TOD 203

TRANSIT CORRIDORS AND TOD

Connecting The Dots

Center for Transit-Oriented Development

The Center for Transit-Oriented Development (CTOD) is the only national nonprofit effort dedicated to providing best practices, research and tools to support market-based transit-oriented development. CTOD partners with both the public and private market sectors to strategize about ways to encourage the development of high performing communities around transit stations and to build transit systems that maximize development potential. CTOD works to integrate local and regional planning, generate new tools for economic development, real estate and investment issues, improve affordability and livability for all members of the community, and respond to imperatives for climate change and sustainability. The Center for TOD is a partnership of Reconnecting America, the Center for Neighborhood Technology, and Strategic Economics. For more information go to CTOD's website at www.ctod.org.

Reconnecting America works to create better communities – places where transportation choices make it easy to get from place to place, where businesses flourish, and where people from all walks of life can afford to live, work and visit. Reconnecting America not only develops research and advocates for public policy, but we also build on-the-ground partnerships and convene the players necessary to accelerate decision-making.

The Center for Neighborhood Technology is a creative think-and-do tank that combines rigorous research with effective solutions. CNT works across disciplines and issues, including transportation and community development, energy, natural resources, and climate change. The goal is urban sustainability – the more effective use of resources and assets to improve the health of natural systems and the wealth of people.

Strategic Economics is a consulting and research firm specializing in urban and regional economics and planning. The firm helps local governments, community groups, developers and nonprofit organizations understand the economic and development context in which they operate in order to take strategic steps towards creating high-quality places for people to live and work.

Primary authors: Abigail Thorne-Lyman and Elizabeth Wampler. Edited by Gloria Ohland.

This best practices guidebook is one in an ongoing series explaining the theory and best practices of transit-oriented development. All the books in the series are available as downloadable PDFs at www.reconnectingamerica.org/public/reports.

Other guidebooks in the series include:

TOD 101: Why TOD And Why Now?

TOD 201: Mixed-Income Housing Near Transit: Increasing Affordability With Location Efficiency

TOD 202: Station Area Planning: How To Make Great Transit-Oriented Places

TOD 202: Transit & Employment: Increasing Transit's Share Of The Commute Trip

and forthcoming in 2011:

TOD 204: Planning for TOD at the Regional Scale

TOD 205: TOD and Climate Change

On The Cover **Construction of the FasTracks rail system in downtown Denver**
Photo by Daniel Hoherd

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Why This Book?

Corridor Planning For TOD And Why Should You Do It

THE DEMAND FOR TRANSIT across the U.S. is growing, and more and more transit corridors are proposed and built every year. In 2008, 78 regions in 37 states had proposed 400 transit projects worth $248 billion, and these numbers have continued to rise.[1] Some regions are using a combination of local and federal sources to fund entire fixed-guideway transit networks, such as Denver and the Twin Cities. Other regions are aggressively enhancing existing systems, such as Portland and Los Angeles. But many regions start to build transit networks with a single major corridor, and with so many stations opening every year, there is a growing need to understand how corridor planning can facilitate not only successful transportation outcomes but also successful transit-oriented development (TOD).[2]

All scales of planning for TOD are important, as is discussed on the next page, but planning at the corridor level can be a more efficient way to achieve the benefits of TOD at all stations along the corridor. Corridor planning typically begins when a new transit investment is proposed. Corridor planning is a cost-effective planning process, especially when multiple stations along a corridor face similar challenges and opportunities. The corridor is also the best scale at which to predict the long-range impacts of transit on the market for new development, on commuter travel behavior, and on where the potential for displacement of low-income residents may be greatest. Corridor planning also presents an enormous opportunity to engage stakeholders early in the process. The excitement surrounding a new transit investment can attract a diverse group of stakeholders, and decision-making about the best alignments is achieved when a broad group of stakeholders is involved early on.

The South Lake Union Streetcar in Seattle with the monorail and new construction in the background

PHOTO BY ORAN VIRIYINCY

[1] Reconnecting America. "Jumpstarting the Transit Space Race: How the New Administration Could Make America Energy-Independent, Create Jobs and Keep the Economy Strong," 2007.

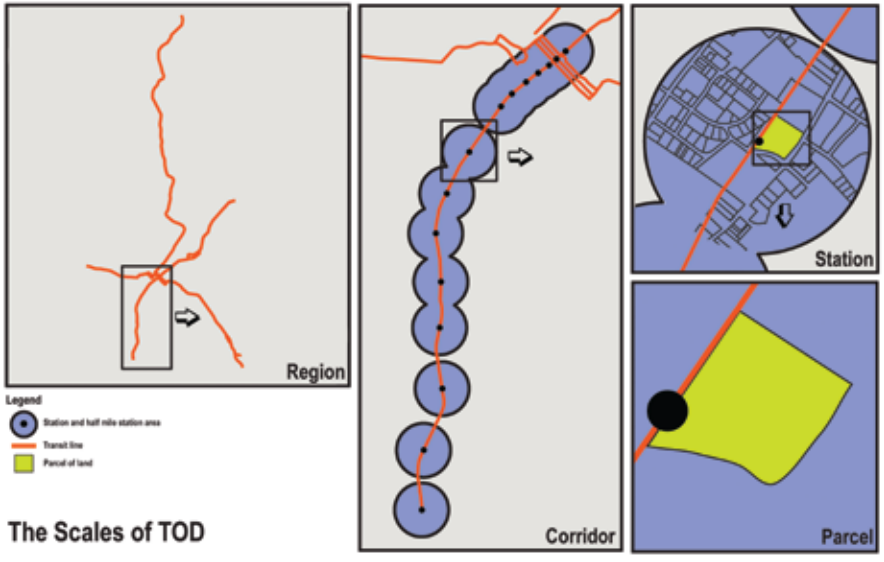
[2] For general information on TOD, see the first book in this series: TOD 101

TOD Planning Occurs At Many Scales

Del Mar Station in Pasadena, California

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

This graphic illustrates the four scales for planning TOD. A region includes many transit corridors, each corridor includes many stations, and each station includes many parcels of land. TOD planning can start at the smaller scale and move up the spectrum, or at the larger scale and move down. But planning at all scales should be coordinated.



The Scales of TOD

What is TOD?

TRANSIT-ORIENTED development, or TOD, is a mix of housing, retail and/or commercial development and amenities – typically referred to as mixed-use development – integrated into walkable neighborhoods within a half-mile of quality public transportation.

What are some benefits of successful TOD?

- *Enhanced access to the transit network by households of all incomes.*
- *Reduced automobile trips and greenhouse gas emissions.*
- *Reduced transportation costs.*
- *Improved public health due to increased walking and cycling.*
- *Improved access to local and regional amenities.*
- *Improved workforce access to job opportunities.*
- *Increased transit ridership.*
- *Creation of a sense of community and place.*
- *Transit becomes the organizing principle for development.*

What Defines A Transit Corridor?

WHEN PLANNING FOR TOD, a transit corridor is best defined as the walkable areas around all of the stations along a transit line. Different transit technologies will define different areas of influence. For example, the area of influence along light and heavy rail corridors is typically a half-mile radius around stations. Because streetcars can stop as often as every street corner they tend to have a stronger influence on development all along the line and up to threes blocks on either side.

Any transit technology can define a transit corridor – heavy or light rail, streetcar, trolley or bus. The TOD potential depends more on the design and quality of service than it does on the transit technology. High-quality service for all transit technologies is defined as high-frequency service along dedicated lanes or rights of way that serve to "fix" the line and provide certainty for developers and investors that transit service will not be moved to another corridor. The TOD potential is also determined by the walkability and bikeability of station areas, the presence of retail amenities, and the local and regional housing market.

A multimodal regional transportation system is made up of transportation corridors like Broad Street in Philadelphia, which is served by subway and bus, and facilitates travel by automobile, bicycle or on foot.

PHOTO BY PAUL SABLEMAN

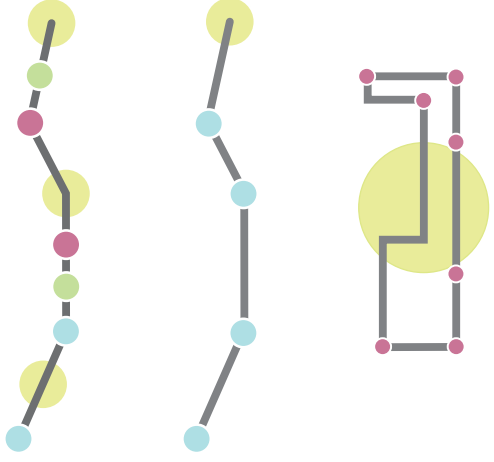
Corridor Planning Can Be A Game-Changer

IN REGIONS JUST STARTING to build a transit network, choosing the "right" corridor to construct first can determine whether there will be regional support and momentum for transit and TOD. Corridor planning that incorporates a strategic, region-wide analysis of the impact of transit can identify where the real estate market will be most active. Existing transit lines can also benefit from corridor-level TOD planning, especially if there is a need for community revitalization, or if market fluctuations make lower income neighborhoods vulnerable to displacement.

Phoenix's first light rail corridor connected major regional destinations, and ridership quickly exceeded projections.

PHOTO BY MICHAEL RUIZ

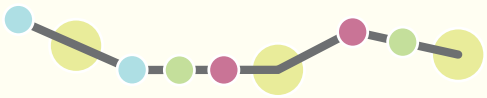
The Rosslyn-Ballston Corridor in Arlington, Virginia, is one of the best examples of a corridor where the decision to build an underground subway with closely spaced stations instead of, for example, an above-ground track in a freeway median, paid off in terms of generating dense, walkable, mixed-use districts as well as high transit ridership. In Houston, using the Red Line to connect the downtown to the Medical Center and other major destinations resulted in higher-than-expected ridership and helped build momentum for a regional initiative to expand transit service to other parts of the region. In Boston, a collective of community development corporations convinced the transit agency to add stations and increase the frequency of service along the Fairmount (Indigo) Line to connect densely populated, lower-income neighborhoods.



There Are Three Basic Corridor Types

This graphic shows the three main corridor types discussed in this book: destination connector, commuter, and district circulator. Each is defined by what it connects and how these connections influence the overall potential for TOD. Different corridor types create different TOD opportunities. While this categorization of types serves to advance corridor analysis and planning, real transit corridors cannot be so easily categorized and tend to be a mix of types.

Corridor Type 1:



DESTINATION CONNECTOR

Description

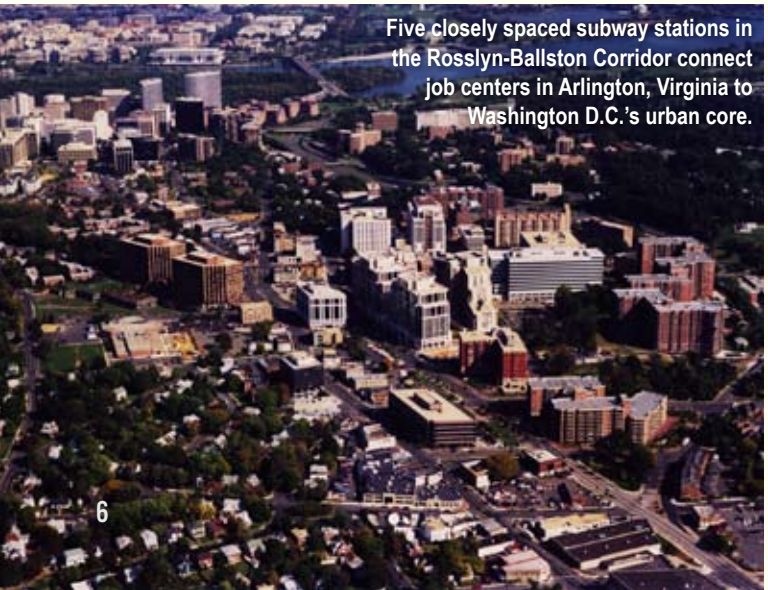
Destination connectors link residential neighborhoods to multiple activity centers, including employment, medical and commercial centers and academic campuses. Because they make these connections, these transit corridors consistently result in ridership that is higher than what was projected, creating a "win" for transit agencies and building regional support for future transit investments. Destination connectors encourage ridership in both directions throughout the day because they serve 9-to-5 employment centers as well as other destinations. Some destination connectors also serve as commuter corridors.

Examples

The Hiawatha line in Minneapolis is a destination connector corridor that connects downtown at one end to the airport and Mall of America on the other end. The Rosslyn-Ballston Corridor connects a series of job centers in Arlington County, Virginia, to the urban core of Washington D.C. Phoenix's light rail line connects the city's downtown to Arizona State University, and Houston's Red Line connects the downtown to the Medical Center and Rice University.

Implications for TOD:

- The demand for new development will likely be highest in station areas identified as "destinations," especially if they are walkable, higher-intensity activity centers with good connections to surrounding neighborhoods.
- Higher-density development is more likely to occur along destination connector corridors due to increased market demand for locations with access to job and activity centers.
- Destinations outside of downtowns have a stronger potential market for new development if they are centers that people want to visit regularly.
- Auto-oriented job centers or malls along the corridor may require new pedestrian-oriented street and building design before they become truly transit-accessible, even if they are very close to stations.
- Providing easy pedestrian and bicycle access to stations will encourage higher transit ridership, especially at employment centers where people are less inclined to walk long distances.[3]



Five closely spaced subway stations in the Rosslyn-Ballston Corridor connect job centers in Arlington, Virginia to Washington D.C.'s urban core.

[3](Cervero, Lund, Willson. "Travel Characteristics of TOD in California," January 2004)

Corridor Type 2:

COMMUTER

Description

Unlike destination connector corridors, commuter corridors generally serve only one major activity center – typically the central business district – with riders traveling into the CBD in the morning and out of the CBD at the end of the day. This is in contrast to destination corridors that provide access to a variety of activity centers and result in ridership throughout the day. Heavy rail is the transit technology most often used for commuter corridors, but they can also be served by light rail and high-quality bus service. Transit service along commuter corridors is typically moderate to high-frequency during peak business hours, and tapers off during off-peak business hours.

Examples

The North Star Line connects downtown Minneapolis to residential communities to the northwest. Metra in Chicago operates 12 commuter corridors connecting suburban neighborhoods to Chicago's downtown. Other examples of commuter corridors include the Blue Line in Sacramento, Capital Metrorail in Austin, and the Blue Line in San Diego.

BART in the San Francisco Bay Area operates both commuter and destination corridors. A new parking policy moves parking to suburban stations with less TOD opportunity, and BART is building TOD at urban stations on land that was parking.

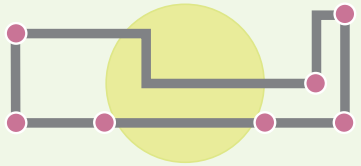
PHOTO BY ELIZABETH WAMPLER

Implications for TOD

- New development along commuter corridors is likely to be residential with moderate to high densities, depending on market demand and proximity to the urban core.
- If transit service is only available during commute hours, most travel will be to or from work in the morning and evening, and it will be much more difficult to achieve the land use benefits associated with higher-frequency service, which tends to activate real estate markets around stations.
- It's important to enhance pedestrian and bicycle access to stations to achieve higher ridership, and to provide streetscape improvements such as new sidewalks and street trees.
- Transit feeder service and park-and-ride lots may be appropriate at commuter corridor stations in suburban neighborhoods since many riders will need to travel longer distances than they would in urban neighborhoods.

Corridor Type 3:

DISTRICT CIRCULATOR



Description

District circulators facilitate movement within an "activity node" – typically a downtown or a commercial, medical or educational center. Circulators extend the walkability of these districts, making it easier to access amenities without a car. Circulators also connect neighboring activity nodes, as in Portland, where the streetcar connects the downtown to the Pearl District to the north and to Portland State University and the Oregon Health and Science University to the south. The Portland Streetcar maximized the TOD potential within the district because it connected these important destinations in neighborhoods with a significant amount of land available for development.

Implications for TOD

- Circulators promote biking, walking and "park once" strategies. Streetscape improvements such as wider sidewalks, street trees, benches and other amenities will encourage pedestrian activity within a district.
- District circulators can be a key component of a district-wide parking plan, making it possible to decrease parking ratios and boost retail sales without providing more parking.
- The frequency of service can determine whether a circulator corridor will enhance transit connectivity and become an organizing principle for development.

Denver's downtown Transit Mall shuttle serves as a district circulator, enhancing pedestrian access in downtown and connecting the Convention Center to Union Station and Mile High Stadium

PHOTO BY DAVID WILSON

Examples

The free MallRide in Denver shuttles riders from one end of the 16th Street Mall to the other, and free bus service along the Nicollet Mall in Minneapolis connects the Convention Center to the Hiawatha light rail line. The South Lake Union Streetcar provides a way for people to get around downtown Seattle. The planned Oklahoma City streetcar will connect the state capitol with downtown and the Oklahoma State Medical Center.

- Circulators can increase overall transit ridership in the region if they connect to the larger transportation network.
- District circulators are best able to attract market-rate development if they connect important destinations with land that is available for development, and if the real estate market is active.

Why Do TOD Planning At The Corridor Scale?

1 *Corridor Planning Integrates The Regional And Local Contexts*

JUST AS TRANSIT corridors are planned as part of a broader regional transportation network, TOD planning – which is typically done through station area plans or even parcel by parcel – can be done at the broader scale of the corridor. And just as corridor-level analysis is required in order to build an efficient transportation network, optimizing the potential for TOD at individual stations requires consideration of each station's role relative to other stations along the corridor.

When regional planners plan for the corridor scale, they benefit by seeing how stations along the corridor make connections that will maximize ridership and TOD opportunities. This helps regional planners understand the specific infrastructure or programmatic improvements that are needed to benefit the entire transit system as well as to provide local access — for example, streetscape improvements and bicycle connections may be needed to make "last mile" connections. Considering the corridor scale may cause planners to revisit decisions about planned alignments in order to make a corridor more functional.

When local planners consider TOD at the corridor scale, they enhance their understanding of how transit will influence the TOD, ridership and market potential at each station. When planners only consider the station area they can miss this important broader context.

The Gold Line's new Eastside Extension over the LA River enhances Boyle Heights' connection to thousands of jobs in downtown Los Angeles, raising fears about gentrification in this lower-income neighborhood.

PHOTO BY SALINA CANIZALES

CASE STUDY

■ Two alignments were considered for the planned Southwest Corridor in the Twin Cities. An existing freight right-of-way failed to connect major employment and activity centers in the southwest area of the region. When stakeholders were engaged in the corridor planning effort they highlighted the importance of connecting to these centers, and the other alignment (indicated by the solid line) was chosen.

2 Corridor Planning Creates Momentum for TOD Implementation

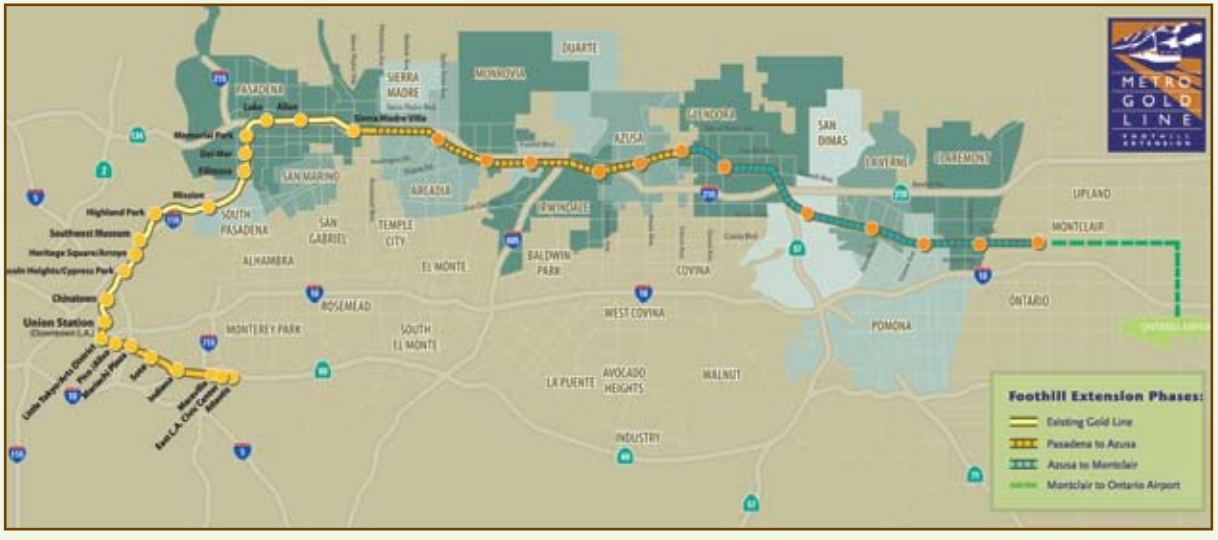
CORRIDOR-LEVEL TRANSIT planning and construction causes both excitement and trepidation in neighborhoods all along the corridor and brings people to the table who might not pay attention to planning at a smaller scale. This provides an opportunity to get a broad array of stakeholders invested in the success of the transit corridor and creates powerful momentum for TOD implementation.

When residents are engaged in planning for an entire corridor they have more buy-in on decisions about transit alignments and the location of stations.

If developers are involved they can provide transit agencies with a better understanding of where opportunities for transit-oriented development are strongest, and how decisions about the alignment and location of stations will help activate the market. In the Twin Cities, community members, advocates for affordable housing, and others who are concerned about the equity impacts of the transit investment have joined forces all along the Central Corridor, which has increased their influence over the planning process.

CASE STUDY

The Foothill Extension of the Gold Line will connect eleven small cities including old-fashioned, family-oriented Monrovia (Aztec Hotel and parade) and San Dimas (with boardwalks, not sidewalks, downtown).



■ The Foothill Extension of the Gold Line will traverse eleven small cities and travel from Los Angeles County into San Bernardino County. When the line was proposed several of these cities were not interested in planning for transit or TOD in their communities. But after an intensive planning process that included trips to Portland so elected officials and planners could better understand the benefits of transit and TOD in Portland's suburbs, and after seeing their neighboring cities planning to take advantage of the transit investment, all the cities along the corridor became positively engaged. Gold Line ridership jumped by a third, to about 30,000 boardings a day, when the extension to East LA opened.

PHOTOS BY PETE ZARRIA, GARY ZORKO AND KEITH J

3 Corridor Planning Increases Efficiency

PLANNING AND IMPLEMENTING TOD requires the significant investment of public and private resources. Corridor planning for TOD allows public agencies to phase this investment over time, beginning with stations that have higher potential for TOD in the short term, and can send a strong signal to activate the private development market. Many station areas are likely to require similar implementation strategies – such as transit-friendly land use ordinances and revamped parking standards, and consideration of ways to reduce barriers to development – and it is more efficient to implement these changes along an entire corridor rather than station by station. Corridor planning also makes it easier to identify which amenities already exist along the corridor and which are lacking – not every station needs a grocery store, for example.

In summary, corridor-level plans can:

- Clarify the corridor type and its function within the regional network;
- Enhance an understanding about the roles of different station areas along the corridor, and how increased connectivity and transportation choices can benefit residents of all incomes;
- Enable planners to understand how development along the corridor should be phased, and the land uses and development intensity that is most appropriate at each station;
- Provide regions that are planning or extending transit corridors with a better sense of what to expect in terms of development;
- Prioritize high-potential stations for development and investment; and
- Broaden the perspective on both regional needs and local needs.

CASE STUDIES

Developers in the Valley of the Sun have climbed on the Phoenix light rail bandwagon.

PHOTO BY JONATHANBOEKE.COM

■ A corridor-level analysis for existing BART and Caltrain lines in San Mateo County outside San Francisco found that the fragmentation of development parcels was a barrier to TOD at many stations, and tools were developed to address this problem. If TOD plans had been developed one station at a time each city would have had to come up with their own solution to what was a shared problem, resulting in a more costly process to achieve the same results.

■ Valley Metro Rail in Phoenix sponsored the development of a model transit-oriented district overlay zoning ordinance and pedestrian-oriented development guidelines to encourage TOD around the 26 rail stations on the Central Phoenix/East Valley light rail corridor. The corridor traverses three cities – Phoenix, Tempe and Mesa – which were all able to customize the ordinance for their cities, and adopted it into their zoning codes.

Outdoor festival near Caltrain station in Menlo Park, San Mateo County.

PHOTO BY KATIE CLAYPOOLE

Objectives For Transit And TOD At The Corridor Level

The six major objectives of planning for transit and TOD at the corridor level are listed below. TOD corridor planning may only focus on a few objectives at a time, depending on the type of corridor, its specific characteristics, and the goals of corridor stakeholders. The second half of this booklet explains these objectives in more detail and outlines strategies for achieving them.

Six major objectives:

1. guide growth and development
2. support regional economic growth
3. enhance regional and local equity
4. promote reinvestment and increase spending power
5. invigorate stakeholder engagement and collaboration
6. maximize TOD potential and benefits.

Tango on Houston's Red Line.

PHOTO BY LAURA BURLTON

OBJECTIVE 1

Guide Growth And Development

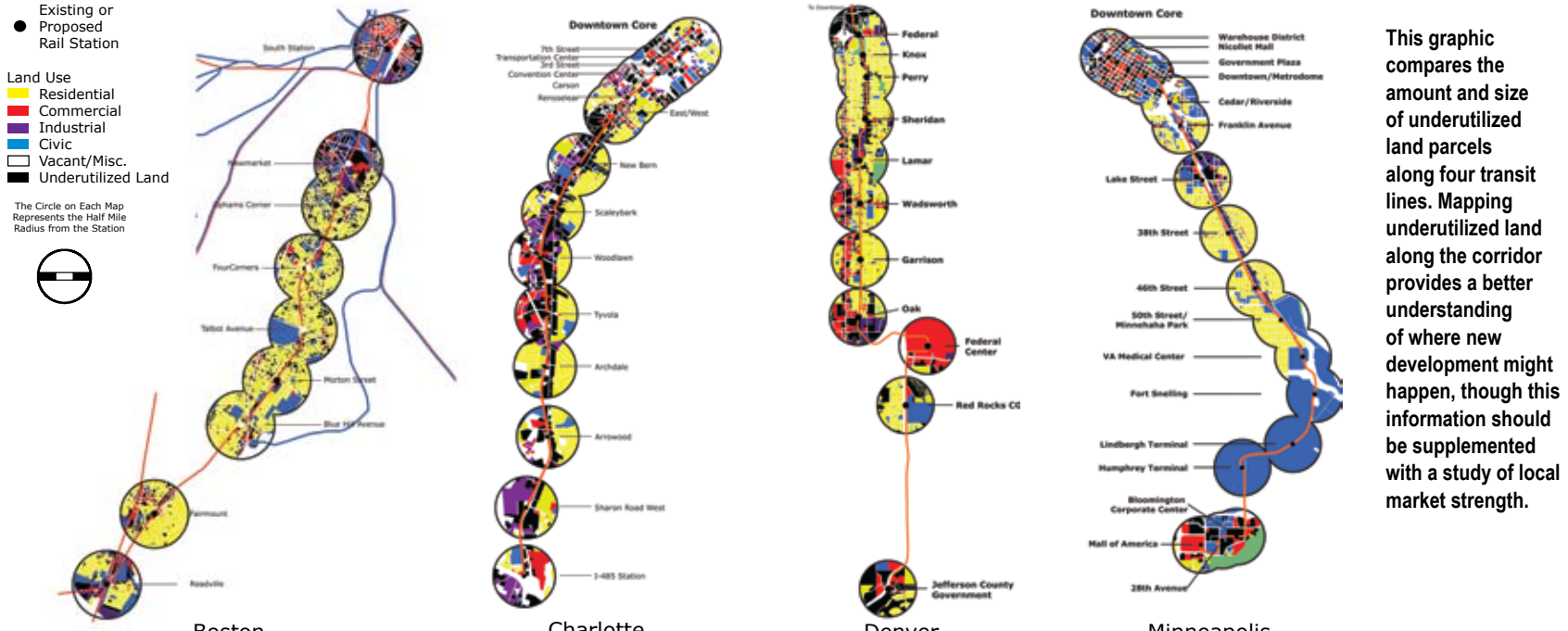
CORRIDOR TOD PLANNING helps stakeholders understand how transit can influence the real estate market around stations and deliver the benefits of smart, compact growth, which include reduced traffic congestion and household transportation costs. Transit alone does not create a new market for development, but a strong market at one station can help focus market activity at other stations. Transit corridors that connect activity centers to station areas with significant development opportunities are most likely to see significant new development.[4]

Key Stakeholders

If developers are engaged in the planning process they can help identify where new development is most likely to occur and the public investments and other interventions that may be required to activate the market. Agencies that are responsible for planning for population growth should also be involved, as well as advocates for compact development that integrates a mix of housing types and land uses, including schools, parks, and other public amenities.

Examples

Seattle's Central Link LRT was planned to guide growth and development, as were the Silver Line that will connect Dulles Airport and Tyson's Corner outside Washington D.C., and Charlotte's Blue Line, which connects the downtown to residential neighborhoods to the south.



Boston
Fairmount Line

Charlotte
South Corridor

Denver
West Corridor

Minneapolis
Hiawatha Line

This graphic compares the amount and size of underutilized land parcels along four transit lines. Mapping underutilized land along the corridor provides a better understanding of where new development might happen, though this information should be supplemented with a study of local market strength.

[4] Center for Transit Oriented Development. "Rails to Real Estate: Development Patterns Along Three Recently Constructed Transit Lines."

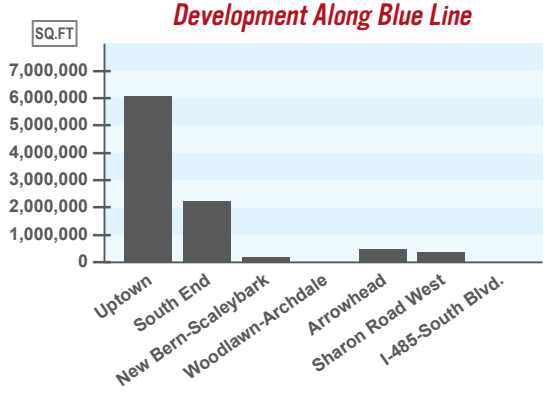
STRATEGY 1

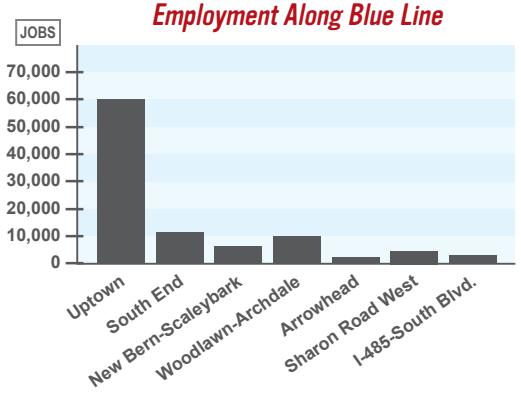
Understand Potential Market Reaction To Transit

THE INTRODUCTION of transit can influence the real estate market in two ways: 1) by improving access to key destinations along the line, which can activate markets around stations, and 2) by "nudging" the market from station areas with pent-up demand to station areas that have land available for development but do not have strong markets. To understand how transit will organize the market for development around stations it is important to identify the key activity centers along the new transit corridor, and to understand how market conditions vary from station to station.

If the market is strong around station areas where there is little land available for development, the pent-up demand at those stations may move to neighborhoods around the next stations on the line – if local conditions encourage it. Adjacent stations that provide significant land opportunity and sites that are attractive because of their size or their price and/or are surrounded by walkable neighborhoods with local retail and other amenities are likely to attract the most development. Value capture strategies should be employed at stations where the market will be strongest.

Similarly, understanding how market pressures will shift and affect housing prices will help ensure that new transit connections don't displace residents who live in neighborhoods along the line. For example, the Eastside Extension of the Gold Line in Los Angeles will improve the connection between the lower-income neighborhood of Boyle Heights and hundreds of thousands of jobs in downtown Los Angeles, which is just across the Los Angeles River. Stakeholders are working to preserve existing affordable housing and build new affordable housing so that these residents, many of whom are renters, will be able to continue to afford living in Boyle Heights even if housing rents and prices increase.





Charlotte has seen a significant amount of transit-oriented development, but most has occurred in Uptown or been "nudged" to the adjacent South End neighborhood. Market demand is shifting in the U.S. toward central locations with urban amenities, shopping and entertainment as households get older and smaller, and demand for large-lot single-family homes is declining rapidly. Only 24 percent of Americans now live in traditional two-parent households with children.

CASE STUDY

PHOTO BY WILLAMOR MEDIA

■ Since light rail opened in Charlotte, North Carolina, in late 2007 more than 10 million square feet of development has been constructed along the Blue Line. Most development occurred in downtown Charlotte (called Uptown), where new construction was a mix of cultural, entertainment, commercial and residential uses. The South End, which is separated from Uptown by a major freeway, also saw a significant amount of new residential development, however, with many projects targeting young workers in Uptown's financial services industry. The Blue Line is often credited with facilitating this development because it provided better access from the South End to the jobs and urban amenities in Uptown.

OBJECTIVE 2

Support Regional Economic Growth

INCREASING TRAFFIC congestion and longer commutes threaten the economic strength of metropolitan regions by limiting the growth of existing employment and activity centers. Transit corridors can support continued economic growth by offering people alternatives to driving and improved connections to jobs and destinations. Corridors that do this have experienced higher-than-expected ridership – in Phoenix, Salt Lake City, Houston, and the Twin Cities. BART in the Bay Area provides access that has enabled job growth to continue in San Francisco's financial district in spite of traffic congestion on the bridges.

Examples

The proposed extension of the Red Line subway from downtown Los Angeles to Santa Monica in California will parallel the Santa Monica Freeway, one of the most congested in the nation, providing connections to jobs and multiple activity centers all along the line. Both light rail and a bus rapid transit line have been proposed for the U.S. 36 corridor to connect jobs and destinations in Denver and Boulder. The planned BART extension to San Jose, which will run parallel to I-80 and I-680 in western Alameda and Santa Clara counties, will connect residents to the many destinations in downtown San Francisco.

CASE STUDIES

PHOTO BY PHIL FOSS PHILFOSS.COM.

■ Washington D.C.'s Silver Line will link the District of Columbia to Dulles Airport and link the edge cities of Reston, Herndon, Ashburn and Tysons Corner – a sprawling suburban office park – to the regional rail network. The line is intended to spur more urban growth and walkable development and reduce reliance on the automobile, thus allowing continued economic growth without additional traffic congestion.

■ Warner Center is a major business and employment center northeast of Los Angeles on the heavily congested 101 freeway with large tracts of underutilized land. Property owners and other stakeholders know they must add housing to the mix of office and retail to provide for continued economic growth without more traffic, and they must make it easier to get to and from three Orange Line bus rapid transit stations on foot or bike – or by building a district circulator.

PHOTO BY AMANDA GEHRKE

Connect Residents To Activity Centers With Transit

STRATEGY 2

IN ORDER TO BUILD corridors that support continued economic growth TOD planners should identify where key destinations are and where the people who travel to these places live. Aligning new transit corridors with existing travel patterns can relieve pressure on already overburdened freeways. Connecting several major regional destinations makes it easier for people to make quick trips by transit, thus enabling employees to visit restaurants in a nearby entertainment center or doctors in a nearby medical center, for example.

Once planners have identified the major job, educational, retail, and medical centers along a corridor, they should then examine smaller segments of the corridor, or even individual station areas, in order to better understand travel patterns. Lower-income residents probably travel to different job centers and destinations than people of higher incomes, and doing an employment analysis will ensure that equity is served. Job centers can be identified using employment data or online resources such as the U.S. Census Bureau's OnTheMap tool. Local data and knowledge may be required to identify other major activity centers.

CASE STUDIES

■ Seattle's South Lake Union streetcar didn't start operations until late 2007, but property owners and employers understood early on the benefits the streetcar would provide by linking the South Lake Union and Denny Triangle neighborhoods with downtown Seattle. That's why property owners along the line paid for more than half its $52 million pricetag, and major employers, including several medical and educational institutions, became official streetcar sponsors. Both Amazon.com and the nonprofit Group Health collaborative moved their headquarters to the South Lake Union neighborhood believing it would be a real benefit for employees to be able to make quick trips via the streetcar to business meetings or lunch downtown, or to the nearby lightrail station to catch a train to the airport.

PHOTO BY KEITH BROFSKY

■ The proposed Woodward Avenue Corridor in Detroit will be served by a light rail line that connects major activity and employment centers – including the downtown, Comerica Park, the Detroit Medical Center, Henry Ford Hospital, and Wayne State University – with cultural and retail destinations all along the corridor. The business community led the campaign to build the line, and a coalition that included entrepreneurs, foundations and private investors has promised $125 million to help pay for construction. Woodward Avenue is one of the few corridors that includes a significant number of apartment buildings in a city characterized by large-lot single-family development.

PHOTO BY IAN FREIMUTH

OBJECTIVE 3

Increase Regional And Local Equity

TRANSIT TYPICALLY serves a diverse population: 86 percent of station areas along existing transit corridors in the U.S. are more economically and/or racially diverse than similar neighborhoods that lack transit access.[5] Connecting lower-income neighborhoods to job centers enhances equity by increasing access to jobs and economic opportunity and by reducing transportation costs for residents, which allows them greater spending power.

However, because the demand for housing often increases in neighborhoods where the introduction of transit improves access to jobs, residents who live in these places can be displaced when rents and housing prices increase. This risk is particularly great in older neighborhoods that are built out and have limited land available for new housing. Involving community groups and affordable housing advocates in the corridor planning process from the beginning will help limit this risk.

"Activist" marching bands converge on Davis Square for Somerville's HONK! street festival.

Examples

The Expo Line in Los Angeles will connect lower-income neighborhoods in South Central Los Angeles to jobs-rich downtown Los Angeles on one end, and to jobs in Culver City on the other. The Blue Line Eastside MAX connects downtown Portland and Gresham to the east with some of the region's lowest-income communities. The Central Corridor in the Twin Cities will connect the historic African-American Rondo neighborhood to jobs in both downtown Minneapolis and downtown Saint Paul.

CASE STUDY

■ When Boston's Red Line subway was extended to Somerville, Massachusetts, in 1985, transit-oriented development at the Davis Square stop caused land values and housing prices to soar in what had been a working-class community. (The red areas on the map show the highest land values.) This experience sparked major public debate over the planned extension of the Green Line to Somerville, and the need to protect residents against more displacement. An analysis of development opportunity, the market, and the demographics of neighborhoods along the new corridor helped identify where and how to leverage market-rate development at the same time that existing affordable housing, local institutions and retail are preserved and neighborhoods are stabilized. This map shows land values around Somerville's existing and planned rail stations.

[5] Center for Transit-Oriented Development. "Preserving and Promoting Diverse Transit-Oriented Neighborhoods," October 2006.

Develop A Mixed-Income TOD Strategy

STRATEGY 3

EVERY CORRIDOR requires a slightly different approach in order to support equity, though there are two key tenets to consider: 1) Existing affordable housing should be preserved in neighborhoods that could face increased market demand, and resources for new affordable housing should be targeted to these neighborhoods. 2) All residents along a corridor should be able to access the benefits resulting from a major transit investment – including reduced transportation costs, improved health due to better conditions for pedestrians and cyclists, increased private investment, and increased access to the regional job market.

A mixed-income or equitable TOD strategy should include an analysis of existing conditions, including the median income of residents, educational attainment, percent of renter households, and age of housing stock. This analysis will make it possible to determine whether residents of all incomes will benefit from new or improved transit connections. Station areas that are undergoing change – whether there is disinvestment, a polarization of income levels, or housing prices are increasing – should be prioritized for intervention over more stable station areas. The existing conditions analysis should be followed up by the development of policies that will preserve existing affordable housing and provide subsidies for new affordable units, support existing local businesses, and improve access to transit through better street design and streetscape improvements.

PHOTO BY CHRIS DEVERS

The online Mixed-Income Transit-Oriented Development National Action Guide (at http://www.mitod.org) provides a step-by-step process that allows users to craft a mixed-income TOD strategy customized for specific neighborhoods along a corridor.

CASE STUDY

■ In the Twin Cities, the Central Corridor will connect major employment centers in downtown Minneapolis, the University of Minnesota and downtown Saint Paul. The light rail line will run through several lower-income neighborhoods, including the historic African-American Rondo neighborhood in St. Paul, and Rondo residents in particular are concerned about gentrification and displacement. But the FTA has allowed three new stations to be added to the corridor, significantly increasing residents' access to jobs. The Central Corridor Funder's Collaborative, a group of local and national foundations, has leveraged the resources necessary to allow residents, businesses and community groups to be actively engaged, which has increased their impact on the corridor planning process.

PHOTOS BY THE METROPOLITAN COUNCIL

OBJECTIVE 4

PHOTO BY TABER ANDREW BAIN

Cleveland's Health Line has attracted developers of both affordable and market-rate housing.

Promote Reinvestment And Increase Spending Power

Corridor planning for TOD can leverage significant economic development and investment along older commercial corridors that are transitioning to more intensive uses. The focus in these corridors is often on smaller-scale development opportunities since the only available land in older built-out neighborhoods is often fragmented into small parcels. Corridor planning that maximizes development potential and access to the transit network can also provide reduced transportation costs for residents, who can spend the money on local goods and services instead – creating a positive cycle of reinvestment in the local economy.

Stakeholders

Regional leaders and local developers can have much to contribute to discussions about the role that the market will play and whether development will occur without public intervention. The input of community groups is necessary if development is to leverage community benefits and preserve affordability.

Examples

The Health Line, a bus rapid transit line in Cleveland, has succeeded in attracting the majority of all new development in the city – both affordable and market-rate. The streetcar systems in Portland and in Seattle's South Lake Union neighborhood have been enormously successful in attracting investment and reducing transportation costs for residents.

CASE STUDY

■ The Cleveland Clinic and University Hospital championed the city's new bus rapid transit line along historic Euclid Avenue and helped brand it as the Health Line. The Cleveland Regional Transit Authority planted 1,500 trees along the route, and partnered with city staff and local development corporations to promote development including both market-rate and affordable housing. By 2010 more than $4.3 billion had been invested in neighborhoods along the line. East 4th Street is one of many examples of the resulting redevelopment. Formerly an alleyway, it has been transformed with overhead strands of lights, patio dining, plantings, art, awnings and neon, and has become a thriving pedestrian-oriented restaurant and residential center.

The redevelopment of East 4th Street, formerly an alley.

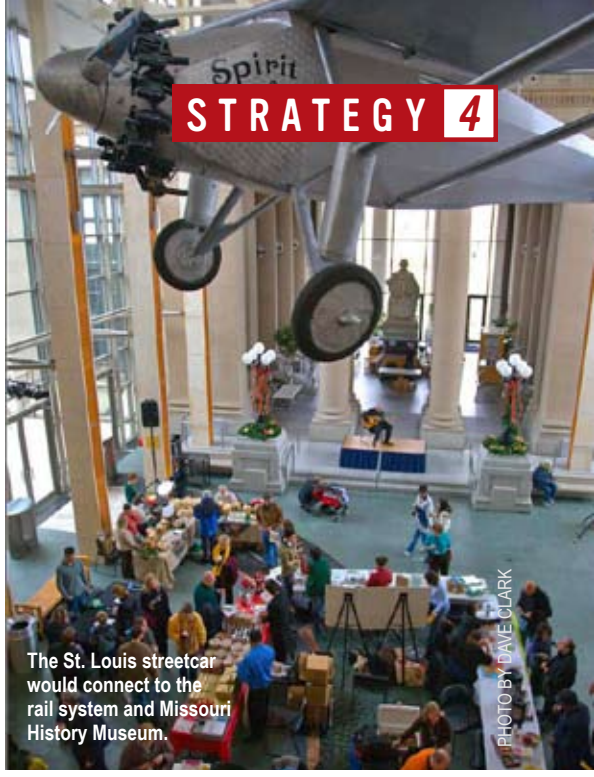
PHOTO BY DAVID PLOENZKE

Create An Economic Revitalization Policy

GENERATING ECONOMIC development and private investment along a corridor requires an understanding of the market potential of different land uses. Existing conditions can vary from station to station, and understanding where the market is strong and where it is weak – and the potential of transit to change these conditions – is essential. An analysis of the demographics of station areas – including household income and educational attainment – is also required in order to understand how to maximize access to job opportunities for residents of all incomes and skill levels.

Policies that support economic development along a new transit corridor might include:

- Local hire requirements or training programs that will make transit construction beneficial for those who live along the line;
- Tax breaks and other incentives to encourage businesses to move to sites near the corridor or to expand;
- Business improvement districts or tax increment financing districts to help fund streetscape and other improvements;
- Strategies to support local merchants and small businesses that may be forced to relocate due to transit construction and neighborhood redevelopment; and
- Shared parking and other strategies that will preserve access to local businesses during and after construction and ensure that local deliveries can be made.



The St. Louis streetcar would connect to the rail system and Missouri History Museum.

PHOTO BY DAVE CLARK

CASE STUDY

■ Proponents of a new streetcar in St. Louis emphasize the line's potential to continue the economic revitalization of the Delmar Loop, an older commercial corridor the American Planning Association has called "one of the ten great streets in America." A century ago streetcars from downtown "looped around" Delmar before returning to the city, and the new streetcar would connect this thriving entertainment and shopping district to two stations on the regional rail network and several nearby destinations, including the Missouri History Museum and the City Hall in University City, which was built as a streetcar suburb.


Sitting outside on the Delmar Loop, one of America's ten best streets.

PHOTO BY BLUEBERRY HILL.

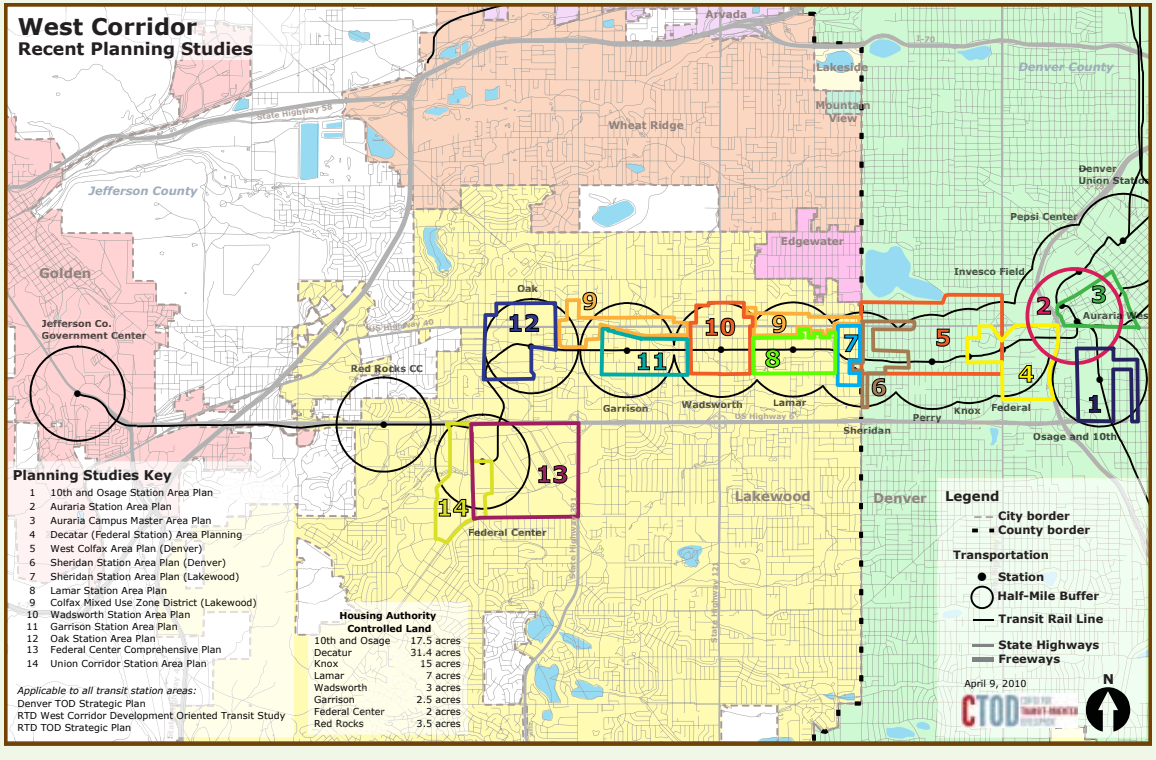
OBJECTIVE 5

Invigorate Stakeholder Engagement And Collaboration

TRANSIT AGENCIES and city planners are the key actors in TOD planning and implementation. But truly successful transit-oriented development requires the involvement and buy-in of a much larger group of stakeholders, and corridor planning initiatives offer them an opportunity to get involved. Stakeholders can include:

- Land use and transportation planners as well as staff from public works and engineering departments, redevelopment agencies and public housing authorities;
- Elected officials;
- Community groups and community development corporations;
- For-profit developers;
- Advocates for affordable housing, smart growth, public health and environmental justice;
- Local businesses and organizations interested in promoting business and economic development;
- Community foundations and other charitable organizations; and
- Educational institutions, employers and major property owners.

CASE STUDY



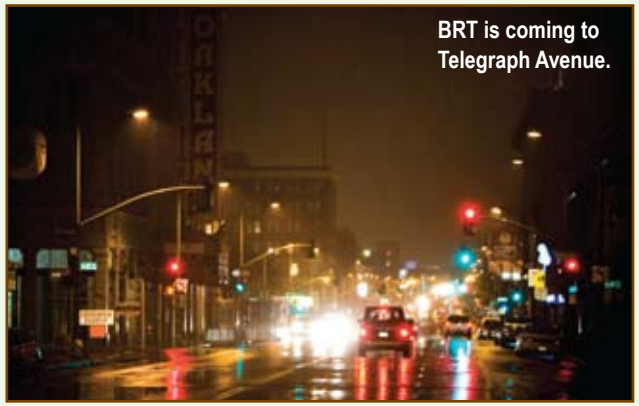
■ The Denver region has been a model for collaborative planning. Along the West Corridor, shown in the map above, the cities of Denver and Lakewood and their housing agencies formed a partnership to do a corridor-wide implementation strategy focusing on equitable development. And Denver's Regional Transportation District is convening land-use planners to help make decisions about the placement of stations and park-and-ride lots to support T0D instead of act as a barrier. Along the planned Gold Line a private development group has asked the RTD to move a station onto their property to facilitate TOD.

Coordinate Key Stakeholders

THE BEST APPROACH for coordinating stakeholder input will depend on the objectives for the transit corridor, the corridor type, and the regional conditions. For example, transit corridors that are built to guide growth and development should engage for-profit developers early in the corridor planning process to enhance the understanding about where development is most likely to occur and what kinds of public interventions may be required in station areas. In corridors that run through older, lower-income neighborhoods partnerships should be created with community groups and residents to address potential gentrification by creating plans to prevent the displacement of residents.

District circulators enhance the connections between major institutions in downtowns or other activity centers, and engaging business owners, property owners and major employers will help create momentum for transit investment and robust TOD implementation. New types of partnerships are emerging: Public agencies, community development professionals, affordable housing planners, private business interests, and foundations are all working together to plan for TOD.

CASE STUDY



BRT is coming to Telegraph Avenue.

PHOTO BY THOMAS HAWK

■ The Metropolitan Transportation Commission in the San Francisco Bay Area requires local governments to collaborate at the corridor level in order to win funding for new transit lines. The policy requires stakeholders to meet on a regular basis and conditions transit funding on land use policies that set "transit-appropriate" thresholds for density along the corridor to support the public investment in transit. The policy applies to the planned East Bay bus rapid transit line from Berkeley and Oakland to San Leandro. The entire BRT route down Telegraph Avenue (above) is considered a "priority development area" in each city. And it applies to the planned 70-mile long SMART corridor in Marin and Sonoma counties, which must provide 30,800 housing units – an average of 2,200 at each of the 14 stations, including the planned station in Navato below.

PHOTO BY THOMAS HAWK

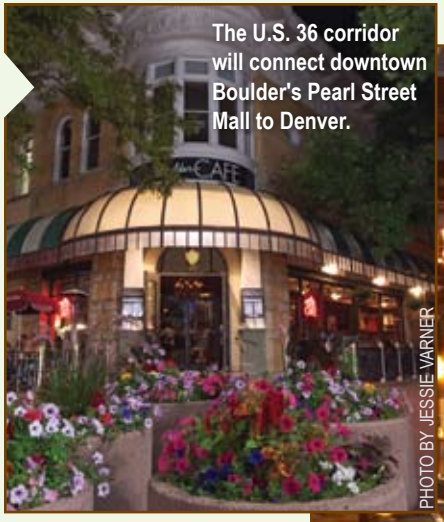
OBJECTIVE 6

Maximize TOD Potential And Benefits

WHEN A NEW TRANSIT corridor is constructed many new stations will open simultaneously, and fulfilling stakeholder aspirations for every station area may require billions of dollars of public and private investment. Because government resources are limited, station areas must be prioritized for investment and development or resources will be spread too thin to have impact. Identifying where and when to invest public dollars will help ensure that local TOD goals are met, whether the intent is to facilitate market-driven projects or to direct the velocity and trajectory of neighborhood change.

CASE STUDIES

■ Improvements along the U.S. 36 Corridor between Denver and Boulder include upgrades to an existing bus rapid transit line as well as construction of a new rail line that will connect residential neighborhoods. A corridor analysis was used to determine which stations had the most TOD potential in the short-term and which had potential in the long-term, and which were best suited to become park-and-ride facilities. The analysis included a comparison of station areas that considered the number of residents who lived near stations and the number of jobs, the existing market for development, and whether there were walkable streets and amenities.



The U.S. 36 corridor will connect downtown Boulder's Pearl Street Mall to Denver.

PHOTO BY JESSIE VARNER

■ In Baltimore a regional TOD implementation plan created a framework to guide TOD investment, identifying stations as priorities for investment in the short-, medium-, or long-term. Mt. Vernon Square, pictured here, is a historic mixed-use neighborhood near the downtown Centre Street station that wouldn't require a very large investment to become truly transit-oriented in the short-term. Success here could serve as a model for the rest of the region, generating enthusiasm and momentum for market-driven TOD in other neighborhoods around the region.

Charles Street in the historic mixed-use Mt. Vernon Square neighborhood at Baltimore's Centre Street station.

PHOTO BY PATRICK JOUST

PHOTO BY DAN KLIMKE

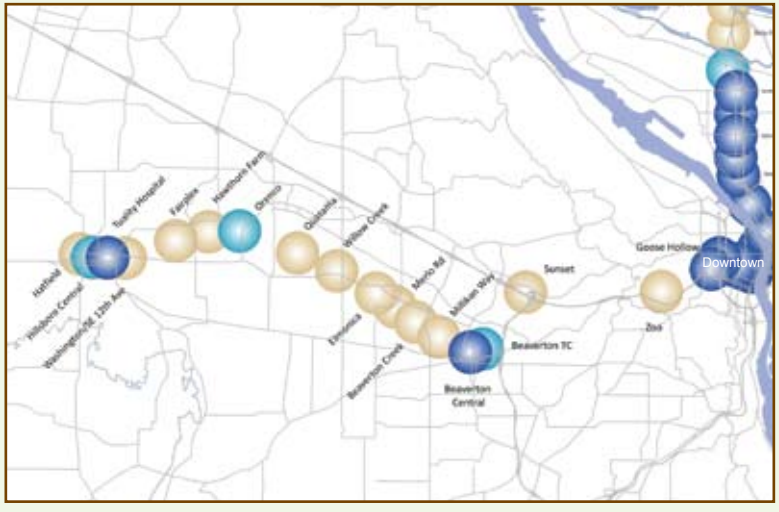
Portland Metro, the regional planning agency, is completing a station investment typology (see case study below) that identifies the downtown Hillsboro station as a "catalyze and connect" type, where Metro will take a proactive approach and catalyze the market with strategic investments.

STRATEGY 6

Establish a Phased TOD Implementation And Investment Plan

IN ORDER TO prioritize station areas for investment that maximizes TOD potential and benefits, the corridor planning process should include a TOD phasing strategy based on an assessment of the relative TOD potential of each station area, as well as consideration of the TOD goals identified by stakeholders. Money can be spent on planning or community outreach, on subsidies for market-rate or affordable development, on infrastructure or utility improvements. These investments may be more important for some station areas than others, and investment frameworks should be created utilizing data on existing conditions and coordinating with other stakeholders who may be making investments.

CASE STUDY



■ Portland Metro has a long-standing and successful TOD program. Recognizing that station areas will benefit from different kinds of investment, Metro is creating a typology to sort stations into three categories: "plan and partner," "infill and enhance," and "catalyze and connect." Stations are sorted based on the market for new development and existing urban form, and there is a set of investment strategies for each. At "plan and partner" stations Metro will provide technical assistance and partner with local jurisdictions and developers, and at "infill and enhance" stations Metro will take an active role in funding missing TOD ingredients. This graphic shows the different investment strategies that Portland Metro has outlined for the West Side MAX transit line.

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16. Abstract (Limit: 200 words)

This transit corridor and TOD planning manual is intended to illustrate how and why the corridor scale provides an important perspective for planning transit that supports successful TOD because it integrates knowledge about both the local and regional contexts. The manual begins with a discussion about transit corridors, identifying three main types and how each has a different impact on the TOD potential. This is followed by a "making the case" discussion outlining the reasons planning at the corridor scale will create more successful outcomes. The second half of the manual focuses on the six major objectives of transit and TOD planning at the corridor scale. Each objective is linked to a strategies, and case studies illustrate successful corridor planning in real places.

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