

SCAN TEAM REPORT

NCHRP Project 20-68A, Scan 10-02

Best Practices For Addressing Access And Parking Needs Of Nonresident Users Of Rail And Intermodal Transportation Stations In Transit-Oriented Developments

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National Cooperative Highway Research Program

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SPECIAL NOTE: This report IS NOT an official publication of the National Cooperative Highway Research Program, Transportation Research Board, National Research Council, or The National Academies.



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The purpose of each scan and of Project 20-68A as a whole is to accelerate beneficial innovation by facilitating information sharing and technology exchange among the states and other transportation agencies, and identifying actionable items of common interest. Experience has shown that personal contact with new ideas and their application is a particularly valuable means for such sharing and exchange. A scan entails peer-to-peer discussions between practitioners who have implemented new practices and others who are able to disseminate knowledge of these new practices and their possible benefits to a broad audience of other users. Each scan addresses a single technical topic selected by AASHTO and the NCHRP 20-68A Project Panel. Further information on the NCHRP 20-68A U.S. Domestic Scan program is available at <http://144.171.11.40/cmsfeed/TRBNetProjectDisplay.asp?ProjectID=1570>.

This report was prepared by the scan team for Scan 10-02, *Best Practices for Addressing Access and Parking Needs of Nonresident Users of Rail and Intermodal Transportation Stations in Transit-Oriented Developments*, whose members are listed below. Scan planning and logistics are managed by Arora and Associates, P.C.; Harry Capers is the Principal Investigator. NCHRP Project 20-68A is guided by a technical project panel and managed by Andrew C. Lemer, Ph.D., NCHRP Senior Program Officer.

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Disclaimer

The information in this document was taken directly from the submission of the authors. The opinions and conclusions expressed or implied are those of the scan team and are not necessarily those of the Transportation Research Board, the National Research Council, or the program sponsors. This document has not been edited by the Transportation Research Board.

Scan 10-02

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Abbreviations and Acronyms

AASHTO	American Association of State Highway and Transportation Officials
BART	Bay Area Rapid Transit
Caltrans	California Department of Transportation
DOT	Department of Transportation
DURA	Denver Urban Renewal Authority
JPA	Joint Powers Agreement
LA Metro	Los Angeles County Metropolitan Transportation Authority
MassDOT	Massachusetts Department of Transportation
MBTA	Massachusetts Bay Transportation Authority (Boston)
MTS	Metropolitan Transit System (San Diego)
NCHRP	National Cooperative Highway Research Program
NCTD	North County Transit District (San Diego)
RTD	Regional Transportation District (Denver, San Diego)
SANDAG	San Diego Association of Governments
SGOA	Smart Growth Opportunity Area (San Diego)
TDM	Transportation Demand Management
TOD	Transit-Oriented Development
TRA	Transit Realty Associates (Boston)
TRB	Transportation Research Board
ULI	Urban Land Institute (San Diego)
U.S.	United States

Executive Summary

A group of five transportation professionals from state departments of transportation in California, Connecticut, Michigan, Mississippi, and Washington set out to explore best practices for addressing the access and parking needs of nonresident users of rail and intermodal transportation stations in transit-oriented developments (TODs). Contact information and biographical sketches of the team members can be found in Appendix A and Appendix B, respectively.

A desk scan was conducted during the summer of 2012 to discover the range of practices for providing access and parking in TODs and to identify those locations that had successfully resolved tensions that arise among residents of the TODs, residents of the surrounding neighborhoods, and the people who need to access transit within the TOD.

From that initial scan, the team selected San Francisco, Los Angeles, San Diego, and Boston to delve into the experiences of transit and planning agencies in creating TOD communities and resolving access issues. The team invited the Denver Regional Transportation District to join the group in San Francisco to share insights from its TOD pilot project. The team sought input from federal, state, and local practitioners at each of the locations. Host agency profiles are included in Chapter 2.0.

Summary of Findings

In some cases, the team's findings ran counter to what the team believed was conventional wisdom about TOD practices and outcomes. For that reason, the scan team expanded its findings beyond the questions of parking and access because so many other issues cited in the report framed the eventual outcome.

In the cases examined, the study team found that private-sector markets drove TOD, rather than a set of greater-good outcomes, such as walkable communities or affordable housing. However, the high-value real estate markets in the areas the team visited, paired with state mandates such as those for affordable housing, allowed the transit agencies to leverage the attractive properties to accomplish some of those greater-good objectives.

The scan team came to view TOD as the outcome of a set of strategies and practices applied to development opportunities at or near high-volume or high-opportunity transit stations. The degree to which the development was transit oriented depended on the number of strategies that were successfully employed and other influences that limited—or enhanced—the result. Those influences included real estate values and market, the political climate, developer values, community values, and whether the primary objective was transit-related, revenue-related, or both. Key strategies included:

- Defining desired outcomes early in the process
- Leveraging assets
- Expanding the sphere of influence
- Keeping a long-term perspective
- Using a flexible approach that incorporates every available tool
- Balancing market demands and greater-good outcomes
- Tailoring TOD communications to the audiences and circumstances

In this report, the team makes two sets of recommendations, one for transit agencies and communities that are new to TOD and the other for the broader community of TOD stakeholders and TOD decision-makers. The team further recommends expanding the dialogue surrounding TODs to generate more realistic and productive expectations. Suggestions for further study include the latent value of transportation real estate assets and how mature TODs evolve.

The scan team suggests three primary means of disseminating its research results: a series of presentations and conversations to expand the dialogue about TODs, further research, and technology transfer workshops.

Background

Scan Team

“Transit-oriented development does not exist.”

–Host agency scan participant

That provocative statement was made by one of the hosts of NCHRP Scan 10-02: *Best Practices for Addressing Access and Parking Needs of Nonresident Users of Rail and Intermodal Transportation Stations in Transit-Oriented Developments*. The scan team understood this host to mean that there is no single way to define the elements and processes that comprise transit-oriented development—an observation that mirrors the scan team’s findings. The single common factor is that development benefits from, or is enhanced by, transit.

This scan originally sought to understand the tension between access (parking and otherwise) and transit-oriented development (TOD) and learn how practitioners successfully resolved these tensions. A desk scan was conducted during the summer of 2012 to discover the range of practices for providing access and parking in TODs. The team also sought to identify those locations that had successfully resolved the tensions that arise among residents of the TODs, residents of the surrounding neighborhoods, and the people who need to access transit within the TOD.

The scan team’s members represented five state departments of transportation (DOTs):

- Sharon Edgar, Chair, Michigan
- Charles R. Carr, Mississippi
- Michael Connors, Connecticut
- Dylan Counts, Washington State
- Jila Priebe, California

Connie Morrison, an independent transportation consultant, served as subject matter expert. Harry Capers and Melissa Jiang of Arora and Associates, P.C., were the principal investigator and scan coordinator, respectively.



Figure 1.1 Scan team members (left to right): Charles R. Carr, Connie Morrison, Sharon Edgar, Michael Connors, and Dylan Counts (not pictured: Jila Priebe)

Contact information and biographical sketches of the scan team members are provided in Appendix A and Appendix B, respectively.

The team recognized that a number of variables could influence parking and other access to TODs. To examine possible relationships, the team constructed a set of amplifying questions in the following areas:

- Context and character
- Policy and regulatory framework
- Planning and design
- Funding and financing
- Technology
- Maintenance
- Lessons learned

The amplifying questions are provided in Appendix C.

Host Agencies

During the desk scan phase, the amplifying questions were posed to officials in 11 locations with TODs. From the results of the desk scan, four locations emerged as forerunners in the area of transit-oriented development: San Francisco/Oakland, Los Angeles/South Pasadena, and San Diego,

California; and Boston, Massachusetts. The team selected Denver as a fifth location and invited its representative to participate with the Bay Area Rapid Transit (BART) District. Table 1.1 depicts the participants and the host agencies they represent by location.

Table 1.1 Scan locations, host agencies, and participants

Location	Agency Represented	Participants
San Francisco/ Oakland	Bay Area Rapid Transit (BART)	Jeff Ordway, Department Manager, Real Estate and Property Development Val Joseph Menotti, Department Manager, Planning Department Bob Franklin, Customer Access Manager
	Metropolitan Transportation Commission	Kenneth Kirkey, Director of Planning
	Caltrans, District 4	Becky Frank, Senior Planner
Denver (Reverse Scan at San Francisco/ Oakland)	Denver Regional Transportation District	Bill Sirois, Senior Manager, FasTracks Team, TOD and Planning Coordination
Los Angeles/South Pasadena	LA Metro	Robin Blair, Director of Planning, Central Area Team, LA Metro
	City of South Pasadena	Dennis Woods, Transportation Manager Samuel Zneimer, Professional Intern
	Caltrans, District 7	Mike Valcho, Associate Transportation Planner Kirk Schneider, Associate Transportation Planner
San Diego	Metropolitan Transit System	Tim Allison, Manager of Real Estate Assets
	SANDAG (San Diego Association of Governments)	Dave Schumacher, Principal Planner Susan Baldwin, Senior Regional Planner Miriam Kirshner, Senior Regional Planner
	Massachusetts Bay Transportation Authority	Mark Boyle, Assistant General Manager for Development Gretchen Von Grossman, Director of Development and Transit Oriented Development Joe Cosgrove, Director of Planning/Development
Boston	Transit Realty Associates	Lorna Moritz, President William Lawrence, Managing Director, Consulting Services
	The Cecil Group, Inc.	Steve Cecil , President

The host agency key contact information and scan itinerary are provided in Appendix D and Appendix E, respectively.

Host Agency Profiles

The scan team sought to incorporate in the scan transit systems with a variety of notable TOD practices. Brief sketches of the host agencies are provided in this section to provide context for the rest of the report; they appear in the same order as the team's itinerary.

Links to reports, policies, and other documents referenced in this report can be found in Appendix F. They are grouped by agency.

Host Agencies

San Francisco and Oakland, California: Bay Area Rapid Transit District, Caltrans, and the Metropolitan Transportation Commission

Construction on the BART system began in 1964, with revenue service beginning in 1974. A nine-member board of directors drawn from the service-area counties of Alameda, Contra Costa, and San Francisco provides governance. The service area also includes San Mateo County, which does not have representation on the board.

BART has five rapid transit rail lines, with 104 miles of track, 44 stations, and 46,000 BART-operated parking spaces. Average daily ridership is 367,000 passengers, with 111 million passengers annually.

BART was built in urban areas, using surface, subway, and aerial structure track. The 40-year-old system is facing large capital investments, including a \$1.2 billion seismic retrofit. Reinvestment and upgrade are also essential to BART's continued viability, and BART plans to replace 1,000 rail cars, modernize its train control system, and expand its maintenance complex. The regional system's four-county service area also includes 28 bus transit providers.

The board of directors has adopted explicit TOD policies emphasizing ridership, quality of life, financial contribution, and improved access. The Metropolitan Transportation Commission has identified priority development areas and funds specific station-area plans. California DOT (Caltrans) conducted a statewide TOD study¹. Taken together, these three elements provide a robust policy framework for TOD.

BART is typically a major landholder in TODs. BART opts for long-term leases, which provide a long-term revenue stream, over outright sale of property. Land use decisions are locally made.

1 Statewide Transit-Oriented Development Study: Factors for Success in California, State of California, <http://transitorienteddevelopment.dot.ca.gov/miscellaneous/StatewideTOD.htm>



Figure 2.1 BART Rapid Transit System

Map used with permission from BART

Denver, Colorado: Regional Transportation District²

Denver’s light rail system is relatively new, with its original five miles opening in 1994. The Denver Regional Transportation District (RTD) manages the system, which has grown to include five light rail routes with a total of 35 miles. Under FasTracks³, a locally funded accelerated development plan, the system will eventually grow to 122 rail miles and 218 miles of bus rapid transit.

2 Reverse scan

3 FasTracks, FasTracks Regional Transportation District of Denver (RTD), Denver, CO, http://www.rtd-fastracks.com/main_1

The RTD's service area is 2,340 square miles, with a service population of 2.8 million. Ridership is about 21 million annually. The eight-county area has 80 municipalities. About half of the bus service is privately contracted, and some rail services will be privately run in the future.

A 15-member, publicly elected board of directors governs the RTD; each member is elected to represent a specific district. The board's adopted approach to TOD is centered on sustainability⁴.



Figure 2.2 Denver RTD Rapid Transit System

Map used with permission from Denver RTD.

4 Transit Oriented Development, Regional Transportation District of Denver (RTD), Denver, CO, http://www.rtd-fastracks.com/main_45

A TOD strategic plan and TOD access guidelines support the RTD's TOD pilot program, which was adopted in 2010 and has identified four locations ripe for TOD consideration. The purpose of the pilot is to demonstrate the viability of TOD through use of flexible standards. One of the four pilot sites, *Alameda Station*, is profiled later in this report.

Los Angeles, California: Metropolitan Transportation Authority and the City of South Pasadena

Metropolitan Transportation Authority

The Los Angeles County Metropolitan Transportation Authority (LA Metro) is both the regional transportation agency and the largest public transit provider in the greater Los Angeles area, providing local bus, rapid transit, intercity rail, carpool lanes, and rapid bus service. It also funds 16 local bus operators and contributes to other transportation projects, such as bikeways.

In 1990, the LA Metro began constructing its first rapid transit line, the Blue Line, which opened in 1993. Now there are six rapid transit lines; the most recent, Metro Expoline, opened in 2012. LA Metro's service area is 1,433 square miles. Metro lines were woven into an existing urban landscape that is the home or work location for more than 9.6 million people—nearly one-third of California's residents.

A 13-member board governs the LA Metro:

- Five Los Angeles supervisors
- The mayor of Los Angeles
- Three mayoral appointees
- Four city council members from other cities in Los Angeles County

The governor also appoints a nonvoting member.

LA Metro has a joint development program to accomplish TOD. It typically places land owned by LA Metro into development under a long-term lease that provides revenue to the agency. LA Metro also provides planning grants to municipalities along metro rail lines to encourage adoption of TOD-friendly regulations and plans.

City of South Pasadena

The City of South Pasadena provided parking for LA Metro Gold Line riders on a small lot across from the South Pasadena station. LA Metro agreed to grant the city \$2.6 million toward construction of 142 automobile and 30 bicycle subterranean parking spaces for LA Metro riders, and Caltrans contributed \$1.5 million towards parking and utility relocation. The financial assistance from LA Metro and Caltrans was key to transitioning the property in a traditionally single-family area into a mixed use, higher density residential development that proved to be a catalyst for the nearby business district. The *South Pasadena Station* development is examined in more detail later in this report.

Go Metro

metro.net

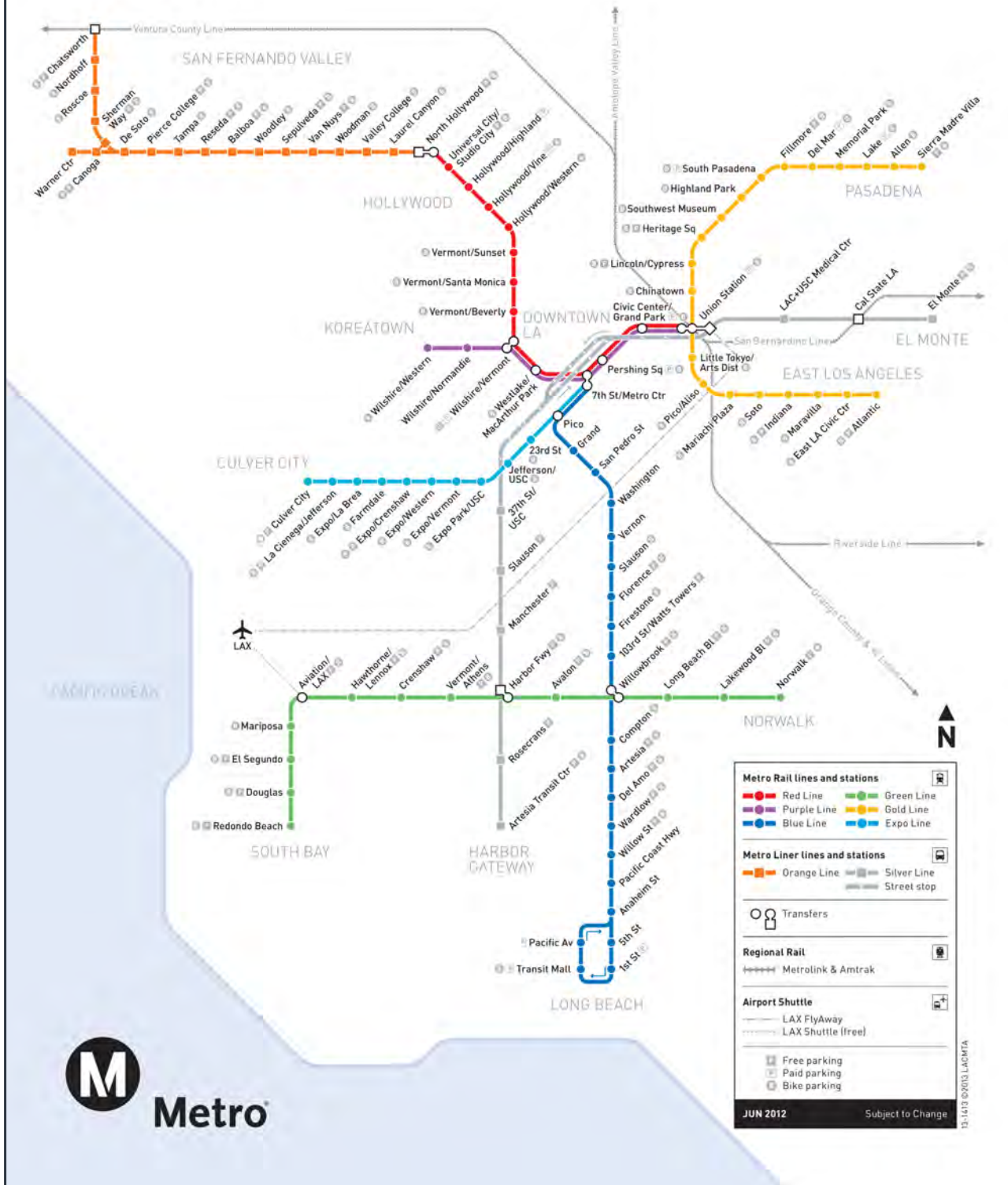


Figure 2.3 LA Metro Rapid Transit System

Map used with permission from LA Metro.

San Diego, California: Metropolitan Transit System and San Diego Association of Governments

Metropolitan Transit System

San Diego's Metropolitan Transit System (MTS) operates a light rail system through a wholly owned subsidiary known as the San Diego Trolley, Inc. The original line opened in 1981, connecting downtown San Diego with the United States (U.S.)/Mexico border. The San Diego region encompasses the County of San Diego, which includes 18 cities, the unincorporated area of the County of San Diego, two transit agencies (MTS and the North County Transit District [NCTD]), and 19 American Indian tribes.

In addition to light rail and paratransit, MTS operates fixed bus routes, 26 that are directly operated and 67 that are operated by private contractors. The first two lines of bus rapid transit are scheduled to open in June 2014, and a third will be on-line by 2015. NCTD operates heavy rail, light rail, paratransit, and 30 fixed-route bus routes, all operated by private contractors; many of the stations have park-and-ride facilities.

Today, three light rail transit lines with 53.5 miles of service (102 miles of track; most of the line is double-tracked) and 53 stations are within the MTS service area. While MTS does not provide parking for any of the stations within the downtown San Diego area and some of the stations outside of the downtown area, many commuter stations do have park-and-ride facilities with about 5,000 total spaces. Within the NCTD area, there are 41 miles of commuter rail service with eight stations and 22 miles of light rail service with 15 stations.

Association of Governments

The San Diego Association of Governments (SANDAG) manages the planning, engineering, design, and construction of capital transit projects. On completion, SANDAG turns the projects over to MTS and NCTD for operation.

SANDAG has a Smart Growth policy that it implements using a bottom-up approach. It works with local governments to identify opportunities for smart growth around existing and planned transit stations (referred to as Smart Growth Opportunity Areas). SANDAG provides grants to assist with station area planning and infrastructure needs in these areas through its Smart Growth Incentive Program⁵.

A TOD project's lead is determined on a case-by-case basis. MTS generally gets involved in TOD projects if it owns land around the station. SANDAG generally also gets involved only if there is land to be acquired. However, both agencies do comment on projects on privately owned land near major transit stops.

5 Pilot Smart Growth Incentive Program, Comprehensive Land Use and Regional Growth Projects, SANDAG, San Diego, CA, <http://www.sandag.org/index.asp?projectid=264&fuseaction=projects.detail>

SANDAG is governed by a board of directors, which includes an elected official (usually the mayor) from each of San Diego County’s 18 cities (the city of San Diego has two voting members), and two county supervisors. Supplementing these voting members are advisory representatives from Imperial County, the U.S. Department of Defense, Caltrans, the San Diego Unified Port District, MTS, the North County Transit District, the San Diego County Water Authority, and Mexico.

MTS is governed by a 15-member board of directors drawn from the cities and counties within its service area. NCTD is similarly governed by a nine-member board.



Figure 2.4 San Diego Trolley Rapid Transit System

Map used with permission from MTS.

Boston, Massachusetts: Massachusetts Bay Transportation Authority

Boston traces its history of mass transportation to the 1630s and the operation of a public ferry system, with mass transit cars on tracks dating to the late 1800s. Many of today's rapid transit routes had their origins in the earliest part of the 20th century, making Boston one of the few locations where the urban landscape grew around the transit lines.

Now, the Massachusetts Bay Transportation Authority (MBTA) provides ferry; bus; rapid transit, including two Bus Rapid Transit lines; trackless trolley; and commuter rail service. The rapid transit system has four lines, consisting of heavy rail, light rail, and trolley, with 600 miles of right-of-way, and 129 commuter rail stations. About 60 percent of system's 1.3 million daily weekday riders use MBTA's rail rapid transit.

MBTA is the second largest landowner in the Commonwealth, and its real estate inventory contains 5,000 parcels of land. After MBTA adopted a policy to make its real estate assets productive, it partnered with Transit Realty Associates (TRA) to entirely privatize its real estate functions.

Through TRA, real estate is analyzed for its development and financial return potential. TRA issues a bid package and invites proposals. Since 1998, MBTA has planned and implemented over 50 TODs, with nine more in process.

The seven-member governing body of the Massachusetts DOT (MassDOT) is also the governing body of MBTA, with representatives appointed by the governor. The Metropolitan Area Planning Council⁶, the regional planning agency for 101 cities and towns that comprise Metro Boston, provides long-range planning for MBTA.

6 Metropolitan Area Planning Council, Boston, MA, <http://www.mapc.org/>



Figure 2.5 MBTA Rapid Transit System

Map used with permission from MBTA.

Host Agency System and Ridership Characteristics

System and ridership characteristics of the transit agencies that participated in the scan are summarized in Table 2.1.

Table 2.1 Comparison of participating rail rapid transit systems

	BART	RTD	LA Metro	San Diego	Boston
Age of oldest segment (years)	40	19	20	33	100+
Number of lines	5	5	6	3	4
Miles of service line	104	35	87.7	53.5	64
Rapid transit stations	44	36	53	53	129 (six are shared)
Service area					
Square miles	524	2,326	1,433	3,240	3,249
Population	3.3 million	2.6 million	9.6 million	3 million	4.8 million
Parking					
Spaces	46,000	26,500	33	5,000	16,700
Lots		74			26
Annual passenger trips	111 million	21 million	96 million	32 million	228 million
Average weekday ridership	367,000	70,000	358,490	97,401	780,000
Fare recovery ratio (from rail rapid transit only)	76.1%	42.1%	21%	57.4%	51%
Annual budget					
Operating	\$450 million	\$63 million	\$272 million	\$60 million	\$451 million
Capital	\$467 million	\$290 million	\$420 million	\$15 million	\$204 million

Source: Data NTD database (2011) and agency websites, transit agencies

Scan Findings

Summary

It is important to reiterate that this document is not meant to be an expansive report on the benefits of TOD. The team was asked to examine parking and other access for nonresidents of the TODs. In addition to insights in those areas, the team members found that many ideas they held in common about TODs were not consistent with their observations and decided to include those findings as well. The team leaves it to others to argue the merits and faults of TOD.

In the cases examined, the study team found that private-sector markets drove TOD, rather than a set of greater-good outcomes (e.g., walkable communities or affordable housing) providing the impetus. However, the high value of transit agency-owned properties in the areas visited by the team, paired with state mandates, such as those for affordable housing, allowed the transit agencies to leverage attractive properties to accomplish some of those greater-good objectives within the TODs.

The relative importance of parking and the degree to which it was considered problematic varied by location. The team found that while parking was a concern and influenced TOD development to varying degrees, the impacts were of no more significance than other factors, such as long-term revenue generation, maturity of the transit system, and station area planning. In fact, in the locations examined in this study, existing parking was most often seen as an asset that could be leveraged by condensing the parking spaces into a structure and converting the value of the remaining land into a long-term revenue stream through a long-term ground lease.

One of the scan team members quipped, “When you’ve seen one TOD, you’ve seen *one* TOD.” That is to say, no single definition of TOD was in use; consequently, tools and strategies varied greatly depending on the site. In the interviews, some sponsors had moved beyond the term “transit-oriented development” to more expansive terms, such as “transit-oriented neighborhoods.”

The scan team came to view TOD as the outcome of a set of strategies and practices applied to development opportunities at or near high-volume or high-opportunity transit stations. The degree to which the development was transit oriented depended on the number of strategies that were successfully employed and other influences that limited—or enhanced—the result. Those influences included real estate values and market, political climate, developer values, community values, and whether the primary objective was transit-related, revenue-related, or both.

Findings

The team's observations at times were at odds with conventional wisdom. Observations are summarized in the next sections, along with successful strategies that were used to produce development that was integrated both modally and functionally.

In reviewing the lessons learned from this scan, it is important to note that participating transit agencies were almost always a significant landowner in the TOD area, allowing for proximate private development. A transit agency's land was a critical contributor to the TOD results and a primary card in the transit agency's hand. Similar results may not be found when the transit agency is not a significant holder of real estate within the development area.

Conventional Wisdom on TODs

Much of the conventional wisdom about TODs, in particular the literature advocating the benefits of TODs to the layman, was not consistently substantiated in the locations the team visited. Just as no single definition of TOD was found, the conventional wisdom about TODs, as understood by members of the study team, sometimes fell short. The following examples are noteworthy.

TODs are self-contained, mixed-use developments where the development has a strong relationship to transit services and often with the purpose of maximizing access to transit.—Conventional Wisdom

TODs are compact, market-driven developments that leverage transit assets.—Observation

The team found TOD land uses were heavily market-driven. Local planning guided TOD land use; however, in successful TODs, plans were adjusted to meet market conditions.

For example, first-floor retail was envisioned in the planning phase of Grossmont Transit Station in San Diego. Market conditions changed, and a market study showed the demand for retail was not there as anticipated. The developer stayed with his original plan and built the development with first-floor retail. The result: vacant storefronts and a lost opportunity to find other uses that would contribute to, rather than detract from, the neighborhood's vibrancy.

Transit is central and a focal point of TODs.—Conventional Wisdom

Transit access can disappear into the site.—Observation



Figure 3.1 Vacant first-floor retail, Grossmont Transit Center

The T in TOD gives the impression that transit is a focal point. While transit is an essential component of TOD, in many cases it is practically invisible (Figure 3.8 is a good illustration of this). The W hotel is clearly the focal point, and the entrance to the transit station blends into the background. In other locations, transit entrances were found inside historic buildings or across the street from the TOD.

“You have to be careful of the loading up of TOD with other social and political agendas. If all you want to do is create a viable, vibrant community, don’t get hung up on the TOD ‘rules.’”

–Steve Cecil, President, The Cecil Group, Inc.⁷

TODs should generate transit ridership. –Conventional Wisdom

TODs generate economic return for communities and transit agencies. –Observation

Some transit agencies saw their assets as community assets, and their approach to development reflected this view. Transit agencies brought resources, in the form of passengers, real estate, and funding that could be leveraged to improve development prospects. Transit is a community development partner, and some participated as much for long-term revenue generation or community benefit as for direct transit benefits.

For example, Bill Sirois, a Senior Manager for Denver’s RTD, anticipates there could be a short-term drop in ridership when Alameda Station is developed as a TOD due to the removal of parking at that location. In the long run, however, he believes riders will adjust, and the visibility and activity generated by the TOD will stimulate ridership and economic activity in the surrounding development.

TODs are good for transit systems. –
Conventional Wisdom

TODs can burden already strained transit systems. –Observation



Figure 3.2 South Station in Boston

⁷ The Cecil Group, Inc, Boston, MA, <http://www.cecilgroup.com/>

In some locations, like San Francisco and Boston, concerns were expressed about the ability of the transit system to handle additional ridership. In one location, development was disrupting the operation of a transit maintenance facility, and in another, the facility was being considered for relocation to a less-optimal site to free up land for development.

The Dukakis Center for Urban and Regional Policy at Northeastern University conducted a study about the core capacity of MBTA routes⁸. MBTA has developed more than 50 TODs, and the study cited the increasing number of TODs as a key factor in continued ridership growth. The study also indicated limited ability to address the additional 100,000 to 367,000 annual passengers forecast over the next 10 years, when every component of the rapid transit system (except the Blue Line) is already congested or over capacity.

TODs are a way for communities to flourish with minimal public investment. –Conventional Wisdom

Transit agencies, local government, and developers all have investment roles in TODs. –Observation

Where property values were sufficiently high, developers were able to bear more of the public infrastructure costs. Where property values were not as high, transit agencies and/or local government provided public investment to condense parking or make other improvements that were the catalysts for development. In those cases, public investment brought down development costs and made private development feasible.

Two such cases are highlighted later in this report: ***Wonderland Station*** in Revere, Massachusetts, and ***South Pasadena Station***, California, which is on LA Metro’s Gold Line.

TODs bring immediate financial returns. –Conventional Wisdom

TODs can sometimes be loss leaders. –Observation

In some cases, transit agencies were willing to forgo immediate returns for longer-term revenue streams and were inclined to enter into long-term ground leases that ramped up returns over time.

Even when long-term revenue was not at issue, the public TOD investment was sometimes seen as a loss leader to attract additional investment. ***Wonderland Station*** in Revere, Massachusetts, is examined in depth later in this report as an example of this type of approach.

Traffic and parking are especially problematic for TODs. –Conventional Wisdom

Traffic and parking are two of many potential sources of conflict in TODs. –Observation

8 S. Pollack, Hub and Spoke: Core Transit Congestion and the Future of Transit and Development in Greater Boston, Dukakis Center for Urban & Regional Policy at Northeastern University, Boston, MA, June 2012, <http://www.northeastern.edu/dukakiscenter/wp-content/uploads/Final-Hub-and-Spoke-Report.pdf>

Parking and traffic seemed to be a greater source of conflict where development was especially compact to begin with (i.e., in areas where parking and traffic are inherent problems, regardless of the presence of a transit station) or where there was a well-established pattern of commuter parking.

One common practice was to use TOD investments to facilitate transition from surface-lot parking to parking structures. Disguising parking structures by wrapping them with more aesthetically pleasing types of development, relocating parking to be less imposing, placing at least some of the parking underground, and improving modal shares from other forms of access were also techniques that were used to avert potential parking conflicts.

Bus, bicycle, and pedestrian access were also important, needed to be planned for, and could bring their own tensions (e.g., bikes on rapid transit), especially during peak commutes. Planning for successful pedestrian access required sensitivity to the walking distances and to the overall walking experience.

Asset management is maintaining the transit system in a state of good repair. –Conventional Wisdom

Asset management is maximizing the productivity of all assets. –Observation

Transit systems that had explicit policy direction to maximize the return of real estate assets had the best inventories and information about the latent financial potential of those properties. BART, MBTA, MTS, and LA Metro all had such policies, and all were deriving long-term revenue from TOD projects.

Some transit systems viewed parking as a short-term use of land that could be put into more productive use later. LA Metro described minimal capital investments at some parking locations so that transit riders could derive immediate benefits until market pressures made it feasible to develop for TODs.

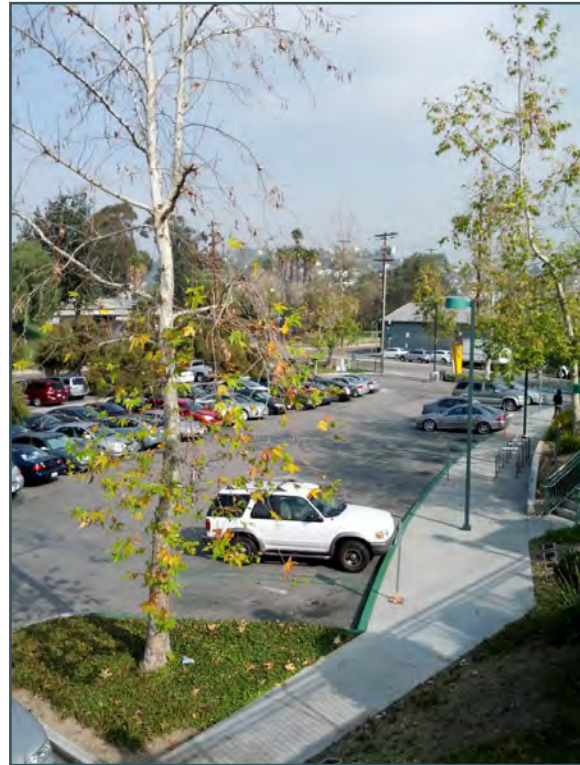


Figure 3.3 Parking area, Lincoln Park Station, LA Metro



Figure 3.4 America Plaza TOD in San Diego, California

Successful Strategies and Practices

In the face of the variable nature of TODs, the team sought to identify strategies and practices that led to successful TODs. TODs that the scan team investigated used similar successful strategies and practices, which are summarized in the following sections.

Define Desired Outcomes Early

Because TODs are largely the product of negotiations, defining desired outcomes early in the process is important for all parties. Such clarity of purpose provided a sound framework for decisions.

While the desired outcomes varied widely by location and interest group, the scan team observed common lessons across multiple locations.

- **Ridership outcomes were not necessarily primary objectives for TODs.**

TOD objectives can be ridership-related, such as increased ridership or improved transit experience. Other objectives were equally prominent, such as long-term revenue generation for the transit agency or the invigoration of a neighborhood.

- **Objectives and policies clearly influenced approaches to TODs.**

An emphasis on long-term revenue tended to be associated with flexible approaches to TOD. High-level policies, such as a clear directive to get real estate assets into the marketplace, prompted more market-based approaches.

- **Local planning played a key role in setting the stage for TODs.**

Metropolitan planning organizations helped local communities identify high-potential TOD sites so that strategic planning investments could be made in those locations. Local communities were able to set expectations for TODs through station-area planning, and then put those requirements into ordinance form. Metropolitan planning organizations often sponsored planning grants and provided other technical assistance. The results of those efforts were attractive to developers, as they provided an agreed-upon framework of community expectations and requirements at any given location.

SANDAG has an especially strong approach that identifies areas that support smart growth and transit and classifies them by place type (e.g., urban center, town center, community center, and rural village). The smart growth opportunity areas are mapped⁹ and assigned minimum land use targets and minimum transit service characteristics. Transit investments are prioritized according to the map, and the opportunity areas become eligible for SANDAG's Pilot Smart Growth Incentive Program¹⁰ grant funds.

9 Smart Growth Concept Map, Comprehensive Land Use and Regional Growth Projects, SANDAG, San Diego, CA, <http://www.sandag.org/index.asp?projectid=296&fuseaction=projects.detail>

10 Pilot Smart Growth Incentive Program, Comprehensive Land Use and Regional Growth Projects, SANDAG, San Diego, CA, <http://www.sandag.org/index.asp?projectid=264&fuseaction=projects.detail>

■ **A flexible and sophisticated view of TOD increased the likelihood of success.**

Adaptation to changing markets and conditions required a departure from some preconceived notions about benefits that a transit-oriented development might generate in a specific locale. What a developer sees and what a local government wants may be in conflict. Considering options that honor the agency's bottom line yet incorporate market realities could still yield significant long-term benefits.

Case Study: BART Policies

BART made early forays into TOD, with TODS dating to the 1990s. In the early years, access was heavily weighted toward automobiles, and BART provided ample parking in close proximity to fare gates. If there was accompanying development, it was relegated to fitting in around the parking. The level-of-service-based approach left it to communities to manage problems that arose around BART parking facilities, using a toolkit provided by BART.

In 2005, as BART was contemplating its second-generation TODs, it wanted to expand the area of influence beyond the immediate station area to create more-vibrant communities that would stimulate investment. The agency settled on four goals:

- Increase transit ridership and enhance quality of life
- Increase transit-oriented development projects on and off BART property
- Enhance the stability of BART's financial base
- Reduce the access mode share of the automobile

To accomplish these goals, BART had to rethink access priorities and practices, such as the 1:1 replacement parking standard. It created station access typologies to guide station area development based on the function the station serves and other contextual factors.

BART has also placed a greater emphasis on TOD centers as revenue engines, leveraging BART properties through long-term ground leases, which generate base rent and performance rent for periods of up to 99 years.

At the time of the scan team's visit, BART had completed eight TODs, approved 10 more, and had three in negotiation, representing \$2.42 billion of public and private investment.

For more details, refer to BART's Transit Oriented Development Policy.¹¹

¹¹ Transit-Oriented Development Policy, Bay Area Rapid Transit, San Francisco, CA, http://www.bart.gov/docs/tod/TOD_Policy_Adopted_07-14-05.pdf

Leverage Assets

Transit agencies were able to leverage real estate, ridership, and public funding to make the projects privately feasible and publicly beneficial.

- **Transit-owned properties were leveraged to meet agency objectives.**
Existing parking areas, construction staging areas, existing station footprints, and other real estate owned by transit agencies were all fair game for packaging as part of a development project. In addition to creating a long-term revenue stream, transit agencies were typically able to extract public benefits, such as station improvements or public spaces.
- **Public investment and density tradeoffs worked in tandem to attract development.**
In areas where the real estate market alone was insufficient to entice development, density bonuses, public investment, or both, made the project attractive.
- **Objectives and policies clearly influenced approaches to TODs.**
Where long-term revenue was deemed as important as future ridership or integration of transit into surrounding land use, parking was less likely to be a key issue. This most likely reflected property values that were high enough to present a broader array of potential solutions. High-level policies, such as a clear directive to get real estate assets into the marketplace, framed these choices.
- **Privately owned development brought new tax revenue.**
Transit-owned property is nontaxable; however, private development on land leased from the agency *is* taxable. In some cases, tax capture was used for further development, though in California this has been hamstrung by the dissolution of local redevelopment authorities.

Case Study: Wonderland Station, Boston, Massachusetts

Real estate and ridership were the two greatest assets brought to development by transit agencies that the scan team visited. MBTA, the nation's fifth largest mass transit provider, is particularly rich in both. MBTA's real estate inventory includes more than 5,000 parcels, and average daily ridership in all transit modes is 1.3 million passengers.

The City of Revere, located five miles from downtown Boston on MBTA's Blue Line, tried for years to spur development in the waterfront area that once was Boston's playground and home of Wonderland Amusement Park and Revere Beach. Wonderland Station's ridership is about 6,000 passengers daily.

The city struck a partnership with MBTA to consolidate MBTA's ocean-side parking lot and adjacent expanses of surface parking into a single development offering. Inclusion of MBTA's parking lot in the development footprint required replacement of existing parking spaces. All displaced parking was consolidated into a single garage.



Figure 3.5 *Garage at Wonderland Transit Station, Revere, Massachusetts*

Photo courtesy of MBTA and Transit Realty Associates

The consolidation of surface parking lots into a single development offering opened prime real estate across from Revere Beach for transit-oriented development. Because it is an end-of-the-line station and close to Revere Beach, preservation of parking was an important objective. Better integration of parking with area roadways and improved pedestrian and transit access were also prime considerations. Pedestrian linkages between the transit station, surrounding neighborhoods, and Revere Beach, were special emphases.



Figure 3.6 *Rendering of Wonderland TOD at build-out*

Courtesy of MBTA and Transit Realty Associates

Construction of the garage succeeded because of a coordinated effort between the MBTA and the City of Revere. Partners assembled local, state, and MBTA funds, plus federal earmarks and stimulus funding, to reach the ultimate cost of \$53.5 million to construct the 1,500-space parking garage.

The Wonderland parking garage opened in July 2012; however, the recession slowed the TOD's progress. MBTA continues to work with its partner, the City of Revere, and the designated redeveloper to capture the emerging economic optimism of investors and tenants in support of a successful TOD.

Expand the Sphere of Influence

TOD results were best when TOD practices and strategies were employed beyond the immediate station area and transit agencies maintained some type of oversight or decision-making authority over the long term.

- **A larger geographic area of influence created better integration of transit and other modes into the surrounding area.**

Some project locations that were developed as TODs resulted in what one participant termed “islands of walkability.” The site itself may have been well integrated, but beyond the developed site, non-automobile travel conditions deteriorated rapidly. Station-area planning could extend the area of influence to provide safety and continuity.

- **Projects in which the span of influence (i.e., responsibility or decision-making authority) was greater achieved more of the agencies’ objectives.**

Factors such as the property’s condition, efficient parking operation, meeting construction milestones, and other similar concerns that protected assets and development viability in the long-term had impacts in varying degrees. The greatest impacts were seen when transit agencies exerted some type of ongoing oversight or control; this was achieved through legal documents or public oversight bodies.

Case Study: Alameda Station, Denver, Colorado

Alameda Station was the second station from the end of the original five-mile rapid transit line. An extension of the line southward into the suburbs has placed Alameda in a different context, making it a candidate for the TOD Pilot Program¹².

The station site is about three acres, with a four-bay bus transfer facility and a small, 300-space dirt park-and-ride lot. The site is bounded on the west side by interstate. Although the station is not functionally integrated with the adjacent shopping area or neighborhood, about 80 percent of station access is by bus, bike, or foot. The RTD leases 200 additional parking spaces from a reasonably successful adjacent big-box retail center, which has significant drainage and traffic circulation issues.

The RTD wanted to transform this marginal station to make it the center of a vibrant mixed-use urban community with pedestrian and transit orientations integrated with the adjacent retail uses. The RTD’s strategic plan for TODs, which named Alameda Station as one of four pilot TOD sites, and its adopted Transit Access Guidelines¹³ provided a framework for the station’s changing function.

12 Alameda Station, Transit Oriented Development, City and County of Denver, CO, <http://www.denvergov.org/StationAreas/AlamedaStation/tabid/395237/Default.aspx>

13 Regional Transportation District Transit Access Guidelines, January 2009, Denver, CO, http://www3.rtd-denver.com/content/Eagle/VOLUME_3_-_REFERENCE_DATA/Transit%20Access%20Guidelines%20Final,%20Jan%202009.pdf

The City of Denver created a 75-acre station area plan to boost density and open the area to more development possibilities. Rather than passively waiting for development opportunities, the RTD engaged the city, developer D4 Urban¹⁴, and the Denver Urban Renewal Authority¹⁵ (DURA) to advance a TOD project.

The RTD worked closely with the city and the developer, which spent over \$2 million to create a more in-depth plan that included development guidelines, phasing, and infrastructure plans. The RTD’s adopted access guidelines influenced the design of apartment buildings to facilitate bus transfers and pedestrian/bicycle access.

Although the parties agreed to the development concept, the drainage problem still needed to be addressed. The solution: DURA and the City of Denver pledged \$13 million of the \$17 million needed.



Figure 3.7 Alameda Station plan, Denver, Colorado

Photo courtesy of Denver Regional Transportation District

Key: Improved circulation = yellow; relocated parking (designated with P); station platform = magenta; apartment and plaza areas = green; storm water improvements = light blue

14 D4 Urban, Denver, CO, <http://d4urban.com/>

15 Denver Urban Renewal Authority, Denver, CO, <http://www.renewdenver.org/>

The resulting development plan includes more than 200 multifamily residential units to be built on the RTD's station property, a transit plaza, bus bays, bike storage, and improved circulation for transit buses and pedestrians.

Of the \$2.6 million proceeds from the sale of the three acres surrounding the station, the RTD will reinvest \$1.5 million for the transit plaza and street improvements. Residents will be provided 40 parking spaces; however, the commuter parking from the RTD's lot will not be replaced. The RTD will rely on adjacent stations to absorb parking, along with some temporary parking in the retail area during the transition to a zero-commuter parking station.

Keep a Long-Term Perspective

Because real estate was the key to transit agency leverage, host agencies held a long-term mindset when contemplating real estate transactions, TOD or otherwise.

- **Transit agencies considered developments with a long-term perspective.**

Land use, property values, and ridership all change in the long run. End-of-the-line stations with expansive parking could be middle-of-the-line stations within 10 years. Transit agencies exercised care in decisions—particularly financial decisions—that could preclude other development options in the long run.

“Everything is driven by the potential for transactions.”
—Robin Blair, Director of Planning, Central Area Team, LA Metro

- **Parking was seen as an interim use in some locations.**

Today's parking lot is tomorrow's high-value land, and parking was a low-maintenance interim use. One agency advised transit agencies to get all the property they could justify when building the transit system and hold onto it for the long run, with interim use as surface parking.

- **Agencies take a holistic, systemic view of the impacts of TOD on transit operations.**

While some TODs did not have increased ridership as an objective, it was an outcome. Two transit systems were nearing capacity in segments. They were concerned that new TODs might generate sufficient ridership to put stretches of the rapid transit systems over capacity.

Case Study: Hollywood and Vine Station, Los Angeles, California

When LA Metro constructs new lines and stations, it acquires property for construction and staging, along with property for the infrastructure itself. The proximity of stations can, over time, yield prime real estate for development.

This is precisely the sequence at Hollywood and Vine, a blighted area that was in decline in the 1980s. The seedy, quirky nature of the area made people disinclined to linger—or spend money.

When construction of the Red Line and the Hollywood and Vine Station was complete, properties that had housed staging activities were at first idle, then eventually LA Metro converted them to paid parking.

Over the next 10 years, Hollywood began to rebound, in part due to LA Metro ridership, and the value of the 4.6-acre parking area spiked. LA Metro decided to consolidate parking to make the land available for TOD.

LA Metro entered into a long-term ground lease with Gatehouse Capital Corporation and Legacy Partners to provide a mixed-use, mixed-income development with a 300-room hotel, 61,500 square feet of retail space, 150 condominiums, and 375 apartments, with 20 percent offered as affordable housing and the remainder offered at market rates. A public investment of \$6.5 million was parlayed into a total project investment of \$356 million.

Can you spot the transit entrance in either picture in Figure 3.8? Transit clearly plays a support role, rather than being the focal point of the development.

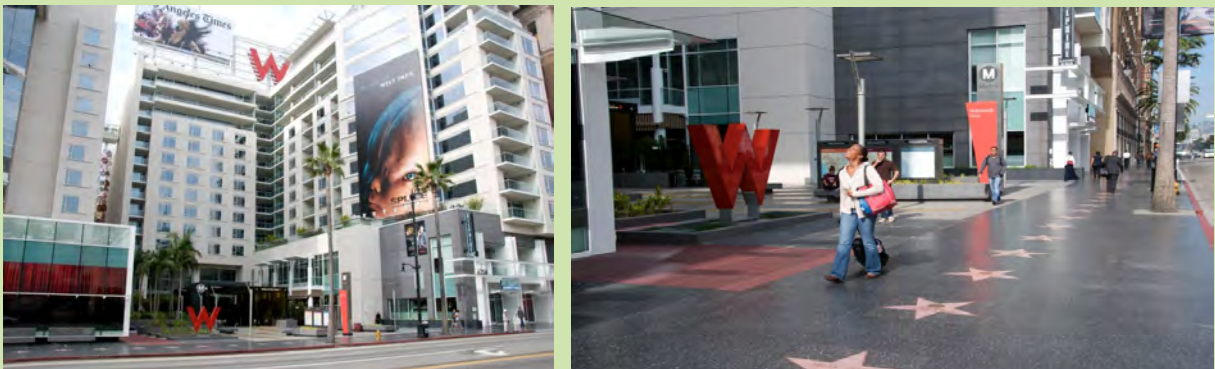


Figure 3.8 *TOD at Hollywood and Vine*

LA Metro was able to leverage the development to create a station that meets its long-term ridership needs and returns base and rent revenue to LA Metro over a 75-year period.

Although a parking structure was built at this location, LA Metro chose not to require replacement of commuter parking. One participant framed the choice as being between spending millions of dollars for the benefit of, at most, a few thousand users, or investing

the same amount in the station or the system, which could benefit millions of travelers.

Parking was also framed as a local issue versus a regional one. The lack of parking around any given station can be viewed as a local problem; however, for the regional rapid transit system, the greatest commuter parking needs are at the ends of lines, and it makes sense to concentrate automobile access at these locations. As the lines are extended and parking is concentrated at new end-of-the-line locations, the cycle will repeat itself.

That dynamic nature makes it important to consider future uses when structuring deals. Each type of funding has different rules, so it is important to pay attention to strings that may bind long-term options and to consider the mature system.

Investing in multiple, less-dense TODs is another long-term strategy for creating a synergistic economic environment by extending the amount of time visitors spend in a given area. Linking visually interesting venues with well-integrated rapid transit can increase dwell time in the vicinity, which equals more expenditures by visitors over a larger area than a single station.

Use Every Tool Available

- **A range of instruments and organizational structures ensured development met specifications and provided long-term results.**

BART arranged for the private sector to do most of the development of the Pleasant Hill Transit Village. Because of this, BART had in place a number of safeguards to ensure that the projects as delivered were consistent with local requirements and that financial provisions would remain enforceable over time. Ground leases, memoranda of understanding, deed restrictions, payment-in-lieu-of taxes, benefit assessment districts, detailed requests for proposals and bid processes, zoning, permitting, and impact fees were employed, as appropriate. Joint powers agreements (JPAs) and local development authorities provided structure where existing administrative structures were not conducive to oversight.

BART and Contra Costa County formed a JPA to manage the revenue from Pleasant Hill Transit Village. BART transferred the real estate to the JPA, which leased it to the developer. The county then funded BART's replacement parking structure. Under the JPA, revenue from the project will be split 75 percent to the county and 25 percent to BART, ensuring that BART receives the value of the property on which the development is built and the county is reimbursed for the funding it forwarded for the parking structure.

- **Financial incentives sometimes cinched the deal.**

Tax credits, density bonuses (which translate to financial incentives), and contributions to offset infrastructure or public space costs were sometimes the ingredients that made

proposals financially feasible. The ability of entities in California to offer such incentives was hampered when redevelopment districts, which had paid for many of the nonridership or nonrevenue-generating features (e.g., public space and art), were dismantled.

Case Study: South Pasadena Station, California

South Pasadena’s historic town center had been slowly losing retail draw and consumer energy. While the buildings had a distinctive, eclectic feel, businesses were losing the ability to draw and keep consumers. The city sought a turnaround development to help restore the area’s vitality and character.

The City of South Pasadena owned a 1.65-acre parcel across the street from the Gold Line’s South Pasadena stop. The city used the property to provide parking for LA Metro riders, and approached the Metropolitan Transit Authority about providing funds to move the parking underground, which freed the property for denser and higher-value development.

LA Metro agreed to contribute \$2.6 million in grant funding to ensure the ongoing availability of 142 automobile and 30 bicycle spaces for transit riders at the location. State funding brought in another \$1.5 million, with the balance of underground parking costs split between the city and the developer, at just over \$500,000 each.

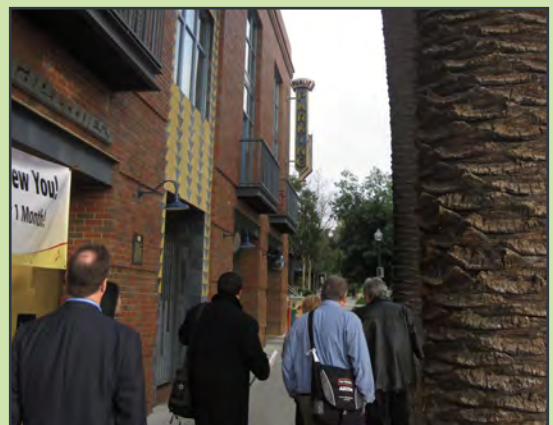
The developer, Creative Housing Associates¹⁶, invested \$20 million to build 64 condominiums, 5,000 square feet of retail space, and an additional 160 private parking spaces for residences and retail. This was a significantly higher density than the surrounding predominantly single-family neighborhood was accustomed to seeing (i.e., 40 units per acre versus the typical two to four units per acre).



*Figure 3.9
Condominiums and residential parking entrance
of South Pasadena’s Mission Meridian Village*



*Figure 3.10
Retail area of South Pasadena’s Mission
Meridian Village*



*Figure 3.11
Parking entrance of South Pasadena’s
Mission Meridian Village*

16 Creative Housing Associates, Los Angeles, CA, <http://www.challc.com/>

City Planning Director Dennis Woods reports that there was fear of higher density development, and one of his goals for the project was to demonstrate that density could add to an area’s vibrancy without compromising the neighborhood’s character. Wood considers the project a watershed for South Pasadena and how the community views density.

“This change—this parking, the train—has fundamentally changed people’s perception of South Pasadena,” said Woods, which was the ultimate goal.

The final piece was changing the station’s name from Mission to South Pasadena to solidify South Pasadena’s identity as a destination.

Match Markets to Wishes

Because TODs are fueled by the private sector and the private sector is keenly sensitive to consumer markets, it is vital that the TOD’s uses are well matched to the markets in which they are located.

- **Market analysis determined development feasibility.**

Public expectations about the benefits of TOD—and therefore the public’s perception of elements necessary for success—are sometimes mismatched to what the market will bear. For example, several scan locations had incorporated first-floor retail because TODs are “supposed” to have a mix of uses. The result: entirely vacant first-floor retail space.

The scan found that developments did not have to fit the textbook example of TOD to be well integrated. TODs can, and do, consist of a land single use, or be mixed horizontally rather than vertically.

“A mixed-use building is not a TOD; it’s a mixed use building.”

—Jeff Ordway, Department Manager, Real Estate and Property Development, BART

Case Study: San Diego Association of Governments, California

SANDAG has a robust TOD program as part of its Regional Comprehensive Plan and Smart Growth Concept Map¹⁷. In developing the plan, SANDAG worked with local communities to identify smart growth opportunities and classify those opportunities by place type and by whether they were existing/planned or potential Smart Growth Opportunity Area

17 Smart Growth Concept Map, Comprehensive Land Use and Regional Growth Projects, SANDAG, San Diego, CA, <http://www.sandag.org/index.asp?projectid=296&fuseaction=projects.detail>

(SGOAs). Local communities were then eligible for SANDAG grant funding for planning or capital projects. Existing/planned SGOAs are eligible for planning or capital grants, while potential SGOAs are only eligible for planning grants. Grant funding is from *TransNet*¹⁸, a 40-year half-cent sales tax used to fund transportation-related projects in the region.

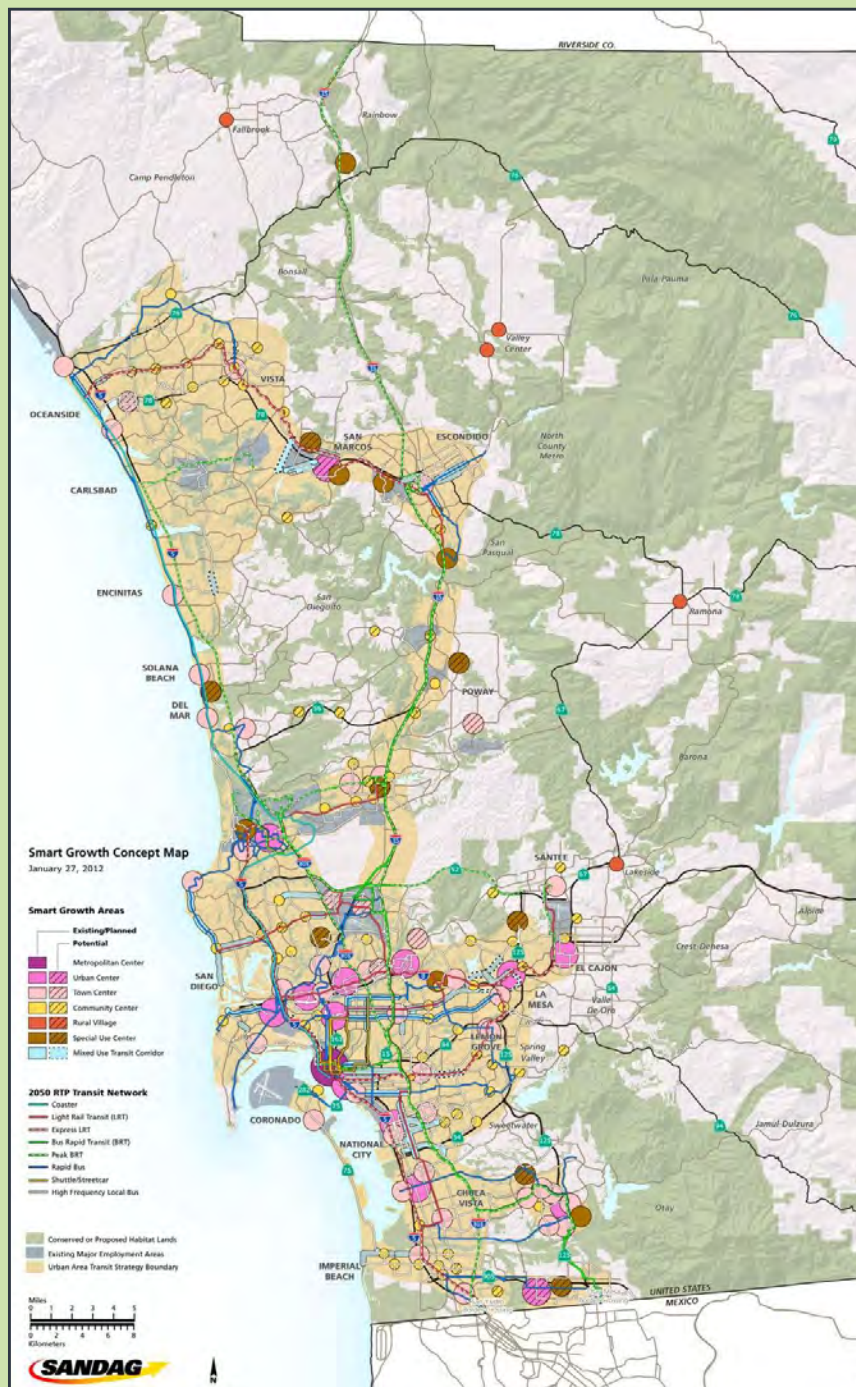


Figure 3.12 SANDAG Smart Growth Concept Map

18 TransNet, SANDAG, San Diego, CA, <http://www.sandag.org/index.asp?classid=30&fuseaction=home.classhome>

The identification of SGOAs was a cooperative effort between SANDAG and local government, supported by available data from the regional growth forecast¹⁹, including existing and planned land uses and densities, and the Regional Transportation Plan. At times, tension surfaced around a perceived mismatch between the type of development a city wanted and what the data indicated was likely to occur in the market. According to SANDAG, during the development of the Smart Growth Concept Map and regional growth forecast, the building industry questioned whether the densities were realistic or simply an expression of local desires.

The City of El Cajon, which is served by the San Diego Trolley²⁰, was one such location. The city identified its downtown as an urban center, which, based on the place types developed by SANDAG, would require a minimum residential density of 40 units per acre, an employment target of 50 employees per acre, and service by light rail transit or a rapid bus.

The Urban Land Institute (ULI) San Diego/Tijuana²¹ Chapter conducted a technical review to evaluate whether and under what conditions the city could realize those densities. The analysis verified that the market did not exist in that location for the densities the city was projecting and for which it was planning. To double-check the results, developers were asked to review the ULI analysis. Even with seven acres and a transit node, the ULI found that the city would need about \$30 million in subsidies to make the project—a specific plan for the downtown—work.

Be Flexible When Addressing Parking and Other Forms of Access

Access to TODs and rapid transit stations was a central focus for all scan host agencies. TODs were evaluated within the context of the neighborhoods and the transit systems to determine how best to provide access.

The scan team noted a trend away from requiring parking at every station, especially in city centers, and toward assessing parking supply over a wider market area of public and private parking providers.

The team also observed that an approach that provides a framework for access, but remains flexible on the details within the framework, was best able to meet transit agency, commuter, and neighborhood needs. Specific observations are noted below.

- **Well-considered, well-implemented access contributed to the TODs' overall viability.**

Well-designed TODs were able to minimize conflicts among access modes through design

19 Growth Forecasts, SANDAG, San Diego, CA, <http://www.sandag.org/index.asp?subclassid=84&fuseaction=home.subclasshome>

20 San Diego Trolley, San Diego Metropolitan Transit System, San Diego, CA, <http://www.sdmts.com/trolley/trolley.asp>

21 Urban Land Institute San Diego/Tijuana, San Diego, CA, <http://sandiego.uli.org/>

features that also contributed to the character of the TOD itself. Creating guidelines and tools can ensure access is appropriate and consistent with agency access objectives.

BART has developed a suite of tools to assist in designing TODs, including Station Access Guidelines²², access-by-mode targets, a Parking Management Toolkit²³, and Guidelines for Transit Oriented Development²⁴. The Denver RTD has developed similar tools²⁵.

- **TODs were still “development” and came with the demand for parking for the new development.** In some TOD areas, transit agencies chose not to replace commuter parking for transit system users. However, the developments still required parking for the residential and commercial land uses.

Where transit agency-sponsored commuter parking was eliminated, it tended to be in high-density, high-value real estate areas that already had a high rate of transit use. In some cases, parking at nearby or down-line stations was expanded to compensate for lost parking at city-center stations. The Denver RTD and LA Metro are two agencies that use this approach.

- **Transportation Demand Management (TDM) was implemented to reduce parking demand.** TDM helps lower parking demand by supplementing modes of travel other than single-occupancy vehicles. The Contra Costa Centre Transportation Demand Management Program²⁶ was formed in 1989. The project’s owners contributed more than \$1.5 million for employee transportation demand-management programs and later approved a \$200,000 annual assessment to provide ongoing funding for TDM.
- **Transit-sponsored parking tended to be free or comparatively low priced within the market area, making it subject to nontransit uses.** Mechanisms to ensure that parking was used only for transit were practically ineffective or financially inefficient. There was no right answer on how to resolve this conflict. Some were willing to live with it; others felt the need to segregate the parking for financial or other reasons. The most after-construction conflicts among TOD users arose where agencies chose to segregate transit parking from parking for other uses.

22 BART Station Access Guidelines, San Francisco, CA, http://www.bart.gov/docs/planning/access_guidelines.pdf

23 R. Willson PhD AICP, Parking Management Toolkit: Strategies for Action in BART Station Areas, Bay Area Rapid Transit, October 2000, San Francisco, CA, http://www.bart.gov/docs/planning/bart_parking_management_toolkit_2000.pdf

24 BART Transit-Oriented Development Guidelines, San Francisco Bay Area Rapid Transit, June 2003, San Francisco, CA, http://www.bart.gov/docs/planning/TOD_Guidelines.pdf

25 RTD Transit Oriented Development Design Criteria
http://static.arvada.org/docs/RTD_TOD_Design_Criteria-1-201302271318.pdf

RTD Transit Access Guidelines

http://www3.rtd-denver.com/content/Eagle/VOLUME_3_-_REFERENCE_DATA/Transit%20Access%20Guidelines%20Final,%20Jan%202009.pdf

26 About Contra Costa Centre, Contra Costa Centre Transit Village, Walnut Creek, CA, <http://www.contracostacentre.com/about.html>

- **Parking was considered in a larger context, rather than station-by-station.**

End-of-line stations tended to function as commuter collection points and were more apt to have greater parking availability. Some city-center stations did not provide parking at all (e.g., LA Metro, BART, and San Diego MTS) or had no plans to replace commuter parking (e.g., Denver), relying on other station locations for parking.

In Los Angeles, the opportunity cost to other transit users and the inability to ensure that only transit riders were using the parking overrode the provision of parking. Boston is beginning to take a market-area approach to parking, considering all public and private parking in the market area before determining parking needs at a given station.

- **Parking “intrusion” was solvable.**

Parking was sometimes moved away from the fare gate, and perceived distance was shortened using a continuous theme or material, visual interest, and other design elements to engage the pedestrian and collapse the perception of walking distance. The team also observed the technique of “wrapping” the structures (i.e., visually disguising the parking garages by lining their street sides with more aesthetically pleasing forms of development).

- **Bike parking was relatively inexpensive to construct.**

In one agency, facilities for securely parking 100 bicycles cost approximately \$30,000. That same \$30,000 is the high end of what it costs to build one automobile parking space in a structure. Expanding bike facilities and loosening bike-on-train policies was widely observed.



Figure 3.13 Bike parking and service at LA Metro's Long Beach Station

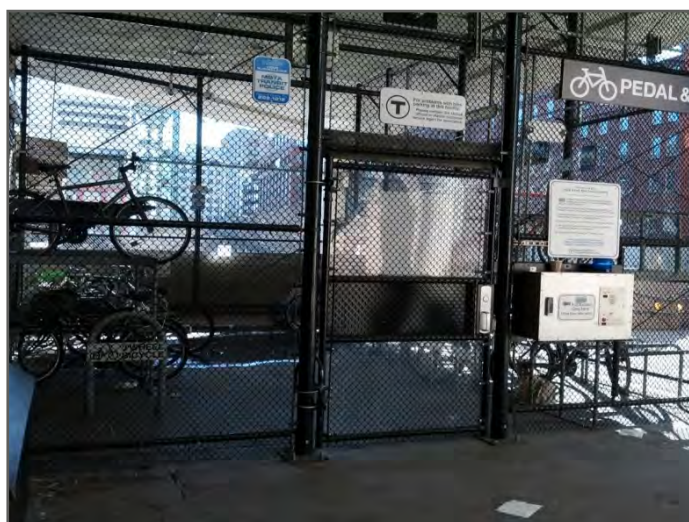


Figure 3.14 Bike parking at Boston's South Station

Case Study: Lake Merritt Station, Oakland, California

The one-half mile radius around BART's Lake Merritt Station in Oakland is the subject of a station area plan²⁷. Within the planning area are Lake Merritt, Chinatown, Laney College, the Oakland Museum of California, the Alameda County Courthouse, and a diversity of residences and businesses. There is high transit use in the area, but still a fair amount of on-street parking and surface parking lots.

The plan seeks to invigorate and guide development within the station area. Its objectives are to increase travel by non-auto transportation modes, increase housing, bolster employment opportunities, ensure retail and services support the local population, and identify open space and recreation areas.



Figure 3.15 *Oakland's Lake Merritt*

One area of particular concern to residents was parking management. The neighborhood envisioned an area with fewer autos, denser population, and businesses that drew on the transit ridership population.

Those desires had to be balanced against the needs of existing businesses that rely on automobile traffic and available parking. While unbundling parking costs might reduce costs development costs, developers also expressed the need for familiar land uses and parking schemes to convince lenders to extend credit.

²⁷ Lake Merritt Station Area Plan: A Specific Plan for the Area Around the Lake Merritt BART Station, Public Review Draft, December 2012, Oakland, CA,

<http://www2.oaklandnet.com/oakca1/groups/ceda/documents/report/oak039049.pdf>

Ultimately, a parking management strategy was recommended to reduce the overall need for parking supply and increase the effectiveness of parking. A number of strategies were incorporated, such as:

- Establishing shared parking between daytime and nighttime users
- Eliminating retail and office parking requirements in most plan areas
- Reducing residential parking requirements
- Unbundling parking costs from the cost of dwelling units, allowing residents to opt in only if they want parking
- Creating angled on-street parking
- Setting dynamic parking rates that vary with demand for on-street parking

All of these measures address parking supply. To reduce parking demand, a number of transportation demand-management measures are also included, such as car sharing, carpools and vanpools, guaranteed ride home, employer-subsidized transit passes, and increased bicycle parking.

The plan is still under development and is expected to be adopted by the end of 2013.

Know the Audience and Tailor TOD Communication Accordingly

Early and ongoing communication alerted planners to the particular concerns of constituents and provide clues for effective communication and problem-solving.

- **Charrettes and other collaborative workshops can resolve conflicts and clarify issues for agencies and the public.**

Participatory workshops help to keep conversations productive and interest-based, getting to root issues so that they can be addressed. The collaborative nature and quick turnaround help participants see that their suggestions are being incorporated.

- **Nomenclature matters.**

“Density” and “commuter parking” were negative triggers in some community interactions, triggering strong reactions in one Boston neighborhood. The phrases “compact development” and “car storage” did not evoke the same reactions.

- **Placing traffic in context can allay fears.**

Explaining staggered arrival times, the all-day nature of commuter parking, and placing the trips in the context of the area’s overall traffic helped dispel community fears about the traffic impacts of attracting commuters via parking garages.

Case Study: Pleasant Hill, California

Contra Costa Centre²⁸ in Contra Costa County, California, is rich with passenger transportation linkages: BART, I-680, buses, a major surface street, regional rail, and the Iron Horse Trail²⁹. A future light-rail corridor is also planned to intersect the area. The original Contra Costa Centre Station was built with expanses of parking, in part as mitigation for the I-680 interchange, which ironically caused a mode shift away from transit to private automobile. Local land use plans date back to the 1980s, when development in the area first accelerated.

Pleasant Hill is part of a 140-acre transit village at Contra Cost Centre Station. The 18-acre parcel, owned by BART, was the last property available for development in Contra Costa Centre under a specific plan that was adopted by the county to guide development near the Pleasant Hill Station.

In the mid-1990s, a proposed entertainment and retail development was approved, but failed to materialize. The fallout was that the area plan was amended to prohibit large-scale entertainment uses and reduce permitted commercial area by about 500,000 square feet.

In the meantime, BART was using land the local redevelopment agency had acquired to provide a connection to the Iron Horse Trail as a temporary parking area. As part of the proposed development, the parking was going to be removed and the land returned to park and trail uses. Users of those spaces balked at the loss of parking. Another group of residents, however, wanted the property to be used for its intended purpose: a connection to the Iron Horse Trail.

In 2001, local leaders and BART decided to take another run at developing the 18-acre BART parcel. The previous failed development, parking tensions from the temporary rail/trail parking, and widespread opposition to increasing density near an already heavily used BART station were all issues that needed resolution to achieve broad public support for the project.

A six-day charrette was held in February 2001 with the goal of involving as many people as possible to achieve a true cross-section of the public. More than 500 individuals attended at least some portion of the charrette. An iterative process was used, where recommendations were incorporated into design, then tested and refined. To ensure that the results of the charrette were honored, the local land use ordinance was amended to include the charrette's results.

Within about 18 months of the charrette, BART used county redevelopment funding to collapse the surface parking area into a 1,547-space parking structure for ridesharing. It was actually the second garage built at Pleasant Hill and is fully integrated with the previous structure to function as one facility. The second structure made available for development land that was formerly used for surface parking.

28 Contra Costa Centre Transit Village, Walnut Creek, CA, <http://www.contracostacentre.com/>

29 Iron Horse Regional Trail, East Bay Regional Park District, Oakland, CA, http://www.ebparks.org/parks/trails/iron_horse

The final plan called for 332,000 square feet of commercial space, 396 residential rental units, 50 for-sale housing units, and 7,000 square feet of civic space.



Figure 3.16 Pleasant Hill BART Transit Village site plan

Scan Outcome

Missed Opportunities

Missed opportunities were lessons that the host agencies imparted or that the scan team observed. These observations are made from the standpoint of integrating transit, access, and land use. The identification of missed opportunities should not be construed as criticism; rather, they are provided to point out where the possibility might have existed for better-integrated access and land use outcomes, irrespective of the financial implications. The host agencies were generous in sharing their lessons, and the scan team respects that they determined the best balance across all interests and objectives within the circumstances at hand.

- **Not holding out for the best-integrated outcome for fear of losing the deal or trading off other outcomes for a higher revenue stream**

Some respondents felt that the recession had rendered them unable to turn down a proposal that would bring much-needed revenue, even if it did not achieve the full range of opportunities (e.g., integration with surrounding development, multimodal access, or pedestrian-oriented design).

- **Not measuring the TOD outcomes**

One metropolitan planning organization participating in the scan provides a TOD scorecard as part of its technical assistance. Reviewing TOD development against such a scorecard could provide benchmarking and feedback, which could, in turn, lead to better guidelines, technical assistance, or financial incentives.

- **Creating TOD islands that did not connect well to the surrounding land use**

Considering only the immediate station area in plans and development created small islands of walkability, the benefits of which were lost at the edges of the development.

- **Fear-based decision-making about transit riders**

Sometimes property owners or communities pushed for transit stations to be poorly located because they feared transit populations. In those cases, transit riders ended up with less-than-optimal service, and property owners missed the transformative development that such stations could have brought. It was reported that some of those decisions were later regretted once the community or property owners realized the magnitude of missed opportunities.

Recommendations

The first set of recommendations will be most useful to communities and transit agencies just starting to consider TOD opportunities.

- **Identify high-opportunity TOD locations**

Not every transit stop will be a high-opportunity location.

- **Be flexible**

The most flexible—and least parochial—thinking led to development with the greatest potential for long-term success for transit agencies and local communities, regardless of how they defined success.

- **Acknowledge that TOD road and traffic issues are real**

These issues must be addressed to gain the TOD results beyond the project area.

- **Weigh rapid transit system (and segment) capacity when considering TODs**

Individual development approvals can have detrimental cumulative effects on system capacity.

- **Acknowledge that tax dollars are tax dollars**

Transit funding and financing resources are legitimate and sometimes essential contributions to a project that achieves desired community outcomes, especially in cases of catalytic or transformative development.

The second set of recommendations is addressed to the broader communities of stakeholders and decision-makers in TODs.

- **Expand the TOD dialogue.**

Include more stakeholders and decision-makers in the dialogue.

- **Make a paradigm shift.**

Transformative development occurred where the transit system was viewed as a community asset that could be put to work for a larger community benefit or where the transit agency was directed to get its real estate assets into the marketplace.

- **Expand asset management to include asset productivity.**

Asset management is not just a state of good repair; it is managing assets to maximize productivity.

- **Break the mold.**

Tax dollars are tax dollars. TODs offer a mechanism within which to collaborate for results that go beyond any individual agency's objectives.

Finally, state DOTs can add value during the development phase of TOD projects. Whether asset holders, conveners of stakeholders, or financial partners, state DOTs should be included.

Implementation Actions

The scan team sees implementation unfolding as an iterative process in which scan members engage others in dialogue through targeted venues, though a few opportunities for continued research and technology transfer are also noted.

Expand the TOD Dialogue

Expand the TOD dialogue to debunk myths and create more realistic and productive dialogue.

- Secure placement on meeting agendas for presentations and dialogue
 - Rail~Volution³⁰
 - Transportation Research Board³¹ (TRB)
 - American Association of State Highway and Transportation Officials (AASHTO) committees, webinars
 - Multi-State Technical Assistance Program³²
 - Association of Metropolitan Planning Organizations³³
 - National and Regional Associations of Counties³⁴
 - National Conference of State Legislatures³⁵
- Provide a targeted, interactive web presence where ideas and experience can be exchanged.
- Ask advocacy groups and stakeholders' associations to link to the final research report.

Conduct Further Research

Possible research topics include:

- The latent value of unused or unproductive transportation real estate assets (not limited to transit)
- TOD and affordability, equity, and demographics

30 Rail~Volution: Building Livable Communities with Transit, Minneapolis, MN, <http://www.railrevolution.org/>

31 Transportation Research Board of the National Academies, Washington, DC, <http://www.trb.org/Main/Home.aspx>

32 Multi-State Technical Assistance Program, <http://scopt.transportation.org/Pages/MTAP.aspx>

33 Association of Metropolitan Planning Organizations, Washington, DC, <http://www.ampo.org/>

34 National Association of Counties, Washington, DC, <http://www.naco.org/Pages/default.aspx>

35 National Conference of State Legislatures; Denver, CO; Washington, DC; <http://www.ncsl.org/>

- Possible future scans:
 - Mature TODs and what has changed over time
 - Public transportation agencies that have used real estate assets for community development

Conduct Technology Transfer

- Conduct a peer exchange between experienced TOD participants and those just beginning to consider TOD.
- Apply technology transfer by documenting and tracking the application of study results in Detroit and Seattle.
 - Develop a proposal that will educate communities about TOD so they are positioned to leverage everything they can out of bus rapid transit and rail without precluding other future benefits.
 - Conduct a workshop in next 12 months for communities ready to enter the TOD marketplace.

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CHARLES R. CARR is Director of the Office of Intermodal Transportation Planning for the Mississippi DOT. His primary duties involve executive level responsibilities for the Aeronautics, Public Transit, and Ports and Waterways divisions. Under his direction, these divisions administer a number of modal-specific grant programs and manage contracts that provide capital and operating assistance, technical assistance, and training opportunities for a variety of subrecipients and contractors. His office also provides oversight for the statewide Multimodal Capital Investment Program. In this position, he provides policy advice to the Mississippi Transportation Commission and serves as a liaison with other state, federal and local entities. He has worked with representatives from the Federal Transit Administration, Mississippi Emergency Management and Federal Emergency Management Agencies, and the governor's Intermodal Transportation Working Group to coordinate transportation functions for emergency response and recovery. He has also coordinated oversight for the construction of a number of intermodal and regional transit facilities. With more than 25 years of transportation experience, Carr holds a master's degree in sociology from Jackson State University and is a graduate of the American Association of State Highway and Transportation Officials' National Transportation Management Program and the National Transportation Leadership Institute.

MICHAEL CONNORS is the Transportation Assistant Planning Director for the Connecticut DOT (CTDOT). In this role, he is responsible for the oversight of the Geographic Information System, Photolog, and Roadway Inventory and Traffic Monitoring sections within CTDOT's Bureau of Policy and Planning. Previously, he was responsible for the Trip Analysis and Census Modeling sections. For the better part of his 20 years at CTDOT, Connors has been involved in the forecasting and review of multimodal traffic impact studies for state transportation projects and private developments. He has served on various expert panels and committees related to the TRB's National Cooperative Highway Research Program (NCHRP

8-51, “Enhancing Internal Trip Capture Estimation for Mixed-Use Developments”), AASHTO’s Standing Committee on Planning, and the Institute of Traffic Engineers. Connors is a graduate of Central Connecticut State University.

DYLAN COUNTS is a Planning Supervisor in the Washington State DOT’s (WSDOT’s) Public Transportation Division. In his position, Counts is the liaison between WSDOT and Sound Transit, a regional transit authority responsible for building and operating light rail, express buses, and commuter trains in the state’s Puget Sound region. With much of the light rail system built within WSDOT rights-of-way, Counts manages a team of engineers and planners responsible for design oversight and integration of community, highways, and public transportation infrastructure, including light rail, direct access ramps, park and rides, and stations. As the Urban Rail Manager, he also manages the Rail Transit Safety Program within Washington State on behalf of the Federal Transit Administration. Counts has been at WSDOT for 31 years and has had the opportunity of rotating between surveying, highway design, inspection, and planning throughout his career.

JILA PRIEBE is the Office Chief of Transit Programs in the California DOT’s (Caltrans’s) Division of Mass Transportation. Priebe oversees the daily functions of various state and federal programs, including the administration and management of the Transportation Development Act, the State Transportation Improvement Program, the Public Transportation Account, the Proposition 116 Bond Program, the \$3.6 billion Proposition 1B (Public Transportation modernization, Improvement, and Service Enhancement Account Bond Act) Program, the Federal Transit Administration Section 5316 and 5317 grant program, and related state transit planning activities. Priebe started her career with Caltrans in 1999, where she worked as the department’s point of contact for federal, state, and regional transportation agencies; counties; tribal governments; and the public on transportation, land use, air quality, and transit planning. Priebe received her bachelor’s degree in economics from California State University, Chico.

CONNIE MORRISON (Subject Matter Expert) is an independent transportation consultant and qualified Disadvantaged Business Enterprise contractor in the Commonwealth of Virginia. Before relocating to Virginia, she worked 20 years for the Michigan DOT, primarily in intermodal transportation policy and planning, including a brief stint as a transportation policy adviser to Governor Jennifer Granholm. She has also been a news reporter for her local radio station and is currently a staff writer for an Eastern Shore News and Delmarva Media Group. Her work has appeared in newspapers across the country, including *The Washington Post* and the *San Francisco Chronicle*.

Amplifying Questions

NCHRP 20-68A- U.S. Domestic Scan Program 10-02

Best Practices for Addressing Access and Parking Needs of Nonresident Users of Rail and Intermodal Transportation Stations in Transit-Oriented Developments

Note to scan participants: the Scan Team recognizes that the roles vary for the many activities and decisions about access to transit in TODs. That variation can be from one state to another, and within a state, from one location to another. As such, not all of the following questions may be pertinent to every participant, depending upon the decision-making structure or agreements among parties to carry out the myriad responsibilities. Please respond to all those questions for which you have responsibility or direct knowledge.

Systemwide Planning

How does your agency consider walkability, livability, traffic mobility, and revenue generation in system planning?

1. How do those affect access planning for the transit system? Are there other factors?
2. How might this approach, when applied at the system level, influence access decisions that might be made at any given TOD?
3. How does your agency's approach affect overall traffic and mobility?
4. How are TOD opportunities identified?
 - a. On what basis are they identified?
 - b. How are teams formed?
 - c. How are the various interests of participants considered and balanced?
 - d. What type of process is used, and how would the lead agency be determined?

For the remaining questions, please select a single TOD for your responses.

Context/Character of TOD Development (questions for lead agencies in TOD development)

1. What is the TOD definition your agency uses or under which this project was developed?
2. Describe the TOD geographic area and the transit system(s) that operates within the TOD.
3. Describe the transit project (i.e., station, terminal, or facility) that was the center point for the TOD. Put this transit project in context with other transit developments/facilities in the area.
4. Summarize the "before" and "after" conditions of the TOD area.

-
5. Who were the actors and what was the overall process used in establishing a plan for:
 - a. The overall TOD area?
 - b. The transit development?
 6. Describe the TOD and the uses incorporated into the TOD.
 7. What is the proximity of transit parking for non-residents to the transit system?
 8. Describe the steps involved in implementing the TOD plan.
 9. Who were the primary entities involved in implementation? How were they brought together?
 - a. The transit agency
 - b. Local government(s)
 - c. State/federal government
 - d. Economic development agencies
 - e. Private sector partners
 10. What was the role of each of the entities above?
 11. How did the varying missions or purposes of each of the partners influence the project, and how were those perspectives balanced and/or reconciled?
 12. Was the project seen primarily as a transit/mobility project or as an economic development project?
 13. What percentage of riders are non-TOD residents? (if more than one station, the percentage at each station, if known)
 14. How do the demographic characteristics of the TOD residents compare to non-residents? To non-residents who work in the TOD?

Policy and Regulatory Framework

1. What were the policy goals for the project (i.e., maximize system use, maximize economic activity, or revitalization)?
2. Are there state or local laws, policies, offices, or programs that facilitate or regulate TODs? If so, please specify. How did they influence the project approach?
3. How was success defined at the outset of the project, and what measures did you plan to use?
4. Were there problems encountered with state, federal, or local permitting or design manuals that affected your ability to address walkability, livability, traffic mobility, and revenue generation?

Planning/Designing Access for the TOD

1. Which access methods were considered to provide for non-resident access to transit facilities within the TOD?
2. Which modes of access were ultimately provided and why? Which were discarded and why?
3. How were the needs for walkability, livability, traffic mobility, and revenue generation balanced in determining the blend of access types?
4. Was the project approached with distinct considerations for residents of the TOD versus non-residents of the TOD?
 - a. Were there distinct considerations for access to transit within the TOD for residents versus non-residents of the TOD?
 - 1) If so, how was non-resident access demand determined (parking and other modes)?
 - b. Whether or not those distinctions were made during the planning phase, did any access conflicts arise after the TOD was up and running among the various transit user groups?
5. How was the balance of land devoted to access versus land dedicated to other land uses decided?
 - a. Are there land use goals that had to be modified (or sacrificed) to accommodate the access/parking needs of the commuters/non-residents from outside the TOD?
6. How was the public engaged in the decisions regarding access/parking?
7. How has the original plan for TOD changed as it was developed, and why?
 - a. How much of the resultant development in the TOD was actively planned in advance?
 - b. How much of the parking that was ultimately developed was part of the original plan?
 - c. What were the parking implications of the changes from planned development to actual development, and how were those addressed?
8. Were there problems encountered with state, federal, or local permitting or design manuals that affected your ability to address walkability, livability, traffic mobility, and revenue generation?

Funding and Financing

1. What were the public and private sources of funding for the project, and in what amount or percentage (and of this what portion of the funding) was dedicated to addressing parking needs:
 - a. For the overall TOD?
 - b. For the transit development?
2. Were federal funds used for the project (transit portion or the larger TOD)? If so, which funds and how did they influence decisions about the project?
3. Were there conditions attached to other funding or financing that influenced design? If so, what were they and how did they influence the design?
4. Was there a long-term financial plan developed that included:
 - a. Funding for maintenance and other on-going capital and operational expenses?
 - b. A plan to maintain long-term private sector activity?
5. What types of financial agreements were executed? By and with whom? (not just to get the project built, but also to sustain the development in the long run)
6. Was there any tax capture? If so, please explain the mechanism, how the capture can be used, and who decides how to spend it.
7. Were there financial performance guarantees? If so, what were they?

Operations/Maintenance/Technology

1. To what degree has transit system relied on the marketplace to provide or price parking and other access?
2. Are access facilities shared among commuters, shoppers, and residents? Does any group have its own parking that is not accessible by other users?
3. Are there, or are there plans for, electric vehicle charging stations?
4. Is there priority afforded to certain types of vehicles or groups of users?
5. If not strictly marketplace, what is governance mechanism for the parking areas?
 - a. How are parking rates determined, and who has authority to set rates?
 - b. Who is responsible for operations and maintenance?
 - c. Are rates variable?
 - d. Who determines whether more (or less) parking is needed, and does the governance body have authority to build more (or relinquish land for other uses)?

6. How are commuters informed of commuter parking rates and availability? Are spaces prioritized for carpoolers/rideshare versus other drivers?
7. Who maintains parking? Who maintains facilities for other types of access to the transit system?
8. Were there agreements with developers about on-going responsibilities (maintenance, financial, or otherwise), and if so, what provisions did those agreements contain?
9. How did the project use technology to accomplish project goals? (The Cecil Group, Inc.)
 - a. What types of technology were planned into the project and why? (The Cecil Group, Inc.)
 - b. Was technology used after-the-fact to respond to congestion or other issues? (The Cecil Group, Inc.)
 - c. Is there additional technology that will be added in the future? (The Cecil Group, Inc.)

Performance and Measurement

1. Were there performance measures for each stage (i.e., planning, design, project delivery, economic return, operations, and maintenance)? If so, what are they? How are results evaluated and used to adjust course?
2. Is the project self-sufficient?
3. What are the parking utilization rates, and how well do they correspond to initial estimates? To what is attributed the difference?
4. Was there increased congestion in the TOD related to parking (or scarcity of parking)? How was it measured? How was it remedied?
5. Are the collection of transit access and parking strategies chosen for the TOD effective? How are they evaluated?

Lessons Learned

1. Were there unintended or unforeseen policy and operational consequences?
2. Were there obstacles that prevented the TOD objectives, in particular the parking objectives, from being fully realized? If so, please explain.
3. Who benefitted most from the project? Does this match with what was intended at the outset? Who was most negatively affected? Was this anticipated? Why or why not?

-
4. What would you do differently if you had the ability to start from scratch, in terms of any of the following:
 - a. Amount of land use devoted to parking?
 - b. Planning for the TOD?
 - c. Physical design and location of parking?
 - d. Strategies for implementing parking objectives?
 - e. Strategies for managing demand or congestion?
 - f. Funding or financing the project?
 - g. Use of technology?
 - h. Governance (ownership, regulation, management, and maintenance of parking)?
 - i. Other?

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Scan Itinerary

Location	Host Agencies	Contacts
San Francisco/Oakland	San Francisco Bay Area Rapid Transit District (BART)	Jeff Ordway, Department Manager, Real Estate and Property Development Val Joseph Menotti, Department Manager, Planning Department Bob Franklin, Customer Access Manager
	Metropolitan Transportation Commission	Kenneth Kirkey, Director of Planning
	Caltrans, District 4	Becky Frank, Senior Planner
Denver (Reverse Scan at San Francisco/Oakland)	Denver Regional Transportation District	Bill Sirois, Senior Manager, FasTracks Team, TOD and Planning Coordination
Los Angeles/South Pasadena	LA Metro	Robin Blair, Director of Planning, Central Area Team, LA Metro
	City of South Pasadena	Dennis Woods, Transportation Manager Samuel Zneimer, Professional Intern
	Caltrans, District 7	Mike Valcho, Associate Transportation Planner Kirk Schneider, Associate Transportation Planner
San Diego	Metropolitan Transit System	Tim Allison, Manager of Real Estate Assets
	SANDAG (San Diego Association of Governments)	Dave Schumacher, Principal Planner Susan Baldwin, Senior Regional Planner Miriam Kirshner, Senior Regional Planner
Boston	Massachusetts Bay Transportation Authority	Mark Boyle, Assistant General Manager for Development Gretchen Von Grossman, Director of Development and Transit Oriented Development Joe Cosgrove, Director of Planning/ Development
	Transit Realty Associates	Lorna Moritz, President William Lawrence, Managing Director, Consulting Services
	The Cecil Group, Inc.	Steve Cecil, President

