Sacramento Regional Transit

A Guide to Transit Oriented Development (TOD)



Sacramento Regional Transit A Transit Action Plan

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Chapter 1. Introduction

The story of Sacramento's urban form is the story of its transportation choices. There is little doubt that its railroads, highways and public transit (historic streetcars) have shaped the region's settlement patterns. They have also promoted or impacted its livability and guided its sustainability. Over the past century, it has become clear that investments in transit concentrate development while investments in highways expand regions.

Transit in Sacramento

Regional Transit's current system includes 37 miles of Light Rail Transit (LRT) serving Sacramento city and county, Rancho Cordova and Folsom. Bus service covers 93 routes which serve the above plus Citrus Heights, West Sacramento and Elk Grove. Current LRT ridership stands at approximately 50,000 weekday riders, with slightly more using the bus system.

The Transit Action Plan (TAP)

Sacramento Regional Transit (RT) is in the process of completing a 30 year Transit Action Plan. The plan envisions expanding Sacramento's existing light rail lines, adding streetcar lines to downtown and Rancho Cordova, and exploring a variety of technologies for high frequency bus corridors throughout the Sacramento region.



The Regional Growth Vision

The Sacramento region also has a vision in place to direct future growth and minimize greenfield development. In 2005 the Sacramento Area Council of Governments (SACOG) approved the *Blueprint Scenario for 2050*. The Blueprint strongly suggests Transit Oriented Development (TOD) as a way to direct future growth

to existing infrastructure, with an expectation of 41% of new jobs and 38% of new housing within walking distance of transit.

It will be crucial to ensure that the land use, urban form and infrastructure in these particular areas will complement and support Sacramento's transit investment. In turn, the transit system will further support the goals of the Blueprint.

The State of California is also considering how its major cities will look and function in the future. California Senate Bill 375 would mandate regional transportation plans that address the influence that new development has on vehicle miles traveled, with the goal of reducing greenhouse gas emissions in California. The program would encourage developers with streamlined environmental approval. Transit Oriented Development is an obvious method of reducing vehicle miles traveled, and in the context of Bill 375 could provide developers with an easier path through state environmental regulation.

Creating a Transit Oriented Development Guide

Regional Transit, as part of the Transit Action Plan, is developing a guide to Transit Oriented Development to promote TOD as an important tool in delivering the goals of the Blueprint plan: to increase transit ridership; and widen transportation choice in the Sacramento region.

TOD thrives when supportive land use policies are coupled with high quality transit infrastructure investment. While Regional Transit's traditional role has been to committed to high quality transit infrastructure, cities across North America have proven that realizing TOD requires cooperation and shared processes between the transit provider, local government and infrastructure decision-makers.

Cooperation among partners and also within the many departments of local government can be a challenge to coordinate. However, consistent policy presents a message of reliability to the private development community. Reliability is the most valuable tool that the public sector can use to promote private development.

In that spirit, Regional Transit submits this guide to the community not as a prescription, but as a flexible set of recommendations to begin the conversation on a common policy-and vision-for development around

Chapter 2. Goals, Objectives & Challenges

Transit Oriented Development has enormous potential to contribute to many of the Sacramento region's environmental, growth management and quality-oflife goals. At the same time, TOD can increase ridership for Regional Transit.

Regional Land Use Objectives

The objectives for future growth in the region have been well articulated in the *Blueprint 2050* vision. Several of them relate directly to transit and transitoriented development:

- Increased Growth Through Reinvestment
- Increased Housing Diversity
- Reduced New Urbanized Land
- Increased Growth Near Transit
- Increasing Transit, Walking and Biking Trip Share

These objectives are crucial in moving towards the Blueprints general goal of a sustainable Sacramento by reducing the environmental and economic burden of new growth.

Regional Transit Objectives

Regional Transit's Transit Action Plan is crucial in facilitating Sacramento's land use goals. The TMP proposes the following improvements:

- Extending all three existing light rail lines
- Implementing the "DNA" light rail line to the airport
- Building a downtown streetcar circulator line
- Building a Rancho Cordova streetcar circulator line
- Introducing high-frequency bus corridors

This investment program also includes new footways, way-finding improvements, information upgrades, security measures, and station/stop improvements. There would also be more frequent transit services, with longer operating hours. The overall TAP would add new stations, open up new service areas, and increase total ridership. More importantly, however, it would provide transportation choice to more of the region.

The link between the Blueprint and the Transit Action

Plan is an example of the connection between transit and land use on a regional scale. The Blueprint is proposing land use policies that increase density and diversity of uses, but these are only realistic if transit is present. Regional Transit is proposing an expansion of its system, but this is only realistic if land use policy is





Top: The Blueprint regional growth vision Above: the Regional Transit Action plan "Alternative C"

Local Precedents

The region has already taken the initiative in considering TOD throughout the existing LRT system with the *Transit for Livable Communities (TLC)* project. This project identified development opportunities and challenges at 20 stations. As a result, the City of Sacramento has developed more detailed plans for some stations including Florin and Meadowview on the south Blue Line.



Above: A proposed station area land use plan from the TLC report (Source: TLC Report)

Elsewhere in the region, Rancho Cordova has identified the potential for TOD along the LRT Gold Line as part of its Folsom Avenue Corridor Study. The town of Folsom itself, the current terminus of the LRT Gold Line, is in the middle of a complete redevelopment of its historic downtown around the transit station.



Above: A rendering of redevelopment in downtown Folsom (Source: City of Folsom)

Challenges to Implementation

The challenges facing TOD implementation in Sacramento underscore the need for regional partnerships. The TLC report identifies several, including:

- Entitlement processes that are risky to developers
- Housing and retail product types new to the market
- Suburban-level parking requirements
- Infrastructure capacity issues



Above: In the challenge to implement transit, the question of land use has often been overlooked

Another challenge which is common throughout the country is the tendency for transit lines to run through less desirable land uses and old freight rights-of-way -- often because of easy land acquisition. This poses a contextual challenge to TOD; despite best efforts, even well-designed projects often exist in areas that have weak real estate markets or even negative perceptions.

Flexibility and Managing Expectations

The prospect of a locally unproven development product in a part of town with weak market factors only reinforces the need for the transit agency to study and promote the best development practices. The foundation of the policy, however, should be to create a framework for development that is **flexible** and allows for **evolution over time**.

This marks a clear departure from "standardizing" development expectations for TOD, particularly in the area of land use and density, but also to character and access. Because of unpredictable market forces in many transit corridors, Regional Transit should expect that its stations represent a spectrum of opportunities and its policy should acknowledge this reality. The scope for TOD to develop adjacent to improved high frequency bus corridors should also be recognized.

Chapter 3. Land Use Framework

To fulfill Blueprint goals, existing local growth strategies and policies must evolve to accommodate growth, allowing 41% of new jobs and 38% of new housing to be transit accessible.

The definition of TOD tends to force a single programmed solution onto the different types of communities served by transit. On the contrary, the land development pattern in the Sacramento Region is sophisticated and diverse with a multitude of conditions. The types of projects that might be appropriate in older neighborhoods close to downtown are different from those that might work in new and growing areas in the County.

This section discusses the Sacramento context, the existing and desired community form that will be served by RT's Long-Range Transit Action Plan, and the important differences among places and destinations within the Sacramento Region. These definitions clarify the differences between each community and establish a basic framework of development regulations, investment priorities, and design responses for RT's transit delivery policies and each municipality's land development regulations, transportation policies, parks and civic infrastructure programming priorities.



Above: High density development and Supporting public spaces in Sacramento's urban core. Not all areas on a transit system develop to this level of intensity.

The Existing System

Sacramento's existing light rail network follows a basic framework of station types. Downtown stations are mostly accessed by walking and serve a dense, mixed use environment. Some stations have denser surroundings than others, but nearly all of them are supported by a well connected street network.

Traveling outward from the urban core, stations serve retail crossroads, employment centers, or predominantly residential neighborhoods. These stations may have park-and-ride lots or are simply accessed by walking.



Above: A view from Sacramento's light rail system.

Further into the suburbs and towards the urbanized edge of the region, the majority of stations have large park-and-ride lots. Although some of these stations serve major employers, most function to draw in commuters to travel into and out of the urban core via transit.

As illustrated in the diagram on the facing page, the land use framework of a transit system is made up of a range of environments and a parallel range of transit functions and appropriate technologies. This range of environments can be used to inform policy and development expectations for TOD.

Since the stations today vary in function and intensity, they should be expected to accomodate TOD in different ways and at different rates. Sacramento's urban core stations already benefit from a complementary land use environment and can be expected to continue to do so. It is the stations outside of the core that will evolve the most to accommodate new growth.

Creating a Land Use Framework



Proposed Framework

URBAN CORE/DOWNTOWN

This area includes downtown Sacramento and its immediate surroundings, including Midtown, the Railyards and downtown West Sacramento. It is the most accessible part of the region with an interconnected street pattern. Its existing (or planned) densities are already supportive of transit and should be the highest in the region. The area has an existing strong TOD market - even in areas not served by premium transit.

The Downtown is built-out and all forms of growth are expected to come from infill and redevelopment. Many recommendations in this document can defer appropriately to existing code which regulates downtown and the capitol area. The Urban Core's sphere of influence extends a half-mile from the transit stations.

URBAN CENTER

Urban centers are envisioned as complete communities, reflected in their density and intensity. Today, many of the station areas that could become urban centers are already important places of activity. They include traditional retail crossroads, malls, and existing neighborhood centers.

As complete communities these station areas express individual character as they evolve. Likewise, some may be transit supportive today while others may not have very strong Transit Oriented Development markets and will emerge over time. The Urban Center sphere of influence reaches a half-mile from the transit station.

EMPLOYMENT CENTER

Several areas along the existing and proposed transit alignments have an employment focus. It is expected that these areas will have a mixture of uses; however, their predominant activity will be employment based. These destination areas will not evolve to become as intense as the downtown or urban centers. The Transit Oriented Development market in these areas varies and may take time to evolve. The Employment Center Stations' sphere of influence reaches half-mile from the transit stations.













RESIDENTIAL CENTER

Many development conditions along the transit system are predominantly residential. These areas may have a mix of uses but their predominant character and activity supports residential neighborhoods. They have limited park and ride. Some of these areas may become as intense as the Urban Core or Urban Centers. However, the TOD market in the Residential Centers varies and will emerge over time. A primary consideration in this station area type is the protection of existing neighborhoods and the transition from higher to lower density. The Residential Center Station's sphere of influence reaches a half-mile from the transit station.

COMMUTER CENTER

Commuter Centers balance density with the role of accommodating commuters accessing transit via park and ride. Some of these stations serve potential development markets by virtue of being near developable land, and they may have significant transit agency land assets. Others may have very limited development potential. Most do not enjoy high street connectivity or pedestrian-oriented environments.

This station type may allow higher parking ratios and higher replacement levels of park and ride spaces that are consumed for joint development. If development does occur, every effort should be made to ensure a connected street network and a pedestrianoriented environment that allows for future densification.

HI-BUS CORRIDOR

The Sacramento Transit Action Plan envisions a comprehensive transit system. In addition to rail transit, high-frequency bus (or similar vehicle) corridors will serve areas outside the premium transit lines. Instead of a radius around a station point, these areas are linear along corridors with 10 minute service headways or better. These areas should intensify over time because they are dependable transportation options, but their TOD potential is limited due to the thin linear nature of the development opportunities.

Unlike centers of activity, development around Hi-Bus corridors tend to focus in a linear fashion along arterial corridors and not penetrate into existing residential or industrial areas. Development around Hi-Bus corridors is intended improve the walkablity of the arterial roadways and encourage appropriatley scaled transit supportive development without extending into adjacent communities.







Chapter 4. TOD Expectations & Guidelines

The delivery of TOD is more involved than simply placing the correct land uses and densities around the appropriate transit investments. Truly positioning the Sacramento Region to deliver TOD involves incorporating all the elements of community building that influence land use, as well as those that place demands on the transportation infrastructure.

A comprehensive approach is important is because the transit user's experience is influenced by so many factors, and these factors are often the responsibility of different authorities. In a door-to-door trip, a transit user must navigate the streetscape, private development, utilities, transit infrastructure, civic uses and greenspace. If any of these variables discourages transit use, the viability of TOD will suffer.

The expectations and guidelines documented in this section identify and organize these many considerations into three elements of city building: Land Use and Community Character; Mobility and Access; and Civic Amenities including green space.

The TOD Guidelines' intent is not to be specific, but to offer principles and guidelines that will be refined and adopted by each municipality and their various departments. Implementing the Transit Action Plan requires a new means of integrating land use and transportation within the Sacramento Region.

Land Use plans for areas served by existing and future high quality transit should be re-evaluated and incorporated into each local jurisdiction's General Plans, and Zoning Ordinances. These TOD guidelines and the resulting modifications within each municipality will allow effective implementation of the appropriate changes to the built environment.

Land Use and **Community Character**

Land use and the character of the built environment are vitally important considerations to TOD and are often the focus of TOD policy. Guidelines in this section include questions of density, building height and disposition, parking ratios, block sizes, and the appropriate mix and types of land use for transit.

It is tempting to be prescriptive in expectations in this category, however many outcomes of the built environment are ultimately influenced by market forces. High quality development is promoted. Particular architectural styles and residential and commercial product types are subject to fundamental policies such as setting a minimum density expectation, regulating for walkable block sizes and managing parking ratios. The recommendations in this section provide a framework for development that promotes walkability.

Pedestrian Orientation: The "A" Street and "B" Street Heirarchy

The quality of architecture encourages or discourages pedestrian activity. Building design guidelines should regulate form based on human proportions and the quality of the pedesarchitectural style.

based on a street hierarchy which, in turn, is based on desired pedestrian activity. The street types in this hierarchy would define the expected quality of pedestrian activity on various streets. The most fundamental hierarchy has pedestrian priority streets ("A" Streets) as well as secondary streets ("B"

Streets).

Buildings are designed to have fronts and backs. The strategy behind street-based architectural design guidelines is to ensure the fronts of buildings with their trian experience at street level, doors and windows are facing rather than dictate a particular the "A" Streets and the buildings driveways and service sides Building guidelines should be of the buildings with blank walls and loading areas are facing the "B" Streets.

> Both should have similar street and sidewalk requirements. The street type combined with architectural design guidelines will govern the building's design and orientation to appropriate streets.

"A" Streets

It is necessary that "A" streets have on-street parking to invite buildings up to the street with minimum setback. Buildings should provide frequent breaks to access parking supplies. Building have a high proportion of windows in their facades, especially at street level. This creates a highly activated environment for pedestrians and increases the perception of safety. In almost all cases, there should be no surface parking between a building and the street. Parking, loading and utility access should occur from alleys or "B" streets.



"A" Streets would require active architecture facing the street.



Diagram illustrating Street Type and Building Orientation

"B" Streets

"B" streets have more flexible standards than "A" streets. The street itself would encourage, but not require, on-street parking. Otherwise "B" Streets should be designed to the same standard as an "A" street, but "B" streets may serve the parking, loading and utility functions of buildings. "B" streets do not need to be consistently lined with buildings. They may have structured or surface parking between the building and the street.



"B" Streets would allow functional portions of building to face the Street.

Allowed Uses

Different land uses influence the number of trips, the time of each trip, and the different modes of travel utilizing the City's transportation system. Office, medical, institutional, educational (high school and post secondary) and high density residential uses provide the highest potential for transit ridership.

Small format retail is beneficial to transit, not because of its trip making characteristics, but because of its ability to encourage higher density office and residential activity. Large format retail, industrial, and low density residential land uses generate higher dependency on vehicle based trips. Jurisdictions should review land uses

Land Use Mixture

The mix of land use informs demand and peak loading on the region's transportation infrastructure, as well as the potential for trips being made by pedestrians and ultimately transit. The more complete the mixture of origins (homes) and destinations (retail and office), the more reduction in demand on the automobile network. Mixing land use should be encouraged in areas expecting the highest density and intensity of development. In areas where the market is weak, allowing a mixture of land use will provide needed flexibility to the development community.

Building Use Encourage and Discour-

age Pedestrian Activity

within 1/2 mile of each transit

node. Automobile dependant

land uses such as large format

retail, industrial and low density

residential should not be encour-

aged within walking distance of

the existing and proposed tran-

sit nodes.



Mixed Use Environment - Pittsburgh

Parking may be the single most important development issue influencing transit ridership. Parking ratios will be unique to the development pressures facing the region. It is recommended that jurisdictions modify their parking regulations to shift away from parking minimums and establish parking maximums in areas served by premium transit.

Residential and Commercial Densities

It is recommended that new development concentrates the highest densities closest to the transit station and transitions to lower densities adjacent to existing single-family neighborhoods. This allows a greater numbers of people to have walking access to transit, creating a focal point around the station.

It has been found that people prefer to walk further to their residence than to work. If a choice has to be made, nonresidential land uses should be located closer to transit stations than residential areas.

Block Dimensions

The most effective long-term strategy to create a walkable community is establishing an interconnected network of streets that create a fine grain series of urban blocks that dictate the form, intensity and character of development. Block dimen-



Building Heights

It is important to note that the tallest buildings do not always facilitate the most walkable environments. The most recognized walkable communities in the world: Paris, Rome, and Washington DC limit densities through building heights yet still have very successful transit systems. Outside Sacramento's urban core, densities should be influenced by building heights.





Restricting Building Hieghts do not discourage density.

Most of the region's zoning bylaws establish maximum allowances of use and manage the ultimate densities for individual properties. One concern around transit stations with a land use ordinance that utilizes maximum allowances, is that it cannot discourage lower density and sometimes inappropriate development in areas adjacent to transit.

It is recommended that jurisdictions establish density *minimums* rather than maximums in areas within walking distance of transit corridors. Areas that are not served by transit should maintain density maximums.

sions within transit nodes should be small to promote human scale development. The block dimensions will include a maximum block length as well as a maximum block perimeter for each development condition.



Applying the Framework: Land Use and Community Character Guidelines

These guidelines are intended to be flexible and not strict standards. These guidelines provide guidence to local jurisdictions to use in their best judgement and understanding of thier real estate markets to inform development around transit. City's evolve overtime and are never "built-out". As the Sacramento Region continues to evolve, these TOD guidelines should also evolve allowing local jurisditions the ability to modify and improve overtime as development evolves and improves.

	Urban Core / Downtown	Urban Center	Employment Center		
Land Uses	Not Applicable	Restrict industrial, flex office and auto-oriented uses within 1/2 mile of station	Restrict industrial and auto- oriented uses within 1/2 mile of station		
Land Use Ratios ¹	No percentage constraints	50% Employment (Max) 50% Residential (Max) 50% Retail (Max)	90% Employment (Max) 30% Residential (Max) 20% Retail (Max)		
Residential Density	1/2 Mile: 36 DU/Acre (Min)	1/4 Mile: 20 DU/Acre (Min) 1/2 Mile: 15 DU/Acre (Min)	1/4 Mile: 15 DU/Acre (Min) 1/2 Mile: 10 DU/Acre (Min)		
Commercial Density	1/4 Mile: 2 FAR (Min)	1/4 Mile: 1.5 FAR (Min) 1/2 Mile: 1 FAR (Min)	1/4 Mile: 1.5 FAR (Min) 1/2 Mile: 1 FAR (Min)		
Parking	Residential: .75/Unit (Max) Office: 1/1,000 SF (Max) Retail: 2/1,000 SF (Max)	Residential: .75/Unit (Max) Office: 1/1,000 SF (Max) Retail: 2/1,000 SF (Max)	Residential: 1/Unit (Max) Office: 2/1,000 SF (Max) Retail: 3/1,000 SF (Max)		
Block Dimensions ²	400' Block Length (Max) 1600' Block Perimeter (Max)	600' Block Length (Max) 1800' Block Perimeter (Max)	600' Block Length (Max) 1800' Block Perimeter (Max)		
Building Floor Plates	Residential: 40,000 SF (Max) Commercial: NR	Residential: 50,000 SF (Max) Commercial: 50,000 SF (Max)	Residential: 30,000 SF (Max) Commercial: 90,000 SF (Max)		
Building Heights	Not Applicable	12 Floors (Max) May be lower based on commu- nity context	12 Floors (Max) May be lower based on commu- nity context		
"A" Street Recom- mendations	<i>Not Applicable.</i> See City of Sacramento's Central City Design Guidelines	 Buildings placed to minimum street setback 90% (Min) building frontage 75% (Min) facade transparency No parking between sidewalk and front of building 	 Buildings placed to minimum street setback 66% (Min) building frontage 75% (Min) facade transparency No parking between sidewalk and front of building 		
"B" Street Recom- mendations	<i>Not Applicable.</i> See City of Sacramento's Central City Design Guidelines	•Encourage building to mini- mum street setback •50% (Min) building frontage •Encourage landscape or knee wall to screen surface parking	 Encourage building to minimum street setback 25% (Min) building frontage Encourage landscape or knee wall to screen surface parking 		

1) Does not apply to parcels under 1 acre in area

2) Paseos, or unrestricted through-block pedestrian connections, strongly encouraged for blocks greater than 400' in length

<u>Glossary of Terms:</u> DU - Dwelling Unit FAR - Floor Area Ratio - is the total building square footage (building area) divided by the site size square footage (site area).

Residential Center	Commuter Center	Enhanced Bus Corridor		
Restrict all forms of industrial	Restrict all forms of industrial	Restrict most forms of indus-		
and auto-related uses within 1/2 mile of station	and auto related uses within 1/2 mile of station	trial uses within 1/4 mile of corridor		
30% Employment (Max) 90% Residential (Max) 20% Retail (Max)	30% Employment (Max) 90% Residential (Max) 50% Retail (Max)	40% Employment (Max) 100% Residential (Max) 20% Retail (Max)		
1/4 Mile: 15 DU/Acre (Min) 1/2 Mile: 10 DU/Acre (Min)	1/2 Mile: 10 DU/Acre (Min)	1/4 Mile: 10 DU/Acre (Min)		
1/2 Mile: .5 FAR (Min)	1/4 Mile: .5 FAR (Min)	1/4 Mile: .25 FAR (Min)		
Residential: 1/Unit (Max) Office: 2/1,000 SF (Max) Retail: 3/1,000 SF (Max)	Residential: 1.5/Unit (Max) Office: 3/1,000 SF (Max) Retail: 3.5/1,000 SF (Max)	Residential: 1.5/Unit (Max) Office: 3/1,000 SF (Max) Retail: 3.5/1,000 SF (Max)		
600' Block Length (Max) 1800' Block Perimeter (Max)	600' Block Length (Max) 1800' Block Perimeter (Max)	600' Block Length (Max) 1800' Block Perimeter (Max)		
Residential: 15,000 SF (Max) Commercial: 90,000 SF (Max)	Residential: 15,000 SF (Max) Commercial: 90,000 SF (Max)	Residential: 15,000 SF (Max) Commercial: 100,000 SF (Max)		
6 Floors (Max) May be lower based on commu- nity context	6 Floors (Max) May be lower based on commu- nity context	4 Floors (Max)		
 Buildings placed to minimum street setback 66% (Min) building frontage 75% (Min) facade transparency No parking between sidewalk and front of building 	•Encourage building to mini- mum street setback •50% (Min) building frontage •75% (Min) facade transparency •Encourage landscape or knee wall to screen surface parking	Not Applicable		
•Encourage building to mini- mum street setback •25% (Min) building frontage •Encourage landscape or knee wall to screen surface parking	 Encourage building to minimum street setback No minimum building frontage Encourage landscape or knee wall to screen surface parking 	Not Applicable		

Transportation: Mobility and Access

The quality of the design for sidwalks, roadways and transit infrastructure influence the development possibilities of adjacent land use. High speed roadways designed without on-street parking and provisions for sidewalks with minimum dimensions will not encourage a "Main Street" retailer to locate on that facility. Similarly, if rail transit requires street separation with rail within transit station areas the development opportunities around the station will be limited by the lack of interconnectivity and proximity to adjacent development.

However, transit typically operates more efficiently in exclusive guideways with traffic signal priority and grade separations.

Transportation facilities can no longer be designed for the movement of goods and service as if nothing else matters. The surrounding and desired land use context should inform the quality of the transportation system's design even if it means transportation efficiency is compromised because of adjacent development opportunities.

Transit Center Placement/Design

The quality of interface between bus transit and rail transit is critical to ridership. However, the design of these interchanges can either promote development adjacent to transit or discourage it. The placement and design of the potential transit interchanges at rail stations would be guided by the context of its surroundings and be enabled by flexibility in design criteria. This allows inventive solutions that encourage private development adjacent to the rail stations, not separated by an inappropriately designed transit interchange.

Park & Ride

Like the transit interchange, the park-n-ride is an important transit component to a successful transit station. However, the placement and design of these facilities should consider the immediate and long-term development opportunities around each station. Every park-n-ride's viability should be tested against immediate development prospects. If the parking need is greater than the immediate development opportunities then the facility should be designed to transition over time to structured parking and eventually TOD in the longterm.





Transit Technologies

Not all transit technologies create the same kind of community character. The transit agency should use its diverse portfolio of service types to match the different transportation needs of the areas in the framework. For example, the intent of the Commuter Center station type is to accommodate large amounts of commuters traveling moderate to long distances; this could integrate well with commuter rail service. This high-capacity type of transit

might not be compatible with a more sensitive area type like a Residential Center, whose transportation function is more oriented to short-to-moderate distance trips.

Different technologies also have different operating parameters. Commuter (heavy) rail must run in a dedicated right-of-way wheras light rail and BRT are flexible. Trams and streetcars often run in the street, but are suited for different service levels.

ROW and Train Operation

Transit typically operates more efficiently in exclusive guideways with transit signal priority, and grade separations.

However, the rail system's utilization of right-of-way and operation plans significantly influence development opportu-



Left: A susrface Park-n-Ride capable of Conversion to TOD Above: San Dlego, CA - Light Rail Trolley

nities around transit. In intensely developed areas and centers of activity, light rail and trambased transit can often operate successfully in mixed traffic, especially when alternative alignments would negatively impact access or urban design considerations.



Grade Crossings

Grade separation of transit interaction with streets and pedestrian crossings greatly influence the quality of the built environment and intensity of pedestrian activity at street level. Grade spearations tend to reduce pedestrian activity and street-level development.

LOS Standards

The operational condition, or level of service (LOS), of a roadway is measured by comparing the number of vehicles expected on the road with the number of vehicles the road can accommodate (capacity). The degree of congestion increases as the volume of vehicle approaches the road's capacity. Levels of service range from "A" being the best and "F" the worst. Jurisdictions in the region developed station areas. service criteria that allow lower vehicle level of service within transit station areas because motorists have alternatives to congested roadways. Lowering LOS standards will allow more flexibility in roadway design so that the pedestrian environ-

Regional Transit should evaluate

its design criteria to allow addi-

tional at-grade street crossings

in appropriate high density pe-

destrian environments and al-

low the flexibility for both gated

and signalized crossings within

ment is not compromised by perceived roadway capacity. Concurrent with lower LOS expectations is an increase in bus priority measures.

should develop flexible levels of

Connectivity Index

Connectivity refers to the directness of links and the density of connections in a road network. A well-connected road or path network has many short links, numerous intersections, and minimal dead-ends (cul-desacs). As connectivity increases, travel distances decrease and

route options increase, allowing more direct travel between destinations, creating a more accessible and resilient system. A connectivity index is the ratio of the number of street links (road sections between intersections and cul-de-sacs) divided by the number of street nodes.



Above: Connectivity Assessment - Charlotte, NC Upper Right: On-Street Parking Right: Bicycle Friendly Stairs

On-Street Parking

On-street parking can visually and structurally protect pedestrians from moving traffic. On-street parking can also help activate the ground floor of mixed use buildings and create an active street-front environment. It is important in Transit Oriented Development areas that transit accommodating on-street parking is allowed and encouraged regardless of a street's roadway classification. However, with "A: and "B" street classifications there is scope to relocate on-street parking and use the space created for wider sidewalks, landscaping, public art, bicycle parking and other amenities on "A" streets



Sidewalks

A transit system's effectiveness is determined by its ability to accommodate pedestrian movement. In surveys around the world, individuals who do not ride transit report that it is not convenient to their needs. Many times, walking distance and the quality of the walking environment en route to transit services influence the convenience of the service. Better pedestrian system design improves the convenience of transit and encourages alternative modes of transportation. Sidewalks are the backbone of a balanced transportation system. Design dimensions should vary with anticipated pedestrian volumes and changing transit station areas.

Bicycle Facilities

Bicycles provide an alternative form of transportation which effectively quadruples the speed and provides sixteen times the coverage area of non-motorized travel. Early consideration in the community planning process and effective facility design will promote the bicycle as a viable transportation mode in a balanced transportation system.

Jurisdictions should encourage the implementation of bicycle infrastructure to and from transit nodes, including: multi-use trails and off-street bicycle paths, bicycle lanes, and safe routes that share traffic with cars. In addition, Regional Transit should expect appropriate bicycle amenities, including bicycle parking requirements at transit stations and to land uses within transit nodes.



Applying the Framework:

Mobility and Access Guidelines

	Urban Core / Downtown		Urban Center		Employment Center
Transit Technologies	Commuter Rail, Light Rail, Tram, Streetcar, BRT, Hi-Bus, Fixed Route Bus	Π	Commuter Rail, Light Rail, Tram, Streetcar, BRT, Hi-Bus, Fixed Route Bus		Commuter Rail, Light Rail, Streetcar, BRT, Hi-Bus, Fixed Route Bus
Transit Center Placement/Design	Discouraged. If required, facili- ties should be incorporated into street design.		Discouraged. If required, facili- ties should be incorporated into street design.		Discouraged
Park & Ride Placement/Design	Not appropriate		Not appropriate		Designed to accomodate joint development
ROW and Train Operation	Exclusive, shared, or mixed	Π	Exclusive, shared, or mixed		Exclusive, shared, or mixed
Grade Crossings	Signalized grade crossings encouraged. Grade separated discouraged.	Π	Signalized grade crossings encouraged. Grade separated discouraged.		Signalized grade crossings encouraged. Grade separated discouraged.
Minimum LOS Standards	1/2 Mile: No minimum vehicle based LOS	Π	1/2 Mile: No minimum vehicle based LOS		1/2 Mile: No minimum vehicle based LOS
Connectivity Index	Ratio of intersections to seg- ments should equal 1.25 (Min)		Ratio of intersections to seg- ments should equal 1.25 (Min)		Ratio of intersections to seg- ments should equal 1.25 (Min)
Street Design Guidelines	<i>Not Applicable</i> . See City of Sacramento's Central City Design Guidelines		Only skinny/low speed street guidelines apply		Only skinny/low speed street guidelines apply
On-Street Parking	<i>Not Applicable</i> . See City of Sacramento's Central City Design Guidelines		Required		Required
Sidewalks	16' (Min)	Π	12' (Min) Mixed-Use Streets	Π	12' (Min) Mixed-Use Streets
			5' (Min) Residential-Only Streets		5' (Min) Residential-Only Streets
Bicycle Facilities	Required. Encourage secure storage, changing stations at destination station types.		Required. Encourage secure storage, changing stations at destination station types.		Required. Encourage secure storage, changing stations at destination station types.
Crossings ²	15' (Min) with enhanced striping		1/8 Mile: 15' (Min) with en- hanced striping 1/2 Mile: 10'		1/8 Mile: 15' (Min) 1/2 Mile: 10'

1) Sidewalk width should increase with density and proximity to station

2) Mid-block crossings strongly advised on street segments over 400' in length

Glossary of Terms:

skinny/low speed street - Are streets that employ a set of design strategies which aim to slow down or reduce traffic, thereby improving safety for pedestrians and bicyclists as well as improving the environment for residents.

		Eshew 1D			
Residential	Commuter	Enhanced Bus			
Center	Center	Corridor			
Light Rail, Streetcar, BRT, Hi- Bus, Fixed Route Bus, Neighbor- hood Circulator, Shuttle	Commuter Rail, Light Rail, BRT, Hi-Bus, Fixed Route Bus, Neigh- borhood Circulator, Shuttle	Hi-Bus, Fixed Route Bus, Neigh- borhood Circulator, Shuttle			
Not appropriate	Designed to accomodate joint development	Not appropriate			
Designed to accomodate joint development	Designed to accomodate joint development	Not Applicable			
Exclusive, shared, or mixed	Exclusive or shared. Mixed discouraged.	Not Applicable			
Signalized grade crossings encouraged. Grade separated discouraged.	Gated or grade separated al- lowed	Gated or grade separated encouraged.			
1/2 Mile: No minimum vehicle based LOS	1/2 Mile: LOS E V/C ratio .80	1/2 Mile: LOS E V/C ratio .80			
Ratio of intersections to seg- ments should equal 1.25 (Min)	Ratio of intersections to seg- ments should equal 1.5 (Min)	Ratio of intersections to seg- ments should equal 1.5 (Min)			
Only skinny/low speed street guidelines apply	Context appropriate. Not all streets will be pedestrian oriented.	Context appropriate. Not all streets will be pedestrian oriented.			
Required	Required	Context appropriate (negoti- ated)			
12' (Min) Mixed-Use Streets	12' (Min) Mixed-Use Streets	5' (Min)			
5' (Min) Residential-Only Streets	5' (Min) Residential-Only Streets				
Required	Context appropriate (negoti- ated)	Context appropriate (negoti- ated)			
1/8 Mile: 12' (Min) 1/2 Mile: 10'	10' (Min)	10' (Min)			

Open Space and Civic Amenities

Like the private development industry, local governments are developers, creating parks and civic infrastructure and these community investments have a profound impact on adjoining land uses. The policies and actions of local government in the development of this civic infrastructure need to be incorporated into the Integrated Transit and Land Use Framework.

Several entities manage parkland throughout the region. For example, the City of Sacramento has four park categories: Pocket Park/Urban Plaza; Neighborhood Park; Community Park; and Regional Park. These categories are familiar enough to use as a baseline for the framework recommendations.

Pocket Parks and Urban Plazas

are designed to accommodate passive recreation activities.

Sacramento defines Pocket Urban Plazas may contain more Parks as spaces less than 5 hardscape and accommodations acres, but in many urban set- for gatherings or events. These tings they are often less than park types are flexible and fit one acre. The primary users live well into many environments or work nearby. These spaces including transit nodes and the urban core.

Community Parks

Sacramento defines these parks, sized between 10 and 60 acres, as able to meet the requirements of a large portion of the city. They may include dedicated parking, sports fields,

large picnic areas, and special uses like swimming pools. Parks in this category approach a size that becomes too land-intensive and disruptive to transit-oriented development.



Public Plaza - City Place, West Palm Beach, FL

Neighborhood Parks

Sacramento defines these parks, sized between 5 and 10 acres, as intended for active use by people who live nearby, within a half-mile of the park. This park type can be developed in conjunction with an elementary school. They may include unlighted sports fields.





Community Park, Baldwin Park, Orlando, FL

Regional Parks

The largest of Sacramento's park types, Regional Parks meet the needs of the entire city or region. They range in size from dozens to hundreds of acres and accommodate a wide variety of activities. Considering that only

et 1/2 mile station area of influor ence, Regional Parks are almost m never a compatible use within a 1/2 mile of premium transit

500 acres exist within the entire

Greenways

Greenways are linear parks or public open spaces (minimum width of 32 feet) that connect parks and other public open spaces to one another. They accommodate active transportation options for the community (e.g., walking or cycling to work, etc.). Greenways are regional amenities that transcend the land development expectations around transit and are value-giving amenities that each transit area can embrace and extend.



Community Venues

Community venues are culturally significant public gathering places. These venues include stadiums, arenas, cultural facilities, and museums. These facilities are significant regional destinations that could have substantial economic impacts on adjacent land uses if placed and designed properly. It is vital that these facilities are located in the central areas of activity in the region such as the urban core and mixed use centers.



Government Offices

Government offices, such as post offices which are often a lifeline for seniors, have the potential to be an excellent generator of transit ridership. The placement and design of these facilities in the future must take into account their proximity to transit.

Libraries

Libraries are important civic infrastructure that should be accessible to all members of the community. Libraries should be placed within areas served by transit whenever possible. However, smaller branch libraries are also encouraged in low frequency transit areas.

Schools

Middle schools and high schools should be placed within areas served by transit whenever possible. However, elementary schools will be located throughout the region in both high and low frequency transit areas.





Maintenance Facilities

Maintenance facilities generate low transit ridership. They are land consumptive, and tend to have negative impacts to

adjoining land uses. The facilities are discouraged from being located in any areas served by premium transit.

Assisted Living

Assisted living facilities should to be located near premium transit facilities, so that the transit system can provide options to the mobility impaired.

Aronoff Center, Cincinnati, OH

Applying the Framework:

Open Space and Civic Amenities Guidelines

	Urban Core / Downtown	Urban Center	Employment Center		
Park Types	Urban Plaza, Pocket Park	Urban Plaza, Pocket Park, Neigh- borhood Park. Community and Regional Park discouraged.	Urban Plaza, Pocket Park, Neigh- borhood Park. Community and Regional Park discouraged.		
Open Space Provision	Provide appropriate park type within 1/8 mile of any residence	Provide appropriate park type within 1/8 mile of any residence	Provide appropriate park type within 1/8 mile of any residence		
Schools	College, High School, Middle School, Elementary School. Urban format encouraged.	College, High School, Middle School	College, High School, Middle School		
Libraries	Encouraged. Prioritize access to parks and schools.	Encouraged. Prioritize access to parks and schools.	Encouraged. Prioritize access to parks and schools.		
Community Venues	Arena/Stadium, Museum, Performing Arts. Regional-scale venues encouraged.	Arena/Stadium, Museum, Performing Arts. Regional-scale venues encouraged.	Arena/Stadium, Museum, Per- forming Arts		
Government Offices	Encourage visible and accessible locations. Encourage context-sensitive security solutions.*	Encourage visible and accessible locations. Encourage context- sensitive security solutions.*	Encouraged.		
Assisted Living	Encouraged in high-density format	Encouraged. Prioritize access to parks, convenience retail, and medical facilities.	Discouraged		

* For government offices and other sensitive uses that require enhanced security or access restrictions in the Urban Core and Urban Centers, it is strongly recommended that such measures be designed to minmize the impact on an accessible, transparent pedestiran environment and public realm.

Residential Center	Commuter Center	Enhanced Bus Corridor		
Urban Plaza, Pocket Park, Neigh- borhood Park. Community and Regional Park discouraged.	Urban Plaza, Pocket Park, Neigh- borhood Park. Community and Regional Park discouraged.	Urban Plaza, Pocket Park, Neighborhood Park, Commu- nity Park, Regional Park		
Provide appropriate park type within 1/8 mile of any residence	Provide appropriate park type within 1/4 mile of any residence	Not Applicable		
High School, Middle School, Elementary School	College, High School, Middle School	High School, Middle School, Elementary School		
Encouraged. Prioritize access to parks and schools.	Encouraged. Prioritize access to parks and schools.	Discouraged		
Museum, Performing Arts. Local-scale venues encouraged.	Discouraged	Discouraged		
Discouraged	Encouraged.	Discouraged		
Encouraged. Prioritize access to parks, convenience retail, and medical facilities.	Discouraged	Discouraged		

Chapter 5. Roles and Responsibilities

The following chart clarifies the roles and responsibilities of all the major decision makers that influence TOD in the region. These decision makers include the Sacramento Area Council of Governments (SACOG), municipal and county governments, private developers, the State Department of Transportation (CalTrans) and the public utility commissions.

The requirements for delivery of TOD involve more than one entity in every instance. This chart reinforces the necessity of common goals and shared policy to create a predictable environment for TOD when market opportunities occur.

TOD Delivery - Roles and Responsibilities Table						
TOD Delivery Requirements	SACOG	Municipal and County	Regional Transit	Private Dev.	CalTrans	Public Utilities Comm.
Support the Regional Vision						
1. Endorse Blueprint	•		•	•		•
2. Modify General Plans						
3. Adopt TOD Guidelines	•	•	•		•	•
4. Develop Supportive Transit M.P.			•		•	
5. Develop Supportive Trans. M.P.	•					
6. Modify MTP						
Transit Delivery						
1. Establish Minimum Guidelines	•				•	
2. Revise Joint Development Policies			•		•	
3. Sponsor Integrated Process	•		•		•	
4. Commit to Timetables	•		•		•	
Station Area Plans & Regulations						
1. Station Area Concepts	•	•	•	•		
2. Station Area Plans	•	•	•	•		
3. Adopt Revised Land Dev. Code		•		•		
4. Sponsor TOD Rezoning		•		•		
5. Build TOD		•		•		
Get the Bones Right						
1. Sidewalk Improvements	•	•		•	•	
2. New Street and Grade Crossings	•	•		•	•	•
3. Intersection Design	•	•		•	•	
4. Park Infrastructure		•		•		
5. Transit Facility Design			•			
Internal Consistency						
1. Internal Departmental Consistency	•	•	•	•	•	•
Leadership						
1. Regional Growth	•		•	•	•	
2. Regional Infrastructure	•	•	•	•	•	
3. Land Use/Transportation Integration	•		•	•	•	
4. Internal Operations	•	•	•		•	•
5. Financial Sponsorship	•	•	•		•	

Chapter 6. Delivering TOD - Key Actions

Throughout North America, the public sector has historically constructed between 10-20% of the built environment, while the private sector has been responsible for 80%-90%. The public sector typically guides and regulates private sector investments, while building civic institutions, parks, and significant public infrastructure. This is important to note because any TOD delivery expectations within the United State, including the Sacramento Region, must establish a framework that guides and motivates the private development community to build, or rebuild, in a transit supportive manner.

The most effective way to deliver TOD to the Sacramento Region is to establish the necessary foundation for the physical, regulatory, financial and political environments to react to and absorb Transit Oriented Development opportunities when they occur. Today, many of the necessary ingredients exist; however, these ingredients have not been successfully integrated to produce an environment conducive to guide and motivate the private development industry to deliver TOD at a regional scale.

This section identifies the key actions of regional planning and city building in the Sacramento region necessary to create an atmosphere of encouragement for large scale transit oriented investments.

Actively Support the Regional Vision

The Blueprint regional growth vision and its accompanying benchmarks present a common goal for all policy to support. The ideas presented in the Blueprint transcend the agendas of individual agencies and jurisdictions. When one agency or jurisdiction acts contrary to the regional vision, it inhibits the rest of the region from attaining common goals.

SACOG indicated in the Blueprint plan that it is pursuing both technical assistance to local governments and the compilation of a "toolbox of planning and development best-practices." These initiatives should be pursued and integrated with the recommendations in this guide.

Use Transit Delivery to Influence TOD

RT must recognize its role in realizing and implementing the regional vision and supporting local community plans. Infrastructure and the commitment to infrastructure dictate land use. Clearly, transit plays a defining role in the delivery of TOD in the Sacramento Region. Three key elements need to be addressed by Regional Transit to ensure the transit delivery mechanisms position the region for TOD:

1) **Establish** minimum land use objectives for system upgrades and new transit investments. Like the Federal New Starts competition, RT should establish priorities toward local municipalities that commit to the TOD expectations outlined in Chapter #4.

2) **Understand** RT's assets and assist in delivering catalytic opportunities. Review existing RT resources and identify surplus properties. Work with local municipalities to identify catalytic development opportunities and provide flexibility in the parking replacement criteria (i.e. less than 1 for 1) in the joint development policies with the appropriate mixture of land uses. Each opportunity should be evaluated and negotiated with the local municipality.

3) Develop and financially sponsor an integrated transit and land use framework for transit corridor planning, CEQA and NEPA procedures, and preliminary engineering. This is a critical element to TOD delivery. Integrating transit facility planning with station area land use and infrastructure planning will identify development opportunities and local infrastructure requirements when transit has an opportunity to support the initiative. It is always better to integrate these elements early into the planning and design of transit corridors and NEPA procedures when commitments are being made. Many times simple TOD solutions identified early in the process can be embraced while if they are identified later in the process these opportunities cannot be accommodated, limiting development opportunities.

RT's, or SACOG's, financial sponsorship of the land use components is critical to this integration. Local municipalities simply do not have the resources for such an integrated effort. RT can program the integration of the disciplines during the scoping and budgeting phases of each study.





Sponsor and Adopt Station Area Plans

Local municipalities need to follow through with the recent TLC initiative and formalize station area plans that advance to adoption and implementation with the creation of new land development regulations. Each city and/or RT could go further to establish an environment for TOD by sponsoring rezoning to TOD at the property owners request.



Get the Bones Right

Transit and new development regulations together do not guarantee development opportunities. It is important that the local municipalities and regional agencies commit necessary capital improvement projects around transit to position station areas to become higher density, walkable, transit supportive environments. The development community is seeking to meet the confidence of their investors. Real public commitments of public investment, beyond transit, is needed to gain the confidence of the development community, including:

• Sidewalk Infrastructure & Pedestrian Amenities -Identify the deficiencies and commit to their improvement

• New Streets and Street Network Improvements – In most cases the street network and block structure define the development opportunities; transit only provides the enhancement or incentive for more intensity. Many of the stations throughout the RT service area lack basic infrastructure to create transit supportive walkable communities.

• Parks and Civic Infrastructure - In most cases investments around transit will involve residential development. Important to investor confidence is the abundance of civic amenities that will insure a quality environment for future residents. Parks and civic infrastructure are often the key missing ingredients to ensuring more transit supportive opportunities.

Develop Internal Consistency

Clearly, partnerships and policy consistency at a regional scale are critical to delivering TOD. However, equally important is internal consistency within RT and local municipalities. Many departments within a City influence the development approval process and ultimately a City's ability to deliver TOD. Similarly, there are numerous departments within RT that impact the agency's ability to promote transit supportive development. It is critical that all departments internal to each municipality, or internal to RT, align their policies and procedures and create consistent regulations, design guidelines and operational applications to enable transit supportive development.

One of the single most influential considerations a developer has in deciding the form of their investment is the clarity and ease of the development review process. In many communities, policies and actions conducted are inconsistent and out of alignment in creating a truly transit supportive and sustainable community. These public inconsistencies burden the development market by making approval for appropriate design solutions around transit more difficult with greater risk to investors than a less appropriate form of development



Regional Transit as Facilitator

In every region where TOD products are being delivered at a regional scale, the transit authority plays a key leadership role. These agencies are facilitating and advancing conversations on community form and the necessity to align capital spending on transit infrastructure with regional growth strategies. They are also working with local municipalities to create model land development regulations, and in a few cases they are sponsoring local planning initiatives to create more transit supportive environments. RT needs to play a leadership role on the following issues:

• Implementing the Blueprint & Integrating Land Use and Transportation

• Modifying its own operational and design standards to create development oriented infrastructure

• Seeking joint development opportunities for surplus transit properties

• Financially sponsoring local planning initiatives and private development responses

• Including public infrastructure dollars for sidewalk and street improvements associated with the implementation of the Transit Action Plan.

