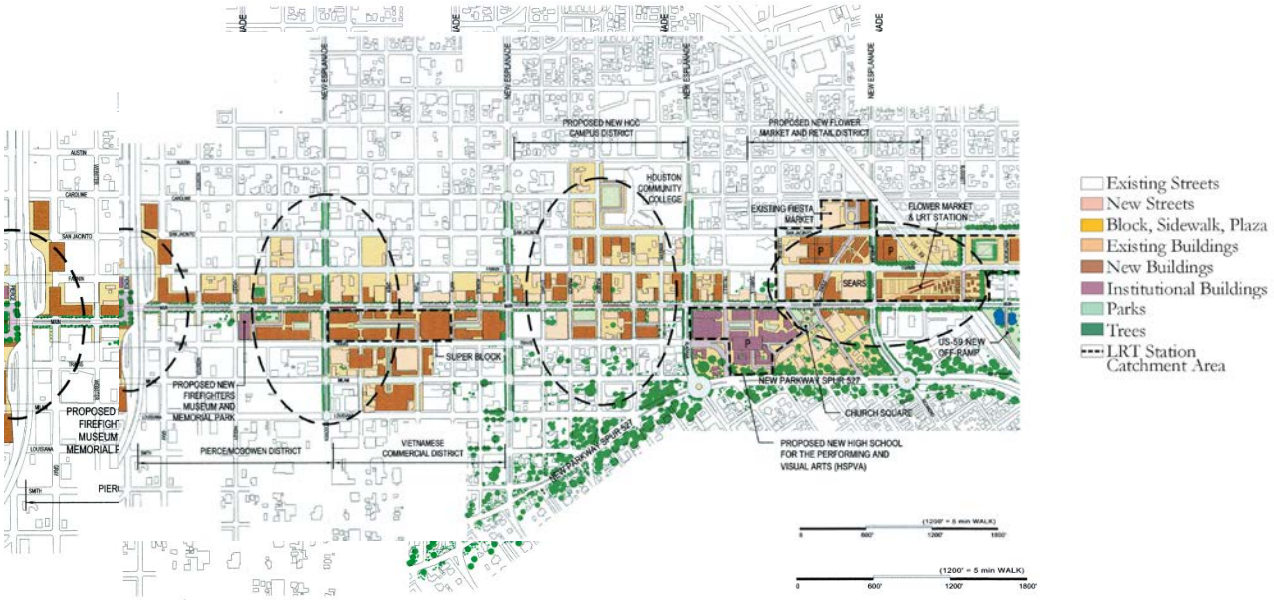
The **Atlanta TOD Collaborative** is one example where key stakeholders have come together to support development around transit. While Atlanta has had a rapid rail transit system for decades, public and private sector activity is currently focused on the development of streetcar lines and the proposed Beltline rail project that would connect urban core neighborhoods around downtown Atlanta. Initiated in 2011, the Collaborative has grown to 13 members in 2014, among them the Atlanta Regional Commission, Enterprise Community Partners, the Fulton County/Atlanta Land Bank Authority, the Livable Communities Coalition, the Land Trust Collaborative, the Partnership for Southern Equity, and Wells Fargo Bank. The Collaborative's ultimate goal is to help the region realize high-quality, walkable, equitable, mixed-use development in and around its transit station areas. Examples of activities have included developing a neighborhood typology report, a financial feasibility study and review of finance tools for affordable housing, and exploring the establishment of a land acquisition fund.



The proposed BeltLine would ring Atlanta; a multi-stakeholder coalition has begun to ensure equitable, mixed-use development occurs here and around existing MARTA stations.

Source: Atlanta BeltLine, Inc.

The **Main Street Coalition** in Houston, Texas, is another example of a collaborative effort to address development around transit. The Main Street Coalition was a broad-based group of public, private, and nonprofit stakeholders, including corridor landowners and institutions. Its objective was to develop and implement a unified vision for the corridor of Houston's first LRT, which opened in 2004. The collaborative nature of the effort was especially important given the lack of traditional zoning regulations in the city. The Coalition prepared a Master Plan which established voluntary development principles for the corridor, and a Strategic Plan which made recommendations for implementing the Master Plan. The plan was carried out through staged public infrastructure improvements which were coordinated with the establishment of guidelines and regulations for specific development districts.



Master Plan for Houston's Midtown District.

Source: Ehrenkrantz, Eckstut & Kuhn Architects.

Infrastructure Investment

Targeted funding for infrastructure investment is one of the tools that an MPO can apply to leverage TSLU. This may take the form of TIP project selection criteria rewarding municipalities with transit-supportive policies, or assigning more points to projects in designated transit service areas. It may also take the form of programs designating funding to infrastructure improvements that support transit access. In either case, projects must be qualified to ensure that they improve pedestrian and transit access (e.g., sidewalk improvements, road diets) rather than simply expanding roadway capacity in transit service areas; and that they are applied in appropriate areas. Geographic project qualification criteria may be consistent with those discussed above under financial tools and incentives.

The **Sustainable Development Funding Program**, initiated by the North Central Texas Council of Governments (NCTCOG) in the Dallas-Fort Worth region, provides one example. This program was designed to encourage planning and foster growth and development in and around historic downtowns and Main Streets, infill areas, and along passenger rail lines and at stations. Three Calls for Projects were issued in 2001, 2006, and 2010 to fund Sustainable Infrastructure, Land banking, and Planning projects. Projects of approximately $124 million were selected for funding through the program, with additional local match contributions of $31 million from local governments and the private sector. Cities applied competitively for planning, capital and land acquisition funding for projects that positively address existing transportation system capacity, rail access, air quality concerns, and/or mixed land uses. Funds for the program came from local infrastructure funds "swapped" for federal Congestion Mitigation and Air Quality Improvement Program (CMAQ) and Surface Transportation Program (STP) funds or for toll revenue.

Regional transportation funds were used to support sidewalk and street improvements in downtown Plano, Texas, as part of an effort to bring new development in conjunction with the opening of an LRT station.

The Atlanta Regional Commission's **Livable Centers Initiative** (LCI) program awards planning grants on a competitive basis to local governments and nonprofit organizations to prepare and implement plans for the enhancement of existing centers and corridors consistent with regional development policies, and also provides transportation infrastructure funding for projects identified in the plans. Between 2000 and 2017, $18 million in study funds have been approved, and $500 million as been dedicated through 2030 to transportation projects resulting from completed LCI studies.

Regional transportation funding in Atlanta has helped to support a booming infill market in the region, such as the Atlantic Station development occupying a former Brownfields site.

Land Banking and Assembly

Infill areas, especially in urban core areas, are often characterized by small parcels that are uneconomical for modern commercial, multi-family, or mixed-use properties. As individual properties in need of redevelopment are placed on the market, municipalities can acquire and hold them until a larger site can be assembled from multiple properties. Land banking can also protect against speculative investors driving up real estate prices in advance of a transit investment.

Metro, the regional government in Portland, Oregon, conducts land banking as part of its **Transit-oriented Development Program**. Metro occasionally works with municipalities, through cooperative agreements, to acquire and hold property in station areas until it is ready for development. Property is acquired, reparceled, and planned, then sold to private developers with the condition that they construct transit-oriented development and/or dedicate streets, plazas, and other public facilities to local governments.

A 4.57-acre site acquired and held by Metro for mixed-use development adjacent to the Beaverton Central MAX LRT station near Portland.

Source: Metro

Land banking is often done with the objective of supporting mixed-income housing. For example, the **City of Charlotte**, North Carolina, has established an acquisition fund to purchase land near the stations planned along its South Corridor light rail line to ensure the development of mixed-income, mixed-use TOD. The City Council capitalized the fund with an initial grant of $5 million. It is jointly managed by Coldwell Banker Commercial, the Charlotte Area Transit System, and several city departments. The first site, in the Scaleybark station area, was purchased with the help of the city's Housing Trust Fund, and development is required to meet a minimum affordable housing threshold.[8]

Measuring Success

Establishing a performance measurement system and tracking success over time can help demonstrate successful policies and identify efforts that may need to be redirected. Establishing a performance measurement system requires the following steps:

- Identify **performance measures**. The amount of new development (square feet, units, etc.) in transit service/station areas is an obvious measure, but metrics should also note the extent to which these projects embody transit-supportive characteristics, such as density levels,

[8] Source: Reconnecting America and the Center for Transit-Oriented Development. Mixed-Income Transit-Oriented Development Action Guide, mitod.org

design features, and inclusion of mixed-income housing. Where criteria are established (e.g., VIA's typology for its stations), projects can be measured against these criteria.

- Identify **performance targets** – quantitative levels of the measures – against which progress can be measured. For example, a target may be to achieve 5,000 new housing units and 10 million square feet of new commercial space, designed consistent with transit-supportive principles, in BRT station areas over the next 10-year period.
- Identify the **data source(s).** Building permit databases represent a starting point, with verification of project characteristics through as-built plans, field surveys, and/or other sources.
- Identify the **reporting/update frequency**. For example, a biennial or triennial report may be published.
- Assign **responsibility** for monitoring and report creation to a specific department and position
- Identify venue(s) for reviewing the report and discussing whether strategies or targets need to be revised.

The Denver Regional Transit District (RTD) has established a land use monitoring system focused around transit. The agency's **TOD Status Report** tracks development projects completed, under construction, or planned near transit stations along the region's FastTracks system. Status reports have been published in 2009 and 2012. The report provides a summary of the amount of development completed or under construction, by type, for each transit corridor. The report provides the status of updates to plans and zoning in the various station areas. It also provides an overview of regional market trends, as well as details on major development projects. Table 5.2 provides an example of summary development data provided in the 2012 TOD Status Report.

Table 5.2 Summary of Development by Transit Corridor in Denver

Corridor	Residential (Dwelling Units)	Hotel (# of Rooms)	Retail (ft^2)	Office (ft^2)	Gov't (ft^2)	Cultural (ft^2)	Medical (ft^2)	Education (ft^2)
Central/CPV	11,140	4,637	953,458	3,251,933	1,986,850	107,000	-	513,000
East	205	516	19,000	20,000	216,322	-	-	-
Gold	1,018	-	296,274	55,372	-	-	-	-
225	1,026	153	66,793	170,000	-	-	5,610,000	1,379,606
North Metro	276	-	-	-	-	-	-	-
Southeast	6,963	471	601,569	1,931,551	-	-	315,000	-
Southwest	813	-	678,385	50,000	100,000	40,000	175,000	50,000
36	2,720	559	2,333,520	259,209	-	17,373	19,900	-
West	278		425,186	280,000	-	-	900,000	-
Totals	**24,439**	**6,336**	**5,374,185**	**6,018,065**	**2,303,172**	**164,373**	**7,019,900**	**1,942,606**

Source: Denver Regional Transit District (2012), TOD Status Report

5.1.2 Current San Antonio Practice

The presence and use of "other implementation tools" in the suburban municipalities was not reviewed. Therefore, this section focuses on tools created and applied by the City of San Antonio. The City has taken many steps to incentivize desirable development forms. There are many layers of management and oversight, clear project prioritization, a single stop project approval system and financial tools that stimulate private investment while mitigating exposure and risk.

Permitting and review process. San Antonio has centralized the services associated with project permitting and review through the creation of the "One Stop" strategy. Physically, departments are centrally located in the Development Services building. Organizationally, the process is also centralized, utilizing the Completeness and Assignment Review (CAR) team, which guides developers through the permitting process. The website for the Development Services Department seeks to make forms, policies and regulations easily accessible to developers and property owners. This approach helps to attract desirable development, in that it minimizes the uncertainty, exposure and costs to developers that are associated with procedural delays.

One example of a helpful tool in the permitting and project review process is the Preliminary Plan Review (PPR). A PPR meeting allows the developer to have multiple city departments, as well as San Antonio River Authority, to review the development concept prior to submission of the complete application. The PPR policies were modified in 2013 so that SARA, Public Works, Drainage and Tree/Landscape will attend a PPR meeting at no cost to submitter if the submitter is including Low Impact Design (LID) features. This is one example of how a quality of life priority can be encouraged through the design process, rather than mandated. The submitter receives reduced fee services that will help to fast track his project, while the City can ensure that sound development principles (in this case LID principles) are being incorporated into new projects.

Financial tools and incentives. San Antonio offers a number of incentives to stimulate economic development, some that are downtown specific and some that are city-wide programs. Each program has a different set of objectives and criteria, and the programs vary in the types of projects they seek to attract.

- **Center City Development Office (CCDO).** The development incentives in the downtown area are predominantly managed through the Center City Development Office. The CCDO oversees projects in the Center City area, under the Inner City Reinvestment/Infill Policy (ICRIP), providing conventional incentives like tax rebates and fee waivers, but also loans (including loan forgiveness and loan bonuses) for qualifying house projects, as seen in Table 5.3. Although the tools are fairly conventional, what makes their implementation effective is that there are tiered criteria for qualification. The first criterion is geographic. Projects are

ranked in four tiers, based on their location within different zones where development activity is desired. The second criterion deals with the land uses expressed in the development project. Residential projects with first floor retail and/or commercial uses receive a higher benefit. Another qualifying criterion is project design. Residential projects with structured parking and/or low impact development strategies qualify for loan bonuses. Another step that the CCDO has taken to ensure project success is inclusion of performance guarantees, for example, requiring projects to demonstrate a minimum tenant rate throughout the grant term to receive a tax reimbursement grant.

Table 5.3 CCHIP scoring matrix, as prepared by Center City Development Office.

Incentive	Description	Other Eligibility Requirements	Incentive Terms		
Fee Waivers	Waiver of City of San Antonio fees and SAWS impact fees	None	Waiver of City fees as identified in the ICRIP and 100% of SAWS water and sewer impact fees		
Tax Reimbursement Grant*	Annual rebate to developer of taxes paid to the City on the improved value of the property. Rebate percentage based on TIRZ participation.**	None	Located in ICRIP only		10 years
			Located in Incentive Tier		15 years
			Brownfield or Adaptive Reuse project located in the ICRIP		15 years
ICIF Loan	Low interest, 7-year loan calculated per housing unit.***	Located in an Incentive Tier AND classified in at least one project category****	Incentive Tier	One Category	Two or More Categories
			Tier 1	$3,000	$6,000
			Tier 2	$1,500	$3,000
			Tier 3	$1,000	$2,000
			Tier 4	$500	$1,000
ICIF Loan Bonus	Low interest, 7-year loan calculated per housing unit.	Located in an Incentive Tier AND includes structured parking AND/OR includes low impact development features	Includes structured parking		$1,000
			Includes low impact development		$500
Mixed-Use Forgiveable Loan	0%, 5-year forgiveable loan for tenant finish-out improvements.*****	Located in an Incentive Tier AND includes retail and/or commercial office space on first floor.	Includes retail space		$20 per square foot
			Includes commercial office space		$10 per square foot

* Historic Exemption Tax Credit, if applicable, to be applied in parallel - no taxes in years 1-5, 50% taxes in years 6-10. Tax Reimbursement Grant will rebate any payment made over the base during years 1-15, as applicable based on project location. Project must maintain first year rental rate for 10% of units throughout grant term.

** Projects not located in a TIRZ would receive a rebate of 66% of the taxes paid to the City. TIRZ projects would be rebated based on participation level of the TIRZ.

*** Loan rate is fixed equal to the one year LIBOR rate plus 75 basis points, with interest compounding annually.

**** Project Categories: Mixed Income, Community Use, Adaptive Reuse, Brownfield Redevelopment, Historic Rehabilitation, High-rise Residential Development, Student Housing, Transit-oriented Development within 1/4 mile of the West Side Multi-modal Center or Robert Thompson Transit Center.

***** Forgiveable over 5 years at 20% per year. Loan proceeds must pass-through to tenant and space must remain leased for at least 80% of the term.

- **City-Wide Tax Abatements.** The City of San Antonio, through its Economic Development Department ,offers tax abatements for qualifying projects that meet locational and employment criteria. These abatements vary, depending on terms for individual projects. In non-targeted investment areas, an abatement of up to 50 percent on real and personal property improvements may be provided for up to six years, if the investment is worth at least $10 million and 100 new full-time jobs are created. In targeted investment areas, an abatement of up to 100 percent on real and personal property improvements may be provided for up to 10 years, if the investment is worth at least $1 million and 25 new full-time jobs are created.

- **Economic Development Incentive Fund (EDIF).** This fund provides grants and loans to companies for two purposes: job creation and investment. Criteria for qualification include job creation and expansion of targeted industries, as well as investment in and around targeted areas of economic interest for the City. These include the City's Targeted Investment Area (TIA), the State Enterprise Zone census tract areas, and the City's designated Reinvestment Plan Areas. Other priority areas include those around higher educational institutions and non-governmental institutions. The grants and loans may be used for many expenses, including facility construction and/or real property improvements, utility infrastructure costs and restoration/adaptive reuse of existing structures and property acquisition and site development.

- **Targeted Investment Areas (TIA).** The TIA Tax Abatement program is a partnership between the City of San Antonio and the San Antonio Water System (SAWS). The focus is on areas that are currently served by public infrastructure and transit, but underserved by residential and commercial markets. The program seeks to stimulate investment, in order to create walkable urban communities. The TIA program therefore targets residential and mixed use development, as well as commercial and industrial development (employment). Retail projects may also qualify but are required to meet additional criteria. Like other city programs, performance measures are in place to ensure project realization and longer term impact of the project. Incentives offered within these TIAs include Tax Abatement and Impact Fee Waivers.

- **Enterprise Zone Projects: Tax Incentives.** Qualifying projects locating within Enterprise Zones are eligible for state tax refunds, based on jobs created and retained. The purpose of this tool is to encourage employers to locate businesses within economically distressed areas of the City.

- **Employment-Based Fifth Center Regional Center Program (EB-5).** The EB-5 program incentivizes foreign investment in Targeted Employment Areas throughout the United States. San Antonio currently has one Regional Center, at Brooks City Base in southeast San Antonio. As Governor Rick Perry has delegated authority for TEA designation to mayors of Texas Cities, San Antonio was able to set project criteria for qualification within the City. SA2020 vision goals are a criteria for project qualification, as are the City's current economic development policies. New projects may apply, and are approved on a case-by case basis, with employment generation being the goal.

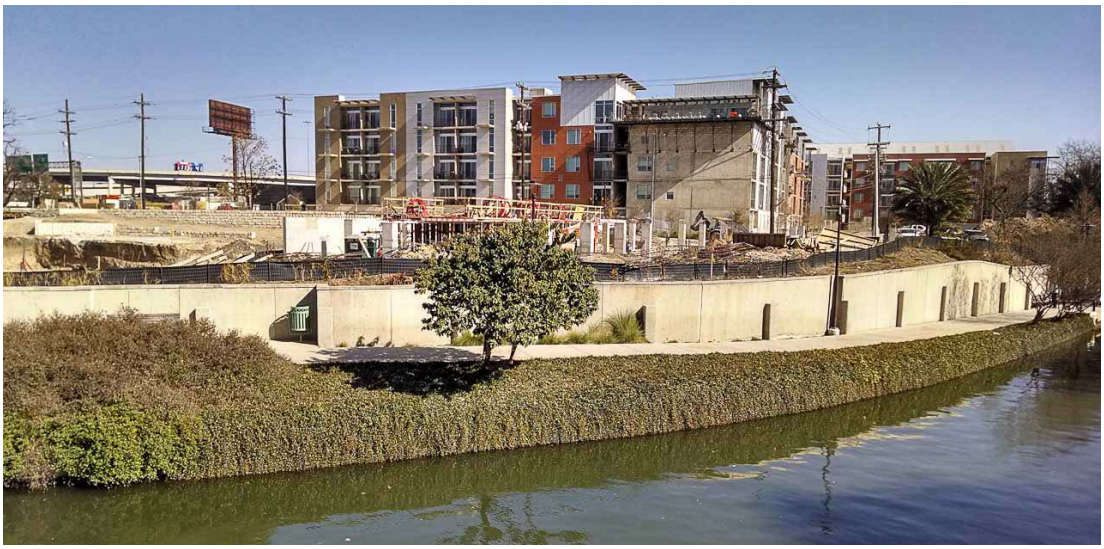
Institutional/partnerships/management. Downtown San Antonio benefits from a number of implementation tools that bring the public and private sector together to stimulate and guide new development. Hemisfair Park Area Redevelopment Corporation (HPARC) is a 501(c)3 corporation established by City Council to redevelop the Hemisfair site. Centro San Antonio is a Public Improvement District that collects self-assessed funds that are dedicated to streetscaping,

maintenance and voluntary on-the-ground assistance to downtown users. San Antonio Housing Authority (SAHA), one of the largest housing authorities in the State, works with the City to ensure that housing options are available to the residents of San Antonio. SAHA coordinates housing services such as housing choice vouchers, mixed income housing and public housing in SAHA-owned properties.

Although there are many agencies and associations that work together to stimulate desirable development in the City, proximity or support of transit facilities is not always identified as a component in targeted projects. Continued communication between VIA and these organizations will ensure that transit-supportive land use principles and policies are incorporated into agency planning.

Additionally, though there is much development oversight and interagency coordination in the downtown area, there are other parts of the City that could benefit from a similar approach. As new activity centers are identified by the comprehensive plan, thought should be given to the creation of financial and management districts that can be used to stimulate private investment and development.

Infrastructure investment. The Inner City Reinvestment and Infill Policy states that "private sector investment follows public sector investment: for private individuals and companies to invest in the core of San Antonio, the public sector must demonstrate a commitment to the area, by funding infrastructure repairs and upgrades, implementing new policies and kick-starting area economies through catalytic projects (including area-wide rezoning)." Within targeted geographic areas of the City, efforts and public investments are concentrated, in accordance with priorities for reinvestment and redevelopment. This ensures maximum impact of public investment in infrastructure. Examples of public infrastructure investment that has been used to stimulate private investment can be seen in the various stages of Riverwalk development, most recently in Southtown.



Infrastructure investment, including Riverwalk improvements, has been an essential catalyst for development in San Antonio's River North area.

Just as the Riverwalk has proven to be a catalyst for private investment, certain transportation components can also stimulate private investment. Transit-oriented development, regardless of the transit mode, is fully dependent on transit-oriented infrastructure systems. In a Bus Rapid Transit system, this means careful integration of stops and stations into mixed use development plans, so as to maximize traffic for neighboring private businesses and maximize riders for the transit line. Transit-oriented infrastructure investment, such as the Streetcar project that has been proposed for downtown San Antonio, is an example of this type of public investment in infrastructure that can serve as a catalyst for private investment.

Measuring success. The City of San Antonio has embarked upon an initial findings study for a new comprehensive plan, based on a quantitative assessment of capacity to absorb future growth. This quantitative approach could be translated into benchmarks or some other indicator-oriented approach to plan implementation.

5.1.3 Recommendations

Although San Antonio's list of implementation tools is extensive, in many of these policies, transit is not a recognized consideration. The City has gone to great lengths to incentivize desirable forms, rather than merely regulate them into existence. Should transit-oriented development (and transit supportive land use practices) be a desired development form in San Antonio, it will likewise need to be incentivized. These are a few of the ways in which transit supportive land use principles and transit oriented development forms could be integrated into the tools that are currently used by the City.

Identify opportunities for reciprocal project promotion among public agencies. A number of agencies and entities would directly benefit from transit supportive land use principles in their defined areas of interest. As the City coordinates with these agencies, care should be given to aggregate resources and layer incentives in areas of interest to groups with shared interests and priorities.

Establish a transit oriented infrastructure system. Building upon the typologies developed in the TSLU Guide, investment in transit-oriented infrastructure should be defined for future transit centers, providing the value reference point that organizes private investment. Transit-oriented infrastructure includes sidewalks, pedestrian crossings, lighting, landscaping, transit stop facilities, and other pedestrian amenities (e.g., benches, trash receptacles) to ensure safe and comfortable pedestrian access between transit stops and local destinations. It also includes street design features to support the safe and efficient movement of buses. Many of the incentives identified in Section 5.1.1 could be used to fund these projects.

Define benchmarks for measuring plan outcomes. In the comprehensive planning process (which includes the Transportation Plan Update), either indicators or benchmarks should be used to monitor plan outcomes related to transit performance.

Use proximity to transit as a project qualification measure for a wider range of incentives offered by the City of San Antonio. This is especially important in the areas of the City targeted for revitalization, such as the West Side, South Side and East Side, and for significant activity hubs, such as the medical center.

Include land around VIA's anticipated transit stations in the qualified geographic areas for the different incentive programs of the City. The City of San Antonio has identified geographical criteria for qualification for different incentive programs that are offered by the Economic Development Department. TIA, ICRIP and Enterprise Zones are all geographically determined. Care should be taken to ensure that transit centers fall within the qualifying geographic areas for each of these programs. This includes existing as well as desired future sites.

Create special finance districts that encompass targeted activity hubs, such as the medical center, including criteria that would promote transit supportive land use practices. Anticipating the need for development management, and emerging from the comprehensive planning process, the City should define a finance district around targeted areas of town where traffic counts are consistently high. A range of districts could be considered (TIRZ, PID, etc.), depending on property owner and city preference, provided that qualifying improvements address pedestrian spaces, bus stops and facilities, and qualifying projects demonstrate transit-supportive land use and design principles.

Other municipalities. As other suburban municipalities begin to develop transit-supportive land uses, each should consider which tools and incentives might be most appropriate for their given situation. Consideration should be given to existing development and permitting processes, market conditions (and therefore need for any incentives), current infrastructure conditions (which might affect the need for supportive infrastructure improvements), and any other assistance the municipality might be able to provide such as land assembly. VIA's TSLU Guide and this Toolkit should be provided to development services, planning and zoning departments of the municipalities within the service area. Additionally, cities that indicate interest in new transit infrastructure (bus or otherwise) should be encouraged to incorporate transit-supportive land use principles into their development regulations. Also, other municipalities should be encouraged to incorporate TSLU principles and TOD into their criteria for project qualification for municipal, county, AACOG, State, and Federal incentive programs where possible.

6.0 CONCLUSION

This Toolkit has presented best practices in transit-supportive land use planning, a review of current practices in the San Antonio region, and recommendations for action steps to improve practice. The review of practice found that the region is already doing many things that provide a foundation for transit-supportive land use. For example:

- The City of San Antonio has adopted zoning districts including TOD, mixed-use, and form-based districts, all of which are supportive of transit in many ways. The successful application of the River North form-based district shows that such zoning actions can help shape development in positive ways.

- The City of San Antonio's Downtown (D) district also includes many transit-supportive elements, such as the elimination of minimum parking requirements and density restrictions.

- A number of suburban municipalities have mixed-use zoning districts that support human – scale environments and could be applied to transit station areas or corridors.

At the same time, the region has a ways to go in meeting "best practice" in other cities that are growing their transit systems. For example, the region has not yet defined a collective vision for growth and development that links regional-scale transportation investment with local land use policy. Zoning and subdivision codes could be strengthened to support improved pedestrian access and safety, which would benefit existing bus riders as well as potential future transit customers. Priority should be placed on identifying high-capacity transit corridors, and updating zoning codes and capital programs to encourage investment in those corridors.

Taking the steps outlined in this Toolkit will help create walkable, human-scaled communities in the San Antonio region, thereby supporting neighborhood redevelopment, providing more options for housing and transportation and saving residents money by reducing expenses related to car ownership and use.

APPENDIX A RECOMMENDATIONS FOR THE SAN ANTONIO UNIFIED DEVELOPMENT CODE

As part of this research, the San Antonio UDC was reviewed in detail to assess the extent to which various provisions of the code are transit-supportive, and to identify changes that could make the code more transit-supportive.

There is no "one-size-fits-all" approach to incorporating TSLU in development codes. Within San Antonio's current UDC framework, there are multiple options for incorporating many of the principles of TSLU that are not already reflected in the code. Furthermore, the City's new Comprehensive Plan is expected to propose a broader framework for considering transit and land use. Many of the choices for code revision will therefore depend upon the outcomes of the comprehensive planning process.

It is important to note that this document is not proposing a single specific structural approach to TSLU districts, such as a TOD base zoning district, TOD overlay, TOD Use Pattern, or form-based district. The structural approach will most likely emerge from the comprehensive planning process. Keeping with the current approach is certainly one option, or the City may want to simplify the current set of options (for example, by removing the Use Pattern option); the City may also determine that other tools are needed (such as a TOD Overlay, or district-specific overlays such as the existing River Overlay).

Table A.1 provides a list of recommendations, and a brief discussion and justification of the recommendation.

Table A.1 Recommendations for San Antonio UDC Changes

Recommendation	Discussion/Justification
TRANSIT TYPOLOGY	
Codify the station area typology proposed in the TSLU Guide.	The typology establishes the characteristics that zoning in transit station areas and corridors should adhere to.
Revise zoning in areas identified for each new typology.	Properties in transit station areas and corridors may need to be rezoned if they are suitable for redevelopment and current zoning is not consistent with the typology.
TRANSIT FACILITIES	
Revise/redefine transit facility types in the UDC.	Current description of facility types is not consistent with the typology nor with VIA's current thinking about transit facilities.
Permit transit stations by right in certain districts.	Transit stations require special permits even in some districts that have transit-supportive characteristics.
Remove certain types of transit facilities from categories where there is no net benefit to overall system performance.	[discuss – is this really worth doing?]
Create design guidelines for improved uniformity among transit facilities.	This may be something that can be done by VIA outside of the UDC.

Recommendation	Discussion/Justification
PEDESTRIAN-SUPPORTIVE DESIGN	
Include purpose and intent language about pedestrian connectivity in identified zoning categories.	Makes it clear that pedestrian connectivity is an important objective in zoning categories suitable for transit station areas and corridors.
Define maximum setbacks in identified zoning categories .	Categories applied in transit areas should specify maximum setbacks of 15 to 20 feet or less to ensure pedestrian-supportive design.
Create streetscaping guidelines that will visually and functionally improve pedestrian spaces at/around transit facilities.	Categories applied in transit areas should require a pedestrian-supportive streetscape.
Evaluate City signage standards against VIA signage design guidelines. Create an overall transit wayfinding and signage plan.	The UDC can be used to help improve wayfinding and signage. Some of this may be done by VIA outside the UDC process as well.
Create uniform submittal requirements for TIAs.	TIAs are only explicitly required in some districts, including TODs. Uniform requirements will ensure there is not an implicit bias against using these zones.
Define appropriate mitigation measures at/around transit facilities.	Requiring traditional traffic mitigation measures, such as lane additions, in transit areas can degrade the pedestrian environment and encourage auto travel. Mitigation measures instead should encourage walk, bike, and transit access.
Ensure that transit is appropriately accounted for in traffic modeling and calculations of the TIA.	The presence of transit may reduce vehicle trips, reducing needs for mitigation.
TRANSIT-SUPPORTIVE DENSITY	
Create subdistricts downtown to more effectively manage density distribution.	Subdistricts could be used to help channel the highest density uses into transit corridors, rather than allowing it to occur anywhere in the downtown area.
Increase density around station areas, in proportion to surrounding neighborhood/commercial densities.	This relates to the recommendation for rezoning consistent with typologies. Increases in density in redevelopment areas may be appropriate in many transit service areas, while protecting existing neighborhoods.
Allow for various density ranges for different transit station areas (reinforce notion of typology).	Zoning districts applied to transit station areas and corridors should allow for flexibility consistent with the typologies.
MIXED USE ENVIRONMENT	
Ensure that both vertical and horizontal MU permitted in/around transit facilities (will depend on typology).	Mixed use is essential to transit-supportive land and should be permitted in zoning districts applied to station areas and corridors.
Form-based codes for area around certain types of transit facilities.	Form-based codes are an efficient way of allowing for transit-supportive use mixes.

Recommendation	Discussion/Justification
PARKING STANDARDS	
Shared parking standards within defined distances of transit facilities.	Shared parking can reduce demand for parking facilities, improving the pedestrian environment. The River North FBZD is a logical place to allow for shared parking.
Parking maximums within defined distances of transit facilities.	Parking maximums can help ensure that excessive parking is not provided, improving the pedestrian environment. Start with the "D" District ,basing on observed parking demand at recently-built developments. A maximum of 1.3 to 1.5 spaces per residential unit and 2.0 spaces per 1,000 square feet of commercial space should be considered.
Remove or lower parking minimums within defined distances of certain transit facilities.	Lowering parking minimums allows developers to reduce costs if they feel the market does not require as much parking, which will also improve the pedestrian environment. Start with the River North FBZD, where a maximum of roughly 2.5 spaces per 1,000 square feet is recommended but may be adjusted based on observed demand at new developments.

Table A.2 shows corresponding options for how these recommendations could functionally be incorporated in the code. Five functional options are considered, some of which may be applied in combination::

- Option A: Create a new zoning category or categories intended for application at key transit nodes;
- Option B: Make text changes applying to all zoning categories, by amending the Design Standards chapter;
- Option C: Make text changes to specific zoning categories the City would like to see at key transit nodes (e.g., TOD, FBZD, MXD);
- Option D: Make text changes to Use Patterns, rather than to zoning categories (this option is contingent upon the City continuing to include Use Patterns);
- Option E: Make map changes to align the location of existing or new zoning categories with the long range plan for transit facilities and corresponding development (i.e. rezoning station areas or corridors).

Table A.2 also shows the recommended strategy or strategies (process) for including each recommendation. The options for process include:

- 2015 amendment process – The change is made in the City's five-year amendment cycle, which is soliciting proposals during January – May 2015.

- Comprehensive Plan – The change is made following the development of the City's new Comprehensive Plan.
- 2020/ next amendment – The change is made in the next five-year update cycle (2020).
- Political, not procedural – Changes that involve property owner and Council decision-making.[9]
- VIA initiative – These are options that VIA may be able to implement through actions outside the UDC process.

[9] Rezoning is a political and not a procedural initiative. As such, it is not subject to the same time restrictions as many of the other recommended initiatives. Rezoning occurs whenever a property owner (or, on certain occasions, the City) applies to change the zoning designation for a certain real property. Thus properties within the area of interest which also have property owner support could in theory be rezoned quite quickly to make them more transit-supportive in terms of their rights of use.

Table A.2 Potential Approaches to UDC Revision

Recommendation	Functional Options					Procedural Options				
	New Cate-gory	Non-Categ. Text Change	Cate-gorical Text Change	Use Pattern	Map Change	2015 Amend-ment	Comp Plan	2020/ Next Amend-ment	Political not procedural	VIA Initiative
TRANSIT TYPOLOGY										
Codify the station area typology proposed in the TSLU Guide.							✓	✓		
Revise zoning in areas identified for each new typology.	✓		✓		✓			✓	✓	
TRANSIT FACILITIES										
Revise/redefine transit facility types in the UDC.		✓	✓			✓				
Permit transit stations by right in certain districts.			✓			✓				
Remove certain types of transit facilities from categories where there is no net benefit to overall system performance.			✓			✓				
Create design guidelines for improved uniformity among transit facilities.		✓								✓
PEDESTRIAN-SUPPORTIVE DESIGN										
Include purpose and intent language about pedestrian connectivity in identified zoning categories.	✓		✓			✓				
Define maximum setbacks in identified zoning categories.				✓				✓		
Create streetscaping guidelines that will visually and functionally improve pedestrian spaces at/around transit facilities.				✓				✓		
Evaluate City signage standards against VIA signage design guidelines. Create an overall transit wayfinding and signage plan.		✓								✓
Create uniform submittal requirements for TIAs.		✓				✓				
Define appropriate mitigation measures at/around transit facilities.		✓				✓				

Recommendation	Functional Options					Procedural Options				
	New Cate-gory	Non-Categ. Text Change	Cate-gorical Text Change	Use Pattern	Map Change	2015 Amend-ment	Comp Plan	2020/ Next Amend-ment	Political not procedural	VIA Initiative
Ensure that transit is appropriately accounted for in traffic modeling and calculations of the TIA.		✓				✓				
TRANSIT-SUPPORTIVE DENSITY										
Create subdistricts downtown to more effectively manage density distribution.			✓		✓					
Increase density around station areas, in proportion to surrounding neighborhood/commercial densities.	✓		✓		✓		✓	✓		
Allow for various density ranges for different transit station areas (reinforce notion of typology).	✓				✓		✓	✓		
MIXED USE ENVIRONMENT										
Ensure that both vertical and horizontal MU permitted in/around transit facilities (will depend on typology).			✓					✓		
Form-based codes for area around certain types of transit facilities.	✓				✓			✓		
PARKING STANDARDS										
Shared parking standards within defined distances of transit facilities.		✓		✓		✓				
Parking maximums within defined distances of transit facilities.	✓	✓		✓		✓				
Remove or lower parking minimums within defined distances of certain transit facilities.	✓	✓		✓		✓				

APPENDIX B REVIEW OF OTHER SAN ANTONIO AREA MUNICIPALITIES' PLANS AND CODES

Overview

In the assessment of transit-supportive land use practices, a survey at various scales is essential. While each transit stop and complementary land use node is a local community in itself, each of these areas forms a part of the wider city, and a collection of the cities stitched together by transit together forms a region. This regional view is important because these area communities are linked by adjacencies, a shared residential and professional population, and a desire for economic development and improved quality of life. This general review of TSLU practices includes an examination of the municipalities of New Braunfels, Schertz, Seguin, Balcones Heights, Leon Valley, Boerne, Bulverde, Converse, and Shavano Park.

Municipal codes are a reflection of their community, in that they express the municipality's guidelines for development and shape the future built form of the community. A community's current character is often carried forward in the vision for future development established in the codes. Moving beyond the municipal boundaries to acknowledge contextual influences and tendencies is also essential. It is important to recognize the planning context in which the community operates in order to anticipate current and future tendencies and to best accommodate new types of growth while remaining true to the spirit of the community's identity as expressed in the municipal code. The diversity of the communities in this survey is reflected in the diversity of municipal codes, built environment, and outlook for the character and location of future growth.

This review included the zoning code for each of the municipalities, along with subdivision and unified development code, if present. The evaluation focused on how effectively each municipality's code promotes transit-supportive land use and development practices, seeking to determine to what degree existing code allows development that will be supportive of transit. Transit-supportive land use would likely bring benefits to communities that include but are not limited to mixed uses, pedestrian accessibility improvements, flexibility of land uses, diverse development possibilities, diversity of municipal tax base expressions, and opportunities for municipal economic development.

The zoning categories were evaluated with respect to these criteria:

- **Do municipal policies, goals, and objectives reinforce TOD/TSLU?** The purpose and intent statements of the codes can do much to reinforce TSLU. At a basic level zoning is intended to prevent overcrowding of land and promoting health, safety, and welfare. Codes reinforcing TOD/TSLU likely refine these types of objectives to address how the community

values a mix of land uses, pedestrian and transit connectivity, additional residential and commercial density, and flexible parking requirements. In this sense, the general policies and objectives, correlated with municipal codes through purpose and intent statements, were evaluated to determine whether or not they reinforce transit supportive land use patterns.

- **Is TOD (as a development form) identified as a particular use in this category?** The zoning code was reviewed to determine whether this particular development form has been codified for the various municipalities. TOD as a development form is typically associated with facilities that provide an interface between two or more types of transportation networks (such as LRT and streets). Although the region does not provide rail-based transit today, TOD expressions may prove more useful as the region expands its transit options with the potential addition of streetcar and/or other future transit expressions.

- **Is commercial and residential density permitted to a degree consistent with TSLU?** A mix of uses, built at a density that allows aggregation and pedestrian and transit accessibility, is a key input for successful TSLU.

- **Is there a TSLU mixture of uses approved in some form in this category (residential, retail/commercial, office/services)?** Transit supportive land use practices call for a mixture of uses within a limited distance of a transit facility. Therefore, the zoning categories were reviewed to determine whether residential, retail/commercial and office/services were all approved uses in that particular category.

- **Is pedestrian connectivity addressed?** TSLU practices require pedestrian connections to provide access to transit facilities and to surrounding businesses and commercial establishments. Therefore the categories were reviewed for standards related to pedestrian connectivity.

- **Are flexible or shared parking standards included?** A key factor to the viability of TSLU is the degree to which municipal parking standards are flexible in ways that may include sharing of parking facilities across uses or reduced parking requirements. Without parking flexibility, development remains within a standard range of auto-dependent and auto-oriented built form due to the large amounts of land area that must be devoted to parking.

- **Is the procedure for platting, development application, and permitting specified?** As TSLU is not typically a permitted use in traditional zoning, the procedure for approval of a mixed-use development may not obvious or clearly outlined in the code, even if portions of it are written to support TSLU.

- **Are TOD incentives present?** Communities may provide incentives to promote development of TOD, including increased density, shared parking, and other modifications to the code.

- **Is affordable housing addressed?** Affordable housing is not a physical form of development, but rather a social and economic designation. That being said, many of the zoning categories include statements regarding the intent to provide affordable housing as a component of that particular zoning category. Therefore the purpose statements of the zoning categories were reviewed to determine whether they demonstrate intent to provide affordable housing within that particular designation.

Findings

The municipalities fall into three classifications, in which the first group has code that is consistent with TSLU, the second group presents initial steps toward TSLU but no consolidated code support, and the third group presents code that has not yet been revised to support TSLU. The finding that most municipalities are somewhat or not yet supportive of TSLU is not surprising given that high-capacity transit has not been widely deployed in the San Antonio region, and plans for future transit are still being developed.

Group One – Currently Supportive of TSLU. The first group could rapidly form a part of a regional drive towards TSLU consistency, perhaps after minor or modest code updates or amendments.

- Schertz.

Group Two – Somewhat Supportive of TSLU. The second group of municipalities might support TSLU through their codes in the near future, after more significant code additions, amendments, and possible reorganizations.

- Balcones Heights.
- Boerne.
- Leon Valley.
- New Braunfels.

Group Three – Not Yet Supportive of TSLU. The third group of municipalities will require additional initiative to implement code that is consistent with TSLU.

- Bulverde.
- Converse.
- Seguin.
- Shavano Park.

Group One – Currently Supportive of TSLU

Schertz

Schertz is the community with the greatest level of municipal code reinforcement of TSLU, and is the only community in Group One. Nearly all of the general search topics are present, and the codes are explicit in supporting mixed land uses in conjunction with transit. Minor changes and updates could be appropriate if the City is to join a larger group of municipalities supporting TSLU, as opposed to Schertz currently operating strictly on its own in TSLU support.

Table B.1 Municipal Code Review – Schertz

Document Reviewed:	City of Schertz Code of Ordinances, Chapters 21,78; and Unified Development Code
Enforcing Agent:	City of Schertz, Planning and Zoning Department
Relevance to TSLU:	Defines permitted uses and standards

General Topics	Presence/ Absence	Overall Assessment	General Recommendations
Policies, goals, objectives reinforce TOD/TSLU	Present	MUPDD district reinforces TSLU. Flexibility good, specifics via PDD rezoning application.	UDC sets stage appropriately for TSLU. Amend language to support TOD/TSLU, in addition to existing "rail-ready."
TOD recognized development form	Present	MUPDD implements goals for "rail-ready development" in MU Core, Neighborhood, and Transition sectors	Specify TOD as land use, beyond MU only.
Density – commercial/residential	Present	40-acre sites as minimum, uses/ density/scale as appropriate to context/character of proposed district. Density limits only via design standards, building height max from 3 to 8 stories.	Ideally, flexibility for sites less than 40 acres. Include specifics on PDD process that establish framework for evaluation of developer-proposed density.
TSLU in approved uses (mixture and type)	Present	Appropriate approved uses in MU Districts.	Uses should include transit stops and/or stations.
Pedestrian-oriented design (including access and connectivity)	Present	Street trees, attractive and safe streetscape, pedestrian-friendly. Pedestrian connectivity to adjacent land uses.	Specific language for access to transit.
Parking supply (limited/managed/ proximity)	Present	Flexibility, developer-proposed standards off-street. Structured parking limited as percent of frontage. Parallel parking on-street.	Include shared parking for mixed uses, transit stop/station parking standards.
Procedures – platting/ development application/ permitting	Present	Development standards via rezoning process. PDD Application, Conceptual and Development Plan, MU standards must be met.	Good flexibility, perhaps additional guiding framework on application evaluation process.
TOD incentives	Absent	Implied via flexibility in standards, with developer-specified uses/ density/scale. Not explicit, however.	Incentivize transit access and connectivity explicitly.
Affordable Housing	Absent	No mention of affordable housing.	Include affordable housing as a goal in MUPDD district.

Group Two – Somewhat Supportive of TSLU

Balcones Heights

Balcones Heights has the expressed intention of supporting TSLU, though the code is not explicitly enabling of TSLU at this time.

Table B.2 Municipal Code Review – Balcones Heights

Document Reviewed:	City of Balcones Heights Code of Ordinances, Zoning Ordinance, Community Revitalization Plan, Master Plan		
Enforcing Agent:	City of Balcones Heights, Planning and Zoning Department		
Relevance to TSLU:	Defines permitted uses and standards		
General Topics	**Presence/ Absence**	**Overall Assessment**	**General Recommendations**
Policies, goals, objectives reinforce TOD/TSLU	Present	Master Plan identifies BRT, TOD, MU, Density, Pedestrian design as desirable. Mixed-use district in ordinances.	Expand Mixed-use MXD district to include specifics for MU-TOD interface. Include TOD to accompany MU language.
TOD recognized development form	Absent	No TOD development form. Master Plan not matched by code.	Amend code to support TOD/ TSLU in accordance with language of Master Plan.
Density – commercial/residential	Absent	MXD density specifics are lacking. Commercial setbacks, design standards present, but not density guidelines.	Provide density framework beyond setback standards in revised MXD zoning district.
TSLU in approved uses (mixture and type)	Present	MXD calls for pedestrian orientation, with retail, office, residential uses. No specific transit mention.	Tie MXD uses to transit accessibility and adjacencies.
Pedestrian-oriented design (including access and connectivity)	Present	Pedestrian-oriented design addressed in Article IV, covering design standards and accessibility.	Include additional specifics to streetscape design standards, including street furniture.
Parking supply (limited/managed/ proximity)	Present	Zoning Code Article VI establishes standards for adjacent uses shared parking and parking credits for on-street, bicycle, transit adjacencies.	Address standards and design of parking structures.
Procedures – platting/ development application/ permitting	Present	Procedure outlined in Appendix A Zoning Ordinance, though not specific to TSLU.	Amend for TOD/TSLU support.
TOD incentives	Absent	Incentives should form part of revised MU/TSLU code.	Provide TOD incentives after MU/ TSLU amendment.
Affordable Housing	Present	Affordable housing is identified as desirable in Community Revitalization Plan.	Direct desire for affordable housing to inclusion in amended code.

Boerne

Boerne's code is the most supportive of TSLU of the municipalities in Group Two. If the code were amended to explicitly support TOD, the City could be considered completely supportive of TSLU, much like Schertz.

Table B.3 Municipal Code Review – Boerne

Document Reviewed:	City of Boerne Code of Ordinances, Chapter 19, Zoning, Subdivision; Master Plan
Enforcing Agent:	City of Boerne, Planning and Community Development Department
Relevance to TSLU:	Defines permitted uses and standards

General topics	Presence/ Absence	Overall Assessment	General Recommendations
Policies, goals, objectives reinforce TOD/TSLU	Present	MU-1, MU-2 districts. Specific norms in Commercial Center Design Standards reinforce TOD/ TSLU. Transit goal in Master Plan.	Build on MU policies with added inclusion of transit access, connectivity.
TOD recognized development form	Absent	No TOD development form.	Amend MX-1 district code to support TOD/TSLU.
Density – commercial/residential	Present	Commercial density defined via lot coverage, setbacks, height restrictions. Residential density at R-4 MF standards; MF limited to 28' height, 50 units max.	Provide more specific density framework in revised MU zoning districts.
TSLU in approved uses (mixture and type)	Present	MU-1, MU-2 districts, Commercial districts include TSLU-appropriate uses. Retail, Service, Employment, Residential, Civic uses.	Amend language to allow future transit accessibility and adjacencies.
Pedestrian-oriented design (including access and connectivity)	Present	Extensive Commercial district pedestrian and streetscape design guidelines, including access, dimensions, and character.	Specify access and connectivity for future transit.
Parking supply (limited/managed/ proximity)	Present	Shared parking by written agreement. Time period-based shared-parking requirements and parking credits for on-street parking, bicycle parking, walkable neighborhood, valet parking, tree preservation.	Include transit as potential adjacent land use for shared parking.
Procedures – platting/ development application/ permitting	Present	Not specific to TSLU or MU districts.	Amend for TOD/TSLU support.
TOD incentives	Absent	Incentives should form part of revised MU/TSLU code.	Provide TOD incentives after MU/ TSLU amendment.
Affordable Housing	Absent	No mention of affordable housing.	Amend MX-1 district to support affordable housing goals.

Leon Valley

Leon Valley, much like Balcones Heights, has the expressed intention of supporting TSLU, though the code is not explicitly enabling of TSLU at this time.

Table B.4 Municipal Code Review – Leon Valley

Document Reviewed:	City of Leon Valley Code of Ordinances, Chapters 10,12,14; Comprehensive Master Plan		
Enforcing Agent:	City of Leon Valley, Community Development Department		
Relevance to TSLU:	Defines permitted uses and standards		
General Topics	**Presence/ Absence**	**Overall Assessment**	**General Recommendations**
Policies, goals, objectives reinforce TOD/TSLU	Present	Master Plan identifies BRT and MU as desirable. Mixed-use district in ordinances.	Expand Mixed-use MX-1 district to include specifics for MU-TOD interface. Include TOD to accompany MU language.
TOD recognized development form	Absent	No TOD development form.	Amend MX-1 district code to support TOD/TSLU.
Density – commercial/residential	Absent	MX-1 density specifics dependent on site plan submission.	Provide more specific density framework in revised MX-1 zoning district.
TSLU in approved uses (mixture and type)	Present	MX-1 calls for pedestrian orientation, with business, residential uses. No specific transit mention.	Tie MX-1 uses to transit accessibility and adjacencies.
Pedestrian-oriented design (including access and connectivity)	Absent	Pedestrian spaces mentioned, but no specific standards established. Greenbelt mentioned, no specifics.	Include additional specifics for pedestrian-oriented design, accessibility, and connectivity to transit.
Parking supply (limited/managed/ proximity)	Present	Cooperative shared parking allowed. MX-1 character includes reduction of parking areas.	Expand shared parking options specifically in MX-1 district.
Procedures – platting/ development application/ permitting	Present	Assembly of MX-1 district via aggregation of existing uses or new application for more than 5-acre site.	Amend for TOD/TSLU support.
TOD incentives	Absent	Incentives should form part of revised MU/TSLU code.	Provide TOD incentives after MU/ TSLU amendment.
Affordable Housing	Absent	No mention of affordable housing.	Include affordable housing as a goal in MU district.

New Braunfels

New Braunfels' municipal code also exhibits support for transit and associated land uses, with a majority of the general search topics present in the code. However, the support is weaker than the Schertz code, and multiple additions and code expansions would be necessary for New Braunfels to be considered fully supportive of TSLU.

Table B.5 Municipal Code Review – New Braunfels

Document Reviewed:	City of New Braunfels Code of Ordinances, Chapters 98,114,118,144
Enforcing Agent:	City of New Braunfels, Planning and Community Development Department
Relevance to TSLU:	Defines permitted uses and standards to conform to Comprehensive Plan

General Topics	Presence/ Absence	Overall Assessment	General Recommendations
Policies, goals, objectives reinforce TOD/TSLU	Present	MU Districts present, MU-B district most promising	Improve pedestrian, transit, parking, density standards.
TOD recognized development form	Absent	Not present.	Unify existing MU-oriented language with TSLU language.
Density – commercial/residential	Present	R-3L, MU-A – 12DU/Ac; R-3H, C-2A, C-4A, C-O, M-1A, M-2A – 24DU/Ac; MU-B – no density maximum	MU-B provides the most appropriate residential, commercial density for TSLU.
TSLU in approved uses (mixture and type)	Present	Approved uses in MU Districts good – retail, office, residential.	Amend language to allow future transit accessibility and adjacencies.
Pedestrian-oriented design (including access and connectivity)	Present	weak – in subdivision platting, MU general language only	Include language on pedestrian access, transit access, streetscaping/urban design.
Parking supply (limited/managed/ proximity)	Absent	standard square-foot/DU-based approach	Provide shared parking credits for MU.
Procedures – platting/ development application/ permitting	Present	Procedure outlined in Chapter 144 Zoning Ordinance, though not specific to TSLU.	Amend for TOD/TSLU support.
TOD incentives	Absent	Not present.	Include parking flexibility, density bonus.
Affordable Housing	Absent	No mention of affordable housing	Amend MU Districts to include mention of affordable housing.

Group Three – Not Yet Supportive of TSLU

Bulverde

Bulverde's code is not yet supportive of TSLU.

Table B.6 Municipal Code Review – Bulverde

Document Reviewed:	City of Bulverde Code of Ordinances, Chapters 10,12,14		
Enforcing Agent:	City of Bulverde, Office of Planning and Zoning		
Relevance to TSLU:	Defines permitted uses and standards		
General Topics	**Presence/ Absence**	**Overall Assessment**	**General Recommendations**
Policies, goals, objectives reinforce TOD/TSLU	Absent	No TOD/TSLU reinforcing language.	Amend for TOD/TSLU support.
TOD recognized development form	Absent	No TOD development form.	Amend for TOD/TSLU support.
Density – commercial/residential	Absent	MF density limited, commercial density limited by setbacks and height restrictions.	Amend for TOD/TSLU support.
TSLU in approved uses (mixture and type)	Absent	No mixed uses present.	Amend for TOD/TSLU support.
Pedestrian-oriented design (including access and connectivity)	Absent	Pedestrian access to commercial building entry mentioned. No TSLU-oriented pedestrian language.	Amend for TOD/TSLU support.
Parking supply (limited/managed/ proximity)	Present	Shared parking by written agreement.	Specify mixed uses as potential adjacent land use for shared parking.
Procedures – platting/ development application/ permitting	Present	Not specific to TSLU or MU districts.	Amend for TOD/TSLU support.
TOD incentives	Absent	No TOD incentives present.	Provide TOD incentives after MU/ TSLU amendment.
Affordable Housing	Absent	No mention of affordable housing.	Amend for support of affordable housing.

Converse

Converse's code is not yet supportive of TSLU.

Table B.7 Municipal Code Review – Converse

Document Reviewed:	City of Converse Code of Ordinances, Chapters 38,40,50		
Enforcing Agent:	City of Converse, Building Department		
Relevance to TSLU:	Defines permitted uses and standards		
General Topics	**Presence/ Absence**	**Overall Assessment**	**General Recommendations**
Policies, goals, objectives reinforce TOD/TSLU	Absent	No TOD/TSLU reinforcing language.	Amend for TOD/TSLU support.
TOD recognized development form	Absent	No TOD development form.	Amend for TOD/TSLU support.
Density – commercial/residential	Absent	Single-use districts, no TSLU density.	Amend for TOD/TSLU support.
TSLU in approved uses (mixture and type)	Absent	No mixed uses present.	Amend for TOD/TSLU support.
Pedestrian-oriented design (including access and connectivity)	Absent	No TSLU-oriented pedestrian language.	Amend for TOD/TSLU support.
Parking supply (limited/managed/ proximity)	Absent	No TSLU-oriented parking language.	Amend for TOD/TSLU support.
Procedures – platting/ development application/ permitting	Absent	Not specific to TSLU or MU districts.	Amend for TOD/TSLU support.
TOD incentives	Absent	No TOD incentives present.	Amend for TOD/TSLU support.
Affordable Housing	Absent	No mention of affordable housing.	Amend for support of affordable housing.

Seguin

Seguin's recent Comprehensive Plan establishes community goals for TOD and MU development, but the goals have not yet been translated into an expression in the City's code.

Table B.8 Municipal Code Review – Seguin

Document Reviewed:	City of Seguin Code of Ordinances, Chapter 90; Appendices A and B; Comprehensive Plan
Enforcing Agent:	City of Seguin, Planning Department
Relevance to TSLU:	Defines permitted uses and standards

General topics	Presence/ Absence	Overall Assessment	General Recommendations
Policies, goals, objectives reinforce TOD/TSLU	Present	Goals present in Comp. Plan – TOD, MU, Density, Pedestrian design. Absent in Ordinances and Appendices.	Amend code to support TOD/ TSLU in accordance with language of Comp. Plan.
TOD recognized development form	Absent	No TOD development form. Comp. Plan language not matched by code.	Amend code to support TOD/ TSLU in accordance with language of Comp. Plan.
Density – commercial/residential	Absent	MF-3 district – 24DU/AC maximum; Commercial zoning relies on setbacks.	Address density in revised MU zoning district.
TSLU in approved uses (mixture and type)	Absent	Existing M district "to be phased out." PUD district language vague.	Define potential approved uses in PUD district.
Pedestrian-oriented design (including access and connectivity)	Absent	Comp. Plan language not matched by code.	Code should conform with Comp. Plan.
Parking supply (limited/managed/ proximity)	Absent	standard square-foot/DU-based approach	Provide shared parking credits for MU.
Procedures – platting/ development application/ permitting	Present	Procedure outlined in Appendix B, though not specific to TSLU.	Amend for TOD/TSLU support.
TOD incentives	Absent	Incentives should form part of revised MU/TSLU code.	Provide TOD incentives after MU/ TSLU amendment.
Affordable Housing	Present	Comp Plan mentions affordable housing, absent elsewhere.	Direct stated desire for affordable housing to inclusion in amended code.

Shavano Park

Shavano Park's code is not yet supportive of TSLU.

Table B.9 Municipal Code Review – Shavano Park

Document Reviewed:	City of Shavano Park Code of Ordinances, Chapters 26,28,36		
Enforcing Agent:	City of Shavano Park		
Relevance to TSLU:	Defines permitted uses and standards		
General Topics	**Presence/ Absence**	**Overall Assessment**	**General Recommendations**
Policies, goals, objectives reinforce TOD/TSLU	Absent	No TOD/TSLU supporting language.	Amend for TOD/TSLU support.
TOD recognized development form	Absent	No TOD development form.	Amend for TOD/TSLU support.
Density – commercial/residential	Present	MXD district limited in density.	Amend for TOD/TSLU support.
TSLU in approved uses (mixture and type)	Present	MXD district, but no apartments; townhome/condominium/garden home permitted, less than 25DU/ acre PUD district exists, but limited by specified base zoning district, which limit mixes of uses and density.	Amend for TOD/TSLU support.
Pedestrian-oriented design (including access and connectivity)	Absent	No TSLU-oriented pedestrian language.	Amend for TOD/TSLU support.
Parking supply (limited/managed/ proximity)	Absent	No TSLU-oriented parking language.	Amend for TOD/TSLU support.
Procedures – platting/ development application/ permitting	Absent	Not specific to TSLU or MU districts.	Amend for TOD/TSLU support.
TOD incentives	Absent	No TOD incentives present.	Amend for TOD/TSLU support.
Affordable Housing	Absent	No mention of affordable housing.	Amend for support of affordable housing.