

TCRP

REPORT 102

Transit-Oriented Development in the United States: Experiences, Challenges, and Prospects

TRANSIT
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TCRP REPORT 102

**Transit-Oriented
Development in the
United States:
Experiences, Challenges, and Prospects**

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The nation's growth and the need to meet mobility, environmental, and energy objectives place demands on public transit systems. Current systems, some of which are old and in need of upgrading, must expand service area, increase service frequency, and improve efficiency to serve these demands. Research is necessary to solve operating problems, to adapt appropriate new technologies from other industries, and to introduce innovations into the transit industry. The Transit Cooperative Research Program (TCRP) serves as one of the principal means by which the transit industry can develop innovative near-term solutions to meet demands placed on it.

The need for TCRP was originally identified in *TRB Special Report 213—Research for Public Transit: New Directions*, published in 1987 and based on a study sponsored by the Urban Mass Transportation Administration—now the Federal Transit Administration (FTA). A report by the American Public Transportation Association (APTA), *Transportation 2000*, also recognized the need for local, problem-solving research. TCRP, modeled after the longstanding and successful National Cooperative Highway Research Program, undertakes research and other technical activities in response to the needs of transit service providers. The scope of TCRP includes a variety of transit research fields including planning, service configuration, equipment, facilities, operations, human resources, maintenance, policy, and administrative practices.

TCRP was established under FTA sponsorship in July 1992. Proposed by the U.S. Department of Transportation, TCRP was authorized as part of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA). On May 13, 1992, a memorandum agreement outlining TCRP operating procedures was executed by the three cooperating organizations: FTA, The National Academies, acting through the Transportation Research Board (TRB); and the Transit Development Corporation, Inc. (TDC), a nonprofit educational and research organization established by APTA. TDC is responsible for forming the independent governing board, designated as the TCRP Oversight and Project Selection (TOPS) Committee.

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The TCRP provides a forum where transit agencies can cooperatively address common operational problems. The TCRP results support and complement other ongoing transit research and training programs.

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Robert Cervero, Professor of City and Regional Planning at the University of California at Berkeley, was the Principal Investigator of the project, designing and directing all phases of the research. He wrote the Summary; Chapters 1 through 9; Chapters 11, 20, and 21; co-authored Chapters 12, 18, and 19; and edited and contributed to all other chapters. Graduate research assistants from the University of California at Berkeley contributed as follows: Steven Murphy authored Chapter 16 and contributed to Chapter 5; Christopher Fer-

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FOREWORD

By *Gwen Chisholm*
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TCRP Report 102: Transit-Oriented Development in the United States: Experiences, Challenges, and Prospects provides a comprehensive assessment of the state of the practice and the benefits of transit-oriented development (TOD) and joint development throughout the United States. This report will be helpful to transit agencies, the development community, and local decision makers considering TOD.

Focusing development around transit facilities has become a significant way to improve accessibility, support community and regional goals of enhancing the quality of life, and support the financial success of transit investment. The experiences of a new generation of transit systems highlight the powerful role that transit investments play in channeling urban development. Benefits attributable to transit-oriented development (TOD) initiatives include improved air quality, preservation of open space, pedestrian-friendly environments, increased ridership and revenue, reduction of urban sprawl, and reorientation of urban development patterns around both rail and bus transit facilities.

Today, many transit systems and communities across the country are participating in TOD programs. TOD participants range from small local and intercity bus systems with community-related services to large local and intercity rail systems with numerous projects. Increasingly, transit agencies are looking at programs and analyzing real-estate competitiveness to solicit developer interest. This report defines TOD and joint development and offers insight into the various aspects of implementing TOD, including political and institutional factors; planning and land-use strategies, benefits, and impacts; fiscal considerations and partnerships; and design challenges and considerations.

Robert Cervero, of the Institute of Urban and Regional Development at the University of California at Berkeley, was the report's principal author. To achieve the project's objective of summarizing the state of the practice of TOD, the research team performed a literature review, conducted a comprehensive survey, performed interviews, and conducted 10 case studies. The 10 case studies (Boston, New Jersey, the Washington [D.C.] Metropolitan Area, Miami, Chicago, Dallas, Colorado, Portland, the San Francisco Bay Area, and Southern California) covered a range of TOD designs and practices.

The report focuses on TOD and joint development and practice; the level of collaboration between various partners (e.g., the development community, financial partners, planning and land-use agencies, and government entities); the impacts of TOD and joint development on land values; the potential benefits of TOD; and successful design principles and characteristics.

A companion publication to this report, *TCRP Research Results Digest 52: Transit-Oriented Development and Joint Development in the United States: A Literature Review*, reviews pertinent literature and research findings related to TOD and joint development. It contains a bibliography annotated by subject area.

CONTENTS

S-1	SUMMARY
1	PART 1: TRANSIT-ORIENTED DEVELOPMENT IN THE UNITED STATES TODAY
3	CHAPTER 1 Transit-Oriented Development: An Overview Introduction, 3 Study Approach, 4 What Is TOD?, 5 Joint Development: What Is It?, 8 Goals and Objectives, 9 Summary, 11 Notes, 11
13	CHAPTER 2 The Breadth and Scope of U.S. TOD and Joint Development TOD Activities, 13 Joint Development Projects, 18 Summary, 35 Notes, 35
37	PART 2: THE POLICY ENVIRONMENT
39	CHAPTER 3 The TOD Institutional Landscape in the United States Institutional Setting, 39 Transit-Agency Organizational Context, 39 Other Organizational and Legislative Contexts, 43 Cooperation and Collaboration, 51 Regulatory Environment, 54 Summary, 58 Notes, 59
61	CHAPTER 4 TOD Implementation Tools Getting the Job Done, 61 TOD Visioning and Planning, 61 TOD Zoning, 63 Implementation Tools and Ratings, 71 Help from Above, 75 Funding TOD: Public Perspective, 76 Summary, 81 Notes, 82
83	CHAPTER 5 Building and Bankrolling TOD: A Private-Sector Perspective TOD and the Private Sector, 83 The Market for TOD, 84 The Decision to Develop, 86 Private Financing, 89 Availability and Terms of Finance, 92 Summary and Lessons, 96 Notes, 97
99	CHAPTER 6 Barriers to TOD: What They Are and How to Overcome Them Types of Barriers, 99 Fiscal Barriers, 99 Political Barriers, 102 Organizational Barriers, 102 Barriers Unique to TOD, 103 Public-Sector Perspective on TOD Barriers, 109 Overcoming Barriers: The Development Community's Perspective, 110 Summary and Lessons, 114 Notes, 115
117	PART 3: THE IMPACTS OF TOD
119	CHAPTER 7 Benefits of TOD TOD's Range of Benefits, 119 Primary Benefits, 122 Secondary Benefits, 125

Debates, 131
Perceptions of Benefits, 133
Conclusion, 134
Notes, 135

139 CHAPTER 8 Evidence on Ridership Impacts

TOD and Ridership, 139
Reviewing the Evidence, 140
Self-Selection and Rail Commuting, 144
Transit Joint Development and Ridership, 146
TOD-Ridership Case Study: San Francisco Bay Area, 147
TOD-Ridership Case Study: Arlington County, Virginia, 152
Conclusions, 156
Notes, 157

161 CHAPTER 9 Real-Estate Market Impacts of TOD

TOD and Real-Estate Markets, 161
Evidence on Market Performance, 162
The Importance of Business Cycles, System Maturation, and Timing, 166
Leveraging Transit's Added Value Through Proactive Planning:
 The San Diego Experience, 168
Transit's Added Value and Public Policies, 173
Summary and Conclusion, 176
Notes, 177

181 PART 4: CASE STUDIES

183 CHAPTER 10 TOD in Boston: An Old Story with a New Emphasis

Boston Recovers Its Traditional Neighborhood Roots, 183
Boston's TOD Toolbox, 186
MBTA, Joint Development, and TOD, 189
The Boston Economy and the Real-Estate Market, 191
Easy Transit Connections, Tough Development Sites, 191
Main Street and TOD, 196
South Station: Development Around Commuter Rail, 197
South Boston Waterfront: The Future Transit Neighborhood, 198
Lessons Learned, 202
Notes, 205

207 CHAPTER 11 New Jersey's Transit Villages: From Refurbished Rail Towns to Ferry-Oriented Development

New Jersey's Market for TOD, 207
Other Factors Stimulating TOD, 208
The Transit Village Initiative, 212
Transit Villages in Traditional Rail Towns, 213
Ferry-Oriented Development, 220
Re-urbanization in Jersey City, 222
Transit Joint Development, 225
Conclusions and Lessons, 225
Notes, 226

229 CHAPTER 12 Washington, D.C.: Model for the Nation

Washington Metropolitan Area Transit Authority:
 A Joint Development Pioneer, 229
Arlington County, Virginia: Three Decades of TOD Success, 235
Transit and Economic Development in Washington, D.C., 249
Montgomery County, Maryland's Mature Business Districts, 251
Rail to Dulles, 254
TODs and Real-Estate Market Performance, 257
Conclusions and Lessons, 259
Notes, 260

263 CHAPTER 13 TOD and Joint Development in the Sunbelt: Miami-Dade County

TOD in Florida, 263
Transit Planning and Joint Development in Miami-Dade County, 264

TAD at Brickell, 271
Overtown: TOD and Inner-City Revitalization, 272
Future Plans and Activities, 276
Conclusions and Lessons Learned, 276
Notes, 277

279 CHAPTER 14 Chicago's Transit Villages: Back to the Future for Historic Commuter-Rail Towns

Greater Chicago Is Sprawling Out and Growing In, 281
Chicago's Multi-Layered Institutional Landscape, 281
TOD Implementation Tools, 283
TOD in Commuter-Rail Communities, 285
TOD Shaping New Commuter-Rail Lines, 292
The Future of TOD in Metropolitan Chicago, 293
Conclusions and Lessons, 296
Notes, 297

299 CHAPTER 15 Dallas: Using TOD to Create Place and Value in a Sprawling Metroplex

Regional TOD Players and Tools, 299
TOD in Light-Rail Communities, 301
The Future of TOD in Dallas, 316
Conclusions and Lessons, 317
Notes, 318

321 CHAPTER 16 TOD in the Mountain West: Colorado

Introduction, 321
Transit-Oriented Redevelopment in Metropolitan Denver, 322
Bus-Based TOD in Boulder, 338
Resort-Based TOD in the Roaring Fork Valley, 345
Conclusions and Lessons, 350
Notes, 351

355 CHAPTER 17 Portland's TODs: Building Community on a Regional Scale

The Regional Policy Framework for TOD, 355
Evolution in Transit to Encourage TOD, 357
TOD in Portland, 359
The Future of TOD, 377
Conclusions and Lessons, 378
Notes, 379

383 CHAPTER 18 The San Francisco Bay Area: The Challenge of Creating a Transit-Oriented Metropolis

Regional Initiatives, 383
Transit Agencies, 388
BART Joint Development and Outreach, 393
Fruitvale BART Station: Fulfilling a Community's Vision, 394
Local Government Initiatives, 397
For-Profit Developers, 399
Nonprofit Affordable-Housing Developers, 402
Advocacy Groups, 404
Conclusions and Lessons, 407
Notes, 409

411 CHAPTER 19 Southern California: From TODs to a Region of Villages

Southern California's Market for TOD, 411
Other Factors Stimulating TOD, 412
Policy Context, 413
Challenges to TOD in Southern California, 416
Financing Tools and Obstacles, 421
TOD Cases, 423
Joint Development and BRT—Los Angeles, 430
San Diego's TOD Tools, 435
Impacts of TOD, 435
Monetary Benefits of Joint Development in Los Angeles, 436

Conclusions and Suggestions, 437
Notes, 440

443 PART 5: LESSONS AND CONCLUSIONS

445 CHAPTER 20 Research Findings and Policy Lessons

Current TOD Practices, 445
TOD's Multitude of Stakeholders, 446
Points of Agreement and Disagreement, 448
Benefits of TOD, 453
Recurring Themes and Lessons, 455
Lessons Through Case Studies, 463

469 CHAPTER 21 Policy Reflections and Future Research Directions

Policy Reflections, 469
Future Research Directions, 471
Notes, 474

475 BIBLIOGRAPHY

479 GLOSSARY OF ACRONYMS AND ABBREVIATIONS

A-1 APPENDIX A: Transit Agency Survey

B-1 APPENDIX B: Developer Interview Protocol

C-1 APPENDIX C: Lender Interview Protocol

SUMMARY

Transit-Oriented Development in the United States

Transit-oriented development (TOD) has attracted interest as a tool for promoting smart growth, leveraging economic development, and catering to shifting market demands and lifestyle preferences. This study, based on a combination of stakeholder survey responses, interviews, and in-depth case studies, paints a national portrait of contemporary TOD practice in the United States.

TOD is viewed and defined differently throughout the country, with its most common traits being compact, mixed-use development near transit facilities and high-quality walking environments. Joint development is a form of TOD that is often project specific, taking place on, above, or adjacent to transit-agency property. The results of a national survey suggest that the principal aim of TOD and joint development is to boost ridership and, thereby, boost revenue income. Community economic development and broader smart-growth agendas are secondary objectives.

Scope of TOD

A rich mix of TOD can be found across America today, and all indications are that the numbers and types of TOD will grow in years to come. Over 100 TOD projects currently exist in the United States, found overwhelmingly in and

around heavy-, light-, and commuter-rail stations. While typically nodal in form, TOD corridors have taken or are beginning to take shape; examples include the Rosslyn-Ballston axis in Arlington County, Virginia, and the Vermont/Western district in Los Angeles's Hollywood area. In addition, over 100 joint development projects today exist on, above, or adjacent to U.S. transit-agency property. The most common joint development arrangements are ground leases and operation-cost sharing. Most often, joint development occurs at rail stations surrounded by a mix of office, commercial, and institutional land uses. However, examples of public-private joint ventures can be found among bus-only systems as well, normally in the form of joint intermodal transfer and commercial-retail space at central-city bus terminals.

Institutional Landscapes

Many voices shape the practice of TOD in contemporary urban America. A multi-layered, sometimes complex institutional and political environment has evolved that ensures accountability and instills a degree of responsibility and fairness into the decision-making process, but this environment can also form roadblocks to implementation.

The spectrum of participatory roles transit agencies can take on are wide-ranging—from roles as modest as providing

technical guidance (e.g., transit-supportive design guidelines) to those as ambitious as being the self-anointed lead developer. Most transit agencies get involved in land-use affairs (broadly defined); however, they generally limit their involvement in TOD matters to interagency coordination. Most TOD work concentrates on public outreach and education. A common method for drawing public input into the TOD planning process is organizing design charrettes—ranging from multi-day workshops led by professional designers to facilitated community discussions (inspired by the successes at the Pleasant Hill BART station in the San Francisco Bay Area and along the Wasatch Front under the guidance of Envision Utah). Local governments wield considerable control over TOD outcomes through zoning ordinances and building codes. Some states, notably California and New Jersey, have sought to jump-start TOD through transit village initiatives that critics view as mere window-dressing since little funding support is provided.

Important recent federal initiatives have been the new joint development ruling (which enables transit agencies to sell land for TOD even if the land was purchased using federal dollars), new starts criteria, and various livable community initiatives.

Coordination between public agencies as well as with the private sector normally occurs through various ad hoc task forces and similar forums. In recent years, private developers, builders, and real-estate interests have joined forces to promote TOD in cities like Houston, Charlotte, and San Jose.

The major institutional barriers to TOD are regulatory ones, either a product of

restrictive state statutes or self-imposed transit-agency rules. Some states limit, ipso facto, real-estate transactions undertaken by transit agencies to “transportation uses.” Many transit properties shy away from land development matters on the grounds that it is not central to their mission of delivering safe and efficient transit services. As a result, most transit agencies have no personnel assigned to TOD or, more generally, land development, leaving it to their legal departments to handle land-use affairs and disputes. One in-house rule that has clearly hampered TOD is one-to-one replacement parking requirements. Nonetheless, over 50 transit stations across the United States are presently being targeted for parking lot conversions, thanks in part to FTA’s new joint development rulings.

TOD Implementation Tools

TOD implementation ideally starts with a vision, cultivated from broad-based public input, and proceeds to strategic station-area planning backed by appropriate zoning as well as policy incentives and regulations. Around half of surveyed transit properties in the United States state that their regions have a vision, policy, or plan in place that embraces TOD principles.

Overlay zones are the most common means of controlling land uses, densities, and site designs of TOD. Overlays, often introduced on an interim basis to head off automobile-oriented uses that might compromise a TOD, usually specify desired land uses as-of-right, such as housing and convenience shops. For urban TODs, densities of 20 to 30 dwelling units per residential

acre and FARs of 1.0 and above are not uncommon. Some of the more progressive TOD zoning districts also lower automobile parking requirements and sometimes even set bicycle parking mandates.

The national survey of U.S. transit agencies revealed that besides standard zoning, the tools most frequently used to leverage TOD are funding for station-area planning and ancillary capital improvements; the introduction of density bonuses, sometimes used to encourage the production of affordable housing units; and relaxation of parking standards. These measures, moreover, received high marks in terms of their overall effectiveness among transit professionals who responded to the survey. Next in the order of frequency of usage have been land-based tools, like land purchases on the open market (for land-banking and potential “deal-making”) and assistance with land assemblage. For the most part, redevelopment agencies have applied these tools, meaning their role in leveraging TOD has been mainly limited to economically depressed or blighted neighborhood settings. Because of the higher risk involved, redevelopment tools have often been accompanied by other funding sources, sometimes with a dozen or more participants involved in the process.

Implementation strategies that are procedural in nature, like expediting entitlement reviews and excluding TODs from concurrency requirements, have been applied less often in practice and are also viewed by public-sector interests as less effective than other measures in jump-starting TOD. This view, however, does not square with that of many TOD developers.

In terms of what metropolitan planning organizations, state departments of transportation, and the federal government might do to help implement TODs, respondents from the local levels stated loudly and clearly that what is most needed is money—specifically for strategic station-area planning, infrastructure, and on-the-ground improvements. Smart-growth legislation that targets state infrastructure and urban renewal grants to transit station areas (such as that in Maryland) is also looked upon favorably by local interests. Regulations like concurrency requirements, on the other hand, generally received low grades among survey respondents from the local level.

For financing streetscape and other ancillary improvements around transit stations, monies have mostly come from federal and state grants such as the Transportation and Community System Preservation Pilot Program under the Transportation Equity Act for the 21st Century (TEA-21). The most common sources of non-grant funds used to leverage TOD are individual investor funds and nonprofit/foundation funds.

Building and Bankrolling TOD

Ultimately, TOD is an outcome of one or more developers putting up their money, or the money of lenders and investors, to create a new form of urbanism around transit stations. Interviews revealed that developers view TOD in mostly positive terms. When asked to rate the overall financial record of TOD, interviewed developers on average gave it a 5 on a scale of 1 to 7, indicating that they think it performs better than most products. Developers were especially optimistic about TOD’s prospects in areas where

traffic congestion continues to worsen and there is a pro-TOD political sentiment.

While there were substantial areas of agreement among developers who were interviewed, a number held conflicting views of certain elements of TOD. One of these elements was parking. On the one hand, many developers relate to the idea that parking standards should be lowered to the degree that significant numbers of residents, shoppers, and workers ride transit. On the other hand, many have embraced the principle that parking is an effective marketing tool and can sometimes make or break a project. Regardless, most favor leaving the decision of how much parking to provide to the private sector. Developers feel that they know the market best and will take advantage of cost savings when justified.

On balance, many developers feel that locating projects near major transit stops is advantageous to the degree it provides rent premiums. Some also feel that locating projects close to transit can improve the ability to secure equity finance, particularly for certain product types in pioneering locations (e.g., office development in suburban locations). Most developers realize that more is needed than spatial proximity, however. Making sure that the walk between a project and a station portal is safe and reasonably attractive matters to many. Putting in complementary land uses, such as convenience shops and service retailers, is particularly important to TOD homebuilders. Nonetheless, developers realize that regardless of what they think, access to funds is often dependent upon the views of lenders. Many developers embrace TOD as a concept; however, there is a

general agreement that TOD offers little help when it comes to securing conventional debt financing. Loan decisions, they note, are governed by fundamentals, not urban planning concepts. Interviewed lenders echoed this sentiment.

Most of the interviewed lenders had difficulty pinpointing the positive and negative factors that influence whether they invest in a TOD because banks, they contend, look at each project on its individual merits. Dealing with the innate market characteristics of TOD—notably, mixed-use projects with the advantage of being near transit—is generally viewed as the best way to market the TOD product to the lending community. Factors that enhance the connection of a parcel to a rail station—direct and attractive pathways, well-lit and secure portals, and a strong degree of public commitment backed by infrastructure improvements like undergrounding utilities and upgrading road access—are likely to make TODs all the more attractive to lending institutions.

Interviews suggest that joint development projects are more difficult to finance than neighborhood-scale TODs. This is partly due to guilt by association—the fact that a project is directly tied, symbolically and figuratively, to a transit facility seems to detract from its value. The bureaucratic component of joint development projects, involving government institutions that are not always driven by the profit motive, makes some lenders uneasy as well.

TOD Barriers

Many roadblocks stand in the way of TOD, just as they do with most forms of compact, mixed-use development. Some

barriers are fiscal in nature, such as the higher costs and risks of dense, infill development; the alignment of rail lines along low-cost corridors that have minimal development potential; and fiscal/exclusionary zoning policies that restrict housing production. Others are in the form of political roadblocks, like “not-in-my-backyard” (NIMBY) opposition to infill. Still others are institutional and organization in character, such as the difficulty of coordinating TOD activities among multiple actors and stakeholder groups with divergent interests.

While many of these barriers are generic to all forms of dense, infill development, some are more often associated with TODs. One of these barriers is the “congestion conundrum”: the fact that nodal development around a transit station increases spot congestion, prompting some jurisdictions to downzone. Another barrier is the logistical dilemma of accommodating multi-modal access needs, which often results in station road designs and parking layouts that detract from the quality of walking. More fundamentally, this represents a conflict between the role of a station as a functional “node” (particularly in the minds of transit managers) and a desirable “place” (particularly in the minds of urban planners). Still another stumbling block unique to TODs is the rationalization of parking. By their very nature, transit stations offer “location efficiency,” enabling residents to get by with fewer automobiles than they might otherwise own. Despite transit stations’ inherent location efficiency, lenders and planners often insist that code-standard parking be provided in station areas. (One mediating approach is to unbundle the

price of housing and parking, creating separate markets for each.) Within transit station boundaries, clashes are also found between the preferences of professional-class suburbanites who park and ride and other groups who would prefer more human-scale station designs. Many transit officials side with automobile-using patrons, invoking one-to-one replacement policies to ensure that parking is in ample supply. Lastly, mixed land uses, which are a characteristic trait of TODs, pose difficulties in lining up funding, investors, and contractors. Vertical mixing is particularly problematic; most developers call for horizontal mixing instead. Quite often, the ground-level retail components of mixed-use TODs suffer the most, in part because they are poorly laid out.

The national survey of public-sector stakeholders shed light on what barriers are perceived to be the most onerous and difficult to overcome. Most problematic, according to survey respondents, are automobile-oriented development patterns. The lack of lender and developer interest in TOD, limited local expertise in planning for TOD, and questionable market demand are also generally seen as significant stumbling blocks. Factors like NIMBY opposition, inadequate transit services, and poor siting of transit stations were generally rated as moderate barriers.

While the developers interviewed for this study were enthusiastic about TOD, their views on what is “transit-oriented” did not always square with urban design principles that call for mixed-use buildings clustered in close proximity to a transit station. Notably, a handful of developers felt strongly that TOD design

guidelines should not overemphasize vertically mixed uses such as ground-floor retail and upper-level residential. They explained that outside of dense urban locations, building mixed-use products in today's marketplace can be a complex and risky proposition; few believe that being near a train station fundamentally changes this market reality. Those interviewed did welcome certain public-sector efforts to create incentives for development, including land assembly, infrastructure provision, strategic investments to improve neighborhood image, and expedited development review processes. In general, developers cautioned against over-regulation and identified actions that could be taken well in advance of development that would reduce risks and encourage more TOD.

The Benefits of TOD

The potential benefits of TOD are social, environmental, and fiscal. Focusing growth around transit stations capitalizes on expensive public investments in transit by producing local and regional benefits. TOD, proponents believe, can be an effective tool in curbing sprawl, reducing traffic congestion, and expanding housing choices.

The most direct benefit of TOD is increased ridership and the associated revenue gains. Research shows residents living near stations are five to six times more likely to commute via transit than are other residents in a region. Other primary benefits include the revitalization of declining neighborhoods, financial gains for joint development opportunities, increases in the supply of affordable housing, and profits to those who own land and businesses near transit stops.

TOD's secondary benefits include congestion relief, land conservation, reduced outlays for roads, and improved safety for pedestrians and cyclists. Many of these benefits feed off of each other, and quite a few are redistributive in nature—gains experienced by some are matched by losses experienced by others.

The impacts of TOD no doubt vary by time and circumstances. In a boom economy, when highways are jam-packed, the benefits of living, working, and running a business near a grade-separated, high-performance transit line are likely much greater than during an economic downturn. TOD is also likely to be more highly valued in large congested cities than in small uncongested ones. It is because of such variation that our knowledge of TOD benefits remains partial. Such variation has also given rise to harsh debates and conflicting signals on TODs benefits, especially in "best case" settings like Portland, Oregon.

Those working for transit agencies and local, regional, and state governments generally give TOD a moderate rating in terms of its ability to produce benefits. TOD gets high marks for contributing to neighborhood and housing conditions. Its greatest benefit, according to national survey respondents, lies in increasing ridership.

In light of the premium placed on TOD's ridership-boosting potential, this study carried out original research that examined the association between development patterns around rail stations and transit usage in two regions of the country with among the most successful TOD track records: the San Francisco Bay Area and the Washington

(D.C.) Metropolitan Area. For the Bay Area, census data from 2000 and geographic information system tools were used to build statistical models that showed transit commute shares increase with density, land-use diversity, and pedestrian-oriented design of neighborhoods around rail stops. Significant interaction effects were found between residential density and city block size. The model suggested that a doubling of mean residential densities from 10 to 20 dwelling units per gross acre, for example, increases transit's commute mode share from 20.4% to 24.1% for a typical Bay Area rail station setting with an average block size of 6 acres; the commute share rises to 27.6% if residential densities are combined with a smaller (and thereby more pedestrian-friendly) average block size of 4 acres. Similarly robust relationships were uncovered for Arlington County, Virginia, in the Washington (D.C.) Metropolitan Area. There, office-retail development was the most powerful predictor of ridership at seven Metrorail stations. For example, models estimated that every 100,000 square feet of additional office and retail floor space near an Arlington County Metrorail station increased average daily boardings and alightings at that station by around 50 customers, all else being equal. Housing construction interacted with transit service levels to give ridership a further boost. Every 1,000 additional residential units around a station, when combined with 100 additional railcar passenger spaces per day passing through the station, led to more than 50 additional daily station boardings and alightings.

Another valid means of gauging the benefits of TOD is to examine impacts

on land values of affected properties. To the degree that TODs enhance accessibility, this benefit gets capitalized into the sales price of real estate. The weight of evidence to date shows that development near transit stops enjoys land-value premiums and generally outperforms competitive markets. This generally holds for residential housing (especially condominiums and rental units) as well as office, retail, and other commercial activities. However, the payoffs are not automatic, and quite often a number of preconditions must be in place. One is an upswing in the economy, with plentiful demand for real estate and, importantly, worsening traffic congestion. Only then will there be market pressures to bid up land prices and a clear benefit to having good rail access as an alternative to fighting highway traffic. Also important are public policies, such as zoning bonuses, which further leverage TOD and system expansion that produce the spillover benefits of a highly integrated network. Moreover, it is important that transit be in a neighborhood free from signs of stagnation or distress with a reasonably healthy real-estate market if significant premiums are to accrue.

In San Diego, premiums have been recorded for commercial properties in the Mission Valley corridor, an area that has generally enjoyed sustained growth over the past decade. Pro-development policies introduced by local governments—such as overlay zoning to encourage mixed land uses and targeted infrastructure investments—bolstered commercial property values in the Mission Valley. This stands in marked contrast to San Diego's South Line (to the Tijuana border), where little effort has been made to leverage TOD, in large part because of

stagnant growth, and, predictably, no meaningful land-use changes have occurred.

Insights into the property-value impacts of TODs carry policy significance. For one, public entities are in a position to recapture some of the added value through benefit assessments, land acquisitions and re-sales, and ground/air-rights leases. Some areas, such as the Washington (D.C.) Metropolitan Area, Los Angeles, and Portland, have been particularly aggressive in recapturing some of the value created by transit investments; however, legal and institutional concerns continue to impede progress in this area.

TODs take time to evolve, and experiences suggest that land-value benefits from TODs take time to accrue as well. This was underscored by experiences in Santa Clara County, where no measurable land-value premiums were found for transit in its infancy, but where, by the system's tenth anniversary, when the real-estate market had revved up, benefits were appreciable. Savvy developers increasingly understand that profiting from TOD is a long-term process. In the words of one active TOD developer in the Denver region, "We're not here to 'flip' properties in the search for quick profits with TOD and infill in general; we're in it for the long haul." More and more, developers are using long-term pro formas when evaluating the potential payoff of TOD. As with any long-term investment, asset management is essential to reaping handsome profits. And for profits to accrue, the public sector needs to do its part to ensure that transit-served neighborhoods are, and will continue to be, viable places.

Through effective partnerships with transit agencies, local government, and others, and under the right conditions, all parties are in a position to reap the financial gains conferred by well-planned and well-managed TOD.

Case Studies and Lessons

To embellish and extend the insights gained from the national surveys, literature reviews, and informant interviews, 10 case studies were carried out for the following U.S. locations: Boston, New Jersey, the Washington (D.C.) Metropolitan Area, Miami, Chicago, Dallas, Colorado, Portland, the San Francisco Bay Area, and Southern California. Together, the case studies offer a rich set of perspectives on the challenges and potential payoffs of implementing TOD.

The 10 case studies provided valuable lessons on 5 important aspects of TOD: political and institutional factors, planning and land-use strategies, benefits and impacts, fiscal considerations and partnerships, and design challenges.

Political and Institutional Factors

- ***Political leadership is vital to TOD implementation.*** Having someone step up as the political champion of a TOD proposal is critical to marshalling resources, building a coalition, and resolving disputes that invariably crop up along the way.
- ***Inclusiveness and ongoing public input in TOD planning, design, and implementation is essential to success.*** Outreach not only helps to fend off a possible NIMBY backlash, but also gives those who live and

work in a TOD neighborhood a vested stake in ensuring that what is built is consistent with neighborhood goals, has a human-scale “feel” and is of the highest caliber possible.

- ***Institutional coordination and streamlining are especially crucial to TOD implementation when multiple agencies govern different elements of land development and transit-service delivery.*** Red tape, institutional bickering, and multiple levels of review are sometimes enough to frighten away the hardest of developers from station locations. Places like Metropolitan Baltimore, Philadelphia, San Francisco-Oakland, and Denver have formed interagency working groups and committees to streamline the TOD review and coordinate decision making.
- ***More permissive regulatory environments and enabling legislation are often needed if transit agencies, local governments, and regional planning organizations are to proactively implement TOD.*** The absence of authorizing legislation or simple avoidance of the issue of how far transit agencies can go in pursuing land development has many times cast a cloud of suspicion on whether TOD is a legitimate public-sector undertaking. Without clearly articulated legislation that enables transit agencies and other local actors to assemble and bank land and enter into joint development arrangements, TOD either gets ignored or ends up on the back-burner, lost in the pressing day-to-day needs of running a transit organization.

Planning and Land-Use Strategies

- ***Successful TODs start with shared visions that guide planning and implementation for years to come.*** The enterprise of creating a TOD over an extended period of time is subject to so many distractions and interruptions that the ability to stay focused on a shared vision is pivotal to success. Arlington County, Virginia, adopted the metaphor of a “bull’s-eye” to articulate its TOD future. Many local observers attribute Arlington County’s success at adding over 15 million square feet of office space, 18,000 housing units, and several thousand hotel rooms to the bull’s-eyes of the Rosslyn-Ballston corridor since 1970 to this early vision and the subsequent general plan and specific station-area plans that contributed to the vision’s realization.
- ***Start TOD planning early.*** TODs are often the cumulative products of many individual development decisions, some of which unfold slowly and in fits and starts. Areas with successful TOD track records, like Portland, Arlington County, and Montgomery County (in Maryland), have been working on TOD for a long time.
- ***TOD success can hinge on rewarding developers with measures that grant more latitude in designing projects; allow mixing of uses; increase density envelopes; and offer certainty, clarity, and built-in assurances that the public sector will follow through on planning commitments.*** Because of the risks sometimes encountered in building

near transit stations, especially with infill and redevelopment projects, and because of the public good conferred by TOD, “business as usual” should not apply to TOD developers. Zoning must often be revised to allow higher-than-average densities and a land-use program and mix that satisfy market demands. In cities like Seattle, San Diego, and Atlanta, zoning overlays have been successfully used to increase permissible densities, diversify uses, and prevent automobile-oriented uses from preempting TOD possibilities.

- ***Successful TODs emphasize “place-making”: creating attractive, memorable, human-scale environs with an accent on quality-of-life and civic spaces.*** Increasingly, projects built around up-and-coming transit nodes, like Dallas’s Mockingbird Station, Portland’s Pearl District, and Metropolitan Chicago’s Arlington Heights, are targeted at individuals, households, and businesses seeking locations that are vibrant and interesting; these places usually have an assortment of restaurants, entertainment venues, art shops, cultural offerings, public plazas, and civic spaces.
- ***TODs invite bold new policies that push conventional boundaries and acknowledge the unique market niches that are being served. Location Efficient Mortgages and sliding-scale impact fees, along with unbundled parking costs and flexed parking standards, are good examples of “out-of-the-box” thinking.*** Standard designs, cost formulas, and building-code templates have to be challenged for each and

every TOD project in large part because the TOD market is not “standard.” Experience shows that new housing built near rail stops often appeals to single professionals, childless couples, and empty-nesters who value amenities as much as the amount of living space and who often own fewer automobiles and log fewer miles on their odometers than the typical urban household. Standards for mortgage qualifications, building designs, and parking supplies need to reflect these market realities.

- ***Station-area plans and planning matter.*** Given the risks and uncertainties associated with TOD, developers, residents, and merchants expect, and indeed deserve, carefully crafted, forward-looking plans that orchestrate how, when, and where a TOD will evolve. Good TODs begin with good planning.

Benefits and Impacts

- ***TOD’s ridership bonuses are substantially a product of residential self-selection, suggesting that policy reforms should focus on allowing residents to sort themselves into transit-served neighborhoods unimpeded.*** Research continues to demonstrate that self-selection is a major factor behind higher transit ridership among those living near rail stations. It follows that public policy should focus on breaking down barriers to residential mobility and to the introduction of market-responsive zoning in and around transit stations.
- ***TOD benefits are not automatic and generally accrue during upswings***

in local economies, when traffic congestion increases. Favorable conditions must exist for TOD to produce significant economic benefits. Experience shows that if compact, mixed-use development around transit nodes is to attract enough motorists to transit to reduce traffic congestion and increase environmental benefits, areas need to be growing rapidly and traffic conditions need to be bad and getting worse. Since TODs increase accessibility among those living, working, and shopping near transit, an extensive transit network is also often necessary for the benefits of TOD to materialize.

- ***Transit’s benefits, as reflected by land-value premiums, also generally increase with proactive planning, network development, and system maturation.*** External factors like regional economic and traffic conditions do not solely govern the potential benefits of TOD. Experiences in Santa Clara County and San Diego, California, show that land-value premiums tend to increase as a system’s network expands and are generally higher in areas with stronger real-estate markets and where farsighted, proactive planning has taken place.

Fiscal Considerations and Partnerships

- ***TODs benefit from efforts to recapture some of the value conferred by transit investments to generate revenues needed for ancillary improvements.*** Recapturing some of the land-value premium conferred by transit investments provides much-needed

revenues that can go to various station-area improvements like landscaping, pedestrian-way upgrades, and public spaces.

- ***Creative financing is essential to spreading the risks; expanding the base of knowledge and experience; and tapping into the fiscal advantages of certain partners, such as local governments’ superior bond ratings and guarantees, to make projects “pencil out.”*** Partnerships are pivotal to successful TODs. In redevelopment districts that suffer from a poor marketing and performance image, multiple partners are often necessary to raise sufficient capital to spread financial risks. Each partner can bring something unique and of value to the table.
- ***Market fundamentals, not a TOD label, govern whether private capital gets invested around transit stations.*** The availability of equity and loans to fund projects near transit is primarily driven by capital market conditions and perceived market demand, not a project’s status as a TOD. Lenders involved with TOD projects (not all of whom even realize they are funding a TOD) rarely adjust lending standards to reflect proximity to transit.

Design Challenges

- ***In urban settings, rationalizing parking policies in relation to TOD is essential to influencing how a TOD station will be accessed and to avoiding conflicts over whether land goes to parking or development.*** If not properly dealt with, parking can form a huge obstacle to TOD:

separating a station from the neighboring community, diminishing the quality of the walking environment, and precluding station-site air rights or joint development. Transit boards need to rationalize parking policies beyond a carte blanche one-to-one replacement mandate. Where affordable housing is being built near stops, reduced parking quotas or at least flexible standards should be considered to reflect the tendency of many TOD households to own fewer automobiles. Unbundling the cost of parking from the cost of housing can make transit-based residency all the more affordable.

- ***Even though mixed land uses are a trademark of TOD, arriving at a workable program poses design challenges that need to be overcome for a successful TOD.*** Quite often, finding the right formula for mixed land uses is every bit as difficult as rationalizing parking policies. Planners sometimes impose a design template of ground-floor retail and upper-level housing or offices (i.e., vertical mixing) on any and all development proposals within a TOD. Mixed-use projects are trickier to design, finance, and sometimes lease than single-use ones. Local governments need to be sensitive to such challenges and focus more on achieving a desired land-use mix within a transit station area as opposed to individual parcels (i.e., horizontal mixing).
- ***Walking access, quality of circulation, and the overall pedestrian environment are critical to successful TODs. However, the***

conflict between the role of transit stations as “nodes” and their role as “places” often makes this difficult.

Research shows that the majority of residents living within ¼ mile of a transit station arrive by foot or bicycle; however, this share plummets markedly if there are significant physical, symbolic, and psychological barriers to bicycle and pedestrian traffic like wide, busy roads and incomplete sidewalk networks. San Diego’s Mission Valley and suburban Denver are good examples of places where (with the help of smart-growth planning monies and pedestrian-sensitive zoning ordinances) design attention and resources were directed to improving the quality of circulation, aesthetics, and basic provisions (e.g., crosswalks and benches) of areas surrounding rail stations.

- ***Transit service improvements and system upgrades can trigger TOD activities, especially in settings with expensive housing markets and a pent-up demand for transit-oriented living.*** “Choice” transit users are highly sensitive to service quality; therefore, running frequent and reliable trains and minimizing the need to transfer can be critical to the future of TOD. In northeast New Jersey, the through extension of New Jersey Transit’s (NJ TRANSIT’s) Northeast Corridor to New York’s Pennsylvania Station unleashed a flurry of building activities around century-old commuter rail stations. In Boulder, Colorado, the integrated Community Transit Network—known for its colorful “Hop,” “Skip,” “Jump,” “Leap,” and “Bound” buses—triggered bus-based

TOD (typically second- and third-floor offices and lofts above street-level retail) along several routes.

Policy Reflections and Future Research

The state of practice with TOD in the United States is generally a healthy one. There are many exciting examples of TOD currently on the ground and at least as many on the drawing boards across the United States. Mixed-use TODs like downtown Plano, Texas, and Englewood City Center, outside Denver, would have been unimaginable in the 1980s, when these and other suburban communities were hosting a boom in campus-style office development and automobile-oriented shopping plazas. The United States is in the midst of a sea change when it comes to linking transit and urbanism. In once automobile-dominant settings, yesterday's design templates are being discarded in favor of TOD. Atlanta's BellSouth TOD is the result of taking scattered automobile-oriented development and transforming it into a concentrated TOD. Attention has been given to every detail, such as siting additional BellSouth employee parking around other Metropolitan Atlanta Rapid Transit Authority stations to enable workers to commute by rail for part of their trip. The company's aim is for at least 30% of its workforce to arrive by transit, a huge change from the current market share of under 5%.

Also different from the past is that it is not just public policies and interventions that are paving the way for TOD. Unfettered market forces are also having a profound impact. The less desirable features of sprawl—automobile dependence, congestion, excessive

amounts of time behind the wheel, and a feeling of isolation from cultural offerings—are prompting more and more Americans to leave the suburban edge and head to transit-served subcity nodes and even the traditional inner city.

As long as TOD confers both public and private benefits, there is no replacement for public-private partnerships in advancing TOD implementation. Each party brings unique talents, insights, and resources to the table. Experience has shown that creating an in-house capability within transit agencies to pursue partnerships, hammering out fair and mutually rewarding risk- and revenue-sharing agreements, and building in contingencies that allow projects to change course as needed can produce win-win outcomes. Successful TOD partnerships win recognition in the marketplace and deserve other kinds of recognition as well such as national awards, "best practice" web sites, and high-profile special sessions at national conferences like those sponsored by Rail-volution and the Urban Land Institute. As the joint development talent pool and knowledge base expands, lessons will be learned and put to good use on new and up-and-coming projects. Disseminating knowledge and cross-pollinating it offer the best hope of achieving future generations of TOD and joint development projects that are robust, smartly designed, and financially viable.

Considerable progress has been made in our understanding of TOD: what works and what does not, what preconditions are necessary to effectively leverage land development around stations, and how private developers react to different regulations and incentives. More is also

known about land-value premiums enjoyed by property owners with parcels near rail stops and ridership impacts, among other areas. Still, knowledge gaps remain. Areas that hold future research promise include studies that monetize TOD's benefits under a range of conditions; set cost-effectiveness thresholds for TODs at varying densities and transit services at various levels of intensity; evaluate impacts of TOD-friendly measures like Location Efficient Mortgages, flexible parking standards, and bus-based initiatives; and compare

fully loaded costs of pursuing TOD with standard patterns of suburban development.

Finding ways of effectively disseminating the results of TOD research is equally important. Research reports, professional journal publications, and conference presentations are obvious channels. The Internet is another important channel. A national TOD web site that showcases "best practices" and highlights the latest research findings would be welcomed by many professionals and practitioners.

PART 1

TRANSIT-ORIENTED DEVELOPMENT IN THE UNITED STATES TODAY

Transit-oriented development (TOD) has gained currency not only as a promising means of expanding the ridership base of U.S. urban rail and bus systems, but also as an approach to revitalizing communities, a new vernacular of architecture and urbanism, and a venue for increasing choice and diversity in local housing markets. Part 1 of this report reviews the scope of TOD activities in the United States today. The first chapter provides an overview of TOD and transit joint development, reviewing local definitions as well as goals and objectives, and discussing this study's overall methodology. Chapter 2 inventories the scope and breadth of contemporary TOD and joint development in the United States, highlighting noteworthy examples among rail and bus systems and across big and small cities.

Chapter 1

Transit-Oriented Development: An Overview

Introduction

Transit-oriented development (TOD) has gained currency in the United States as a means of promoting smart growth, injecting vitality into declining inner-city settings, and expanding lifestyle choices. TOD's focus of locating new construction and redevelopment in and around transit nodes is viewed by many as a promising tool for curbing sprawl and the automobile dependence it spawns. Some hope that TOD can breathe new life and vitality into areas of need by channeling public investments into struggling inner-city settings. And by creating more walkable, mixed-use neighborhoods with good transit connectivity, TOD is thought to appeal to the lifestyle preferences of growing numbers of Americans, such as childless couples, those Americans belonging to "Generation X," and empty-nesters.

That elusive concept, quality of life, is another often-heard reason why TOD should be pursued. Many Americans spend too much time getting to and from work, robbing them of time at home with families and friends. Between 1990 and 2000, the average nationwide travel time to work rose by almost 3 minutes, to 25.5 minutes. Commuters in Atlanta reported the largest increase in commute time, on average, a 5.2-minute increase. The widespread perception of many Atlantans that quality of life is rapidly eroding has prompted a number of radical changes in recent years, like the

formation of the Georgia Regional Transportation Authority (GRTA), a watchdog state agency with purse-string powers, whose principal charge is to coordinate transportation and land use. The recent transformation of Atlanta's Lindbergh Station from being predominantly a surface parking lot to being a vibrant rail-served mini-city signals an abrupt shift in policy, one aimed at exploiting transit's development potential. Rather than passively sitting back and letting the market determine what, if anything, happens around stations, more and more transit agencies and their partners across the United States are today proactively creating new markets for transit by targeting growth in and around stations.

Interest in TOD is being driven from the supply side also. New rail or bus rapid transit systems are planned or under construction in all but three of the 30 largest U.S. metropolitan areas. While older east-coast cities like Boston, Philadelphia, and New York have more than a 100-year legacy of TOD, going back to the streetcar suburbs of yesteryear, today cities like Dallas, Denver, Salt Lake City, Charlotte, Portland, and Minneapolis are borrowing a chapter from the past, exploiting new rail investments to create transit-friendly urban forms.

This report provides a comprehensive review of the practice of TOD in the United States. Through a combination of

canvassing the literature, surveying and interviewing key stakeholders, and conducting in-depth case studies, TOD's current state of the art and state of practice in the United States are assessed.

Part 1 of the report provides a summary of the present-day scope of TOD in the United States and its closely related cousin, joint development. As discussed later, joint development is defined in this study as a form of TOD that occurs on transit-agency property and typically involves a public-private partnership. Part 2 probes the current institutional, organizational, and regulatory environment that governs TOD practice, drawing on survey results and informant interviews of seven stakeholder groups from both the public and private sectors. Part 3 is evaluative in nature, reviewing evidence on the benefits of TOD and assessing the degree to which it has achieved its hoped-for targets, be they traffic congestion relief or expanding options in affordable housing. Original research on the ridership impacts of development activities around transit stations is also presented, based on experiences in the San Francisco Bay Area and Arlington County, Virginia. Part 4 provides focused insights into TOD and joint development through 10 in-depth case studies. Each case study focuses on a particular theme or issue related to TOD. Together, they provide a rich portrait of contemporary TOD practices in the United States—successes as well as failures—from a multitude of perspectives. Case studies like that of Portland, Oregon, focus on experiences in promoting mixed-use development and affordable housing near rail lines in a setting where anti-sprawl initiatives abound, while case studies like that of Chicago, Illinois, examine the role of

political leadership in spearheading redevelopment in traditional commuter-rail neighborhoods. Part 5 concludes the report with a summary of key findings, overall policy conclusions, and suggestions for further research. Appendixes A, B, and C provide supplementary material.

Study Approach

The main tactic used in compiling information about TOD and joint development in the United States was to talk with, interview, and survey those most actively involved—the stakeholders. Insights and information for five public-sector stakeholder groups—transit agencies, local governments, redevelopment agencies, metropolitan planning organizations (MPOs), and state departments of transportation (DOTs)—were compiled mainly from responses to open-ended and close-ended survey questions. Views and opinions from two private-sector interests—developers and lenders—were elicited primarily through telephone interviews, using a structured interview protocol. Surveys and interviews were conducted from July to September 2002.

The survey process focused on compiling background information and attitudinal responses from all U.S. transit agencies as well as other stakeholder groups in large metropolitan areas where TOD is known to exist in some form.¹ In all, the number of surveys received (and the response rates) from each public-sector stakeholder group was the following: 90 from transit agencies (21.7%), 23 from local governments (29.5%), 8 from redevelopment agencies (44.4%), and 24 from MPOs (28.9%).

For further discussions of the survey methodology and copies of survey instruments, see the interim report for TCRP Project H-27: *Transit-Oriented Development and Joint Development in the United States: A Stakeholder Analysis*.

Complementing the national survey were the 10 case studies, chosen to provide more detailed insights into the “art and science” of TOD implementation. These highlight best-case practices and performance impacts as well as missed opportunities, disappointments, and implementation barriers.

The 10 cases—Boston, New Jersey, the Washington (D.C.) Metropolitan Area, Miami Metro, Chicago, Dallas, Colorado, Portland (Oregon), the San Francisco Bay Area, and Southern California—were selected in close consultation with the TCRP H-27 project panel to highlight various themes and issues surrounding TOD. Case studies were conducted through a series of steps: collection and review of background materials and information (through literature reviews and Internet searches); initial telephone correspondence with “key local players” (to explain the purpose of the study and solicit local support and interest); preparation of a “study plan” (based on background materials and telephone contacts); field visits (using interview templates to elicit inputs from local stakeholders); collection of data, reports, newspaper articles, and other secondary materials; visits to and photographs of projects; follow-up contacts (to fill in missing information); draft case-study preparations (provided to key local contacts for reactions and suggestions); and final case-study write-ups.²

What Is TOD?

There is no universally accepted definition of TOD because development that would be considered dense, pedestrian-friendly, and transit-supportive in a middle-size city in the Midwest would be viewed quite differently in the heart of Manhattan or the District of Columbia. Moreover, the “tag” of TOD has recently come under attack by those who contend that buildings erected near U.S. transit nodes do not always have any kind of functional or meaningful relationship to the station. In sizing up neighborhoods surrounding train stations in the United States today, Hank Dittmar, President of the Great American Station Foundation, a nonprofit corporation that promotes economic development through the preservation of railroad stations, recently remarked: “Most often they have conventional single-use development patterns, with conventional parking requirements, so that the development is actually transit adjacent rather than transit oriented.”³ Such a take has spawned a new term for characterizing land development near transit, “transit-adjacent development,” or TAD (a less desirable form of development for some than TOD).

In this study, we opted not to parse definitions of TOD, leaving it to local stakeholders to identify what they consider to be TOD from their own or their agencies’ perspectives. Ten of the 90 surveyed transit agencies (11.1%) had formally adopted a definition of TOD, according to respondents. Most in-house definitions of TOD came from large transit properties operating rail services, with the notable exception of the Roaring Fork Transportation Authority serving the Aspen, Colorado, area. Table 1.1

Table 1.1. Transit Agency Definitions of TOD

Transit Agency	Definition
ATLANTA: Metropolitan Atlanta Rapid Transit Authority (MARTA)	Broad concept that includes any development that benefits from its proximity to a transit facility and that generates significant transit ridership.
ASPEN: Roaring Fork Transportation Authority, Colorado	Land development pattern that provides a high level of mobility and accessibility by supporting travel by walking, bicycling, and public transit.
BALTIMORE: Maryland Transit Administration	A relatively high-density place with a mixture of residential, employment, shopping, and civic uses located within an easy walk of a bus or rail transit center. The development design gives preference to the pedestrian and bicyclist.
CHARLOTTE: Charlotte Area Transit System	High-quality urban environments that are carefully planned and designed to attract and retain ridership. Typically, TODs provide for a pedestrian-friendly environment.
NEW JERSEY: New Jersey Transit Corporation (NJ TRANSIT)	An environment around a transit stop or station that supports pedestrian and transit use, created by providing a mix of land uses in a safe, clean, vibrant, and active place.
CHICAGO: Regional Transportation Authority of Northeast Illinois (RTA)	Development influenced by and oriented to transit service that takes advantage of the market created by transit patrons.
ORLANDO: Central Florida Regional Transportation Authority (LYNX)	A sustainable, economically viable, livable community with a balanced transportation system where walking, biking, and transit are as valued as the automobile.
SALT LAKE CITY: Utah Transit Authority (UTA)	Projects that enhance transit use, improve the quality of service provided to Authority riders, or generate revenue for the purpose of supporting public transit.
SAN FRANCISCO: Bay Area Rapid Transit Authority (BART)	Moderate- to higher-density development, located within an easy walk of a major transit stop, generally with a mix of residential, employment, and shopping opportunities designed for pedestrians without excluding the automobile. TOD can be new construction or redevelopment of one or more buildings whose design and orientation facilitate transit use.
WASHINGTON, D.C.: Washington Metropolitan Area Transit Authority (WMATA)	Projects near transit stops which incorporate the following smart-growth principles: reduce automobile dependence; encourage high shares of pedestrian and bicycle access trips to transit; help to foster safe station environments; enhance physical connections to transit stations from surrounding areas; and provide a vibrant mix of land-use activities.

presents the definitions of TOD adopted by these 10 agencies. Some definitions relate to smart-growth and sustainability principles in general, although most focus on the design characteristics of transit-supportive environments. Most definitions emphasize the importance of *high-quality walking environments*. Four of the definitions call for *mixed land uses* and two specifically mention *higher-density developments*. Also, three definitions tie TOD to increases in ridership and revenues. The Regional Transportation Authority (RTA) in metropolitan Chicago views TOD in market terms. In general, there is agreement within the professional transit community as to what constitutes a TOD: a pattern of dense, diverse, pedestrian-friendly land uses near transit nodes that, under the right conditions, translates into higher patronage.

Similar definitions of TOD were offered by other stakeholder interests. Local governments tend to cast TOD in more specific terms, such as minimum floor-area ratios (FARs) and distances to rail stops, that are often tied to development regulations and zoning codes. Buffalo, New York, for example, allows specific uses with specific FAR and setback requirements in its “transit station zoning district.” Mountain View, California, has adopted a 2,000-foot radius around rail stations to circumscribe TOD, applying fairly permissive zoning standards within the sphere in hopes of leveraging new investments.

Comparatively few redevelopment agencies, MPOs, or state DOTs surveyed had formally adopted TOD definitions. One higher-level agency that has taken a leadership role in promoting and marketing the TOD concept is the

California Department of Transportation (Caltrans). In its recent comprehensive study of TOD, *Statewide Transit-Oriented Development Study: Factors for Success in California*, Caltrans defined TOD similarly to most local transit agencies: higher than usual densities, mixed land uses, and pedestrian-friendly designs. California’s definition is noteworthy for making the point that TOD is not “anti-car,” emphasizing that TOD creates an attractive pedestrian environment “without excluding the auto.” This caveat is not surprising given that California has one of the highest automobile ownership rates in the country.⁴

It bears noting that TOD is hardly a new concept. A century ago, highly walkable, mixed-use communities blossomed around most streetcar and interurban rail lines in the United States. The subsequent uprooting of these systems in favor of roads and super-highways witnessed the gradual disappearance of transit-oriented communities. Single-use automobile-oriented subdivisions, scattered in all corners of a metropolis, became the dominant built form instead. In many ways, TODs aim to restore many of the features of yesteryear’s cityscapes—comfortable and enjoyable streetscapes, vibrant and interactive public spaces, and an assemblage of land uses that invite people to stroll, linger, and interact with each other. In his recent report, *The Returning City: Historic Preservation and Transit in the Age of Civic Revival*, Dan Costello et al. comment that the recent spurt in literature and considerable press given to TOD seems to suggest that there is something different and unique about this approach to urbanism and community design than in years past. They remind

us that contemporary TOD borrows heavily from the past:

The highly visible ‘neo-traditional’ success stories have led to the notion of TOD as a new idea. In fact, new TOD developments promote transit use through time-honored strategies to create density and mixed uses, income diversity, and pedestrian-supportive design. . . . The transit villages that came of age in the late 19th century exhibited all the characteristics modern TOD proponents describe as ideal for today, including a coherent transportation pattern that worked within each transit village at the pedestrian scale and multiplied efficiently throughout corridors and regions, connecting neighborhoods and suburban towns to the urban core via public transportation.⁵

One must also be careful not to cast TOD purely in physical determinist terms. TOD is not simply an assembly of buildings around transit nodes. It is also about community and neighborhoods. To some observers, TOD is partly about building social capital—strengthening the bond between people and the communities in which they live, work, socialize, and recreate. This is a side benefit, however. Mainly, the aim is to create settings which prompt people to drive less and ride public transit more.

Joint Development: What Is It?

The distinction between TOD and joint development is not always clear, and quite often survey respondents from transit agencies (and other stakeholder groups) used the terms interchangeably. In this study, joint development is treated as a subset of TOD—specifically,

a form of TOD that is project-specific and takes place either on or adjacent to transit-agency land.

The distinction between TOD and joint development was described in the following way in the questionnaire sent to transit properties for this research:

Transit joint development is distinguished from TOD mainly by being tied to a specific real-estate project, venture, or brokered deal and involving the direct participation of a public entity, often a transit agency, in revenue streams and sometimes ownership. Joint development often occurs on a transit agency’s property or in its air rights; however, it can also occur on nearby private land if an improvement is physically or functionally integrated with a transit facility. Joint development at transit stations includes air-rights development, ground-lease arrangements, station interface or connection-fee programs, and other initiatives that promote real-estate development at or near transit stations to the mutual benefit of public and private interests.

Despite this effort to distinguish the two enterprises, it is clear that most transit professionals lumped them together. Only 9 of the 90 transit-agency respondents indicated that their organizations had adopted a definition of joint development. Take, for example, the Washington Metropolitan Area Transit Authority (WMATA), a pioneer in the practice of transit joint development. WMATA defines joint development as: “a creative program through which property interests owned and/or controlled by WMATA are marketed to office, retail/commercial,

recreational/entertainment, and residential developers with the objective of developing transit-oriented development projects.”⁶ WMATA practices what it preaches. Between 1970 and 2002, WMATA formally entered into 38 joint development projects in the District of Columbia and bi-state area, more than any transit agency in the United States. The sum value of these ventures has exceeded \$2.5 billion. Collectively, these projects—everything from air-rights leases and land rents to station connection fees—yield the agency some \$6 million in annual revenues. Currently, the most remunerative initiatives involve air-rights and ground leases at the Bethesda, Ballston, and White Flint Stations.

San Francisco’s Bay Area Rapid Transit (BART) District, also active in joint development, adopted the following joint development definition in 1984:

In the broadest sense, it [joint development] represents active cooperation between the public and private sectors in undertaking real estate ventures which either physically connect to or functionally support the transit facility. For the purposes of this policy, the term ‘joint development’ is also meant to cover those value capture mechanisms aimed at ensuring that the public shares in the benefit which accrues to the private sector (property owner/developer) because of improved access to a regional transit facility.⁷

Between 1984 and 2003, BART has entered into eight joint development agreements, mostly in built-up areas of the cities of San Francisco and Oakland.

Several survey respondents said that their agencies have adopted the FTA’s definition of joint development. The FTA’s web site offers a generic definition: “joint development involves the common use of property for transit and non-transit purposes.”⁸ More specific is the language in FTA’s *Circular 9300.1* for capital grant applications: “FTA encourages incidental uses of real property that can raise additional revenues for the transit system or, at a reasonable cost, enhance system ridership. FTA approval is required for these incidental uses of real property which must be compatible with the original purposes of the grant.”⁹ This provision has been interpreted to mean that transit agencies can sell land holdings financed by federal grants without having to return proceeds as long as the grantee retains control over projects, and funds are used to shape communities being served by transit.¹⁰

Goals and Objectives

Given the definitions above, what are the goals and objectives that have been set for TODs and joint development? Open-ended survey responses from the five public-sector stakeholder groups shed light on this question.

TOD Goals

Increasing ridership was at the top of the list of TOD goals identified by transit-agency respondents, representing one-fifth of all goals stated (see Figure 1.1). The next most frequent set of goals identified by transit agencies was financial in nature. This set of goals included promoting economic development (and job growth) and raising revenues for transit properties.

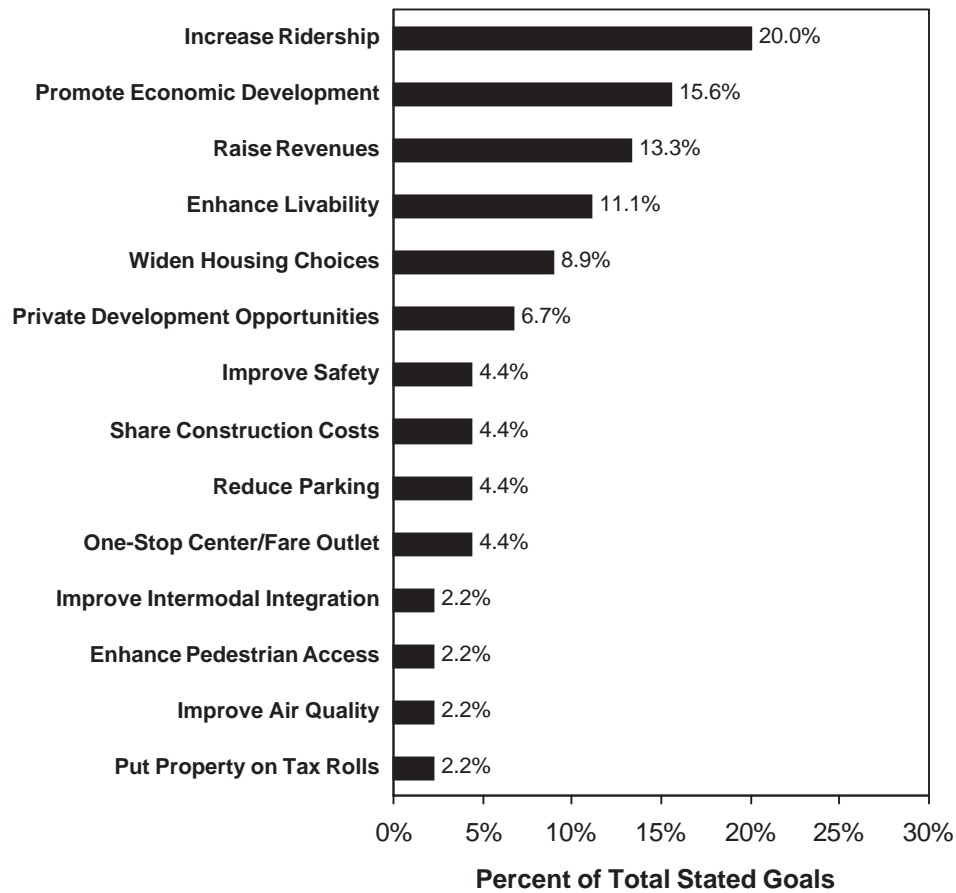


Figure 1.1. Relative Frequency of Stated Transit-Agency Goals for TOD Projects.

Next in frequency were objectives that are more social in nature, such as enhancing quality of life and widening housing choices for consumers. A few transit agencies supported TOD to create private real-estate opportunities. Respondents from local government and redevelopment agencies cited similar TOD goals. They emphasized the role of TOD in promoting affordable housing, stimulating economic development, and revitalizing declining neighborhoods.

Joint Development Goals

As with TOD, transit-agency respondents were asked to list the goals for implemented joint development

projects. Predictably, increasing revenues—at the farebox (from ridership) and from direct lease payments—is what motivates most transit operators to pursue joint development. After fiscal objectives, transit-agency representatives identified a host of societal reasons why joint development is important. Among these broader societal objectives, ones related to the economic well-being of cities—in terms of spurring private investments and redevelopment—topped the list. Some respondents also emphasized the aesthetic role of joint development in creating secure and active civic spaces, providing needed in-neighborhood facilities like bike paths and showcasing

architecturally integrated and well-designed public and private buildings.

Unanimity Versus Pluralism

A recent assessment of TOD across the United States, drawn from interviews with practitioners and site-specific workshops, argues that the absence of a universal working definition of TOD hampers the ability to set agreed-on goals and therefore to gauge success. The authors write:

Because of the lack of clarity in the definition of TOD, legitimate disagreements about what might constitute good TOD, and diverging priorities and interests, actors may bring different, and sometimes contradictory, goals to the table.¹¹

On its web site, the recently formed *Center for Transit-Oriented Development* further echoes this view: “There is no clear definition of TOD or agreement of desired outcomes, and hence no way of ensuring that a project delivers these outcomes.”¹²

Plurality of interests and perspectives can be both a strength and a liability in the pursuit of TOD. The marketplace, be it for real estate, places to live, or widgets, is based on the very principle of variety and choice. A project next to a rail stop that is belittled as too automobile-centric in its design in some camps might stretch the limits of what is perceived as “comfortable” and politically feasible in others. The breadth of perspectives on what constitutes a TOD “success story” is addressed throughout this report, but particularly in the coverage of various stakeholder viewpoints in Chapters 3 through 5. Impediments to TOD

implementation, including those related to goal formulation and visioning, are taken up in Chapter 6.

Summary

TOD continues to attract interest as a tool for promoting smart growth, leveraging economic development, and catering to shifting market demands and lifestyle preferences. This report, based on a combination of stakeholder survey responses, interviews, and in-depth case studies, paints a national portrait of contemporary TOD practice in the United States in its many shades and colors.

TOD is widely defined as compact, mixed-use development near transit facilities with high-quality walking environments, not necessarily at the expense of automobile access. Joint development is a form of TOD that is often project specific, taking place on, above, or adjacent to transit-agency property. Recent FTA policy promotes joint development by allowing transit agencies to use incidental property, even if purchased with federal funds, for private real-estate projects that support broader community development objectives.

The primary aim of TOD and joint development are to boost ridership and, relatedly, increase revenues. Community economic development and broader smart-growth agendas are secondary objectives.

Notes

¹ While surveys were sent to the full population of U.S. transit agencies (at least those who were members of the American Public

Transportation Association), for other groups representative samples were drawn. A true random sample format was not used in part because of the effort to target surveys to large metropolitan areas, especially those with rail transit systems, where TOD is known to exist in some form, such as the Washington (D.C.) Metropolitan Area, the San Francisco Bay Area, metropolitan Atlanta, the Dallas-Ft. Worth metroplex, and the Philadelphia-New Jersey-New York axis. To ensure a balance of responses from smaller areas that operate bus services only, random samples of local governments, redevelopment agencies, and MPOs in areas with regional populations under 200,000 were selected from master lists of these organizations.

- ² Open-ended, in-depth interviews were conducted among appropriate local individuals for each case study. Besides obtaining relevant information on the “what,” “who,” “why,” “when,” and “where” of TOD and joint development, efforts were made to elicit information from the perspectives of interviewed stakeholders on the following topics: goals and objectives for TOD; the presence of local or regional plans or policy visions regarding TOD; identification and description of major TODs and joint developments; impacts, performance, and outcomes (and the degree to which goals and objectives have been achieved); tools applied and incentives introduced to promote and leverage TOD (as well as interviewees’ perceptions on how effective these tools and incentives have been); approaches to institutional coordination in promoting TOD; marketing and outreach initiatives (successful and unsuccessful); major impediments to the formation of TODs; and other issues (such as impacts of park-and-ride lots on TOD, urban

design considerations, creative financing approaches, and impacts of public policies).

- ³ M. Leccese, “Will T-Rex Meet TOD?” *Urban Land*, Vol. 62, No. 5 (2003): 86.
- ⁴ According to the 2000 census, the mean number of motor vehicles per household in California was 1.79. This is higher than the national average of 1.68. (Census Transportation Planning Package 2000 Profile Sheets, <http://transportation.org/ctpp/home>.)
- ⁵ D. Costello, R. Mendelsohn, A. Canby, and J. Bender, *The Returning City: Historic Preservation and Transit in the Age of Civic Revival* (Washington, D.C.: Federal Transit Administration, National Trust for Historic Preservation, 2003), 10.
- ⁶ Washington Metropolitan Area Transit Authority, *WMATA Joint Development Policies and Guidelines* (Washington, D.C.: WMATA Office of Property Development and Management, February 2002).
- ⁷ Bay Area Rapid Transit District, “BART Joint Development Policy” (Oakland, California: BART, 1984).
- ⁸ <http://www.fta.dot.gov/>.
- ⁹ Federal Transit Administration, *FTA Circular 9300.1, Capital Grant Program: Application Instructions* (Washington, D.C.: 1997).
- ¹⁰ Federal Register Notice, *FTA Policy on Transit Joint Development*, Vol. 62, No. 5 (March 14, 1997) pp. 12266–12269.
- ¹¹ D. Belzer and G. Autler, *Challenges to Implementing Transit-Oriented Development* (Las Vegas, New Mexico: Great American Station Foundation, 2002).
- ¹² See http://www.ReconnectingAmerica.org/tod_to_scale.htm.

Chapter 2

The Breadth and Scope of U.S. TOD and Joint Development

TOD Activities

A wide array of TOD currently exists across in the United States. Table 2.1 lists the TOD projects identified by surveyed stakeholders, starting with TODs oriented to rail followed by bus-based ones and organized by numbers of projects in each metropolitan area. Most TODs on the list were identified by survey respondents, but known TODs documented in the literature are also shown. Many more TODs are in various stages of planning and development; those listed in Table 2.1 were on the ground or substantially developed as of late 2002.

In all, well over 100 TODs were identified. TOD designations, of course, are quite subjective: one person's TOD may be viewed by others as little more than an office building with suburban parking ratios that happens to be near a train stop. Table 2.1, moreover, is not a complete inventory because not all transit agencies, local and state governments, and other surveyed groups responded to the survey. Thus, the list should be viewed as illustrative of the types and geographic distributions of TODs found in the United States although not necessarily complete. Figure 2.1 shows that the largest numbers of TODs on the list were served by heavy-rail systems, followed by light rail, commuter rail, bus, and ferry.

The majority (more than 100) of the listed TODs are located in large rail-

served cities. The San Francisco Bay Area has the most identified TODs, served by heavy-rail (BART), commuter-rail (Caltrains and the Capitol Corridor), and light-rail (Santa Clara Valley and San Francisco Municipal Railway [MUNI]) systems. Other national TOD leaders are the Washington (D.C.) Metropolitan Area, Portland (OR), Atlanta, and Dallas. The list for pro-TOD cities like Portland could be expanded if smaller-scale projects were included. As discussed in Chapter 17, the Portland area has witnessed a considerable amount of high-density infill projects within walking distance of light-rail stations, like 172nd and East Burnside and the Oneota Townhomes in the Greshman area and the Westshore Apartments, Vandalay Arms, and Hazelwood Apartments in the city of Portland. Many infill projects in Portland are also found on active bus corridors, like Irvington Place, Hollywood Townhomes, Macadam Village, and Pearl Court Apartments.

Many U.S. TODs are situated outside of central cities, in newer and older suburbs alike. Some TODs, notably the Rosslyn-to-Ballston axis and Jefferson Davis Corridor (Pentagon and Crystal City areas) in Northern Virginia, are quite dense, featuring high-rise clusters of office towers, retail shops, housing, entertainment, and civic uses (see Chapter 12). Since 1960, over 98% of office and retail development and 95%

Table 2.1. Existing TODs Identified by Survey Respondents or from Literature Review, Late 2002

Metropolitan Areas: RAIL & RAIL/BUS AGENCIES	TODs	Descriptions
<i>San Francisco Bay Area: Bay Area Rapid Transit (BART) District</i>	* Concord BART	* Mixed-use office & housing
	* Pleasant Hill BART	* Mixed-use office, hotels, housing
	* Walnut Creek BART	* Predominantly office with some retail
	* Rockridge BART	* Mixed-use housing, office, retail
	* Daly City BART	* Mixed-use office, retail, housing
	* El Cerrito del Norte BART	* Mixed-use housing and retail
	* Berkeley BART	* Traditional downtown with office & retail
	* Lake Merritt BART	* Office, educational, housing, modest retail
	* Fruitvale BART	* Mixed office, retail, housing, services
	* Hayward BART	* Mixed housing, retail, city hall
	* Fremont BART	* Mixed office, medical, housing
	* Embarcadero BART corridor (downtown San Francisco)	* Dense downtown of office, retail, hotels, housing, government
	* 16 th /Mission BART	* Mixed-use retail & housing
	* 24 th /Mission BART	* Mixed-use retail & housing
* Colma BART	* Mixed-use retail & housing	
<i>San Francisco/San Mateo/Santa Clara County Axis: Caltrain, Peninsula Corridor Joint Powers Board, San Francisco Municipal Railway, San Mateo County Transit District</i>	* Mission Bay (San Francisco)	* Mid-high rise residential/mix use
	* Bay Meadows (San Mateo)	* Mixed-use development
	* The Crossings (Mountain View)	* Townhouses, neo-traditional streets
	* Redwood City	* City Center, affordable housing, & retail
	* San Mateo downtown	* Traditional rail-served center city
<i>Santa Clara County: Santa Clara Valley Transportation Authority (VTA)</i>	* Moffett Park (Sunnyvale)	* Office cluster
	* Ohlone-Chynoweth (San Jose)	* Compact housing, retail center, civic uses
	* Almaden Lake Village (San Jose)	* Compact housing & services
	* Northside Industrial district	* High-tech office, commercial, housing
<i>San Jose-Oakland-Sacramento: Capitol Corridor Joint Authority</i>	* Davis Station	* Nodal, walking-friendly development
	* Martinez Station	* Traditional downtown undergoing redevelopment
	* Emeryville Station	* Adaptive reuse/mixed housing & office
<i>Washington, D.C.-Maryland-Virginia: Washington Metropolitan Area Transit Authority (WMATA), Montgomery County Transit</i>	* Silver Spring Metro (MD)	* Redevelopment of urban core
	* Bethesda Metro (MD)	* Mixed office, hotel, restaurant node
	* Grosvenor Metro (MD)	* Housing & commercial node
	* Twinbrook Metro (MD)	* Office, retail, housing, hotel infill
	* Gallery Place-Chinatown (D.C.)	* Urban mid-rise office, retail, housing
	* White Flint (D.C.)	* Mixed housing & retail uses
	* Rosslyn (VA)	* High-rise office, retail, housing
	* Courthouse (VA)	* Major mixed-use development
	* Ballston (VA)	* Office, retail, housing, hotel, civic uses
	* Clarendon (VA)	* Office, retail, housing node
	* Virginia Square (VA)	* Office, retail, housing, hotel uses
	* Pentagon City (VA)	* Mid-high rise office, retail, housing, hotel
	* Crystal City (VA)	* Office, retail, housing, hotel node

Table 2.1. (Continued)

Metropolitan Areas: RAIL & RAIL/BUS AGENCIES	TODs	Descriptions
<i>Portland, Oregon: TriMet</i>	<ul style="list-style-type: none"> * Orenco Station * LaSalle Apartments * Greshman Civic Neighborhood * Russellville Commons * Center Commons * Stadium Station Apartments * Collins Circle * Liberty Centre * Buckman Heights 	<ul style="list-style-type: none"> * Mixed housing, town center * Compact housing & ground-floor retail * Retail, housing, community uses * Large-scale apartment complex * Mixed-income housing development * Mid-rise mixed housing & retail * Mid-rise housing & ground-floor retail * Office, retail, plaza development * Housing & retail with carsharing
<i>Atlanta: Metropolitan Atlanta Rapid Transit Authority (MARTA)</i>	<ul style="list-style-type: none"> * Georgia State Station * North Avenue Station * BellSouth Center * Midtown Station * West downtown area * Decatur Station * Lindbergh City Center 	<ul style="list-style-type: none"> * State of Georgia Floyd Office Towers * Office concentration, with retail * Office tower with auxiliary buildings * Office concentration, with retail * Entertainment/office/retail area * Restaurant/entertainment district * Office, retail, multifamily housing
<i>San Diego: Metropolitan Transit Development Board (MTDB)</i>	<ul style="list-style-type: none"> * America Plaza * Rio Vista West * Hazard Center * Uptown District * La Mesa Village Plaza * Village of La Mesa * Mercado at Barrio Logan 	<ul style="list-style-type: none"> * Downtown office, shops, art museum * Mixed housing & neighborhood retail * Townhouses, office, retail * Bus-oriented housing & retail * Condominium, offices, retail * Large-scale apartment development * Mixed housing and retail center
<i>Los Angeles: Metropolitan Transit Authority (MTA), Metrolink, Antelope Valley Transit Authority</i>	<ul style="list-style-type: none"> * Hollywood/Highland * Pine Court (Long Beach) * Holly Street Village (Pasadena) * North Hollywood Arts District * Lancaster Metrolink * Montage at Village Green (Sylmar) 	<ul style="list-style-type: none"> * Retail, entertainment, theater complex * Vertically mixed retail, office, housing * Apartment & ground-floor retail * Mixed-use bus transit village * Mixed-use development * Mixed single-family housing
<i>Dallas: Dallas Area Rapid Transit (DART)</i>	<ul style="list-style-type: none"> * Mockingbird Station * Southside on Lamar * Galatyn Park (Richardson) * Plano Transit Village * Westside Village * Cedars Station 	<ul style="list-style-type: none"> * Mixed office, retail, housing * Mixed-use development * Housing with retail * Traditional redeveloped downtown * Mixed-use development * Apartments & ground-floor retail
<i>Chicago: Regional Transit Authority of Northeast Illinois, Pace Suburban Bus, Metra Railway, Chicago Transit Authority</i>	<ul style="list-style-type: none"> * Evanston-Davis Street * Marion Street Station * Arlington Heights Station * Riverdale Metra * Woodstock Metra * Franklin Park 	<ul style="list-style-type: none"> * Dense residential, retail, entertainment * Housing & retail near mall * Dense residential, retail, entertainment * Traditional mixed retail area * Mixed housing and retail * Traditional neighborhood
<i>New York Suburbs: Metro North</i>	<ul style="list-style-type: none"> * Mount Vernon Station * Ossining Station * New Rochelle Station * Yonkers Stations * White Plains/Bank Street Commons 	<ul style="list-style-type: none"> * Retail, hotel, sports arena * Mixed residential, retail project * Intermodal center in traditional downtown * Retail, office, restaurant, housing * Housing, office, hotel development
<i>Baltimore: Maryland Transit Administration</i>	<ul style="list-style-type: none"> * Owings Mills Metro * Cultural Center Light Rail Station * Lexington Market Metro 	<ul style="list-style-type: none"> * Converting to compact, mixed-use center * Symphony Center/State office complex * Urban revitalization zone

(Table continues next page)

Table 2.1. (Continued)

Metropolitan Areas: RAIL & RAIL/BUS AGENCIES	TODs	Descriptions
<i>Denver:</i> Regional Transit District	* Englewood City Center * I-25/Broadway * Greenwood Village	* Compact, mixed-use development * Mixed-use area poised to redevelop * Traditional mixed-use center
<i>Seattle:</i> Seattle Metro	* Overlake (Redmond) * Northgate North * Renton Transit Center	* Rental housing & services * Retail, apartments, park-and-ride stalls * Apartments & intermodal center
<i>New Jersey:</i> New Jersey Transit	* Rutherford Boiling Springs * South Orange Station	* Mixed-use development * Mixed-use redevelopment
<i>Salt Lake City:</i> Utah Transit Authority	* Delta Center * 4500 South Station	* Mixed office, commercial, civic * Compact, pedestrian-friendly setting
<i>Miami:</i> Miami-Dade Transit	* Dadeland South * Dadeland North	* Office, retail, hotel node * Concentrated retail
<i>Sacramento:</i> Sacramento Regional Transit	* Aspen Neighborhood, West Davis * Butterfield Station	* Medium-density housing * Office development
<i>Cleveland:</i> Greater Cleveland Regional Transit Authority	* Tower City Center * Shaker Square	* Redeveloped office, retail, hotel complex * Renovated housing & retail, traditional
<i>St. Louis:</i> Bi-State Development Agency	* Cupples Station	* Office, hotel, entertainment, sports center
Metropolitan Area: BUS AGENCIES/OTHER		
Charlotte Area Transit System	* South End	* Historic Trolley upscale neighborhood with popular retail/entertainment district
Delaware Transit Corporation	* Wilmington Station	* Downtown TOD near rail station
Orange County Transportation Authority	* Buena Park	* Housing near Metrolink
Everett Transit, Washington	* Everett Station * Hewitt Avenue/Westmore	* Multimodal public-private partnered development * Traditional neighborhood with transit
Triangle Transit Authority	* Triangle Metro Center	* Dense, mixed-use development
Jacksonville Transportation Authority	* Riverside	* Marketplace shopping in historic neighborhood
Dayton Regional Transportation Authority	* Schuster Arts Center	* Cultural mixed-use center
Rock Island County Metropolitan Mass Transit District	* Centre Station/John Deere Commons	* Offices, hotel, convention center at bus transfer station
Kitsap Transit, Washington	* Bremerton Center * Baimbridge Island Transfer Center	* Downtown ferry terminal * Traditional downtown setting

Sources: Survey responses; T. Parker, G. Arrington, M. McKeever, J. Smith-Heimer, *Statewide Transit-Oriented Development Study: Factors for Success in California* (Sacramento: California Department of Transportation, 2002); R. Bernick and R. Cervero, *Transit Villages for the 21st Century* (New York: McGraw-Hill, 1997); various web sites and local sources.

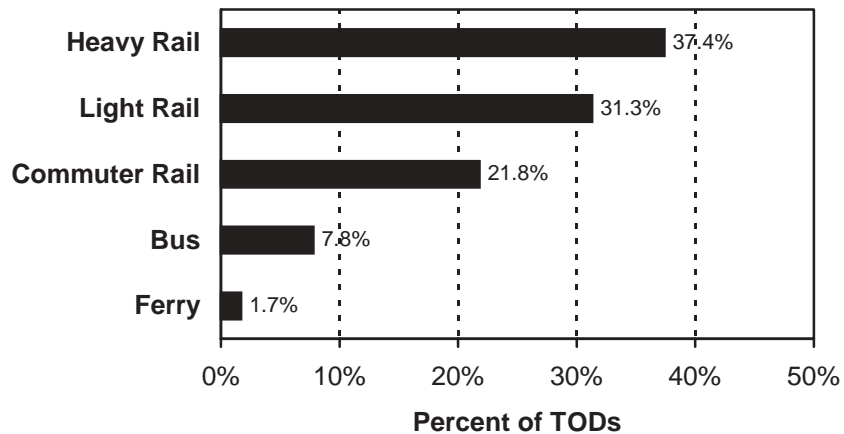


Figure 2.1. Distribution of Listed TODs by Type of Transit Service.

of housing additions in Arlington County have been within a ½ mile of Metrorail stations: 29.7 million square feet of office space, 4 million square feet of retail, and 26,500 residential units in all.¹ Outside of the Washington (D.C.) Metropolitan Area, however, the typical TOD is a small- to moderate-scale mixed-use development with slightly above-average densities (e.g., mid-rise offices with ground-floor retail, residential townhouses and condominiums in the range of 20 to 30 dwelling units per residential acre, a scattering of restaurants with entertainment uses, occasionally a hotel or two, and often civic spaces and buildings like plazas and libraries. Survey respondents from the New York City Metropolitan Transit Authority and San Francisco MUNI did not list TODs because, they noted, their “entire city met the definition of TOD.” The same can largely be said for other cities with century-old rail services like Chicago, Philadelphia, and Boston.

While TODs exist mainly in large rail cities, a fair number of predominantly bus-based TODs were identified by

respondents from smaller communities. Some small-city TODs are organized around intermodal transfer facilities. Several TODs in the state of Washington are served by passenger-ferry ports. Chapter 16 provides several examples of bus-based TODs in Colorado, and Chapter 11 discusses ferry-oriented developments in Northeast New Jersey.

Although not shown in Table 2.1, quite a few TODs were identified by survey respondents as being in various stages of construction and development. Listed below are some metropolitan areas that are actively pursuing new TODs and some of the TODs that are beginning to take shape in each:

- *Seattle*: Beacon Hill, MLK@Holly, Jefferson@Ballard, Othello, Edmunds, The Gilmore;
- *Portland*: Cascade Station, Sunnyside Village, Lexington Park, Richmond Place, The Yards at Union Station;
- *San Juan*: Sagrado Corazon Station, Hato Rey Station;
- *Santa Clara County*: Whisman Station, Japantown;

- *Metropolitan Washington (D.C.):* New York Avenue, Rhode Island Avenue, Twinbrook, Court House, U Street/African American Civil War Memorial/Cardozo Station;
- *New Jersey:* South Amboy, Morristown, Hamilton, Rahway, South Orange, Rutherford;
- *St. Louis:* Emerson Park, Swansea, Belleville, Maplewood;
- *San Francisco-Oakland:* West Dublin, Richmond, Ashby, McArthur;
- *Denver:* I-25/Broadway, Union Station;
- *Sacramento:* Folsom East, South Line Extension;
- *Miami:* Martin Luther King, Jr. Station, Santa Clara, Okeechobee Station;
- *Cleveland:* W. 65th St./EcoVillage;
- *Charlotte:* Huntersville, Cornelius;
- *Salt Lake City:* 7200 South, 10000 South; and
- *Dayton:* Wright Plaza

Additionally, a number of transit properties from smaller cities identified TODs that are on the drawing boards, including Lane Transit District in Eugene, Oregon (Walnut Station, Glenwood), Kenosha Transit in Kenosha, Wisconsin (Harborpark), and Peoria Mass Transit in Peoria, Illinois (Hope IV-Riverwest).

The notion of TOD as nodal development is also being recast. Today, a growing number of cities have slated entire corridors for TOD, with rail-served districts stretching over dozens of city blocks, including

- *Los Angeles:* The city of Los Angeles has prepared a specific plan for the Vermont/Western TOD, aimed at preserving and expanding a

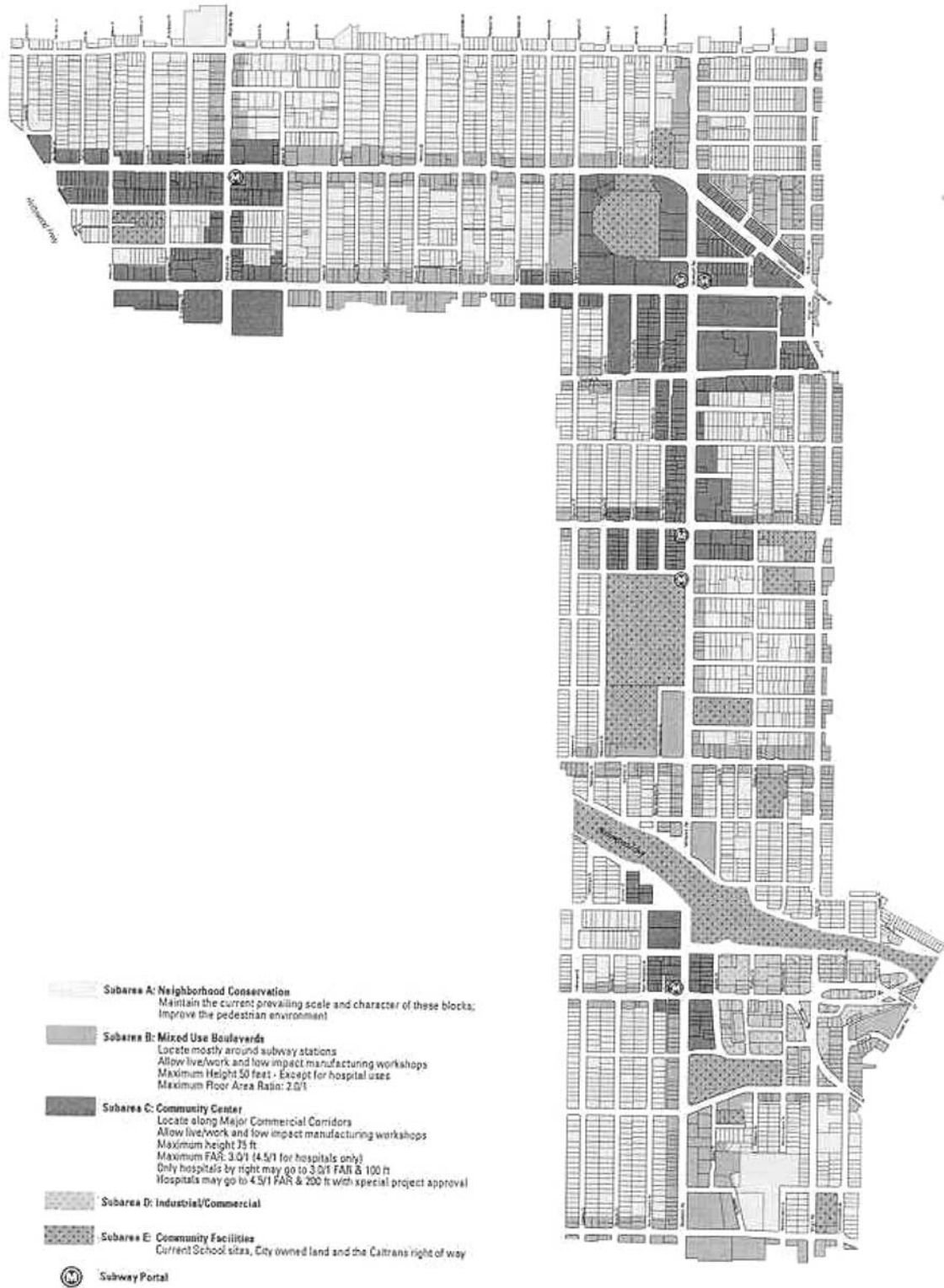
commercial boulevard, mid-rise housing, and civic uses in a 2.2-square-mile area served by four Metro subway stations in the Hollywood-Wilshire neighborhood (Map 2.1).² See Chapter 19 for more discussions of TOD activities in Southern California.

- *Houston:* The city of Houston anticipates several TODs will take form once the Main Street Corridor light-rail system is completed.
- *Raleigh-Durham:* The Triangle Transit Authority's diesel multiple unit (DMU) system, currently under construction, calls for several TODs along the axis connecting downtown Durham to downtown Raleigh. Town centers designed around rail stops are planned for the Cary, 9th Street/East Campus, and Alston Avenue stations.
- *Minneapolis:* Recently, the city of Minneapolis and the Metropolitan Council have joined forces to prepare TOD plans for four station areas along the Hiawatha Corridor.

Joint Development Projects

How prevalent is transit joint development—private development on, above, or adjacent to a transit agency's property—in the United States today? A 1990 study counted 117 projects nationwide.³ There appear to be at least this many today, if not more.

Respondents from 33 of the 90 surveyed transit properties (37%) indicated that their agencies currently have some form of joint development at stations or stops. Joint development projects were self-identified according to each agency's



Map 2.1. Vermont/Western Transit-Oriented District, City of Los Angeles, 2002.

Source: City of Los Angeles, *Vermont/Western Transit Oriented District Specific Plan*, Ordinance No. 173,749 (March 2001).

own definitions of what constitutes joint development (see Chapter 1). Most transit agencies (22) with joint development operated rail services; still, nearly a third of agencies with some form of joint development operated buses only.

Tables 2.2 and 2.3 list and describe joint development projects that were cited by respondents from rail and bus agencies, respectively.⁴ Transit properties in fast-growing areas like greater Washington D.C., Atlanta, Dallas, San Diego, and the San Francisco Bay Area have been particularly aggressive in pursuing joint development. Washington's WMATA is in a league of its own when it comes to joint development, having engaged in 30 projects of varying sizes and scopes since its inception in the late 1970s, including Bethesda Metro Center, currently the nation's biggest joint development moneymaker, earning the agency some \$1.6 million in annual lease revenue (see Photo 2.1). Two up-and-coming joint development projects, at the White Flint and New Carrollton Stations, will be the agency's biggest and most remunerative joint development ventures over the coming decade (see Text Box 2.1).

Most joint development projects use a variety of tools to spread risks and rewards. Forty of the 103 projects (39%) listed in the two tables have pursued multiple joint development initiatives. The most common type of joint development is leasing of ground space and air rights, constituting 50 and 30, respectively, of the sampled joint development projects. Figure 2.2 shows ground leases to be far more common among rail properties. Besides the Bethesda Station mixed-use project, other notable U.S. examples of air-rights

leases (mostly office space) above rail stations are Ballston in Arlington County, Great American Plaza in San Diego, Union Station in Los Angeles, Datran Center at the South Dadeland Station in Miami, and Resurgens Plaza at Atlanta's Lenox Square Metropolitan Atlanta Rapid Transit Authority (MARTA) Station (see Text Box 2.2). Los Angeles's Metropolitan Transportation Authority (MTA) presently receives nearly \$3.5 million annually in air-rights lease revenues.

Over 25 rail joint development projects involve the sharing of operation costs (e.g., ventilation systems, utilities, and parking facilities). WMATA's Farragut West Station, for example, taps into the International Square office and retail project's heating and air conditioning system. At the Bethesda Station, heat generated by the transit system is being recycled into an integrated mixed-use office-retail-housing project.

Sharing of construction costs (e.g., building foundations, parking facilities, and construction staging areas) by transit agencies and adjoining private development projects has occurred over 20 times nationwide. Developer-financed bus bays and drop-off spaces at the Van Ness and Bethesda Stations, for example, saved WMATA an estimated \$2.1 million (1982 dollars) in construction costs. Besides air and ground leases, construction cost savings has been the only other form of joint development adopted by bus agencies to any notable extent. Still, rail agencies have been far more aggressive in seeking out cost-sharing deals, especially east-coast transit agencies like WMATA and New York City's Metropolitan

(continues on page 29)

Table 2.2. U.S. Rail Joint Development Projects, Transit-Agency Responses

Agency/Project	Type(s)	Primary Land Use(s)
<u>Heavy-Light Rail Properties</u>		
<i>WMATA (Washington D.C.)</i>		
Ballston	AR, GL, SC, SO	Mixed Commercial–Residential
Bethesda	AR, GL, SC, SO	Mixed Commercial–Residential
Clarendon	SCF	Office
Columbia Heights	GL	Residential-Retail
Court House	GL	Office-Retail
Dupont Circle	GL	Retail
Farragut North	GL, SCF	Office-Retail
Farragut West	SCF, SC, SO	Office-Retail
Fort Totten	GL	Residential-Retail
Franconia - Springfield	GL	Retail
Friendship Heights	SCF, GL	Mixed Commercial
Gallery Place	SC, SO	Mixed Commercial–Residential
Greenbelt	SC, SO	Mixed Commercial–Residential
Grosvenor	GL, SC	Mixed Commercial–Residential
Huntington	GL, SCF	Mixed Commercial–Residential
McPherson Square	GL	Office-Retail
Metro Center	GL, SCF	Office-Retail
Minnesota Avenue	SC, SO	Office-Retail
Prince George's Plaza	GL	Mixed Commercial–Residential
Rhode Island Avenue	GL	Residential-Retail
Shaw - Howard University	GL, SO	Mixed Commercial–Retail
Silver Spring	GL	Mixed Commercial–Residential
Takoma	SC	Residential-Retail
Twinbrook (East & West)	GL	Mixed Commercial–Residential
U Street	SC, SO	Mixed Commercial–Residential
Union Station (Connection)	SCF	Retail
Van Dorn	GL	Residential-Retail
Van Ness	GL	Office-Retail
Western Bus Garage	GL	Residential-Retail
Wheaton	GL, SC	Mixed Commercial–Residential
<i>BART (San Francisco)</i>		
Fruitvale	AR, GL, SO, EP	Mixed Commercial–Residential
Castro Valley	GL	Mixed Commercial–Residential
Richmond	SC, SO, EP	Residential-Retail-Civic
Oakland: 12 St./Civic	SCF	Mixed Commercial (office-retail-other)
Oakland: 19th St.	SCF	Mixed Commercial (office-retail-other)
San Francisco Embarcadero	SCF	Mixed Commercial (office-retail-other)
San Francisco Montgomery	SCF	Mixed Commercial (office-retail-other)

(Table continues next page)

Table 2.2. (Continued)

Agency/Project	Type(s)	Primary Land Use(s)
<i>BART (San Francisco) (cont.)</i>		
San Francisco Powell	SCF	Mixed Commercial (office-retail-other)
<i>MARTA (Atlanta)</i>		
Lindbergh City Center	GL	Mixed Commercial (office-retail-other)
Abernathy	GL	Mixed Commercial (office-retail-other)
Medical Center	GL	Mixed Commercial (office-retail-other)
One Atlanta	GL	Office
Resurgens Plaza	AR	Office
<i>DART (Dallas)</i>		
Mockingbird	AR, SCF, NPC, SO	Mixed Commercial–Residential
Southside on Lamar	NPC, SO	Mixed Commercial–Residential
Galatyn Park	NPC, SC, SO	Mixed Commercial–Residential
Plano	IA, BAD, SO	Mixed Commercial–Residential
City Place	SCF, BAD, IA	Mixed Commercial (office-retail-other)
<i>MTDB (San Diego)</i>		
American Plaza	AR, NPC, SO	Mixed Commercial (office-retail-other)
Imperial-12th Street	NPC, SO	Mixed Commercial (office-retail-other)
Grossmont	GL, SO	Retail
Barrio Logan	EP	Residential
La Mesa Village	EP	Mixed Commercial–Residential
<i>MTA (Los Angeles)</i>		
Union Station Gateway	AR, SCF, BAD, SC, SO	Mixed Commercial (office-retail-other)
Grand Central Market	AR, BAD, SO	Mixed Commercial (office-retail-other)
Hollywood/Highland	AR, GL, SC, BAD, SO	Mixed Commercial (office-retail-other)
Pacific Court	EP	Mixed Commercial–Residential
<i>TriMet (Portland)</i>		
Arbor Vista	EP	Residential
Collins Circle	EP	Mixed Commercial–Residential
Gresham Central	EP	Residential
<i>Maryland Transit Administration</i>		
Cultural Center	AR	Civic-Entertainment
Owings Mills	AR	Mixed Commercial (office-retail-other)
Old Court Metro	AR	Residential
<i>Cleveland Regional Transit</i>		
Tower City	GL, NPC	Mixed Commercial (office-retail-other)
Gateway Walkway	AR	Mixed Commercial (office-retail-other)
CEOGC Headstart Daycare	GL, NPC	Mixed Commercial (office-retail-other)

Table 2.2. (Continued)

Agency/Project	Type(s)	Primary Land Use(s)
<i>Santa Clara Valley (CA)</i>		
Sunnyvale: Moffet Park	GL, NPC	Office
San Jose: Ohlone-Chynoweth	GL, NPC	Mixed Commercial–Residential
San Jose: Almaden	GL, NPC	Residential
<i>Port Authority of Allegheny (PA)</i>		
Castle Shannon Station	AR	Mixed Commercial–Residential
Carnegie Station	SCF	Mixed Commercial (office-retail-other)
Steel Plaza Station	GL	Retail
<i>Southeastern Penn. Transp. Authority</i>		
Gallery I & 11/Market East	NPC	Retail
Suburban Stations	NPC	Retail
<i>Miami-Dade Transit</i>		
Dadeland South	AR, GL, SC, SO	Mixed Commercial (office-retail-other)
Dadeland North	AR, GL, SC, SO	Mixed Commercial (office-retail-other)
<i>Regional Transp. District (Denver)</i>		
Englewood CityCenter	SO	Mixed Commercial (office-retail-other)
Arapahoe Station	EP	Mixed Commercial (office-retail-other)
<i>MUNI (San Francisco)</i>		
Mission/Stuart Hotel	GL	Hotel
<u>Commuter Rail Properties</u>		
<i>Metro-North Railway</i>		
Harrison	GL, SC, SO	Mixed Commercial (office-retail-other)
Mt. Vernon	AR	Mixed Commercial (office-retail-other)
Ossining	NPC	Mixed Commercial (office-retail-other)
Port Chester	SO	Mixed Commercial (office-retail-other)
Yonkers	SC, SCF	Mixed Commercial–Residential
<i>New Jersey Transit</i>		
Morristown	GL, SCF, NPC, BAD, SO	Mixed Commercial–Residential

Key: AR=air rights lease; GL=ground lease; SCF=station connection fee; NPC=negotiated private contribution; BAD=benefit-assessment district; SC=construction cost sharing; SO=operations cost sharing; IA=incentive agreements (e.g., bonuses in exchange for improvements); EP=equity participation.

Table 2.3. U.S. Bus Joint Development Projects, Transit-Agency Responses

Agency/Project	Type(s)	Land Use(s)
<i>Dayton Regional Transit Authority</i>		
Wright Stop Plaza	SCF	Mixed Commercial (office-retail-other)
Fifth Third Field	SC	Sports Facility
Schuster Performing Arts Center	SC	Civic Facility
Dayton Riverscape	SC	Recreation/Entertainment Use
Dayton Aviation Heritage Park	SO	Recreation/Entertainment Use
<i>Orange County Transp. Authority</i>		
Santa Ana Transit Terminal	AR	Office
<i>San Mateo County Transit (CA)</i>		
Sequoia Station	SC	Institutional
Colman	GL	Residential
<i>San Antonio VIA Metro Transit</i>		
Robert Thompson/Sunset Station	GL	Mixed Commercial (office-retail-other)
Ellis Alley	GL	Mixed Commercial (office-retail-other)
<i>Lane County Transit (Eugene, OR)</i>		
Eugene Station	GL	Retail
<i>Pace Suburban Bus (IL)</i>		
General Transit Center	GL	Institutional
<i>Foothill Transit (CA)</i>		
Covina Transit Plaza	SC, SO, EP	Mixed Commercial (office-retail-other)
<i>Kenosha Transit (WI)</i>		
Harborpark	GL	Mixed Commercial (office-retail-other)
<i>Kitsap Transit (WA)</i>		
Bremerton Transportation Center	AR	Mixed Commercial (office-retail-other)
<i>Peoria Mass Transit Authority (IL)</i>		
Transit Center	SC	Daycare Facility
<i>Rock Island MetroLINK (IL)</i>		
Centre Station	GL, NPC, SC, SO	Mixed Commercial (office-retail-other)
<i>Southwest Metro Transit (MN)</i>		
Southwest Station	NPC	Mixed Commercial–Residential

Key: AR=air rights lease; GL=ground lease; SCF=station connection fee; NPC=negotiated private contribution; BAD=benefit-assessment district; SC=construction cost sharing; SO=operations cost sharing; IA=incentive agreements (e.g., bonuses in exchange for improvements); EP=equity participation.



Photo 2.1. Bethesda Metro Center: America’s Biggest Joint Development Moneymaker. The mixed-use project in downtown Bethesda, Maryland, was completed in 1985 and sits directly atop the Metrorail station, with direct connections to commercial office space and an adjoining civic plaza.

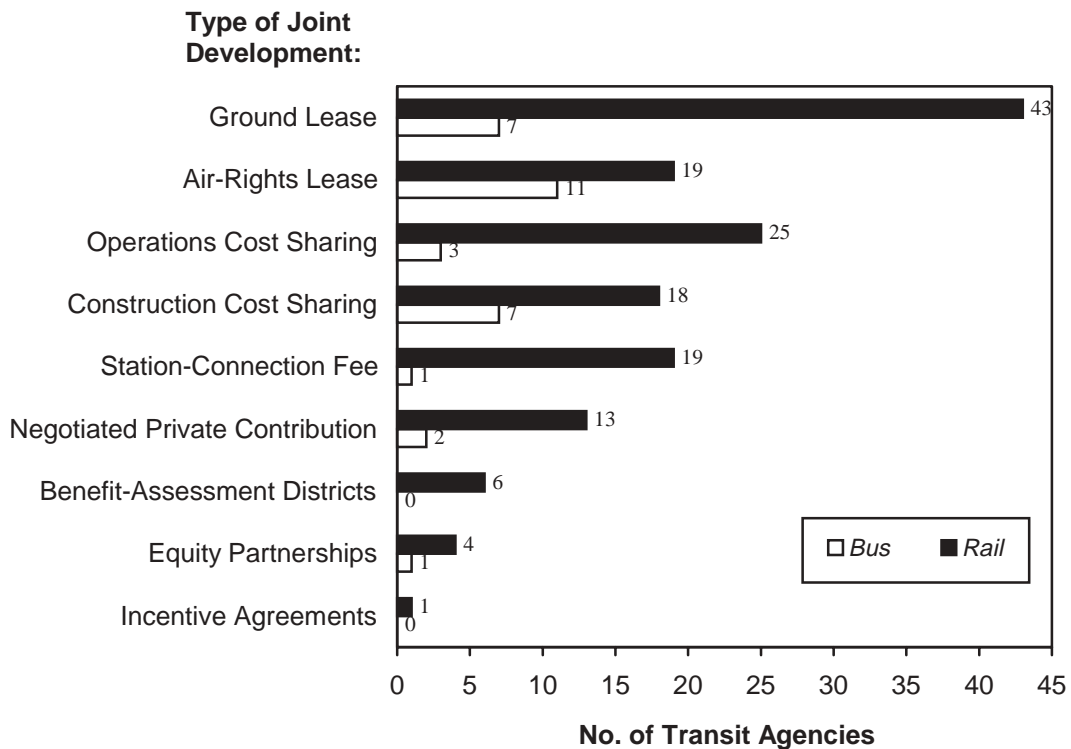


Figure 2.2. Distribution of Joint Development Types Among Surveyed Transit Agencies.

WMATA's Joint Development Ventures: Still Growing After 30 Years

Washington Metropolitan Area Transit Authority (WMATA) was one of the first transit agencies in the country to leverage real-estate development above and adjacent to its rail stations. For more than 30 years, the agency has been actively working with private developers, lenders, and other public entities to develop over 30 property sites in and around the nation's capital.

WMATA's joint development projects range from revenue-producing schemes (e.g., air-rights leasing and station-retail connections) to cost-sharing arrangements (e.g., shared use of heating systems and construction-cost co-venturing). Key to success was the formation, early on, of a real-estate division within the transit agency. With financial and institutional support provided by board members, WMATA's real-estate office has over time amassed an impressive portfolio of land holdings, much of it purchased on the open market. Rather than waiting and reacting to developer proposals, WMATA's real-estate office aggressively seeks out mutually advantageous transit joint development opportunities. WMATA generally executes long-term, unsubordinated ground leases with private developers and in a few cases has made fee-simple sales.

The agency's top-performing and most impressive joint development project, the Metro Center in downtown Bethesda, features some 400,000 square feet of office space, a 380-room Hyatt Hotel, and 60,000 square feet of retail space that lies above or adjacent to the Bethesda Metrorail station. The project has spurred other nearby office, retail, and residential development within a walkable distance, including a popular nighttime restaurant, arts, and entertainment district. The air-rights lease at the Bethesda Station today generates \$1.6 million annually in rents, the highest earnings for any single joint development project in the country. This sum will likely be eclipsed by the leased payments generated by the planned office-retail-residential project at the White Flint Station in Montgomery County.



Commercial-Retail Joint Development at Bethesda Metrorail Station

WMATA's Joint Development Ventures: Still Growing After 30 Years

The White Flint project is poised to be a colossal joint development undertaking. The 34-acre site adjacent to the station in North Bethesda has been leased by LCOR, Inc., a Pennsylvania developer. WMATA will receive \$66 million from LCOR for the 55-year, long-term ground lease. The \$625 million proposal for the site includes the construction of 1.2 million square feet of office space, 212,000 square feet of retail space, and 1,400 high-rise apartments. Additionally, a ¼-block “tree-save” area has been designated to allow 50 mature trees and indigenous rocks to be preserved. It is estimated that the mixed-use development will generate over 6,500 additional daily Metro riders. The project is slated for completion some time between 2011 and 2013.



Another mega-project is slated for the New Carrollton Station, a joint venture between the state of Maryland, Prince George's County, and WMATA. Plans call for the transformation of several parcels (47 acres in total) into a 2.1-million-square-foot, mixed-use project focused on the area's Metrorail and Amtrak stations.

The proposal for the WMATA parcel calls for 1.17 million square feet of office space, 92,000 square feet of retail space, 30,000 square feet of restaurant space, and a 20-screen cinema. The state of Maryland parcel will hold an additional 200,000 square feet of office space, a 300-room hotel, 375 residential units, and a possible college or university facility. Additionally, two major pedestrian axes will connect the Metro/Amtrak station to the new mixed-use development.

The project's success will depend on a close and effective working relationship among developers, construction firms, architects, real-estate professionals, and planners, in addition to public agencies. The anticipated benefits of the New Carrollton Station development include a boost in Metro ridership, increased tax revenues for the state and county, and the creation of new jobs in the area.

The developments at New Carrollton and White Flint are evidence of WMATA's continued commitment to public transit and the communities that it serves.



Large-Scale Air-Rights Joint Development Projects at U.S. Transit Stations.

The top left photo shows Resurgens Plaza, a 400,000-square-foot office building constructed above MARTA's north line tracks adjacent to the Lenox Station north concourse. When completed in 1989, the developer agreed to pay MARTA an annual rent of \$120,000, with increases tied to the Consumer Price Index. In 2001, it added \$177,000 to MARTA's coffers. The top right photo shows the more than 4 million square feet of mixed-use space above the Ballston Metrorail subway station on what, prior to the late 1980s, was a major parking lot and bus staging area at the Orange Line terminus. Once freed from its use as an intermodal staging zone, the station area quickly emerged as the centerpiece of the Ballston redevelopment campaign. The bottom left photo shows a San Diego Trolley train entering the ground level of the 34-story Great American Plaza Tower, a 272-room hotel, restaurant, museum, and retail project at the Broadway and Kettner Transfer Station. The transit arcade that covers the Trolley station resulted from a partnership of the transit agency, the city redevelopment office and a private developer. The developer donated the land and built connecting passageways, and the regional transit operators contributed \$1.2 million toward station construction. The bottom right photo is the Datran Center office towers, above and adjacent to the South Dadeland Station. Six acres of land were donated to build the station in return for a 99½-year air-rights lease with a guaranteed annual income of \$300,000 going to the Miami-Dade Transit Authority.

Transportation Authority. In New York City's case, cost-shedding as opposed to cost-sharing is perhaps a more appropriate description; regardless, the presence of a density bonus provision makes this program potentially lucrative in the minds of many developers.⁵ Since 1982, New York City has required development sites within the Midtown Zoning District and adjacent to a subway stair entrance to relocate the subway stair within the development lot as a precondition to building approval. Making a substantial pedestrian passageway enhancement and major improvements to an adjacent subway station can earn a developer up to a 20% density bonus, a potential windfall in midtown Manhattan's pricey commercial real-estate market (see Text Box 2.3).⁶

Station connection fees, another common form of joint development, likewise tend to fall within the province of rail agencies. Also referred to in the literature as station interface fees, they are especially popular with retail developers since they can deliver transit riders (and potential shoppers) to the ground floors of connecting buildings (see Text Box 2.4). WMATA is also a national leader in this arena. In the case of the Friendship Heights Station, a major retailer (Woodward and Lothrop) paid the agency a one-time fee of \$300,000 (1982 currency) for the right to connect to the station rotunda and also paid for the design and construction of the tunnel. This was followed by two other retail developers who paid tie-in fees of \$737,000 and \$775,000, respectively, plus annual rents, for their own connections to Friendship Heights.

Among the surveyed transit agencies, other forms of joint development have

been applied less frequently. Because of their greater institutional capacities and planning resources, rail agencies are more likely to negotiate monetary contributions with private developers than are bus agencies. Santa Clara Valley Transit Authority (VTA), for example, negotiated with housing developers to sell land used for parking for residential development, taking advantage of FTA's new joint development rulings that allow the agencies to keep the proceeds as long as the development is supportive of transit in its design and layout. Benefit-assessment financing has been used by the Los Angeles MTA to co-finance ancillary improvements around Red Line subway stations. Benefit assessments have also been used to pay for bus malls in downtown Minneapolis, Denver, and Portland. Minneapolis's Nicollet Mall/busway was the first application of benefit-assessment financing in the transit field. Property owners paid 75% of the cost of financing the \$3.8 million (1968 currency) bus-mall project in downtown Minneapolis in the late 1960s.

Most transit joint development projects in the United States are commercial in nature. Figure 2.3 shows that rail and bus agencies have pursued different joint development land uses. Rail properties tended to focus on large-scale mixed-use projects, most commonly commercial-office and retail developments. Mixed residential and retail developments have also constituted a large share of rail joint development projects. In contrast, the joint development projects of bus operators were more likely to be single or specialized uses like sports facilities, entertainment centers, or daycare facilities.

New York's Density Bonus Program

A good example of cost-sharing as a “win-win” proposition is New York City’s Density Bonus Program. Introduced in the 1980s, the program entitles the city’s planning department to grant FAR bonuses of up to 20% to new commercial developments in return for improvements made to subway stations and their entrances. This program not only offloads rehabilitation costs to the private sector but also shifts development to “ground zero” (i.e., directly above subway portals). Given Manhattan’s lofty real-estate prices, the prospect of being able to add several more floors to a mid- or high-rise building has made the program an attractive proposition to the development community. New York’s subway has long suffered from being perceived as an aging, unkempt underground facility. Historically, subway entrances have not been terribly attractive, sometimes appearing like an oversize sewer cap in the middle of a sidewalk. The density bonus program has sought to provide more “humane” and “civic” connections among the streetscape, the public realm, and the underground transit facility. To date, the majority of improvements have gone toward pedestrian circulation (e.g., passageway upgrades) although monies have also been used to remove barriers to accessibility for those with disabilities, enhance air circulation and natural lighting, and add beautification/landscaping. The cost of the typical station-entrance improvement is around \$10 million, monies that the cash-strapped New York Metropolitan Transit Authority would otherwise have to bear. Among the most recent examples of developers receiving density bonuses in return for multi-million dollar subway enhancements are midtown Manhattan (8th Ave. & W. 57th St., Lexington Ave & E. 53rd St., 3rd Ave. & E. 53rd St, 8th Ave. & W. 50th St) and Queens (Long Island City).



Upgraded Ground-Floor Subway Entrance and the Density-Bonused Worldwide Plaza Above It, 8th Ave. & W. 50th St., Manhattan

New York's Density Bonus Program



**Enhanced Subway Entrance on 42nd St.
in Newly Refurbished Time Square**



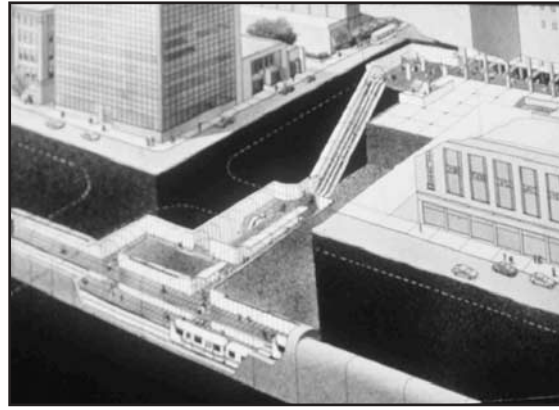
**Civic Plaza and Glass-Shielded Subway
Entrance at Lexington Ave. & E. 53rd St.**



**Spacious, Airy Subway Entrance on Property of the Density-Bonus
Office Tower at 3rd Ave. & E. 53rd St., Manhattan**



Text Box 2.3 (Continued)



Station Connections. Station interfaces or connections are one of the least expensive and potentially lucrative forms of joint development. Typically, a retailer or developer pays for the costs of a pedestrian tunnel that connects a concourse to the main level of an adjoining or nearby department store. It is a “win-win” proposition in that the transit agency benefits from being near so many shoppers (in the form of potential riders), and the retailer benefits from having transit riders walking through the ground-floor shops (and possibly purchasing an item or two). WMATA has been particularly ambitious in negotiating station-connection fees with retail developers at the busiest subway stations in the District of Columbia.

Text Box 2.4

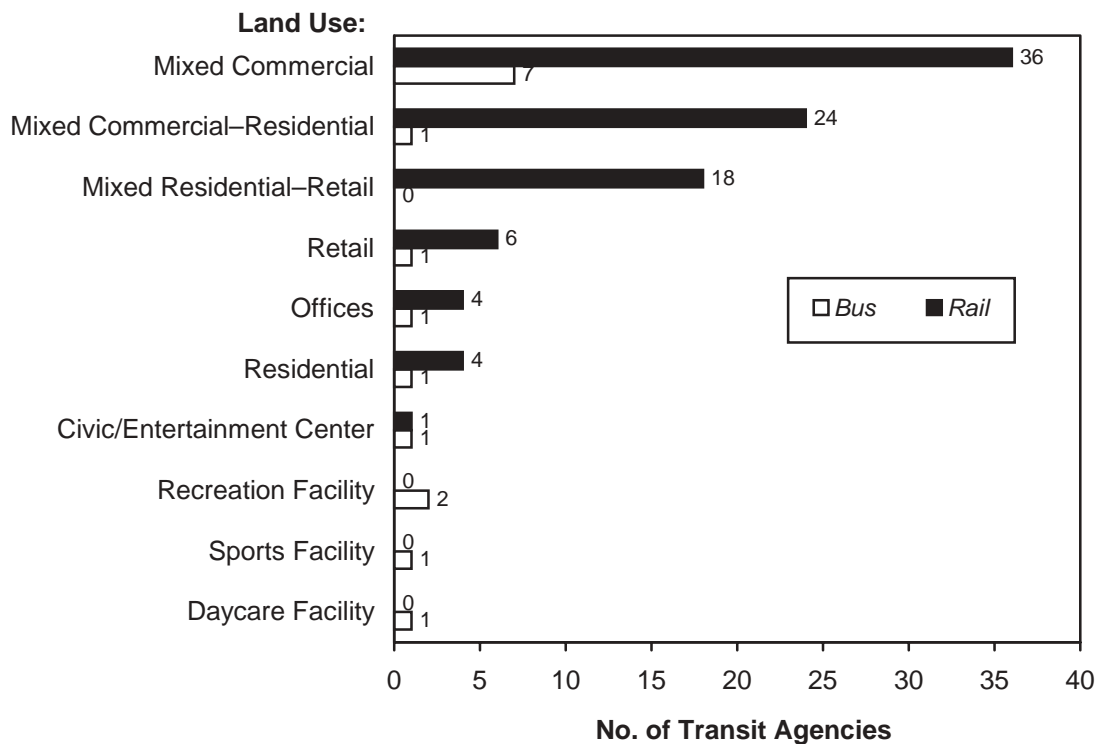


Figure 2.3. Distribution of Land Uses of Joint Development Projects Among Surveyed Transit Agencies.

While joint development is pursued mainly by large transit properties, instances were also found among smaller agencies. The Rock Island County Metropolitan Mass Transit District (MetroLINK) in Illinois, for instance, has jointly developed a bus transfer center and mixed-use commercial center with a private developer. The Centre Station in John Deere Commons contains offices, a convention center, a hotel, a parking structure, and various pedestrian amenities (Photo 2.2).⁷ The joint development projects of many smaller bus-only properties are often at major terminal facilities (e.g., Santa Ana Transit Terminal, Bremerton Transportation Center, and Corpus Christi's mixed-use transit center (Photo 2.3).

Some transit agencies have yet to enter into formal joint development agreements but are actively planning to do so. Utah Transit Authority, for example, recently put out a request for

proposals (RFP) for joint development of a parking lot at the 7800 South Station and is assessing the market potential of converting land around the 7200 South and 10000 South Stations to mixed-use development. In San Juan, the Puerto Rico Department of Transportation and Public Works has issued RFPs for joint development projects around six Tren Urbano elevated train stations: Sagrado Corazon, Hato Rey, Roosevelt, Domenech, San Francisco, and Martinez Nadal. Miami-Dade Transit has two notable joint development projects to its credit, at North and South Dadeland (which currently yield \$800,000 in annual lease revenues), and is actively seeking to expand this amount considerably. The agency is currently seeking to enter into deals with private interests to develop 11 agency-owned properties. Most impressive is the Coconut Grove Metrorail station for which the transit agency entered into a lease agreement with a private developer



Photo 2.2. MetroLINK's Centre Station at the John Deere Commons. The redevelopment project along the riverfront in downtown Moline, Illinois, is home to a Radisson Hotel, several restaurants, a pavilion, and the MARK, a 12,000-seat civic arena. The Centre Station intermodal facility, shown in the photo on the right, consists of a 12-bay bus staging area arranged in a sawtooth pattern at the grade level with an elevated bus transfer platform. The 4,000-square-foot structure contains office space and a multi-purpose retail lobby. Deere & Company participated in the financing of this \$8.4-million project.



Photo 2.3. Corpus Christi's Staples Street Bus Transfer Facility. Serving 14 bus routes and some 5,000 daily transit users, the transfer facility, built in a Spanish-style motif, features on-site retail offerings and involved public-private equity participation. The transfer center has become a veritable town square, featuring a weekly farmers market, food concessions, and 1,500 tiles hand painted by local residents and students. By all accounts, it has given bus transit a positive image in Corpus Christi. The transfer center was the recipient of the 1995 Presidential Design Achievement Award.

to build a 19-story mixed-use retail and residential project, a 19-story office building, and a community supermarket (see Photo 2.4). Miami-Dade Transit also has high hopes for the Overtown/Arena Metrorail station area that to date has seen few land-use changes. When an RFP was issued in the 1990s in hopes

of enticing private capital to the neighborhood, no proposals were received. In 2000, an unsolicited proposal was received from Saint Agnes Rainbow Village Development Corporation, Inc., a not-for-profit community development corporation, calling for a mixed-use office, retail, and



Photo 2.4. Planned Redevelopment for Miami-Dade Transit's Coconut Grove Metrorail Station.

civic-use project that could yield more than \$14 million in rental payments over the initial 30-year lease. (See Chapter 13 for further discussion of joint development in greater Miami.)

Two other agencies currently building rail systems, Houston Metro and Triangle Transit Authority, are actively seeking out joint development opportunities. As part of the Main Street light-rail corridor program, Houston Metro is soliciting the co-participation of private interests in constructing facilities and building real-estate projects on agency properties. To entice private investment along the 16-station DMU rail system between Durham and Raleigh, the Triangle Transit Authority has adopted WMATA's approach to joint development, evaluating the development potential of agency-owned land on an ongoing basis and soliciting private-sector participation through an RFP process.

Summary

A rich mix of TOD is today found across the United States, and all indications are that TOD numbers and types will grow in years to come. The practice of TOD in contemporary America is "alive and well," not only in big rail cities but also increasingly in places where only bus services are offered—places not often associated with strong linkages between transit and urbanism.

More than 100 TOD projects currently exist in the United States. They are found overwhelmingly in and around heavy-, light-, and commuter-rail stations. While TOD projects are typically nodal in form, TOD corridors have or are beginning to take shape, such as the Rosslyn-Ballston axis in Arlington County and the

Vermont/Western district in Los Angeles's Hollywood area. Further, more than 100 joint development projects today exist on, above, or adjacent to U.S. transit-agency property. The most common joint development arrangements are ground leases and operations cost-sharing. Most often, joint development occurs at rail stations surrounded by a mix of office, commercial, and institutional land uses. However, examples of public-private joint-venturing can be found among bus-only systems as well, normally in the form of joint intermodal transfer and commercial-retail space at central-city bus terminals.

Notes

- ¹ Department of Community Planning, Housing and Development, Arlington County, *Development in the Metro Corridors* (Arlington County, Virginia, 2002).
- ² City of Los Angeles, *Vermont/Western Transit Oriented District Specific Plan*, Ordinance No. 173,749 (March 2001).
- ³ R. Cervero, P. Hall, and J. Landis, *Transit Joint Development in the United States*, Monograph 42 (Berkeley: National Transit Access Center, Institute of Urban and Regional Development, University of California, 1992).
- ⁴ This is not an exhaustive list of current transit joint development projects in the United States but rather a representative coverage of recent-day initiatives. Most of the major transit joint development deals known to have occurred over the past two decades are thought to be included in the list. Many smaller transit joint development deals from earlier times, involving fairly modest monetary exchanges, are known to exist and are documented in the literature. For a fairly extensive coverage of transit joint development projects up to 1990, see R. Cervero et al., 1992, *op. cit.*
- ⁵ New York City's experiences are not listed in Table 2.2 because it is not joint development

in a true sense of public and private interests voluntarily pursuing a program as a “win-win” proposition. New York City’s program, in contrast, is mandatory, stipulated in the zoning and permitting codes of special purpose districts in Midtown Manhattan, Union Square, Lower Manhattan, and Long Island City Mixed Use District.

- ⁶ Over the past decade, the program was expanded to encompass three other areas: Union Square, Lower Manhattan, and Long Island City Mixed Use District. For

further discussions on New York City’s density bonus program, see R. Sandler, “Private Development/Public Transit: Using Transit’s Zoning Tools,” *New York Affairs*, Vol. 7, No. 3 (1982): 114–120.

- ⁷ See <http://www.gcmetrolink.com/services/centrestation.php>.

Photo Credit

Photo 2.3: Project for Public Spaces

PART 2

THE POLICY ENVIRONMENT

In the United States, TOD takes form in a complex, sometimes charged policy environment. While market pressures have a strong imprint on TOD, public policy initiatives can also exert considerable influence. Part 2 probes TOD's policy environment in its many shapes and forms. Chapter 3 reviews the institutional setting of TOD, focusing on the roles of transit agencies, local and regional governments, state agencies, and the federal government. In-house policies, legislation, regulations, interagency collaborations, and other initiatives introduced by public-sector actors are examined. Chapter 4 looks at TOD implementation, beginning with the process of visioning and planning and moving on to discuss how various tools, like zoning and fiscal measures, are being used to leverage TOD. Chapter 5 shifts to a private-sector perspective, relying on interviews of developers and lenders involved with TOD projects. The chapter examines the market for TOD, factors that weigh in on the decision to build around transit stations, and approaches to private financing of projects. Chapter 6 ends Part 2 with a discussion of impediments to TOD implementation, particularly in the minds of builders and developers, and what might be done to overcome them.

Chapter 3

The TOD Institutional Landscape in the United States

Institutional Setting

Given the many vested interests in TOD and joint development outcomes, not surprisingly a complex and sometimes fractured institutional environment—involving multiple jurisdictions, each with its own agendas, boards, staffs, budgets, and constituents—has evolved. Some large transit properties have set up in-house real-estate departments to negotiate joint development deals and assigned planners to TOD oversight duties. Many rail-served municipalities have enacted zoning ordinances that allow for high-density, multi-use development in neighborhoods surrounding stations. In quite a few inner-city neighborhoods, redevelopment agencies have seized on opportunities to assemble land using eminent domain powers to build affordable housing near rail stops. Moreover, some MPOs, such as those in the Portland (OR), San Diego, and Dallas-Fort Worth regions, have embraced TOD as part of their regional smart-growth strategies, using pass-through federal transportation dollars to promote and leverage transit-supportive development in rail-served communities. Even state DOTs have gotten into the picture, using carrots to entice local governments to target new growth along transit corridors. Two states—California and New Jersey—have undertaken “transit village” initiatives for this very purpose.

These examples represent only the public side of things. On the private side

are the developers, building associations, construction firms, and lending institutions that end up designing, financing, and building much of what happens on land parcels in and around transit stops. Not to be forgotten are the many nongovernmental organizations, or NGOs, that have an active voice in TOD outcomes as well, including neighborhood associations, bicycle coalitions, and sustainable transportation advocacy groups.

Taken together, these vested interests form an institutional environment that more closely resembles a “marble cake” hierarchical model of governance—with interlocking agreements, checks and balances, and subtle chains of command—than the “wedding cake” model taught in high school civics courses. This has unavoidably created roadblocks and impediments to TOD implementation, but it has also served to democratize and infuse a certain degree of accountability and fairness into the process. This chapter draws upon stakeholder surveys, interviews, and other background information to characterize the administrative, budgetary, collaborative, and participatory dimensions of contemporary TOD practice in the United States.

Transit-Agency Organizational Context

Transit agencies are vital to TOD since, after all, they control where, when, and even if rail and bus services are

delivered. Further, when it comes to joint development, transit properties occupy the front line of implementation, deciding if and when agency-owned land and air rights are to be leased or sold.

The role of transit agencies in promoting TOD and joint development raises fundamental questions regarding *legitimacy* and *mission*. Not all transit board members subscribe to the view that land development lies within the purview of a transit agency's portfolio of tasks, preferring to define transit's mission more narrowly. Moreover, transit agencies are sometimes so consumed by pressing everyday matters, such as securing full-funding agreements for investments and defusing labor tensions, that joint development falls way down the list of priorities. Moreover, some agencies have adopted firm parking replacement policies, all but precluding development opportunities in instances where land prices are high enough to warrant structured parking.

Transit agencies are in a position to assume many roles in the TOD implementation process—brokers, facilitators, educators, funders, active development partners, and advocates. Sometimes these roles are co-dependent (e.g., equity participation requires a certain degree of advocacy and mediation), and sometimes they are in conflict (e.g., advocacy can compromise the ability of a transit agency to act as an impartial mediator).

This section discusses the present-day organizational setting and context of TOD and joint development from a transit-agency perspective. This is done largely from the responses of the 90 surveyed U.S. transit properties.

(See Appendix A for the instrument used in surveying transit professionals.)

Transit Agencies and Land-Use Affairs

For TOD to take form, public entities must plan for, manage, and regulate land uses. This often means promoting mixed uses through inclusionary and overlay zoning and increasing permissible densities by granting FAR bonuses. Normally, land-use controls and concessions are the prerogatives of local governments. However, as public entities, transit authorities not only control the use of agency-owned property but also are in a position to influence land-use decisions on adjacent and neighboring parcels through cooperative arrangements with local governments and negotiations with private landholders as part of joint development deals.

The majority of transit agencies responding to the survey openly acknowledged that land use is first and foremost a local-government prerogative, with freely elected city council members and other local elected officials shouldering the lead responsibility (see Figure 3.1). However, nearly one out of five indicated that their transit agency shares responsibilities with other entities, including local governments, in land-use affairs. Moreover, in roughly one out of ten cases, the MPO was identified as taking the lead on land-use issues related to TOD, generally in the form of setting policies and promoting a pro-transit political climate.

Three of the responding rail agencies—BART, NJ TRANSIT, and Triangle Transit Authority (in North Carolina)—provide funds for strategic station-area planning and for leveraging land-use

How Transit Agency Addresses Land Use:

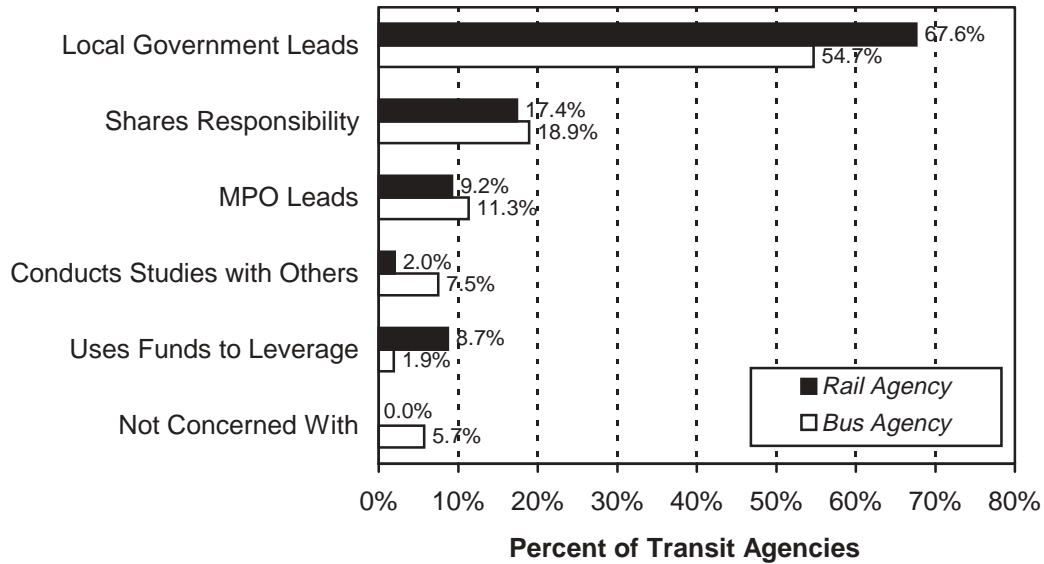


Figure 3.1. How Transit Agency Addresses Land Use, Rail versus Bus Agencies, National Survey Results, 2002.

decisions by local jurisdictions. In contrast, several of the smaller bus companies responding to the survey indicated that “land use is not something that we are concerned with.” More telling is the fact that respondents from 95% of bus agencies and all rail agencies indicated that land use is something their transit agency is and will continue to be concerned about.

While relatively few of the surveyed transit properties have staff who focus on TOD, full time or part time, half (45 of 90) stated they have staff or consultants assigned to work on land-use matters on an as-needed basis. The most frequent level of involvement on land-use affairs was 10% of a full-time equivalent (FTE) staff position.

In-House Support for TOD

Even though being involved in land-use affairs is widely considered to be within

the mission of a transit agency, taking the next step of actively promoting TOD and joint development can be a big leap. Fifteen of 32 (46.9%) rail transit agencies surveyed indicated that they have “formal programs” designed to encourage TOD. Among bus operators, there was far less in-house support—just 5 of 58 agencies surveyed (8.6%). The amount of staff resources devoted to TOD activities (as opposed to land-use matters more generally) varied considerably. Only two of 58 bus agencies (3.4%) devoted full-time staff to TOD. Among rail agencies, 42% did.¹

Among transit agencies without staff assigned to TOD tasks, more than three-quarters indicated that they encouraged TOD planning and implementation in other ways. In most instances, this involved agency staff routinely reviewing development proposals early in the process to ensure that they were supportive of transit—meaning

everything from having sufficient densities to support stepped-up transit services to designing streets that can accommodate the turning radii of standard coaches. A number of agencies also said they promote TOD through the preparation and distribution of transit-supportive design guidelines. Most

respondents from smaller transit agencies indicated that they work with city planning departments and neighborhood groups on an ongoing basis as part of both short- and long-range transit planning.

Table 3.1 outlines the nature of in-house TOD programs among five responding

Table 3.1. Activities of Transit Agency TOD Programs, Including Staff Time Allocations

Transit Agency	Activity	% of Time
<i>Utah Transit Authority</i>	Preparing RFPs for agency properties	33%
	Planning future land uses for agency properties	33%
	Public outreach and meetings	6%
	Developing transit pass program	10%
	Ongoing administration	18%
<i>Miami-Dade Transit</i>	Preparing RFPs for joint development projects	20%
	Negotiations of joint development projects	20%
	Zoning and regulatory reviews	20%
	Administration of leased properties	40%
<i>Maryland Transit Administration</i>	Funding of TOD projects	40%
	Administering local conservation grants	35%
	Administering TOD incentive grants	11%
	Planning pedestrian/cycling improvements	10%
	Ongoing planning and administration	4%
<i>Denver Regional Transit District</i>	Implementing joint development projects	60%
	Public outreach, education, and training	20%
	System integration of TOD	20%
<i>San Diego Metropolitan Transit Development Board</i>	Reviewing development projects and proposals	40%
	Interjurisdictional outreach and coordination	25%
	Preparing and updating development guidelines	10%
	Pursuing funding opportunities and grants	10%
	Ongoing planning and administration	15%

transit agencies, along with staff time commitments to various tasks. Besides advancing joint development projects, the most common activity is public outreach and coordination, consuming 6 to 25% of TOD staff time. Reviewing development proposals typically takes a quarter to one-half of a TOD staff member's time. The Maryland Transit Administration, responsible for transit in metropolitan Baltimore and other urbanized parts of Maryland, has assigned its staff to a range of TOD activities including planning and designing pedestrian/bicycle/bus-stop access improvements and administering development grants. The agency's strong commitment to TOD is revealed by its generous budget allocations, far more than any transit agency surveyed. During the three fiscal years spanning 2000–2003, the Maryland Transit Administration invested \$500,000 to \$600,000 annually in TOD administration and planning, compared with \$7 million to \$13 million annually for TOD construction and implementation.²

Outreach and Education

Public outreach and education have constituted the lion's share of TOD activities among U.S. transit agencies. Around one-quarter of the surveyed transit agencies reported that they conducted such activities, targeted normally at the general public. In some cases, efforts are aimed at reaching local government staff, elected officials, developers, and lenders. The Utah Transit Authority, Dallas Area Rapid Transit, and SouthWest Metro Transit in Minnesota, for example, concentrate on reaching out to the development community. For NJ TRANSIT, the primary aim is to reach local elected officials. Most outreach by transit

agencies involves technical assistance on TOD planning matters.

The most common approach to general-public outreach on TOD matters among surveyed transit agencies has been design charrettes, that is, neighborhood meetings where residents and business-owners participate in the design of a master plan for a station area under the assistance of trained professionals (see Figure 3.2 and Text Box 3.1). Charrettes need not be expensive undertakings involving highly paid designers and architects. Charrettes can be facilitated community meetings that forge a consensus on future land-use directions. Many surveyed rail agencies have also turned to conferences and workshops on TOD to reach both the general public and professionals. Public hearings, media coverage (e.g., television shows), and web sites have also been used to market TOD, albeit less frequently than charrettes or conferences. The Maryland Transit Administration, for example, has its own local access cable show that has featured stories on the Symphony Center and Owings Mills TOD projects.

Outreach programs generally get passing grades from transit-agency respondents. Figure 3.3 shows that around 40% of respondents felt outreach was significant in helping to initiate projects.³ Outreach generally received the lowest marks for effectiveness at helping to resolve conflicts and temper neighborhood opposition to TOD projects.

Other Organizational and Legislative Contexts

Other spheres of government and stakeholder interests have formed their own institutional forums for advancing

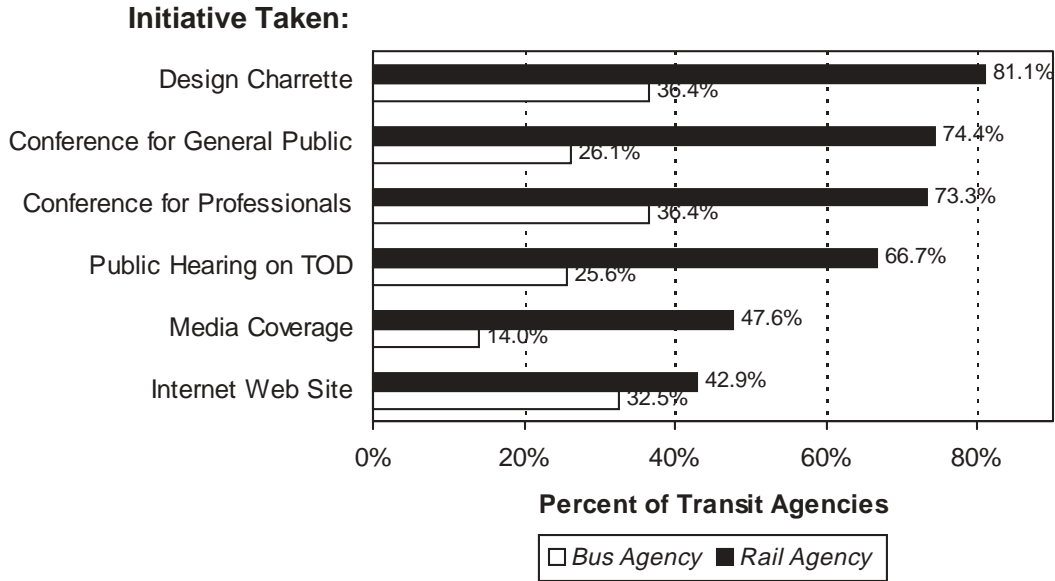


Figure 3.2. Outreach Initiatives Taken in Transit Agencies' Service Areas Over Last 2 Years Involving TOD.

Effectiveness of Outreach at:

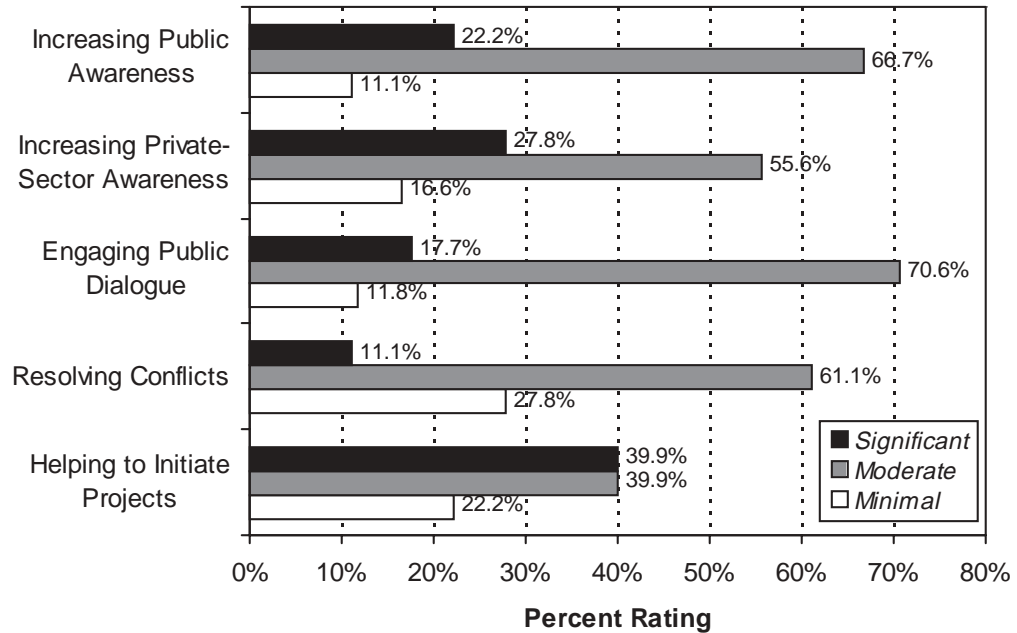
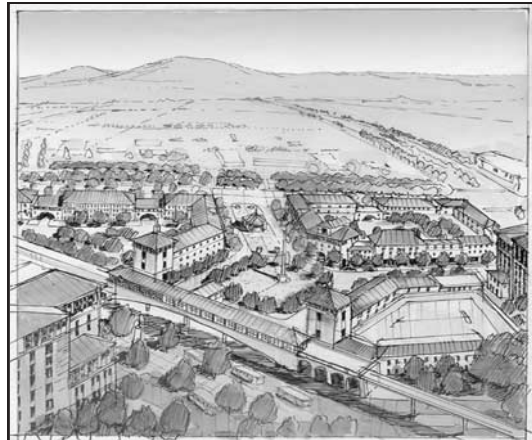


Figure 3.3. Rating of Effectiveness of TOD Outreach Efforts by Transit-Agency Respondents.

Pleasant Hill's Second-Generation Transit Village Charrette

BART's Pleasant Hill Station is one of America's most prominent suburban TODs, although some would call it more TAD than TOD. It currently boasts some 2,400 housing units and several million square feet of office and commercial floor space nearby, but it suffers from a poor-quality walking environment and the absence of a human-scale "feel." Plans to add more retail and office space to the area unleashed a "not-in-my-backyard" (NIMBY) backlash, prompting local officials (in concert with BART, residents, business leaders, activist groups, and area employees) to organize a community-based design charrette aimed at building broad-based local support for transforming the 18-acre site from a TAD to a TOD. Portland-based Lennertz Coyle and Associates was retained to lead the charrette process. More than 500 people participated in the 6-day "give-and-take" event in the spring of 2001. Participants discussed dozens of ideas before agreeing on a plan that calls for the strategic siting and infill of mid-rise housing, community-oriented retail space, offices, and assorted public amenities. Emphasis was given to providing attractive, accessible, and automobile-restricted spaces for pedestrians and cyclists. Also, the process led to the revamping of local implementation tools, mainly in the form of devising building and site-design codes based on New Urbanism principles. How to replace the 1,294 park-and-ride spaces that will be lost to the development remains a bone of contention in seeing the plan through to implementation. For further information, see *Pleasant Hill BART Station Design Charrette Outcome* at <http://www.co.contra-costa.ca.us/depart/cd/charrette/outcome/outcome.htm>.



The citizen-driven charrette process led to a community plan that calls for the transformation from the present-day TAD (top left) to a second-generation, master-planned TOD with the ambience of Tuscan village (top right). With the aim of creating a human-scale, pedestrian-friendly environment, the charrette process relied on streetscale computer-generated visualizations to depict how current intersections (bottom left) might be transformed (bottom right).

TOD. TOD's potential to spur economic growth and relieve pressure to expand roads can create a powerful incentive for local governments to become proactive. As stressed earlier, TOD often relies upon "precursors" that only municipal governments can introduce, like permissive zoning ordinances or streamlining entitlements. In distressed inner-city locations, responsibilities often lie with redevelopment entities. Higher levels of government, from regional entities to federal agencies, are also increasingly vital to TOD implementation if for no other reason than they often control funding and the legislative powers vested in transit agencies and local governments.

Sub-State Institutional Roles

Thirty percent of the surveyed local governments (7 of 23) have "formal programs" to encourage TOD in their jurisdictions. This has typically involved creating station-area development plans, matched by zoning reforms (e.g., overlay zones and interim-use restrictions) and building code revisions, topics addressed in the next chapter. A few of the surveyed local entities (the cities of Los Angeles, Charlotte-Mecklenburg, and Baltimore) have personnel who work full time on TOD affairs. Most local municipalities as well as redevelopment agencies support TOD through other means, such as cooperating and coordinating with other agencies.

At the MPO level, the formal promotion of TOD is found mostly in large, rail-served regions, such as greater Philadelphia (the Delaware Valley Regional Planning Commission), San Diego (San Diego Association of Governments), Portland (Metro),

San Francisco Bay Area (Metropolitan Transportation Commission), Seattle (Puget Sound Regional Council), and Dallas-Fort Worth (North Central Texas Council of Governments). Big MPOs mostly provide technical assistance germane to TOD (e.g., planning information and demand forecasts); a few provide grant assistance and occasionally broker cost-sharing arrangements among local governments (e.g., for funding strategic planning studies). Portland Metro budgeted \$1.7 million specifically for TOD planning in fiscal year 2002–2003, the largest amount among MPOs nationwide. The more typical amount spent by MPOs was around \$100,000 per year, funded mainly using federal pass-through planning grants.⁴

State Roles and Involvement

More and more state DOTs are turning their attention to TOD because sprawl, left unchecked, poses a serious threat to scarce state resources—not only prime farmland, natural habitats, and open space but also thinly stretched state budgets. Most states with metropolitan and/or intercity passenger rail services encourage TOD indirectly through funding grants, technical assistance on planning, and participation on various interagency coordinating committees (see Text Box 3.2). A few states have adopted policies that explicitly call for steering future statewide growth to transit corridors. For example, in 2001, the state of Georgia approved a smart-growth initiative through the GRTA and the Governor's Development Council that embraces TOD as a sprawl-curbing tool.

Oregon's recent Public Transportation Plan, an outgrowth of several decades of statewide land-use planning, encourages

State Governments and TOD

In a recent report, *The Role of State Government in Transit-Oriented Development*, the Pennsylvania Environmental Council identified nine possible roles for state governments on the basis of a review of experiences in 11 states that have been the most active in pursuing smart growth:

- Promote regional coordination;
- Forge collaborative working relationships among state entities such as transportation, transit, highways, community development, and housing;
- Develop a set of goals to promote tax savings and environmental well-being through new community design strategies such as TOD;
- Implement programs and funding initiatives (often using federal dollars) that achieve these goals;
- Provide financial incentives;
- Remove regulatory and statutory barriers to land use;
- Promote public-private partnerships;
- Provide planning, policy research, technical assistance, and information support and help local governments employ innovative redevelopment strategies; and
- Establish pilot programs to test and show by example how new modes of thinking can work.

Source: L. Hersh, *The Role of State Government in Transit-Oriented Development* (Philadelphia: Pennsylvania Environmental Council, December 2001).

Text Box 3.2

public transportation projects that support compact or infill development or mixed-use projects.⁵

To date, few state laws or regulations have been enacted that pertain specifically to TOD. Four states have passed legislation or have provided funding through departmental agencies specifically aimed at promoting TOD: California's Transit Villages Planning Act of 1994; Oregon's Senate Bill 763 Vertical Housing Zone Bill; New Jersey's Transit Village Initiative; and the Maryland Transit Administration's

funding of TOD planning, administration, and capital improvements throughout the state (discussed in the previous section). No other states in the country are thought to have passed similar legislation. Brief descriptions of the activities in California, New Jersey, and Oregon follow.

- *California:* In 1994, California's legislature passed Assembly Bill 3152, which promotes the adoption of transit village plans. The Act says that no public works projects, tentative subdivision maps, or parcel maps may be approved, or zoning

ordinances adopted or amended, within an area covered by a transit village plan unless the map, project, or ordinance is consistent with the adopted plan. It also automatically exempts conforming projects in a transit village district from traffic impact assessments under the state's Congestion Management Act. The lack of funds directly committed to TOD, however, is widely thought to have limited the Act's effectiveness.⁶ Another noteworthy California requirement says that all new state office structures built within the service district of the Sacramento Regional Transit District lie within ½ mile of a rail stop.

- *New Jersey:* The NJ TRANSIT Village Initiative, established by the New Jersey Department of Transportation (NJDOT) with numerous state agencies, assists communities in leveraging private redevelopment. A collaboration of state agencies provides technical assistance and resources to help communities implement the initiative. Additionally, communities designated as “transit villages” get priority access to NJDOT’s Local Aid for Centers Program, the Transportation Enhancements Program, and Bicycle and Pedestrian projects. (See Chapter 11 for further discussions of this initiative.)
- *Oregon:* Senate Bill 763, passed by Oregon’s legislature in 2001, authorizes the creation of a “Vertical Housing Zone” within local jurisdictions. The bill applies to light-rail station areas, transit-oriented areas, and core areas of urban centers. Both light-rail station

areas and transit-oriented areas are defined using definitions already in Oregon Revised Statutes. The most salient feature of the bill is that it authorizes tax abatement as an inducement to infill and moderate- to high-density development, especially near transit stations. In this sense, Oregon’s bill has more “teeth” and “purse-string punch” than initiatives in California and New Jersey.

Federal Roles and Involvement

The primary role of the federal government in encouraging the growth of TOD is one of funding. About 18% of all funding from the Transportation Equity Act for the 21st Century (TEA-21), roughly \$36 billion between 1997 and 2003, was allocated to transit, mostly going for capital improvements. The federal government also encourages collaboration between government agencies as well as between the public and private sectors. An important program in this regard has been the Transportation and Community and Systems Preservation Pilot Program (TCSP) of the Federal Highway Administration. TCSP has provided grants to state, local, and regional agencies that partner with community groups, nonprofit organizations, or private investors to enhance transportation and land-use connections. NJ TRANSIT, for example, was recently awarded over \$800,000 in TCSP grants to assist 11 municipalities in developing strategies to enhance connections between station areas and surrounding communities and to leverage private capital to redevelop station areas.

Other important national policies and programs that have promoted TOD and

joint development include the following:

- *New Joint Development Policy:* FTA's 1997 reinterpretation of the Federal Common Grant Rule, among other things, permits transit agencies to sell land holdings financed by federal grants without having to return proceeds as long as funds are used to "help shape the community that is being served by the transit system." Transit properties in Washington D.C., Atlanta, Portland, Southern California, and the San Francisco Bay Area have been particularly aggressive in exploiting this new ruling. For the BellSouth multi-tower complex, currently taking form at MARTA's Lindbergh Station in the fashionable Buckhead district of Atlanta, MARTA took advantage of the ruling to expedite the construction of some 5 million square feet of mixed-use development on a former surface parking lot. (See Text Box 3.3.)
- *New Starts Criteria:* This policy mandates that applicants for federal New Starts funds carefully address land-use matters as part of their capital investments.⁷ Key to successful applications for highly competitive New Starts funding are "transit-supportive existing land-use policies and future patterns," "supportive zoning regulations near transit stations," "tools to implement land-use policies," and "the performance of land-use policies." Several recent studies have concluded that this policy has spurred U.S. transit properties to take land-use matters and transit-supportive planning far more seriously than in the past.⁸ Some agencies have given priority to route alignments and station locations in jurisdictions that have adopted transit-supportive land-use plans, and many are seeking zoning and parking-code changes that are "transit friendly." The national survey of 90 transit properties confirmed these findings. Figure 3.4 reveals that more than 40% of respondents from transit agencies felt that the New Starts process "raised the profile of the transit/land-use connection." Respondents from several rail-served agencies, including Portland's TriMet and San Francisco's BART, indicated the new criteria "led directly to changes in locally adopted land-use policies and plans for transit corridors."⁹
- *Livable Communities:* Launched by FTA in 1994, this program has sought to empower inner-city neighborhoods by making them eligible for special grants and tax credits. Assistance has gone to siting child-care centers and police substations near transit stations and improving access to and lighting conditions around rail stops in Cleveland, St. Louis, Baltimore, Philadelphia, and Oakland.
- *Other Federal Initiatives:* Included here are Location Efficient Mortgage (LEM) programs, jointly sponsored by Fannie Mae and private banks, that make it easier to purchase a home near transit stations (under the premise that lower transportation costs free up earnings for housing consumption); the Environmental Protection Agency's Brownfields Initiative for cleanup of former industrial sites (particularly

From Parking Lot to Mini-City: Atlanta's Lindbergh Station

Atlanta's Lindbergh Station is in the midst of transforming into a "mini-city," thanks in no small part to FTA's joint development policy ruling that enables land purchased using federal funds, including parking lots, to be leased to the private sector as long as the resulting development is transit supportive. Using a competitive-bid process, the Metropolitan Atlanta Rapid Transit Authority (MARTA) selected a master developer, Carter and Associates, in 1997 to move full-speed ahead with a large-scale mixed-use project. Some 1.3 million square feet of office space, retail shops, and a hotel, plus residential condominiums, are slated for an 11-acre park-and-ride lot. A pedestrian-friendly Main Street, featuring retail shops and restaurants, will bridge over the rail station into a multifamily residential district. One of Atlanta's largest companies, BellSouth, will be the project's anchor tenant. BellSouth's move to the Lindbergh site reflects a corporate decision to relocate scattered suburban offices to a central-city transit node in response to growing employee frustration over traffic congestion and a perception that quality of life was eroding. The consolidation of its offices into three new centers will mean that 80% of company employees in metropolitan Atlanta will work near a MARTA station, compared with 30% today. Due to pressure from local residents, parking ceilings have been introduced at the Lindbergh Station, an about-face given that the city of Atlanta has in the past always imposed parking minimums. (Local residents were not informed of the full extent of the BellSouth project, prompting a backlash over parking and traffic that required a mediator and a lawsuit before matters were settled.) Parking for retail and office space has been reduced by a third from the city's standard of 3.7 and 2.3 spaces per 1,000 square feet, respectively. Shared parking between office and retail uses is also in the works. BellSouth hopes to lure its employees to MARTA by providing free or discounted transit passes and free private parking at outlying MARTA stations. Also, MARTA will consider eliminating some station parking as ridership numbers increase.



Master Plan for Lindbergh City Center (top left); first-phase construction, 2003 (top right); streetscape rendering of Main Street (bottom left). Sources:

<http://www.carterusa.net/lindberghcitycenter>; G. B. Arrington, et al., *Statewide Transit-Oriented Development Study—Factors for Success in California* (Sacramento: California Department of Transportation, 2002).

Effects of FTA’s New Starts Criteria on Land-Use Activities:

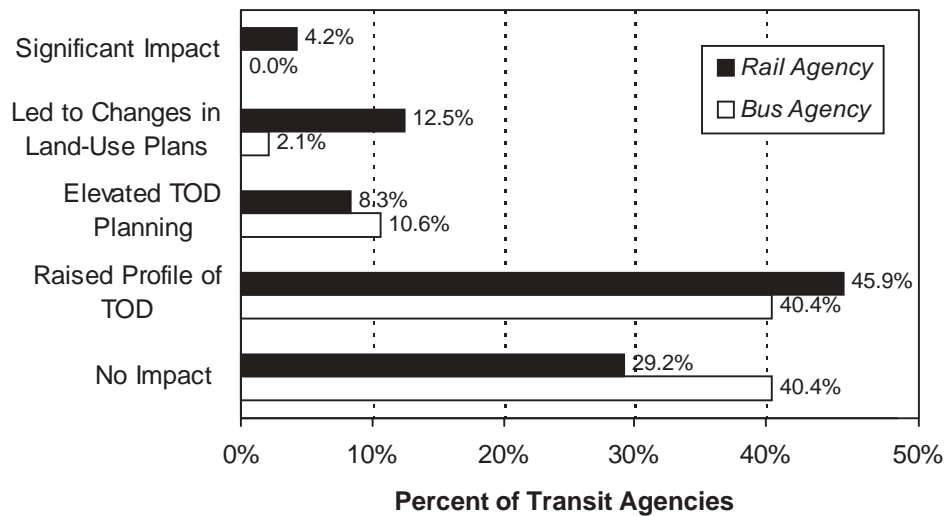


Figure 3.4. Effect of Federal New Starts Land-Use Criteria on Transit Agencies’ Interests in TOD Planning.

important where rail is being built on abandoned railroad rights-of-way); housing subsidy programs under the U.S Department of Housing and Urban Development (HUD), which promote coordination between transit and housing; and Congestion Management/Air Quality (CMAQ) funds (designed to help local governments implement the federal Clean Air Act Amendments of 1990), eligible for TOD planning activities (CMAQ funds were recently used in Minneapolis’s Hiawatha corridor).

Cooperation and Collaboration

Given the various institutional roles and legislative mandates discussed above, what mechanisms have evolved for coordinating activities and building partnerships among stakeholders? This section reviews collaborative experiences at three levels: public-sector interagency

initiatives, private-sector committees/working groups, and public-private forums.

Public-Sector Interagency Initiatives

Almost all U.S. transit agencies with rail services and a majority of the big all-bus operators participate in some forum to coordinate transit and urban development among government entities. In Maryland, a TOD working group has formed with representatives and co-funding from the Maryland Transit Administration, the Maryland Department of Transportation, the Governor’s Office of Smart Growth, and the Maryland Department of Planning. Along the San Francisco–San Jose Caltrain commuter-rail corridor, each commuter-rail station project has a working group, spearheaded by the local agency, which brings public agencies together to coordinate activities (see Chapter 18). NJ TRANSIT actively participates in the state’s transit village

program, working with the state DOT, the Economic Development Authority, the Office of State Planning, and other groups to promote transit-friendly planning and smart growth (see Chapter 11). The Greater Cleveland Regional Transit Authority has joined forces with Cleveland’s planning department and other local interests to form a Committee for Transit-Oriented Design that meets monthly to promote awareness and the need for TOD. An example of regional cooperation comes from the Seattle area, where Sound Transit and the Puget Sound Regional Council coordinate planning, funding, and development activities around existing and future transit stations.

Figure 3.5 shows that the most common interagency cooperative agreement entered into to promote TOD, as identified by the 90 surveyed transit properties, has been between transit agencies and city governments. Comparatively few agreements have been entered into between transit

agencies and state governments or redevelopment authorities.¹⁰

Private-Sector Initiatives

Developers, builders, real-estate brokers, and others involved with TOD from the private side have over time formed their own forums to promote their collective interests. Examples include

- *Houston’s Main Street Coalition.* Formed in 1994 to create a signature transit-and-pedestrian spine along an 8.5-mile boulevard stretch, the coalition is today focusing on the land-use and architectural integration along the \$300-million light-rail line being built in downtown Houston.
- *Charlotte’s Business Community for Regional Transportation Solutions.* Formed in 2000 as a task force of the Charlotte division of the Urban Land Institute, the association has raised developer awareness of TOD

Transit Agency Entered into a Cooperative Agreement with:

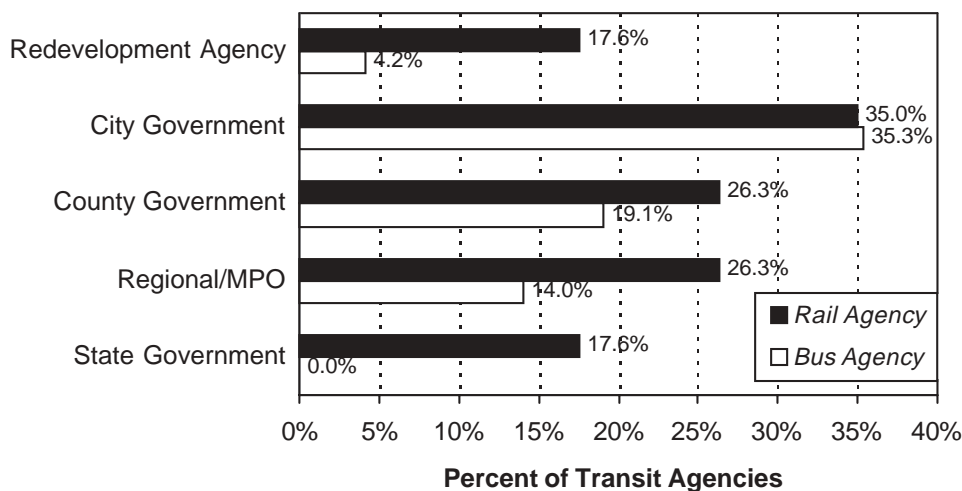


Figure 3.5. Cooperative Interagency Agreements Between Transit Agencies and Other Entities to Promote TOD.

opportunities for planned rail and bus corridors.

- *Envision Utah*. A privately led initiative to promote regional smart growth in Salt Lake City's rapidly urbanizing Wasatch Front, Envision Utah has embraced TOD as a central component of the region's strategic long-range plan. An ambitious outreach program and visual simulations

have been relied on in forging public consensus on how to best transform selected neighborhoods into transit-friendly environs. (See Text Box 3.4.)

- *Silicon Valley Manufacturing Group*. Composed of senior managers of member companies in this burgeoning high-tech corridor, the Group addresses transportation and sustainable growth issues for

Envisioning Utah Through Visual Simulations



Envision Utah has launched an ambitious outreach program, conducting various workshops and polling residents (through newspaper ads and focus groups) on their preferences for their community's and the Wasatch Front's future.



Envision Utah hired a local consultant, Cooper, Roberts, Simonsen Architects, and a national consultant, Calthorpe Associates, to work with local communities in developing illustrative plans for four sites: Central Park and Murray North stations on the present TRAX light-rail line and proposed stations in West Jordan and downtown Layton. The consultants understood that citizens do not think of or view places in plan (i.e., bird's eye) view, but rather from a streetscape perspective. Thus, visual simulations were relied upon to suggest how corridors, such as those near the Murray North TRAX station, might be transformed from dreary landscapes (left) to vibrant, pedestrian-active streets (right). These efforts culminated in the preparation of a handsomely illustrated report, *Wasatch Front TOD Guidelines*, published by Envision Utah in 2002. *Source*: Cooper, Roberts, Simonsen Architects and Calthorpe Associates, *Wasatch Front TOD Guidelines* (Envision Utah, 2002).

Text Box 3.4

rail-served Santa Clara County. (See Chapter 18 for further discussion.)

- *1000 Friends of Oregon/Livable Oregon.* Nonprofit, grass-roots initiatives, led by 1000 Friends, were instrumental in winning support for the TOD-friendly Westside Metropolitan Express (MAX) line in metropolitan Portland in lieu of a planned beltway project. The group funded sophisticated planning and modeling of transportation/land-use futures for the region.

Public-Private Forums

Thirteen of the 90 transit agencies surveyed identified public-private organizations or committees that have formed to promote TOD at some level. These include the Salt Lake City Downtown Alliance Transportation Committee; Denver Regional Transportation District's (RTD's) TOD Task Force; Portland's Livable City Housing Council (committed to identifying barriers to TOD and funding demonstration projects, with representatives from TriMet, the city of Portland, for-profit developers, insurance companies, Fannie Mae, and major banks); and the San Francisco Bay Area, where BART and private interests have entered into exclusive agreements to develop mixed-use TODs on agency land at Walnut Creek, El Cerrito del Norte, and several other stations.

Regulatory Environment

Many things stand in the way of TOD implementation, a topic addressed in the next chapter and throughout the case studies in Part 4 of this report. The

boundaries delineating the degree to which transit agencies can pursue TOD are mainly defined through statutory regulations and legal mandates. The Utah Transit District Act limits transit authorities to building and operating transit services and facilities except as stipulated in federal grants and legislation.¹¹ Miami-Dade Transit is limited in its leasing and sale of county property under State Statute 125. Under the State Transportation Article, the Maryland Transit Administration is required to offer the original owner any land acquired for transportation purposes that is no longer being used; some interpret this to mean that underutilized land banked or set aside for TODs may have to revert to its original ownership. Also, the state of Maryland's procurement code did not anticipate public-private partnership agreements that are not always reached through an open-bid competitive process.

Some enabling legislation expressly forbids transit agencies from engaging in land-use activities. State legislation that authorized the formation of the Southeastern Pennsylvania Transportation Authority (SEPTA), for instance, prohibits the agency from pursuing land development.¹² Similarly, New Jersey's Public Transportation Act of 1979, which created NJ TRANSIT, allows the agency to acquire property for "transportation uses" but not to pursue ancillary real-estate development opportunities, including TOD.¹³ Several transit agencies responding to the national survey cited FTA's Third Party Contracting Requirements (Circular 4220.1D) as a regulation that ties their hands in negotiating the best land-use programs for TODs.

Even within the same state, statutory powers governing land development can vary markedly among transit properties. In California, for example, original statutes governing BART's joint development powers are far more restrictive than those granted to Southern California's Metropolitan Transit Authority (MTA). BART relies on powers of eminent domain, which the authority was originally granted to construct and operate the heavy-rail system, but MTA's statutes are more permissive and explicitly allow the agency to pursue value-capture strategies like benefit-assessment financing.¹⁴ MTA was formed after BART, allowing the authority to review and improve on BART's charter.

Most state statutes are vague about transit joint development matters. Since most transit agencies were created before joint development gained ascendancy, many contemplating joint development face the prospect of bending the original intent of their authorizing statutes. The absence of clear state-level policy directives (outside of Oregon and Maryland) and authorizing legislation regarding land development has, de facto, steered some U.S. transit properties away from the practice of TOD and joint development.

Internal Strictures

According to transit-agency survey respondents, what ties their hands more in pursuing TOD than state regulations are internal ones—policies, strictures, mandates, and so forth within agencies that limit the practice of TOD. Around 15% of surveyed transit-agency respondents said such controls, whether explicit or tacit, existed within their organizations. Most transit properties are

inclined to embrace TOD in principle, but, when it comes to specifics, they are sensitive to the fact that land use lies within the purview of local governments. They see themselves as mainly in the business of running trains and buses, deferring specific land-use decisions for station-area development to municipalities. As one respondent of a large east-coast transit property put it: “we try to assist and influence communities’ land-use decisions without overstepping local home rule.” The line between being in favor of TOD as a concept and actively promoting specific TOD projects is often a delicate one to cross.

Parking Policies

For several big rail properties, an in-house policy that has stood in the way of converting surface parking lots into on-site mixed-use developments is one-to-one replacement parking requirements. Fourteen of the respondents indicated that their agencies have replacement parking requirements.¹⁵ Given that half (45 of 90) of the respondents said that there are park-and-ride spaces at stations where TOD is being promoted, it appears that replacement parking strictures affect at least a third of TOD settings.¹⁶ In the case of BART, the elected board of directors’s one-to-one replacement policy has reduced ground-rent income by providing rent credits to developers who provide replacement parking. Even if BART’s board were to relax the one-to-one replacement requirement, this might not result in reduced parking since all local jurisdictions require that BART replace all parking displaced by development on agency land.

In and around transit stations, parking is a double-edged sword. On the one hand,

it is absolutely essential for drawing customers to transit in low-density settings where feeder bus services are sparse. On the other hand, parking lots can form huge obstacles to the creation of viable and attractive TODs. Parking reduces opportunities for TOD in several ways. First, parking separates the transit system from the adjacent community, along with potential TOD parcels. Second, parking creates a station-area milieu that is distinctly automobile- rather than pedestrian-oriented. Third, parking demands lead to stations being sited in marginal settings that are not conducive to TOD. Finally, regulatory requirements on replacement parking severely limit the possibility of converting commuter spaces into TOD.

It must be remembered that the cost of replacing parking becomes a TOD, not a transit-system, requirement. The TOD must develop enough revenue to replace surface parking with a costly deck structure. Replacement parking policies have placed a higher value on the short-term ridership generated from park-and-ride than on the long-term benefits from creating viable communities around stations. The notion of generating riders from TOD to offset the cost of replacement parking is quickly dismissed in many parts of the United States. This has been the case at Dallas's Mockingbird Station. The developer of an adjacent mixed-use TOD inquired about the possibility of relocating parking in front of the station and developing the parcel as apartments. The Dallas Area Regional Transit agency, DART, has so far resisted. Even with a one-to-one replacement policy, DART is more interested in preserving this choice piece of land for commuter parking. For many local decision-makers and their constituents,

parking is seen as a more important transit use next to the platform than a TOD.

Notwithstanding the sometimes schizophrenic relationship transit properties have with parking, most transit-agency survey respondents did not feel that parking facilities inhibit TOD. Fifteen percent of transit-agency respondents said park-and-ride spaces were a "significant obstacle" to their agency's ability to successfully plan and build TOD projects. Figure 3.6 breaks the responses down, revealing that respondents from rail agencies were generally more critical about parking as a deterrent to TOD. The figure shows some degree of sensitivity to the impacts of park-and-ride spaces on pedestrian environments. Almost half of rail-agency respondents and over 60% of those from bus agencies felt that parking spaces moderately detracted from the pedestrian-friendliness of station environments.

Despite the obstacles to removing parking lots near stations, respondents from 17 of the 90 transit agencies (18.9%) said plans are underway to convert park-and-ride lots to TOD. In all, parking lots at over 50 rail stations or bus terminals are slated for conversion to commercial and/or residential development. The FTA's new joint development ruling that allows transit agencies to sell off parking lots to private investors and retain proceeds has no doubt helped trigger this response. Agencies with park-and-ride conversions in the works are listed below with affected stations:

- *Washington Metropolitan Area Transit Authority*. Branch Avenue, Suitland, Rhode Island Avenue,

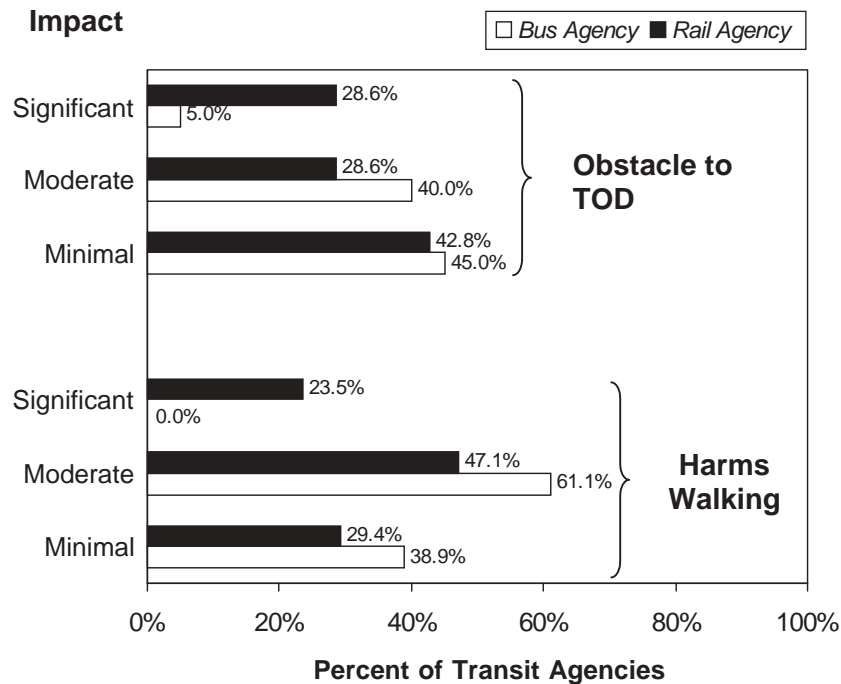


Figure 3.6. Views of Transit-Agency Respondents on Impacts of Park-and-Ride Spaces on TODs and Quality of Pedestrian Environments.

- Van Dorn, Prince George’s Plaza, Wheaton, Greenbelt, and Takoma Stations;
- *Metropolitan Atlanta Regional Transportation Authority*: Chamblee, King Memorial, Lakewood-Fort McPherson, Abernathy Road, Kensington, Avondale, and Hamilton E. Holmes Stations;
- *San Francisco BART*: Pleasant Hill, MacArthur, West Oakland, Richmond, El Cerrito Del Norte, El Cerrito Plaza, Ashby, Fruitvale, Hayward, and Union City Stations;
- *Miami-Dade Transit Authority*: Coconut Grove, Overtown/Arena, Brownsville, Douglas Road, Dr. Martin Luther King Jr. Plaza, and Santa Clara Stations;
- *New Jersey Transit*: Morristown, Hamilton, Liberty State Park, Jersey City, and Dover Stations;
- *Portland TriMet*: Gateway, Rockwood, and El Monica (land swap) Stations;
- *Metropolitan Transit Development Board (San Diego)*: Morena/Linda Vista and Grossmont Stations;
- *Caltrain/SamTrans (San Mateo County)*: Redwood City and Colma Stations;
- *Maryland Transit Administration*: Owings Mills, Old Court Metro, Reisterstown Plaza Metro Stations;
- *Dallas Area Rapid Transit*: Mockingbird Station;

- *Utah Transit Authority*: 10000 South Station;
- *SouthWest Metropolitan Transit Commission (Minnesota)*: Chanhassen Station; and
- *Regional Transportation District (Denver)*: Arapahoe Station.

Summary

Many voices shape the practice of TOD in the contemporary urban United States. A multi-layered, sometimes complex institutional and political environment has evolved that ensures accountability and instills a degree of responsibility and fairness into the decision-making process, but this environment can also form roadblocks to implementation, a topic addressed in Chapter 5.

The spectrum of transit-agency participation can range from modest (providing technical guidance such as transit-supportive design guidelines) to ambitious (being the self-anointed lead developer). Most transit agencies get involved in land-use affairs, broadly defined; however, they generally limit their involvement in TOD matters to interagency coordination. What TOD work is carried out concentrates on public outreach and education. Design charrettes have been used quite successfully to draw public input into the TOD-planning process, as exemplified by the successes at the Pleasant Hill BART station and along the Wasatch Front under the guidance of Envision Utah. Local governments wield considerable control over TOD outcomes through zoning ordinances and building codes. Some states, notably California and New Jersey, have sought

to jump-start TOD through transit village initiatives that critics view as mere window-dressing since little funding support is provided. Important recent federal initiatives have been the new joint development ruling (that enables transit agencies to sell land for TOD even if the land was purchased using federal dollars), New Starts criteria, and various livable community initiatives.

Coordination among public agencies as well as with the private sector normally occurs through various ad hoc task forces and similar forums. In recent years, private developers, builders, and real-estate interests have joined forces to promote TOD in cities like Houston, Charlotte, and San Jose.

The major institutional barriers to TOD are regulatory in nature, either a product of restrictive state statutes or self-imposed transit-agency rules. Some states limit, ipso facto, real-estate transactions undertaken by transit agencies to “transportation uses.” Many transit properties shy away from land development matters on the grounds that it is not central to their mission of delivering safe and efficient transit services. As a result, most transit agencies have no personnel assigned to TOD or, more generally, land development, leaving it to their legal departments to handle land-use affairs and disputes. One in-house rule that has clearly hampered TOD is one-to-one replacement parking requirements. Nonetheless, over 50 transit stations across the United States are presently being targeted for parking lot conversions, thanks in part to FTA’s new joint development rulings.

Notes

- ¹ Sixteen of the 90 transit properties responding to the survey (17.8%) have people working part time on TOD affairs. BART has the most part-timers (11), followed by NJ TRANSIT (4) and the Regional Transit Authority of Northeast Illinois (3).
- ² Funds used for TOD usually came from transit agencies' operating budgets. Several agencies, however, have dedicated funding, targeted specifically at TOD planning and development. San Mateo County Transit District (SamTrans) supports its TOD functions with earmarked sales-tax revenues and developer fees. While most of Portland TriMet's TOD activities are supported by the agency's general fund, Interstate highway transfer grants have been used in the past to support station-area planning and development and are envisaged for the 5.8-mile Interstate MAX extension now under construction. The Maryland Transit Administration gets 98% of its funding from a State Transportation Trust Fund and 2% from a Transportation Enhancement Program grant under the federal TEA-21 legislation. In the past, NJ TRANSIT has supported its TOD functions with federal TCSP grant funds and support from the state budget. Denver RTD's TOD functions are supported by developer contributions and community development grants, with the current focus on the Transportation Expansion Project (T-REX) in Denver's Southeast Corridor.
- ³ A number of questions in all surveys discussed in this report judged attitudes using a 7-point Likert (ordinal) scale. In this figure and most others, scores of 1 or 2 were interpreted as "minimal," scores of 3 through 5 were translated as "moderate," and scores of 6 or 7 were weighed as "significant."
- ⁴ These were an FHWA TCSP grant, FHWA planning funds under Section 112-PL, and FTA's Section 5303 planning enhancement funds.
- ⁵ More common are state land-use planning and growth management rules that mandate statewide land-use plans (Oregon and Georgia), create regional authorities with quasi-control over land use and transportation planning (Oregon, Massachusetts, and Georgia), enact development of regional impact (DRI) requirements (Georgia and Massachusetts), and target state infrastructure funding to direct growth (Oregon).
- ⁶ R. Cervero, *Transit Villages in California: Progress, Prospects, and Policy Reforms*, Working Paper 98-08 (Berkeley: Institute of Urban and Regional Development, University of California, 1998).
- ⁷ 49 U.S.C. § 509(a)(5), Federal Transit Administration, *Technical Guidance on Section 5309 New Starts Criteria* (Washington, D.C.: 1999).
- ⁸ Parsons Brinckerhoff Quade & Douglas, *Transit Oriented Development in California* (Sacramento: California Department of Transportation, 2001); E. Deakin, C. Ferrell, J. Mason, and J. Thomas, "Policies and Practices for Cost-Effective Transit Investments: Recent Experiences in the United States" (paper presented at the 81st Annual Meeting of the Transportation Research Board, Washington, D.C., January, 2002).
- ⁹ When asked whether "the presence of land use as an FTA New Starts rating criterion changed how your agency approaches land use in the development of transit projects," around two-thirds of respondents from transit agencies stated "no." Most responding "no" indicated that their agencies have always treated land-use issues seriously and would be addressing land-use issues regardless. Around a quarter indicated that "land use is a local issue; having a federal criterion has had little to no impact." Respondents from WMATA, the Maryland Transit Administration, DART, and NJ TRANSIT, among others, felt the criterion "provided the impetus to more seriously address land-use issues." Other respondents, including those from BART, MARTA, and the Houston Transit Authority, indicated that the criterion "has opened the door to get discussions going."
- ¹⁰ Redevelopment districts exist in the service areas of 71% of transit agencies surveyed (62% of the non-rail agencies and 91% of the rail agencies).
- ¹¹ Utah Transportation Code 17A-2-1101, et seq.

- ¹² Pennsylvania Title 74 C.S.A. Chapter 17 (Transportation).
- ¹³ New Jersey Statutory Act 27: 25-1 et seq.
- ¹⁴ M. Bernick and A. Frelich, “Transit Villages and Transit-Based Development: The Rules Are Becoming More Flexible—How Government Can Work with the Private Sector to Make It Happen,” *The Urban Lawyer*, Vol. 30, No. 1 (1998): 1–31.
- ¹⁵ The fourteen are: Capitol Corridor Joint Powers Authority (Sacramento–San Jose), Dallas Area Rapid Transit, Los Angeles Metropolitan Transit Authority, Maryland Transit Administration, Metropolitan Transit Development Board (San Diego), New Jersey Transit, Peninsula Corridor Joint Powers Board (Caltrain), Regional Transportation District (Denver), San Francisco Bay Area Rapid Transit District, San Mateo County Transit District, Santa Clara Valley Transportation Authority, SouthWest Metro Transit Commission (Minnesota), Utah Transit Authority, and Washington Metropolitan Area Transit Authority.
- ¹⁶ According to responses, the mean size of the average agency parking lot was 220 spaces, with considerable variation (with the average size ranging from 40 to 1,200 spaces).

Chapter 4

TOD Implementation Tools

Getting the Job Done

Going from the theory of TOD to real-world implementation can be a gargantuan leap. Local governments, redevelopment authorities, regional planning organizations, and even public transit agencies have over time accumulated an arsenal of tools and techniques to get the job done. This chapter focuses on methods currently being used among multiple stakeholder groups in bridging TOD theory and practice. The focus is on tools introduced and controlled by the public sector; Chapter 5 provides a private-sector perspective. Most implementation tools reviewed in this chapter lie within the purview of local governments and special authorities, like redevelopment agencies. Funding and finance issues related to supportive TOD infrastructure (e.g., streetscape and access improvements) also receive attention in this chapter.

TOD Visioning and Planning

Step 1 in implementing TOD is to forge a shared vision and prepare a strategic plan. Transit can be a catalyst to achieving a desired community—the kind of place where people want to live, work, play, and raise a family. Two Scandinavian cities known as paragons of TOD, Copenhagen and Stockholm, adopted metaphors early on to articulate and market their visions of the future—the celebrated “Finger Plan” in case of Copenhagen and a “Planetary Cluster”

concept in the case of Stockholm.¹ Arlington County, Virginia, arguably the United States’s most successful example of TOD outside of a central business district, embraced this Scandinavian model when it adopted its “bull’s eye” concept plan for the Rosslyn-Ballston corridor in the 1970s (see Figure 4.1). Through a collaboration that engaged local stakeholders and an ambitious campaign that targeted supportive infrastructure improvements to rail stops along the corridor, Arlington County managed to transform the Metrorail Orange Line into a showcase of transit-supportive development, with mid- to high-rise towers and multiple uses today at the Rosslyn, Court House, Clarendon, Virginia Square, and Ballston Metrorail stations. Since 1970, over 15 million

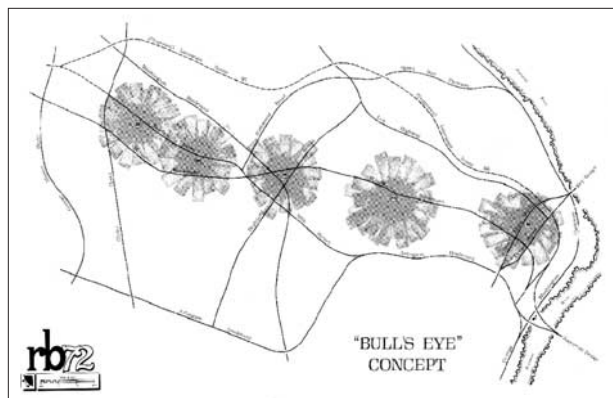


Figure 4.1. “Bull’s Eye” Vision for the Rosslyn-Ballston Corridor in Arlington County, Virginia.

Source: Arlington County Department of Community Planning, Housing and Development.

square feet of office space, several thousand hotel rooms, and 18,000 housing units have been added to these station areas. With the bull's eye metaphor in place to guide ongoing planning, Arlington County proceeded to leverage Metrorail's presence and transform once dormant neighborhoods into vibrant clusters of office, retail, and residential development. (See Chapter 12 for more details on Arlington County's experiences.)

How prevalent is TOD visioning and planning in the United States today? In the national survey of 90 transit agencies, questions were asked about regional visioning and planning as well as the zoning of land around agencies' transit stations. When asked whether there was "a *regional* vision, policy, or plan in place that calls for compact development organized around transit," 44 agencies, or nearly half, said there was. Among the regional initiatives promoting station-area development are Charlotte-Mecklenburg's "Centers and Corridors" plan promoting TOD along five transit corridors; the Washington (D.C.) Metropolitan Area's "Corridors and Wedges" plan, introduced in 1957; the "Livable Communities Program" and "Housing Incentive Program" sponsored by the Metropolitan Transportation Commission and Association of Bay Area Governments in the San Francisco region; Portland Metro's "Region 2040 Functional Plan" and "Regional Transportation Plan"; Envision Utah's Long-Range Vision, committed to TOD as an alternative to sprawl; the Long-Range Plan of the Delaware Valley Regional Planning Commission in the Philadelphia area that embraces TOD principles; the San Diego Association of Governments' designation of "Transit

Focused Areas" as part of its "Land Guidance Program"; Miami-Dade's Comprehensive Development Master Plan; Eugene-Lane County's Regional Transportation Plan (RTP) that calls for mixed-use nodes around bus rapid transit (BRT) stops; and Grand Rapids, Michigan's "Blueprint Plan" that similarly endorses bus-based TOD.

When asked whether any cities or other governmental entities in their regions had adopted TOD plans or introduced TOD zoning, 38 of 90 national survey respondents (42%) answered "yes." More than three-quarters of rail agencies had local TOD plans or zoning in their service areas, compared with 36% of non-rail agencies. Within BART's service jurisdiction alone, 15 separate TOD plans have been prepared for station areas, along with complementary zoning.² WMATA's TOD planning has spanned two states (Maryland localities in Montgomery and Prince George's Counties and Virginia localities in Arlington and Fairfax Counties) and the District of Columbia. Greater Chicago has seen TOD plans and/or zoning districts introduced in more than a dozen small- to medium-sized townships that collar Chicago proper: Tinley Park, Blue Island, Elmhurst, Westmont, Olympia Fields, Waukegan, Orland Park, Riverday, Robbins, University Park, Hazel Crest, Morton Grove, and Evanston, among others. In Plano, Texas, on the outskirts of Dallas, the city planned and developed a downtown transit village before light rail had even arrived. Plano offices agreed on a vision, set in place supportive zoning, landscaped and upgraded local infrastructure, and found a developer to bankroll and implement the vision. (See Chapter 15 for more details.)

The state of North Carolina has, as of late, witnessed a surge in TOD planning. In the Raleigh-Durham area, for example, Town Center Area Plans have been prepared for several stations under construction, with the largest amount of development slated for the fast-growing technology-driven employment center, Cary. North of Charlotte, the town of Huntersville has prepared a TOD plan to complement its neotraditional zoning ordinance. The town's TOD-R district promotes residential growth with compatible commercial uses within a ½ mile of rapid transit stations; the TOD-E district, meanwhile, promotes high-density office employment with FARs between 0.5 and 1.5 within walking distance of transit stations. Huntersville's TOD plan is an outgrowth of a 1999 design charrette, led by New Urbanist Andres Duany, which forged a community consensus to transform an abandoned garment factory into a multi-use retail-entertainment-hotel-civic complex that will open onto a planned commuter rail station. The nearby cities of Cornelius and Davidson have developed similar plans that orient future growth to planned rail stations.

A semi-rural setting where transit-oriented zoning has been introduced is Garfield County, Colorado. There, a "Transit Planned Urban Development" district has been formed, and various streetscape improvements have been made to bus corridors. Chapter 16 reviews experiences with TOD planning and zoning in semi-rural areas of Colorado.

TOD Zoning

By and large, local governments wield almost complete control over

permissible land uses, building setbacks, and allowable densities in and around transit stations. Land-use controls derive from eminent-domain and home-rule powers granted by states. The standard tool used by local governments to regulate land and enforce specific plans, such as those for station areas, is zoning. Zoning brings macro-visions of the future down to the parcel level, providing a fine-grained interpretation of TOD. Once regulations are written that embrace compact growth, a pedestrian orientation, and mixed uses, TOD visions can be implemented on a case-by-case basis, in a consistent fashion, as a city goes about its regular business. Incremental implementation through zoning is especially important in big cities that are essentially built out and prime for strategic infill development.³

Traditional, or Euclidean, zoning separates land uses, sets density thresholds and minimum lot sizes, and usually contains explicit regulations such as bulk and height controls and minimum parking. With TOD, however, traditional zoning is often turned on its head (i.e., uses are intermixed, not excluded, and parking caps, rather than parking floors, are sometimes set).

TOD Overlay Zones

To allow for TOD, a municipality can create a special TOD zone or change existing classifications. Officials in Mountain View, California, for example, recently rezoned 40 acres of industrial land for 520 housing units adjacent to the Whisman light-rail station. More common than either rezoning or new designations, however, is the creation of an *overlay zone*. As its name implies, an overlay zone is placed on the zoning

map over a base zone. The overlay modifies, eliminates, or adds regulations to the base zone. Overlays provide for effective land-use control without increasing the complexity of the regulations.

A growing list of U.S. cities—San Diego, Seattle, Portland, Eugene, San Antonio, Oakland, Columbus, Durham (NC), Mountain View (CA), Morristown (NJ), and Bayonne (NJ), among others—have introduced overlay zoning in recent years to existing or planned station areas to promote complementary mixed-use development. San Diego’s overlay zone is the chief instrument for implementing transit-supportive design guidelines introduced early into the city’s light-rail program (see Text Box 4.1).

An overlay district can be an effective interim tool when demand for land around a station is strong. To prevent automobile-oriented uses before station area plans could be enacted, the city of Portland created interim overlay zones along the westside light-rail extension to Hillsboro. Similarly, the city of Seattle’s interim overlay district prohibits automobile-oriented uses and lowers parking standards within a ¼ mile of proposed light-rail stations to preserve future TOD opportunity areas (see Text Box 4.2). It has since been replaced by permanent overlay zones at seven planned light-rail stations. To prevent big-box retailers and automobile-oriented designs from preempting TOD, in 1998 the city of Minneapolis enacted interim overlay zones within ½ mile of the planned Hiawatha light-rail corridor. Parking ceilings were also set for TOD zones. Besides placing a maximum “lid” on parking, Columbus’s interim TOD overlay zone requires bicycle parking

facilities to be installed within 50 feet of building entrances of all new office and multifamily structures. Even the city of Phoenix, long considered a haven for automobile travel, is planning an interim TOD overlay zone as it moves forward with its Valley Metro Rail program.

TOD Land Uses

Besides identifying unwelcome land uses, like automobile repair shops, TOD zones often specify activities that are permitted as-of-right, such as housing and convenience shops. Lynwood, Washington, for example, has created a special mixed-use/transit-supportive zone that grants special use permits to any of the following services that are sited near transit stops: banks, professional businesses, retail stores, offices, and child-care centers.

Permissible uses often depend on the type of TOD; large-scale urban TODs, for example, might allow regional trip generators like entertainment complexes, whereas neighborhood-scale TODs are apt to ban such activities. Figure 4.2 portrays the land-use mixes and site-design features recommended by noted TOD designer Peter Calthorpe. These standards have been adopted by a host of cities that have hired Calthorpe and his associates over the past decade to prepare local design guidelines and TOD ordinances, including Portland, San Diego, Salt Lake City, and Minneapolis. Calthorpe calls for the employment and commercial components of a TOD to increase as it becomes more urban.

The Puget Sound Regional Council suggests that to ensure a good balance of activity within a TOD, the number

San Diego's TOD Zoning and Design Guidelines

The city of San Diego pioneered TOD zoning in the early 1990s, relying upon zoning overlays, interim zoning, and floating zones to promote compact, mixed-use development around light-rail stops. A key document in framing the city's zoning initiatives was the 1991 *Transit-Oriented Development Design Guidelines*, prepared by Peter Calthorpe and local planners.⁴ The guidelines present a typology of TODs. At the upper range of the hierarchy are regional-serving TODs that feature large mixed-use cores with supermarkets, professional offices, restaurants, and retail shops. Village greens and public plazas are also included. Neighborhood TODs, on the other hand, focus on moderate-density, grid-street designs that connect residents to rail stops and feature neighborhood parks. The guidelines stress that TODs should be inviting to pedestrians, with buildings that open onto sidewalks and design elements that enliven streets and form a pleasant walking milieu. According to the *Guidelines*, the following design principles are to be applied when station-area plans are drafted:

Buildings must be of sufficient intensity to create safe and active streets enhanced by a sense of enclosure and visual interest, and to support transit. Orienting buildings to public streets will encourage walking by providing easy pedestrian connections, by bringing activities and visually interesting features closer to the street, and by providing safety through watchful eyes and activity day and night. Moderate to high intensities also support frequent and convenient transit service; and retail centers can provide a greater variety of goods and services if more residents and employees are within close proximity.

Recommended residential densities are 12 to 25 dwelling units per net acre; single-family detached housing should be built at 12 to 17 units per acre on small lots with ancillary units ("granny flats") on some parcels. Office densities vary according to parking provisions, with FARs of 0.35 to 0.6 for projects without structured parking and 0.5 to over 1.0 (with exact amounts set by community plans) for those with structured parking. In recognition of shared-parking possibilities, the city of San Diego recommends below-code reductions of 2% to 15% for different types of land uses in urban TODs. Also, retail, office, and public uses can count on-street parking spaces adjacent to their properties toward meeting minimum parking requirements.



San Diego's Transit-Focused Districts



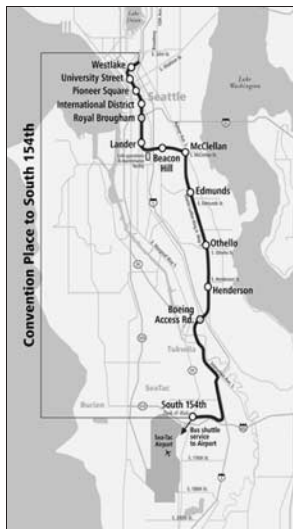
Hazard Center TOD, Mission Valley Trolley Line

Seattle's Station-Area Interim Overlay Zoning District

Seattle's City Council passed Station-Area Overlay Zoning legislation in 2001 to preserve opportunities for transit- and pedestrian-oriented development around proposed Link light-rail stations and the voter-approved 14-mile monorail extension. Overlay zoning districts embody the following TOD characteristics:

- A radius that extends up to 1,320 feet (¼ mile) of a station or stop;
- Medium- to high-density residential development;
- Presence of a commercial or mixed-use area where goods and services are available to the public, with opportunities for enhancing the pedestrian environment;
- Opportunity sites for new developments with good access to transit, bicycle, and pedestrian modes; and
- Single-family development only if minimum density standards are met.

Seattle's overlay zoning district further requires conditional use permits for residential development in a pedestrian-designated zone that might otherwise be preferable for commercial and retail activities (i.e., bigger trip generators). Residential uses are prohibited at street level along principal pedestrian streets, and single-purpose residential structures are prohibited if they are located within a zone that has a height limit of 85 feet or higher. The district further defines activities that are prohibited, such as drive-in businesses and industrial uses. Flexible parking standards, on the other hand, are encouraged. Design standards call for the placement of parking between the rear or side lot lines of a structure. Also, nonconforming uses (such as gas stations, heavy commercial services, mini-warehouses, and vehicle repair shops) cannot be expanded by more than 20% of the existing gross floor area of an existing use. Besides light-rail and monorail station areas, overlay zoning is also being applied to two bus-based TODs: Convention Place Station, at the north end of the downtown bus tunnel, and Northgate Transit Center, a high-density, mixed-use urban development on the "super block" south of the Northgate Mall, which is to be built on 8 acres now occupied by two King County Metro park-and-ride lots.



TOD in Seattle. The Central Link light-rail line (left photo) suffered a setback when local voters turned down a sales-tax referendum in 2002; current plans call for a 2011 opening, assuming funding can be obtained. Top right photo shows a rendering of light rail as a "redevelopment catalyst" in Seattle's Rainier Valley. Bottom right photo shows the existing transit center at the Northgate Mall, which will soon be flanked by hundreds of apartments, retail shops, restaurants, and entertainment venues.



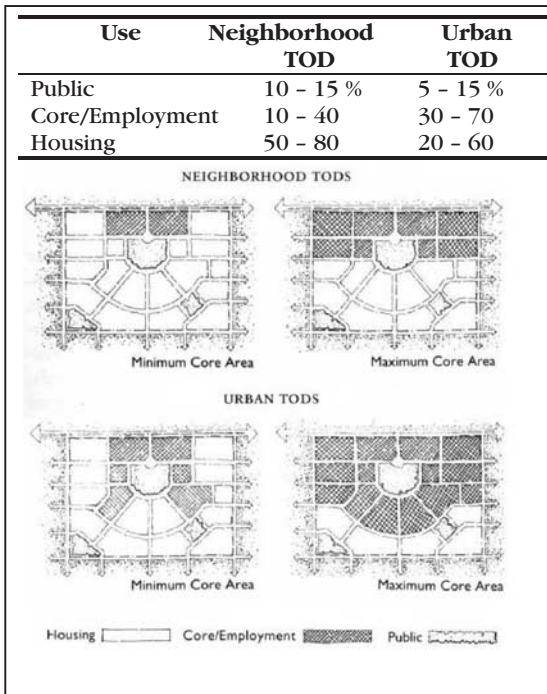


Figure 4.2. Land-Use Prototypes for TODs. Source: P. Calthorpe, *The Next American Metropolis: Ecology, Community, and the American Dream* (Princeton: Princeton Architectural Press) 1993.

of jobs should not exceed the number of residents by more than three to one.⁵ NJ TRANSIT, in its design guidelines, encourages mixing of uses within station areas to generate peak and off-peak ridership (e.g., mixing offices with entertainment uses encourages activity beyond normal business hours).⁶ In general, industrial uses are discouraged in TODs, although not always. The city of Seattle bans manufacturing activities from TODs since such uses have few workers per acre. However, the city of San Diego's TOD design guidelines hold that light industrial uses with low employment densities can be appropriate in some TODs if they are located outside of the mixed-use core and are compatible with other TOD uses.

TOD Densities

Some TOD zoning codes specify residential density thresholds. Table 4.1 reveals these can be as low as 7 dwelling units per acre for bus-based neighborhood TODs to 30 units per acre for larger TODs within 1/8 mile of a light-rail station. For non-residential uses, minimum FARs are sometimes defined in hopes of not only generating transit riders but also creating lively streetscapes and minimizing dead spaces created by surface parking lots. Based on a review of 11 TOD design guidelines across the United States, Reid Ewing concluded that the following rules of thumb are appropriate: 7 units per acre (basic bus

Table 4.1. Recommended Residential Density Thresholds for TODs

City/Source	TOD Type	Minimum Residential Densities (Dwelling Units/Acre)
San Diego TOD Guidelines	<i>Urban TOD</i> (light-rail served)	25 (18)
	<i>Neighborhood TOD</i> (Bus served)	18 (12)
Washington County, Oregon (Land Use and Transportation Air Quality Study)	<i>Urban TOD</i> (light-rail served)	15 (7)
	<i>Neighborhood TOD</i> (Bus served)	8 (7)
Portland Tri Met, TOD Guidelines	<i>Light-Rail Served TOD</i>	30: 0-1/8 mi 24: 1/8-1/4 mi 12: 1/4-1/2 mi
	<i>Bus Served TOD</i>	24: 0-1/8 mi 12: 1/8-1/4 mi

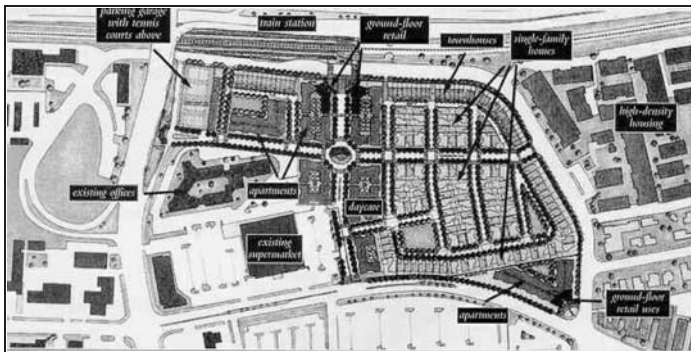
Source: Community Design + Architecture, *Model Transit-Oriented District Overlay Zoning Ordinance* (Oakland: 2001).

services); 15 units per acre (premium bus service); and 20 to 30 units per acre (rail services).⁷ Such numbers are not based on widely accepted research findings nor are they universally applicable. They merely represent thresholds found in transit-agency design guidelines and are not necessarily relevant to specific sites or corridors.

By way of example, The Crossings in Mountain View, California, is noteworthy for its adaptive reuse of a marginal site in an older suburban area with good rail

services. The Crossings replaced an aging and under-performing shopping center with 400 housing units clustered around a Caltrain commuter rail station. (See Text Box 4.3.) The city of Mountain View zoned the land on which The Crossings sits for compact, mixed-use development according to TOD-supportive design guidelines. Net residential densities at The Crossings include single-family homes at 12 units per acre, townhouses and rowhouses at 30 units per acre, and apartments at 50 units per acre. The average net density is 22 units per acre,

The Crossings, Mountain View, California



The top left diagram shows a former shopping mall, surrounded in big-box retail fashion by acres of asphalt parking. The bottom left diagram shows the site design of The Crossings, a residence-based TOD, with the new Caltrain station at the top. The right top photo shows row homes coming in at 30 units per acre, and the bottom right photo shows zero-lot-line single-family residences in the range of 15 to 18 units per acre.

Text Box 4.3

which places all units within walking distance of the train station.

What about the densities for employment and commercial uses? Peter Calthorpe suggests a minimum FAR of 0.35 for nonresidential activities in TODs, while the Puget Sound Regional Council suggests a target of 0.5 to 1.0 for commercial developments without structured parking and at least 2.0 for developments with structured parking. The Regional Council further contends that employment densities of 25 jobs per gross acre will support frequent, high-capacity transit service. This density translates into 15,000 jobs within a ½-mile radius of a station. For light-rail service, employment densities of 50 jobs per gross acre are needed.⁸ A recent national study on transit and urban form estimated that downtown densities of 100 workers per gross acre translate, on average, into 300 boardings per day for suburban light-rail stations that are surrounded by low-density residences (of five persons per acre) 20 miles from a downtown.⁹

Among medium-sized cities, Denver has pushed the envelope for commercial densities in TODs. Through Blueprint Denver, the first overhaul of city zoning regulations in 50 years, the new zoning designation of transit mixed use (TMU-30) allows FARs of up to 5 to 1; parking requirements for areas close to light-rail stations are slashed 25%. To qualify for TMU-30 zoning, sites must cover at least 12 acres and be a short walk from a station platform. See Chapter 16 for further discussion on Denver’s bold TOD zoning initiatives.

How densities are arranged within a TOD zone can have a bearing on whether residents and workers are inclined to

patronize transit. Guidelines normally call for densities to decline from the core of an urban TOD in a “wedding cake” fashion, so as to put more people closer to the train station (see Figure 4.3). Research suggests that density gradients that decay exponentially with distance from a station maximize ridership.¹⁰

TOD Parking Codes

Rail transit has always had a schizophrenic relationship with parking. On the one hand, acres of surface parking detract from the walking, human-scale quality of stations. Yet,

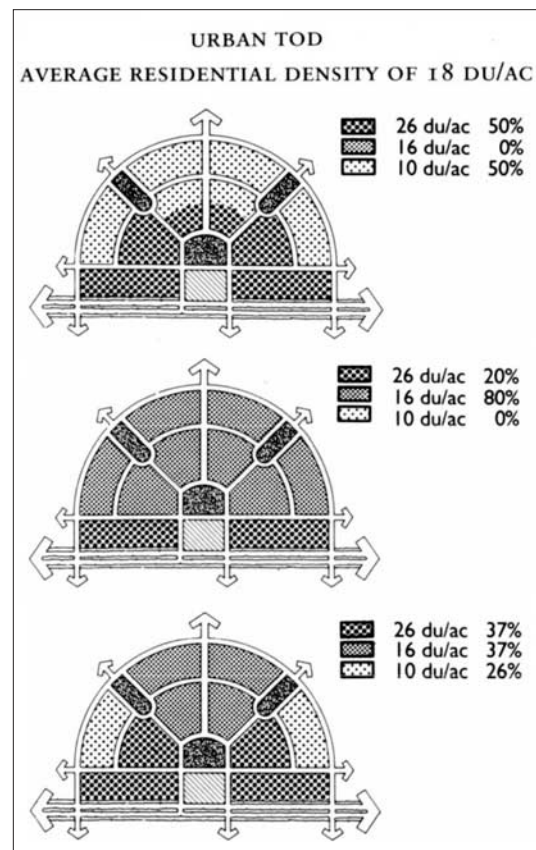


Figure 4.3. Density Gradations for an Urban TOD at 18 Dwelling Units per Acre (du/ac). Source: P. Calthorpe, *The Next American Metropolis: Ecology, Community, and the American Dream* (Princeton: Princeton Architectural Press, 1993).

in the vast majority of suburban settings, densities are so low and feeder bus services are so meager that park-and-ride is the only viable means of station access. Nevertheless, some U.S. cities have sought to flex or even lower TOD parking standards. The city of San Diego recommends reductions between 2 and 15% for land uses in the urban TODs. The cities of Denver and Dallas have similarly enacted language reducing the number of parking spaces in mixed-use districts near rail stops.

The city of Portland, meanwhile, has adopted parking maximums for several TODs, including the recently opened Cascade Station/Portland International Center Plan District. Montgomery County, Maryland, reduces minimum parking requirements for office uses in close proximity to Metrorail stations.

Some cities allow projects within TODs to count on-street spaces in satisfying minimum parking requirements. The city of San Diego, for instance, allows retail, office, and public uses to count as on-street spaces for parcels adjacent to San Diego Trolley stations. Short-term parking meters are sometimes installed to ensure high rates of customer turnover. San Diego is also noteworthy for its shared parking initiatives at Trolley stops, a de facto form of capping parking supplies. There, the regional rail authority, Metropolitan Transit Development Board (MTDB), entered into a license agreement with a theater owner to share the transit-agency parking lot at the Grossmont Station (Photo 4.1).¹¹ For use of the parking lot, the theater pays MTDB an annual lease. Theater-goers can use the parking lot at all hours, subject to the same limitations as Trolley patrons (e.g., no parking over 24 hours).



Photo 4.1. Shared Parking Sign at San Diego’s Grossmont Trolley Station. Parking demands of transit stations and entertainment venues dovetail nicely. Theater-goers can use Trolley Station parking on evenings and weekends, and Trolley park-and-riders can use theater parking spaces Monday through Friday, from early morning to early evening.

A survey found that nearly one-third of theater employees commuted via transit, compared with a regional transit market share of just 3% for work trips.¹² The arrangement generates \$40,000 in annual lease revenues for MTDB.

While capping automobile parking supplies, some jurisdictions have called for minimum levels of on-site parking requirements for bicycles. The Mid-Ohio Regional Planning Commission, which serves the greater Columbus area, has proposed a model TOD ordinance that requires that bicycle parking be installed for all office and multifamily structures as well as freestanding commercial uses and that it be located within 50 feet of the central or most frequently used building entrances (see Table 4.2). Zoning provisions requiring showering facilities for cyclists have been recommended in Atlanta’s Lindbergh Station District and similar guidelines have been enacted around Mountain View’s Caltrain commuter-rail station.

Table 4.2. TOD Bicycle Parking Requirement for Model Overlay Ordinance, Columbus, Ohio, Region

Land Use	Minimum Bicycle Parking Requirement
Multifamily residential	1.00 space per dwelling unit
Retail	0.50 spaces per 1,000 sq. ft.
Office	0.25 spaces per 1,000 sq. ft.
Industrial	0.14 spaces per 1,000 sq. ft.

Source: Mid Ohio Regional Planning Commission, *Model Transit Oriented Development Zoning Overlay District* (Columbus: 1999).

Zoning Obstacles

It should be noted that not all TOD zoning has met with success. Clark County, Washington, north of Portland, Oregon, adopted a TOD ordinance in 1995 that was repealed a year later because of an anti-regulatory backlash mounted by small businesses and employers. The city of Vancouver, Washington, adopted a TOD ordinance the same year, and while still on the books, the absence of any firm guidelines on what goes within a TOD has rendered it, according to local accounts, “toothless.” Such roadblocks to TOD implementation are taken up in the next two chapters.

Implementing TOD zoning and design guidelines can also give rise to unforeseen institutional conflicts. Many transit-supportive design manuals call for generous turning radii at street intersections to allow buses to negotiate turns. Such designs are generally at odds with the minimalist street designs advanced by neotraditionalists and TOD advocates. In the case of proposed TODs in California, Oregon, and Virginia, developers have been caught in a crossfire between traffic engineers and fire

marshals who complained that planned streets were too narrow (for safety and liability reasons) and neo-traditional planners who insisted they were too wide (and thus oriented to automobiles).

Implementation Tools and Ratings

To the extent that TOD represents a desirable land-use outcome, a number of planning, policy, and implementation tools are available to local entities to encourage TOD. In addition to zoning strategies, these include density bonuses, favorable lending terms through dedicated bonding issues, direct grants or loans, assistance with land assembly, relaxed parking standards, streamlined development reviews, and other mechanisms that encourage developers to undertake projects that might not fit their usual business model.

Among the many available implementation tools, which have been applied most widely in practice? Figure 4.4 summarizes experiences to date as identified by survey respondents. Percentages are broken down by instances where tools have been applied for both rail and bus services. To date, U.S. rail cities have been most aggressive in applying policy tools to leverage TOD. Also included in the table are the mean “effectiveness ratings” of each tool as assigned by public-sector survey respondents (based on a 7-point Likert scale, where 1 is the lowest score and 7 is the highest). Tools are listed in the table in descending order (from right to left) of mean effectiveness, revealing the degree to which those that are rated the highest have been embraced in practice.

The most widely applied tool to leverage TOD has been the expenditure of

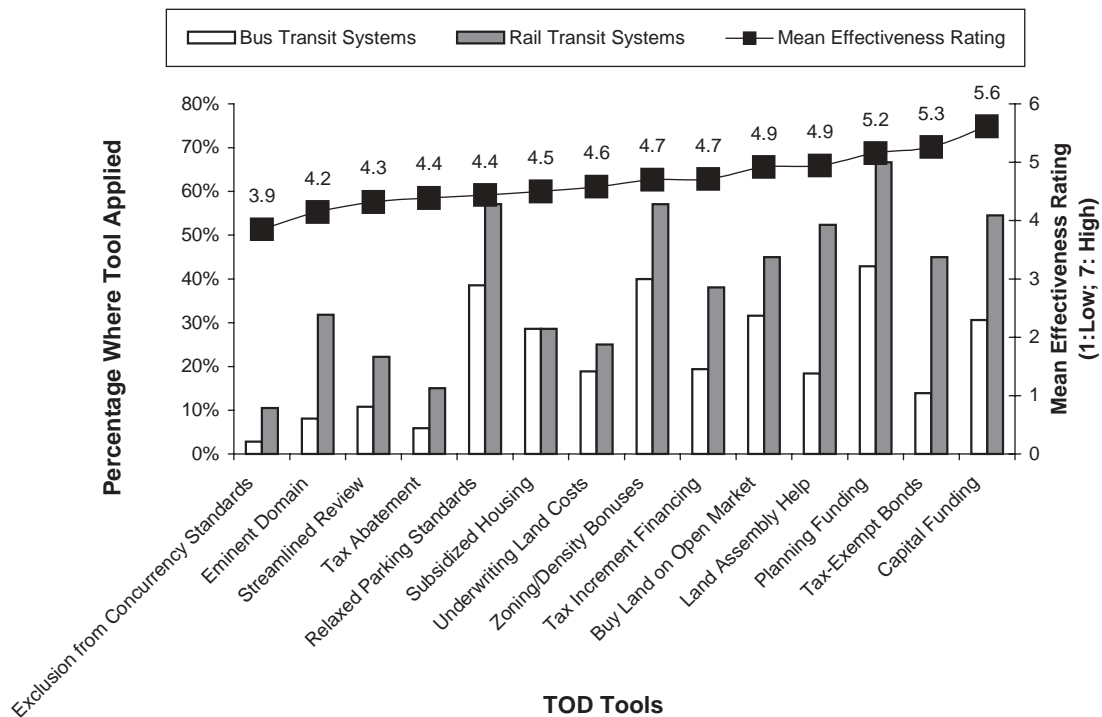


Figure 4.4. Transit Agencies' Experience with and Perceived Effectiveness of TOD-Supportive Policy and Planning Tools.

planning funding, in most instances to pay for consultants to prepare strategic station-area plans. Next most common are zoning/density bonuses and relaxed parking standards, followed by capital funding (for ancillary improvements like streetscape enhancements and pedestrian ways). Near the Ballston Metro station in Arlington, Virginia, bonuses have been introduced to create housing and retail spaces in buildings that would otherwise be exclusively office space, creating a 24-hour district. Density bonuses in Montgomery County, Maryland, have been used around the Bethesda and Silver Spring Metro stations to relieve developers of the cost burden of an inclusionary housing ordinance that mandates affordable unit set-asides.¹³ The city of Atlanta's Lindbergh Station District also includes an incentive for affordable housing. Developers can

increase the residential floor areas to twice a parcel's lot area if at least 20% of the units are affordable.¹⁴ Developers must agree to keep the units affordable for at least 15 years. In suburban Chicago and greater Denver, there are good examples of capital improvements, such as refurbishment of aging commuter-rail stations and provision of shared parking facilities, which have attracted private investment to station areas (see Chapters 14 and 16, respectively).

Figure 4.4 shows that a number of U.S. rail cities have also introduced land-based policies, such as buying land on the open market (for land banking), as well as providing land assembly help. In the San Francisco Bay Area, for instance, redevelopment agencies have been instrumental in assembling and delivering to master-builders large plots

of land that accommodate major mixed-use projects at Pleasant Hill, El Cerrito del Norte, and Fruitvale stations. In the case of El Cerrito del Norte, the city's redevelopment agency forged a workable partnership to create Del Norte Place, a mixed-use project with 135 multifamily units (20% of which are affordable) and 21,000 square feet of street-level commercial space (Photo 4.2).¹⁵ The redevelopment agency acquired a site next to the BART station for \$3 million through the issuance of qualified redevelopment bonds and then leased it to the Ibox Group, the project owner-developer, for a 65-year period. The redevelopment agency in return will receive 20% of the net project cash flow (after the 5th year) and 20% of the share of retail-sales proceeds.¹⁶ Construction and permanent financing of some

\$11 million was provided through 40-year, fixed-rate, tax-exempt mortgage revenue bonds issued by Contra Costa County. The loan proceeds were insured through the FHA coinsurance program, 221(d)(4), which gives the bonds a Government National Mortgage Association guarantee and thus a superior bond rating. Remaining funds were in the form of equity provided by the Del Norte Place Limited Partnership. The Ibox Group contributed approximately \$3.2 million. Low-income housing tax credits were syndicated to 30 individual limited partners for a further \$1.8 million in equity contributions. Moreover, the Contra Costa County Department of Community Development kicked in \$200,000 in block grants. BART joined the partnership by selling an easement for parking under the adjoining elevated track.



Photo 4.2. Del Norte Place Mixed-Use TOD, El Cerrito, California.

As Figure 4.4 shows, implementation strategies that are procedural in nature, like streamlined review and exclusion from concurrency standards, have not been put into practice very often. Where applied, however, they have made a difference. According to the lead developer, the 86-unit Atherton Place project near BART's Hayward Station owes its existence in large part to the local redevelopment authority, which expedited the project through the city's bureaucracy. As noted in the next chapter, this sentiment is often heard among TOD developers. A good example of TOD-friendly evaluation standards comes from Santa Clara County, California, where sliding-scale impact fees have been used to bring down the cost of affordable housing at several light-rail stations where parking lots have been infilled. The county,

through its Congestion Management Agency, recommends that localities reduce the estimated traffic impacts of new housing projects by 9% if they are within 2,000 feet of a light-rail station and 2% if they are within 2,000 feet of a bus stop. Trip generation rates for mixed-use projects are further adjusted downward. The Los Angeles MTA has recently followed suit, offering a 15% credit for residentially oriented mixed-use projects that have at least 24 units per acre and that are within ¼ mile of a light-rail station. The biggest credits for a mixed-use TOD were given to the 34-acre mixed-use megaproject at WMATA's White Flint Station in the Washington (D.C.) Metropolitan Area. Traffic mitigation credits granted to this project in light of its proximity, mix, and orientation to transit were

- *Mixed-use reduction:* 10%–25%;
- *Proximity to station reduction:* 40% for apartments, 50% for offices (a.m. peak), 28% for offices (p.m. peak), 25% for retail, and 5% for cinema; and
- *Traffic management reduction:* 10%–23%.

Together, these measures afforded the project a 45% reduction in estimated vehicle trip generation rates. Smart-growth planning requires a smart calculus, such as in these TOD examples. Through sliding-scale impact assessments such as those used in northern and southern California and the nation's capital, mixed-use projects built near light-rail stations end up paying considerably lower impact fees than other comparably sized projects. Presumably, some of these savings get passed on to tenants, thus boosting the market demand for TOD.

It bears repeating that most of the implementation tools listed in Figure 4.4 have not been applied by transit agencies themselves, but rather by municipalities or other local interests. The most common contributions of transit agencies have been capital and planning funding as well as acquisition of land on the open market.

In terms of mean effectiveness rating by public-sector respondents, the most highly regarded tools are fiscal measures, like capital funding, tax-exempt bonds, and planning funding. Those working “in the trenches” of TOD implementation seem attuned to the notion that “money matters.” In keeping with their more limited use, procedural tools like concurrency exemptions and streamlining of permit reviews are generally considered to be the least effective. The simple correlation between usage of a tool and its mean effectiveness rating was a respectable +0.668. For the most part, tools that are viewed by public-sector stakeholders as most effective at leveraging TOD are the ones actually being used by transit agencies and their local government partners.

TOD developers and other private interests generally have a different perspective on the effectiveness of tools. As discussed in the next chapter, interviews with real-estate developers from across the United States (all with firsthand experience with TOD projects) revealed that tools that increase certainty, reduce turnaround time, and upgrade transit services are generally preferred. However, developers also generally agree that supportive zoning, help with land assembly, funding set-asides for streetscape improvements, and

other tools within the sphere of public-sector control can be a boon to TOD implementation in some circumstances.

Help from Above

Survey respondents from transit agencies, municipalities, and redevelopment authorities were also asked to weigh the importance of initiatives introduced by higher levels of government (e.g., regional, state, and federal) toward promoting TOD. While the hands of higher-level governments are often tied when it comes to exercising direct control over land use or the behavior of developers and lenders, state and federal authorities can exert influence by introducing financial incentives or providing local governments with the legislative and statutory means to enact smart-growth measures like TOD.

Figure 4.5 summarizes the views of transit-agency respondents regarding desired roles of higher levels of government; rankings were similar among respondents from municipalities and redevelopment agencies. Initiating planning grants and targeted infrastructure funding (such as for new highway access or regional utility improvements) were actions that higher-level governments could take that were most valued among local-level respondents. Smart-growth initiatives, typically introduced at the state level, were also generally looked on favorably. Smart-growth legislation often ties state infrastructure dollars to local anti-sprawl programs, as in Maryland where counties must designate priority funding areas and faithfully strive to restrict growth to those areas. State tax-abatement programs introduced through smart-growth initiatives were looked upon

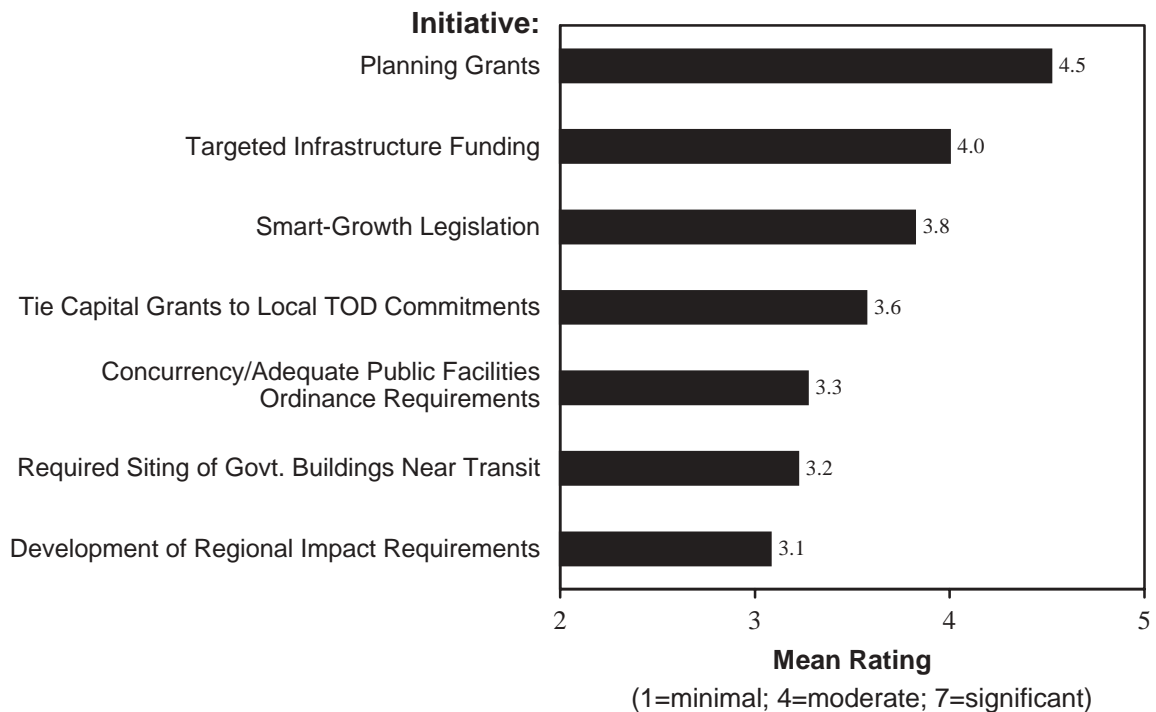


Figure 4.5. Transit-Agency Respondents’ Mean Importance Rating of Initiatives by Higher Levels of Government to Promote TOD.

favorably by local respondents from big rail cities. Like the state of Oregon, which authorized tax exemptions for multifamily housing near transit stops, Minnesota's state legislature has sought to incentivize TOD, although unlike Oregon, its focus is on commercial development. In 1996, Minnesota authorized a 12 to 15% tax break for commercial and industrial projects that lie within ¼ mile of high-frequency bus or rail stations. High-frequency stations are defined as either regional transfer hubs or stations served by routes with 30-minute or shorter headways during peak hours.

Regulations imposed by higher levels of government generally received low marks among local respondents. Strictures such as adequate public facilities ordinances, required siting of government buildings near rail stations, and DRI requirements (such as those recently introduced in Georgia and Florida) were not of much interest to many local respondents. Despite such low ratings, some of these higher-government measures have paid off nicely; an example is the ridership boon that followed the Franchise Tax Board's recent opening of its new headquarters near an existing Sacramento light-rail station (see Text Box 4.4). Overall, local-level interests place the highest value on federal, state, and local initiatives that provide capital "concrete and steel" improvements to TOD districts as well as cash grants and are less enthusiastic about those that are procedural or broad-based in nature.

Funding TOD: Public Perspective

As with most real-estate development, TOD occurs largely through the private

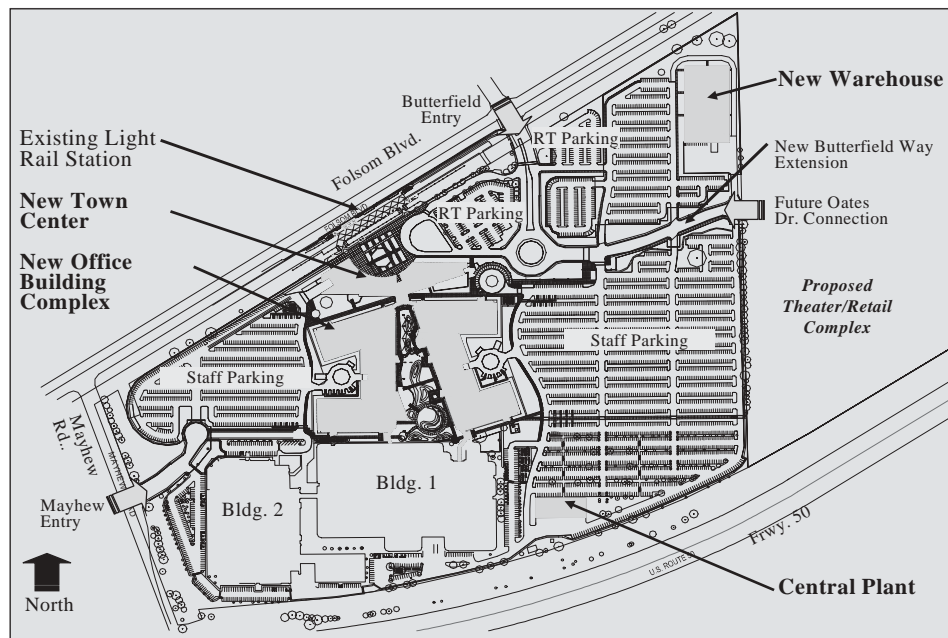
marketplace. Still, transit agencies, local and regional governments, and redevelopment authorities have turned to a variety of sources to finance ancillary improvements and amenities, like sidewalks, civic plazas, and undergrounding of utilities. Such enhancements, proponents contend, can be a catalyst to private investment, particularly in marginal neighborhoods suffering from an image problem. This section reviews experiences with funding TODs and the physical armature associated with them. Funding tools and finance issues are discussed from the perspective of four public stakeholders: transit agencies, municipalities, redevelopment agencies, and MPOs. Chapter 5 discusses finance further, although from a private-sector perspective.

Transit Agencies

Rarely, if ever, are general funds from transit agencies' budgets used for ancillary improvements like streetscape upgrades; transit operations and on-site capital investments usually lay claim to any discretionary agency dollars. A number of transit agencies have received federal and state grants, through such entities as TCSP, to finance ancillary improvements around stations. In the national survey, transit-agency respondents were asked to identify whether different funding sources have been used to finance either the pre-development (e.g., planning) or actual construction of TODs and their appurtenances. Table 4.3 summarizes the responses. For the most part, non-grant sources have been used sparingly to finance ancillary improvements around stations. Besides inter-governmental grant transfers, individual investor funds

Building a State Office Campus Near Light Rail

With multiple locations in Sacramento, California's Franchise Tax Board (FTB) wanted to unite employees on a single campus site. State-owned land near the Butterfield light-rail station, where two preexisting FTB buildings stood, was chosen as the desired site, in keeping with a state mandate that requires relocated state-government offices within a rail transit service district to be within walking distance of a station. The Butterfield station served as a catalyst for the design of a pedestrian-friendly, human-scale project focused on light-rail transit. The state entered into a joint development agreement with Sacramento Regional Transit to use portions of the existing Butterfield light-rail station for the expanded facility. The 1.85-million-square-foot campus includes a town center building, two new office buildings, and an existing tax processing building, all linked by an indoor pedestrian main street. The town center, which is open to the public, serves as the front door to the campus and includes a dining facility, auditorium, daycare facility, and various sundries and shops. The complex includes 300 bicycle lockers and shower and change facilities. Proximity to the light-rail station and various transportation-demand management measures reduced the number of parking spaces needed by about 1,500. A light-rail passenger can step off the train, walk 75 feet, enter the town center building, and reach various facilities on campus without going outside. Still, all good campuses invite outdoor activities; thus, the FTB project includes a 1.8-acre courtyard connecting two office buildings and a landscaped plaza to the light-rail station.



Text Box 4.4

Table 4.3. Non-Grant Funds Used by Transit Agencies to Leverage TODs

Type of Fund	Number and Agencies Using Funds for:	
	Predevelopment	Development
Pension Funds	1: RTD-Denver	2: SamTrans; WMATA
Union Funds	0	2: TriMet; SamTrans
REIT Funds	2: BART; RTD-Denver	2: BART; WMATA
Individual Investor Funds	7: BART; Jacksonville Transit; Metro North; Miami-Dade; TriMet; RTD-Denver; WMATA	10: BART; Jacksonville Transit; Maryland Administration; Metro North; Miami-Dade Transit; NJ TRANSIT; Riverside Transit; Southwest Metro (MN); TriMet; WMATA
Nonprofit/Foundation Funds	5: BART; Kitsap Transit (WA); Miami-Dade Transit; RTD-Denver; TriMet	5: BART; Kitsap Transit (WA); Miami-Dade Transit; RTD-Denver; TriMet

have been most widely used for planning and constructing TOD improvements. These funds are followed by nonprofit and foundation funding in frequency of usage. Pension, union, and Real Estate Investment Trust funds (REIT) have been used sparingly.

BART and Denver’s RTD have been particularly proactive in tapping into various fiscal resources in order to leverage TOD.

Nearly half of the transit-agency survey respondents said their states offer

planning and construction grants that can go toward TODs, but just 10 of the 90 respondents (11%) have received such grant funds to date. Lane County Transit in Eugene, Oregon, for instance, received funds from the Oregon Department of Transportation to pursue TOD planning around several BRT stations currently under construction. BART received state Environmental Justice Grants to conduct community-based planning around six inner-city rail stations.

What about joint development projects? Where have transit agencies generally secured funds to finance their share of public-private co-ventures? Figure 4.6 reveals that traditional funding sources—grants and loans—have largely been relied on for these purposes. As a set-aside, individual investor funds have been used more often to pay for advanced planning and other predevelopment activities. Sources more directly controlled by equity owners, like union funds and REIT funds, are used far less frequently for transit joint development.

A majority of surveyed transit properties with joint development projects have built-in financial safeguards. Over three-quarters of surveyed transit properties with joint development projects have equity partnerships in which the agency receives a share of profits from the sale of properties. This is usually in return for the transit agency having written down land costs (and occasionally having donated land outright). An equal share of surveyed transit properties receives guaranteed minimum rents, regardless of market cycles. A slightly smaller share—58% of respondents—participates directly in the profits of private real-estate ventures. Less

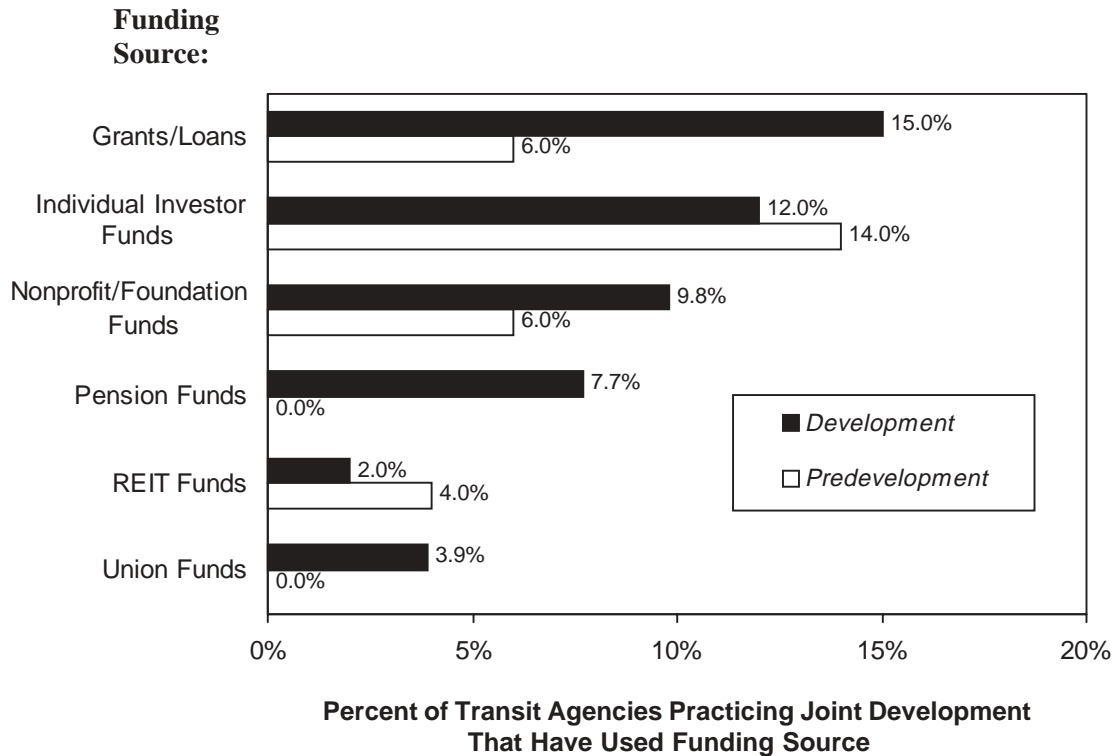


Figure 4.6. Joint Development Funding Sources, Predevelopment and Development.

common is the levy of penalties against developers who finish projects late. One out of four surveyed agencies practicing joint developments exact a late fee.

Local Governments

Municipalities are not as active as transit agencies in financing ancillary improvements around transit stations. Rarely do general municipal funds go for these purposes because of other pressing needs. Special assessments or transfer grants from higher levels of government are for the most part relied on by municipalities to finance sidewalks and other streetscape improvements in and around transit stations.

Where one does find direct local funding of station-area ancillary improvements is

in redevelopment districts. Tax increment financing (TIF), a quintessential redevelopment-agency tool, is often used for reducing the costs of development that the private sector might otherwise bear. TIF secures funds by floating bonds based on the anticipated future increases in property-tax revenues that will result from planned development within the redevelopment area. Table 4.4 shows how redevelopment funds have been used within redevelopment districts in four jurisdictions. Three of the four jurisdictions—Houston, Contra Costa County, and Redwood City—have spent TIF funds on such infrastructure improvements as roads, utilities, and parking. The La Mesa Community Development Agency has used TIF to purchase land around a trolley station

Table 4.4. Redevelopment Agency Respondents' Uses of Tax Increment Financing

Redevelopment Agency	Uses of Tax-Increment Financing
<i>Houston, TX:</i> Midtown Redevelopment Authority	<ul style="list-style-type: none"> * Utilities * Streets * Curbs * Gutters * Sidewalks * Street lighting * Street furniture * Landscaping/Irrigation
<i>Contra Costa County, CA:</i> Redevelopment Agency	<ul style="list-style-type: none"> * Streets * Drainage * Utilities * Parking Structure (Public) * Housing
<i>Redwood City, CA:</i> Redevelopment Agency	<ul style="list-style-type: none"> * Infrastructure improvements * Landscaping
<i>La Mesa, CA:</i> Community Redevelopment Agency	<ul style="list-style-type: none"> * A channel was undergrounded to provide more usable land for new development adjacent to a trolley station. * Public street improvements and land acquisitions were completed for a new development fronting a trolley station.

and underground a stream channel so as to make a parcel more usable and attractive for TOD. TIF, it should be noted, is not available in all states, in large part because it is politically controversial, effectively subsidizing development by creating tax-privileged districts.

Besides TIF, special assessments are also used to finance TOD improvements. Montgomery County, Maryland, for example, charges a special parking assessment on new development near the Bethesda Metro Station. Developers who opt not to comply with requirements for structured parking must pay a fee that is used by the county to build and maintain its own multi-story parking lots in the area.

Higher Levels of Government

MPO funding sources for TOD planning come primarily from federal and state government in the form of pass-through grants. These include FHWA TCSP grants; FHWA planning funds under Section 112-PL; and FTA's Section 5303 planning enhancement funds. For example, the Delaware Valley Regional Planning Commission has a 2-year-old grant program (the Transportation and Community Development Initiative) that provides Transportation Improvement Program funds for TOD planning studies and other activities targeted to the region's core cities and inner-ring suburban municipalities. In a few instances, regional planning bodies have used their own funds. Portland Metro, for example, uses its general funds as a local match for state and federal planning and enhancement grants. As the nation's only directly elected regional governing body, Portland Metro is the exception more than the rule.

There are no states that provide funding explicitly for TOD planning and development, although several (New Jersey and California) give TODs priority access to state-controlled transportation funding under certain conditions. State support tends to be more indirect, in the form of technical assistance. State governments do channel funds to pedestrian and bicycle improvements that can enhance the quality of non-motorized access and circulation around transit stops. The state of Illinois, for example, under the "Illinois Tomorrow: Balanced Growth for a Better Quality of Life" initiative, recently award \$3.7 million in grants; some of this money went to improve the walkability of local streets and

streetscapes in and around aging commuter-rail stations.

Summary

TOD implementation ideally starts with a vision, cultivated from broad-based public input, and proceeds to strategic station-area planning backed by appropriate zoning as well as policy incentives and regulations. Around half of the surveyed transit properties in the United States stated that their regions have a vision, policy, or plan in place that embraces TOD principles.

The most common means of controlling land uses, densities, and site designs of TOD is overlay zones. Most overlays—often introduced on an interim basis to head off automobile-oriented uses that might compromise a TOD—specify desired land uses as-of-right, such as housing and convenience shops. For urban TODs, densities of 20 to 30 dwelling units per residential acre and FARs of 1.0 and above are not uncommon. Some of the more progressive TOD zoning districts also lower automobile parking requirements and sometimes even set bicycle parking mandates.

The national survey of U.S. transit agencies revealed that, besides standard zoning, the most frequently used tools introduced to leverage TOD are funding for station-area planning and ancillary capital improvements; the introduction of density bonuses, sometimes used to encourage the production of affordable housing units; and relaxation of parking standards. These measures, moreover, received high marks in terms of their overall effectiveness among transit professionals who responded to the

survey. Next in the order of frequency of usage have been land-based tools like land purchases on the open market (for land-banking and potential “deal-making”) and assistance with land assemblage. For the most part, redevelopment agencies have applied these tools, meaning that their role in leveraging TOD has been mainly limited to economically depressed or blighted neighborhood settings. Because of the higher risk involved, redevelopment tools have often been accompanied by other funding sources, sometimes with a dozen or more participants involved in the process.

Implementation strategies that are procedural in nature, like expediting entitlement reviews and excluding TODs from concurrency requirements, have been applied less often in practice and are also viewed by public-sector interests as less effective than other measures in jump-starting TOD. As discussed in the next chapter, this view does not square with that of many TOD developers.

In terms of what MPOs, state DOTs, and the federal government might do to help implement TODs, respondents from the local levels stated loudly and clearly that what they need most is money—specifically for strategic station-area planning, infrastructure, and on-the-ground improvements. Smart-growth legislation that targets state infrastructure and urban renewal grants to transit station areas (which currently exists in the state of Maryland) is also looked upon favorably by local interests. Regulations like concurrency requirements, on the other hand, generally received low grades among survey respondents from the local level.

For financing streetscapes and other ancillary improvements around transit stations, monies have mostly come from federal and state grants such as the TCSP program under the Transportation Equity Act for the 21st Century. The most common sources of non-grant funds used to leverage TOD are individual investor funds and nonprofit/foundation funds.

Notes

- ¹ R. Cervero, *The Transit Metropolis: A Global Inquiry* (Washington, D.C.: Island Press, 1998).
- ² Specific TOD plans have been adopted for these stations: Pittsburg/Bay Point, Concord, Pleasant Hill, McArthur, West Oakland, Richmond, San Leandro, Hayward, Union City, Fremont, Castro Valley, El Cerrito del Norte, El Cerrito Plaza, and Richmond.
- ³ N. Bragado, "Transit Joint Development in San Diego: Policies and Practices," *Transportation Research Record*, No. 1669 (1999): 22–29.
- ⁴ Calthorpe Associates, "Transit-Oriented Development Design Guidelines: City of San Diego," Department of Planning, August 1992.
- ⁵ Puget Sound Regional Council, *Creating Transit Station Communities in the Central Puget Sound Region: A Transit-Oriented Development Workbook* (Seattle, 1999).
- ⁶ New Jersey Transit, *Planning for Transit-Friendly Land Use: A Handbook for New Jersey Communities* (Newark, NJ: NJ Transit, 1994).
- ⁷ R. Ewing, *Transportation and Land Use Innovations* (Chicago: Planners Press, 1997).
- ⁸ Puget Sound Regional Council, 1999, op. cit.; R. Ewing, *Pedestrian and Transit-Friendly Design: A Primer for Smart Growth* (Washington, D.C.: Smart Growth Network, 1999).
- ⁹ Parsons Brinckerhoff Quade & Douglass, Inc., R. Cervero, Howard/Stein-Hudson Associates, and J. Zupan, "Regional Transit Corridors: The Land Use Connection," TCRP Project H-1 (Washington, D.C.: Transportation Research Board, National Research Council, Washington, D.C., 1995).
- ¹⁰ JHK and Associates, *Development-Related Survey I* (Washington, D.C.: Washington Metropolitan Area Transit Authority, 1987); JHK and Associates, *Development-Related Survey II* (Washington, D.C.: Washington Metropolitan Area Transit Authority, 1989); R. Cervero, *Ridership Impacts of Transit-Focused Development in California*, Monograph 45 (Berkeley: Institute of Urban and Regional Development, University of California, 1993).
- ¹¹ San Diego Metropolitan Transit Development Board, "License Agreement for Parking," April 19, 1990. This agreement was between the San Diego Metropolitan Transit Development Board as Licensor and CCRT Properties as Licensee.
- ¹² Bragado, 1999, op. cit.
- ¹³ Montgomery County's Moderately Priced Dwelling Unit (MPDU) program, one of the first inclusionary zoning requirements in the United States, stipulates that 12.5% to 15% of all units in projects of 50 units or more be set aside for households earning moderate income (roughly 60% of the area's median). In exchange for the set-aside, developers who comply with the program are given density bonuses that allow more units—22% in the MPDU program—to be constructed on the same amount of land.
- ¹⁴ The Atlanta City Council has defined the price of low-income units at 1.5 times the city's median family income and the rent of low-income units at 60% of fair market rent.
- ¹⁵ M. Bernick and R. Cervero, *Transit Villages for the 21st Century* (New York: McGraw-Hill, 1997).
- ¹⁶ R. Dunphy, D. Myerson, and M. Pawlukiewicz, *Ten Principles for Successful Development Around Transit* (Washington, D.C.: The Urban Land Institute, 2003).

Chapter 5

Building and Bankrolling TOD: A Private-Sector Perspective

TOD and the Private Sector

Real-estate developers occupy the front lines of TOD, organizing the financial, physical, and human resources needed to build projects around transit stations. Beyond their role in implementation, developers also often have a strong hand in the planning and design of TOD. Dating from the streetcar suburbs of the early 1900s, the history of development in the United States is replete with examples of private real-estate interests responding to market demand by planning, designing, and building projects around rail stations. Today this tradition is carried forward by a dedicated corps of developers who see TOD as a smart investment in increasingly congested and built-out urban areas. These developers are drawn to TOD in hopes of making nice financial profits, but they usually require and expect supportive public policies that allow them to do so.

Also essential to TOD implementation are banks and other lending institutions because, after all, as Willie Sutton said when asked why he robbed banks, “that’s where the money is.” At the end of the day, the prettiest drawings, most elegant cost pro formas, and greatest intentions of green-minded planners will matter little if those who finance the majority of real-estate projects in the United States are unwilling to put their money on the line.

This chapter draws on interview responses from developers and lenders,

among other inputs, to probe a host of TOD implementation issues mainly related to project financing. A series of one-on-one phone interviews were conducted with 35 real-estate developers from across the United States who have been involved with projects near transit stations. The head offices of interviewed developers, reflecting, for the most part, where they have been most active, were distributed as follows: Portland (8), San Francisco Bay Area (7), Washington D.C. (4), Boston (3), Chicago (3), Denver (3), Atlanta (2), and Los Angeles, Minneapolis, New York City, Sacramento, and San Diego (1 each). Surveyed developers come from large public corporations, mid-sized private firms, and small nonprofit housing and community development corporations.¹ More than two-thirds of the surveyed developers indicated that residential development is their firms’ main focus.² Appendix B presents the protocol used to guide developer interviews.³ The experiences of those interviewed are discussed in this chapter, focusing on the financial, market, and public policy issues that affect developers’ ability and willingness to undertake TOD.

A similar tact was used in soliciting inputs from the lending community. Lenders from four large metropolitan areas—the San Francisco Bay Area (4), Philadelphia (2), Chicago (1), and Los Angeles (1)—were queried about their past experiences with TOD and joint development projects in the United

States. Professional staff members known to have been involved in making loan decisions for TOD projects were interviewed over the telephone.⁴ While an interview protocol was used to guide the discussions (shown in Appendix C), for the most part, interviews were open-ended and conversational, covering topics that the interviewees felt were most important, on their terms. Lender interviews were often factual and to the point, peppered with anecdotes and frank opinions.

The Market for TOD

Developer interest in TOD stems in large part from the fact that the market for transit-oriented living, working, and shopping continues to expand, particularly in big cities that are increasingly choked with traffic. Traffic congestion, in particular, is prompting more and more Americans to pay a premium for housing near rail stations, even if it means living in smaller houses on smaller lots. Between 1990 and 2000, the average travel time to work nationwide rose by 13%, or almost 3 minutes, to 25.5 minutes. In big cities notorious for their traffic congestion, like Atlanta and Los Angeles, mean commute times rose by nearly 20%. Besides the increased stress that accompanies traffic congestion, many working parents complain about what John Whitelegg, a transportation geographer from Great Britain, calls “time pollution”: being robbed of quality time, time that could be better spent with children and family.

Besides worsening traffic congestion, the market for TOD is being driven by shifting demographics and receptive public policies. The “Ozzie and Harriet”

household of a male breadwinner, stay-at-home mom, and two kids is pretty much a thing of the past, especially in big U.S. cities with rail systems. Nationwide, the share of “non-traditional” households—single parents, childless couples, divorced or never-married people, or two or more unrelated adults—rose from 69.8% in 1980 to 76.5% in 2000.⁵ The numbers of new-immigrant households are also on the rise, and the location of choice for new immigrants tends to be big cities where economic opportunities are the greatest; big cities, of course, are also where urban rail systems are concentrated. Many recent immigrants from Latin America and Asia are accustomed to transit and understand the value of living and working near regional rail systems. They constitute a natural niche market of TOD dwellers. Also, as America continues to “gray,” retired couples seeking to downsize are increasingly opting to locate in walkable neighborhoods that are well served by transit. (Projections are eye opening; by 2025, more than one out of five residents in 27 states are expected to be 65 years of age or over, higher than in Florida today.⁶) The neighborhoods around many rail systems are particularly attractive to seniors because they enable access to cultural and sports events, shopping malls, and other destinations that appeal to retirees. This is only the case, however, if TODs are perceived to be safe and secure.

The many public policies devoted to smart growth in general and TOD specifically (reviewed in the previous chapter) have, of course, further strengthened the market for TOD. Policies that seek to increase supplies of affordable housing have been

particularly important. In many parts of the United States, redevelopment agencies require a set percentage of new units built within redevelopment districts to be below market rates. Many rail stations built on disused railroad corridors, former industrial corridors, or transitional neighborhoods, where land is cheap, happen to fall within redevelopment districts. As noted in Chapter 4, redevelopment agencies bring a powerful kit bag of tools to the table such as TIF. Other means of financing affordable units used by redevelopment authorities include tax-exempt bonds, low-interest loans, loan guarantees, grants, and direct equity participation. Creating TODs, whether around Miami's Overtown Station, Oakland's Fruitvale Station, or Montgomery County's Silver Spring Station, offers a chance to redress the "twin evils" of affordable housing shortages and travel congestion.

A New Jersey developer interviewed during the course of this research confided that his firm has gotten out of the business of building residential subdivisions on suburban greenfields. Instead, the firm today concentrates solely on redeveloping brownfields and grayfield sites, particularly near commuter-rail stations and on the waterfront with ferry connections to Manhattan. These developments are targeted at professional-class workers. The state of New Jersey's progressive brownfield program, which reduces some of the risks and instills greater certainty in remediating contaminated sites, was a decisive factor in this developer's reorientation.

While the market for TOD is largely considered to be "niche" in nature, even

this could be changing. At the extreme, take the GW Terrain housing project, in Amsterdam, The Netherlands (see Photo 5.1). Served by several light-rail transit lines, this project is an "automobile-free" residence. Tenants are not allowed to keep private automobiles on the premises (automobile-sharing kiosks are available immediately adjacent to the project). While one might assume that environmental "greens" and other "progressives" largely inhabit the project, in truth, many tenants are traditional families with children. Many are drawn to the transit-oriented, automobile-free project because of its superb access to Amsterdam's many cultural offerings and because the project interior is given over to gardens and playgrounds instead of asphalt parking. That is, the GW Terrain TOD is perceived as a safe haven for kids to play in and grow up in. Projects like the GW Terrain show that if site designs that instill a sense of security by providing "defensible spaces" and "eyes on the interior" are built near major transit stops, TOD can reach a more mainstream demographic, including traditional households with children.



Photo 5.1. Amsterdam's GW Terrain "Automobile-Free" TOD.

The Decision to Develop

What factors drive the decision to go forward with a TOD? While the presence of market demand is without question the overriding factor, the presence or absence of other factors, many outside the direct control of developers, can also have a bearing. Interviewed developers were asked about 13 factors thought to influence the willingness to go forward with a TOD project. These factors are ranked in Figure 5.1 in terms of their importance to the development decision.

The presence of supportive land-use designations was rated as the most important factor affecting the decision to develop. This bodes well for local governments interested in attracting TOD to their communities; changes to zoning are squarely within the purview of local government and can be changed with relatively little expense. One developer indicated that supportive land-use designations are particularly important for small parcels of land, such as infill sites. She explained that the time and effort associated with seeking a change in zoning is only justified when there is a large potential return associated with a major development. Small projects need the proper zoning to be already in place. Another developer mentioned that supportive land-use designations are most important when they reflect clear community sentiment. He noted that the most important factor for his firm in deciding whether to undertake a project is whether the community has gone through a visioning or community-planning process that expresses the kind of development most desired. He feels that when such plans have been completed it makes his job

much easier by creating a margin of certainty. In the best of worlds, land use ordinances reflect community sentiments; however, it is sometimes the case that neighborhood interests fight projects that threaten to add traffic even if they fully conform to local zoning.

This was the case around the Pleasant Hill BART station. Development plans stalled in 1995 in the face of stiff community opposition, despite a proposal that fully complied with the area's land-use plan. The addition of some 2,200 households to the Pleasant Hill Station area over the past two decades led to the formation of neighborhood associations that proceeded to fight all large-scale projects that threatened to draw regional traffic into the community. Not until the completion of a major community-planning process in 1999 did a new development proposal begin to find traction. With the completion of a successful charrette process in 2002, a second-generation TOD is presently moving through the approvals process.

The second most important factor influencing willingness to develop, as expressed by interviewed developers, is the potential for rent premiums due to superior location. This is not surprising given the "location, location, location" cliché ingrained in the minds of most developers, and it reflects the more general comment, made repeatedly by those interviewed, that development decisions—including decisions to lend, invest, or build—are driven by the real-estate market fundamentals.

Most developers interviewed also considered proximity to transit an important factor in the decision to develop. Admittedly, the group of

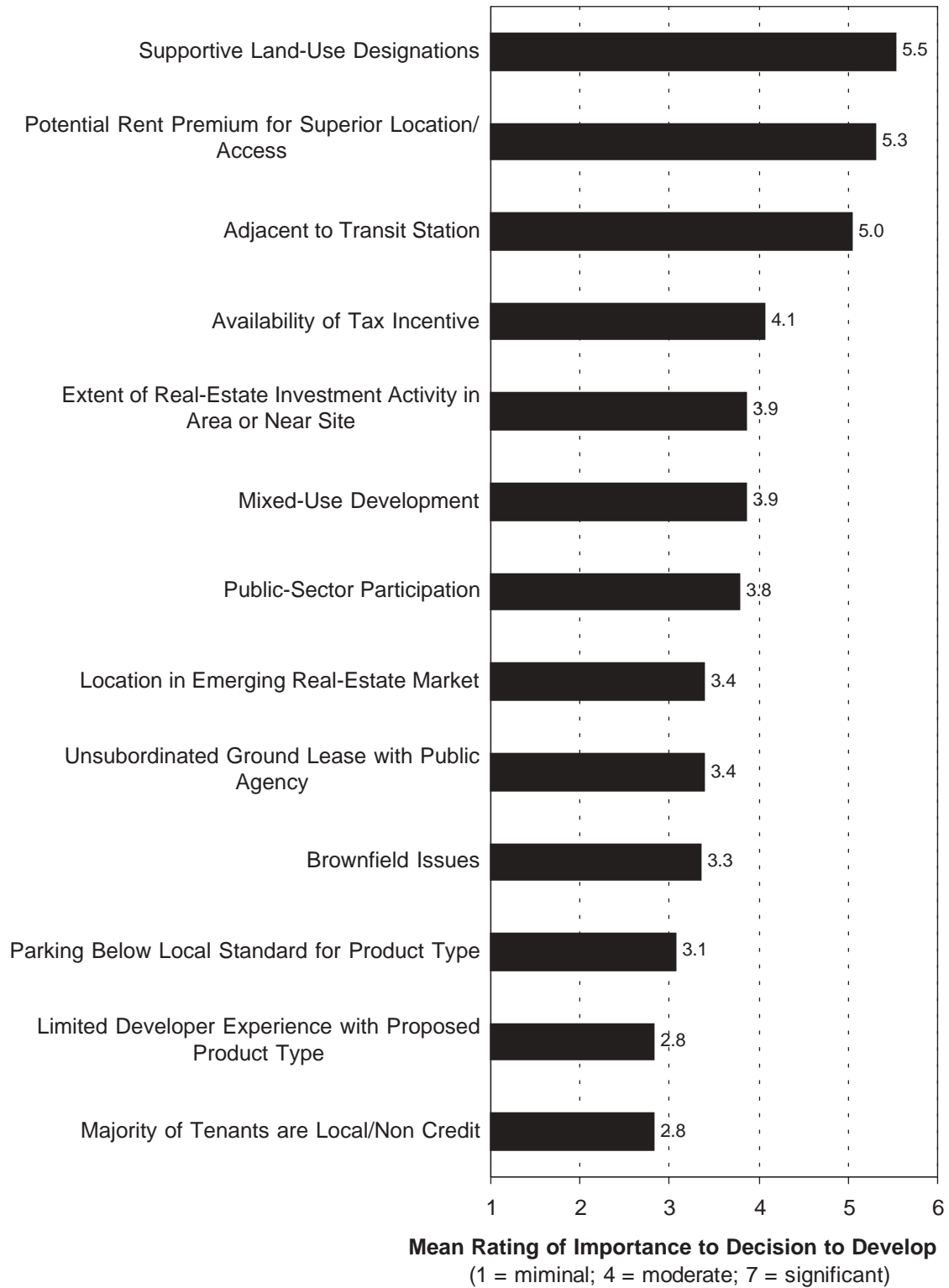


Figure 5.1. Importance of Factor in Willingness to Develop, as Rated by Interviewed Developers.

developers interviewed was selected because of their affinity for doing TOD. One developer noted that a high tide, or strong real-estate market, “floats all boats, but when the tide goes out it is the boats in the best position relative to transit that continue to float.” Other developers spoke of a competitive advantage for their TOD products, which are not easily duplicable because of the limited number of transit-accessible sites. Finally, one developer indicated that he was willing to undertake development at “marginal” sites with good access to transit. It is notable that the developers interviewed rated transit as among the most important factors affecting their willingness to develop, despite the fact (as noted later in this chapter) that many indicated that being near transit has little influence on their ability to secure a conventional loan.

Other factors that influence decisions to develop included tax incentives, public-sector participation, whether or not a development is mixed use, and the use of unsubordinated ground leases. Overall, tax incentives were rated to be a moderately important inducement to development. Nonetheless, some developers discounted their importance, noting that tax breaks are not generally large enough to overcome a difficult market and are unnecessary (but still welcomed) in a strong real-estate market where growth happens regardless. Public-sector participation in development was regarded favorably by most developers, particularly when used to spur development in down markets or provide assistance in the entitlement phase. On the other hand, some developers were skeptical of public-sector involvement in development, noting that there may be “strings

attached,” such as requirements that a certain percentage of housing units be affordable to low- or moderate-income households or requirements to pay union or prevailing wages. These developers felt that the public sector should not assume its involvement is necessarily helpful in the implementation of TOD unless it is backed by sufficiently large monetary incentives. Finally, while many of the developers surveyed believed that mixed-use projects work well in certain market contexts, many looked askance at planning doctrine that holds that buildings near transit stops must be vertically mixed. Vertical mixing of uses was perceived to increase insurance costs and to create potential conflicts between tenants. Developers strongly favor allowing the private sector to make decisions about when it is appropriate to mix uses within the same building.

Unsubordinated ground leases, whereby private developers and their lenders absorb most of the risks should a real-estate venture fail, were not generally thought to significantly affect development decisions. Indeed, most developers had no experience in working with such leases. (Whether public agencies are required to use unsubordinated ground leases is something that varies across state and local jurisdictions.) Nonetheless, several developers spoke to the potential difficulties associated with building on land with an unsubordinated ground lease from a public agency. Some indicated that unsubordinated leases can be an enormously complicating factor, which has the potential to make some developments impossible to finance. Others indicated that such leases can be done, but they require greater equity

participation and reduce developer inclination to undertake the project.

Interviewed lenders had a somewhat different take on unsubordinated leases and public-private partnerships more generally. Involving multiple parties introduces complexity in terms of understanding a project, its credit risks, and the nature and quality of the bank's collateral. Five out of the eight lenders interviewed noted that public-sector involvement introduces additional challenges in financing a project. Unsubordinated leases are a particularly sticky point in the minds of lenders. One emphatically stated: "Unsubordinated ground leases make the project much more complicated due to the large number of parties and different motivations that they have." To the degree that joint development produces social benefits like increased ridership and improved air quality, lenders generally believe that subordinated loans that protect the financial interests of private groups over those of the public sector are appropriate. One interviewee suggested: "When agencies do ground leases, they should look at the greater public benefit of TOD and joint development." Ultimately this debate comes down to what degree the public sector is willing to absorb near-term risk for the purposes of reaping long-term benefits.

Private Financing

How does being near a major transit stop affect how developers fund projects? Interviewed developers felt it had no effect. A project's status as a TOD generally has no bearing on the palette of financing tools used. For the most part, financing is governed by project

size and type (whether residential, office, retail, or industrial) and the firm's size and credit rating. As an example, affordable-housing developers⁷ who were interviewed indicated that they use a wide array of funding sources, including conventional debt, low-interest loans and grants from governmental agencies and community development organizations, and the sale of tax credits. Although this combination of funding sources is complex and involves considerable public participation, it is typical of affordable housing development regardless of whether it is undertaken as part of a TOD. In addition to standard financing products, a handful of developers indicated that they do tap into pools of funding specifically available for TOD. These sources of monies are generally small albeit important in some instances.

Debt Finance

What private funding sources have been used to bankroll TODs? Nearly all of the developers surveyed indicated that they used conventional construction and mortgage financing as the primary sources of TOD funding. The BellSouth Corporation, which has developed a number of office buildings along the MARTA rail line in Atlanta, was one exception; it normally self-funds its development activity.

Developers consistently stated that whether or not projects are TODs does not affect lending standards in terms of interest rates, points for securing loans, loan-to-value requirements, or debt coverage ratios. Comments such as the following from a Bay Area residential developer were common: "I am not aware of any positive or negative impacts

on any of these lending standards on TOD. The only potential issue is if there is no perceived market for a product type, then a premium might be required.” By virtually all accounts, proximity to transit is a peripheral consideration in obtaining loans. Lending standards and the availability of financing are instead tied to conditions in the capital markets and whether the lending community believes that there is adequate market demand for a real-estate product.

This view was echoed by all eight lenders who were surveyed. Underwriting decisions are based on a number of factors that need to be considered in the context of each individual project. None of the lenders interviewed was willing to say that TOD or joint development projects have factors (aside from unsubordinated ground leases and, in some cases, lower parking standards) that make them more difficult to finance than other types of projects. In large part, TODs were treated like any other form of urban development when subjected to banks’ financial litmus tests.

Equity Finance

Other owners of equity capital, such as pension and trust funds, also provide potential sources of TOD monies. Among the development firms surveyed, 14 indicated that they have used equity funds from outside their company to help finance TOD. Of this group, nine stated that they had used pension or insurance funds. This includes two developers from the Portland (Oregon)–Vancouver (Washington) metropolitan area, each of whom has used funds from the Oregon and Washington state retirement systems. Additionally, four developers indicated

they have used REIT funds as an equity source for TOD. Firms using REIT equity were generally quite large. They included a developer in the Bay Area that has completed six residential TODs totaling approximately 1,500 units, a developer in Denver currently working on a residential project encompassing 15 city blocks, and mixed-use master developers from Atlanta and Boston. The Atlanta developer is currently working on a 4.8-million-square-foot mixed-use project, while the Boston developer has completed a mixed-use TOD in excess of 1 million square feet. A few developers indicated that they use outside equity sources such as investor pools and monies from large capital management funds for TOD. Finally, one developer, who works exclusively with brownfield sites, indicated that his firm uses a private equity fund targeted specifically at brownfield redevelopment to help finance TOD. While developers were not specifically asked about their own firms’ equity contributions toward TOD, a few were eager to speak to this issue, indicating that most of the equity in their projects is self-financed. This included one developer who noted that “a major obstacle to developing socially responsible infill is predevelopment equity and what we have to pay for it.”

There was considerable agreement among developers that the availability of equity, as with debt, is primarily driven by capital market conditions and the marketplace, not a project’s status as a TOD. Nonetheless, when asked if there were any characteristics of TOD that help in obtaining equity funds, about half of the developers surveyed pointed to at least one characteristic of TOD that is helpful, a subject taken up in the next section.

Public-Sector and Foundation Finance

While the developers surveyed generally relied on conventional sources of debt and equity finance for their TOD projects, 6 of the 35 indicated that they have developed projects with the assistance of public-sector grants or financing linked specifically to TOD or transportation. These funds were generally earmarked for the provision of infrastructure, transit, or parking improvements, as discussed in the previous chapter.

The major source of grant assistance related to TOD was disbursement of federal TEA-21 funds. A Chicago area developer indicated that the Chicago Transit Authority used TEA-21 CMAQ funds to pay for a bridge connecting one of her firm's developments to the "El," the elevated municipal rail line that operates in Chicago. In the Bay Area, developers stressed the importance of "seed grants" provided by the Metropolitan Transportation Commission (MTC) under its Transportation for Livable Communities (TLC) Program.⁸ This program sets aside money for the planning, design, and construction of small-scale, "community-oriented transportation projects," including streetscape improvements carried out in conjunction with real-estate development near transit.⁹ On an annual basis, the MTC channels \$27.5 million dollars to this program, most of which comes from the region's TEA-21 allocation. (See Chapter 18 for further discussion of this program.) A San Francisco-based non-profit housing developer who was interviewed indicated that TLC funds have been helpful in paying for infrastructure costs for two of her firm's projects. In one instance, her firm received \$425,000 to spend on streetscape

improvements adjacent to a 93-unit, multifamily development in San Francisco, near a MUNI transit station. In another instance, the firm submitted a joint application for TLC funds along with the Contra Costa County Redevelopment Agency. MTC granted \$231,000, which was used to pay for the creation of a pedestrian walkway adjacent to a high-density residential development that was then under construction near the Pleasant Hill BART station.

A handful of developers indicated that public-sector tax-exempt bond financing has been used to finance infrastructure components of TODs. This was most often the case where projects were built on transit-agency land as part of joint development efforts.

In addition to public-sector financial support earmarked specifically for TOD or transportation, five of the developers surveyed indicated that their TODs had benefited from public-sector support targeted at the provision of affordable housing, such as low-income housing tax credits or tax-exempt bond financing. Only two of the developers surveyed indicated that economic revitalization funds such as Enterprise Zone grants or Urban Development Action Grants had been used in financing a TOD.

Finally, foundation support was a minor source of TOD funding among the developers interviewed. Only three indicated that they had received foundation assistance. These included community development corporations in the Bay Area and Chicago and a developer undertaking a complex reuse of a historic property in downtown Denver, which included retail, office, and affordable and market-rate housing.

For the most part, foundation funding is not on the radar screen of most developers of TOD and it has been reserved for a unique subset of TODs undertaken as part of community revitalization efforts.

Availability and Terms of Finance

Although a project’s status as a TOD was generally not considered to have a major impact on the ability to obtain debt or equity finance, a number of characteristics associated with individual TODs that have affected the availability and terms of finance were identified by surveyed developers. These are the

proximity to transit, whether projects have sufficient comparables, whether projects are mixed use, whether reduced parking standards are applied, and whether there are environmental concerns. Around half of the interviewed developers indicated that there is at least one characteristic of TOD that has helped in obtaining equity funds from outside sources.

Figure 5.2 presents the characteristics of TODs that, according to surveyed developers, aided them in obtaining equity funds. Each entry indicates that one of the interviewed developers identified the characteristic as helpful.

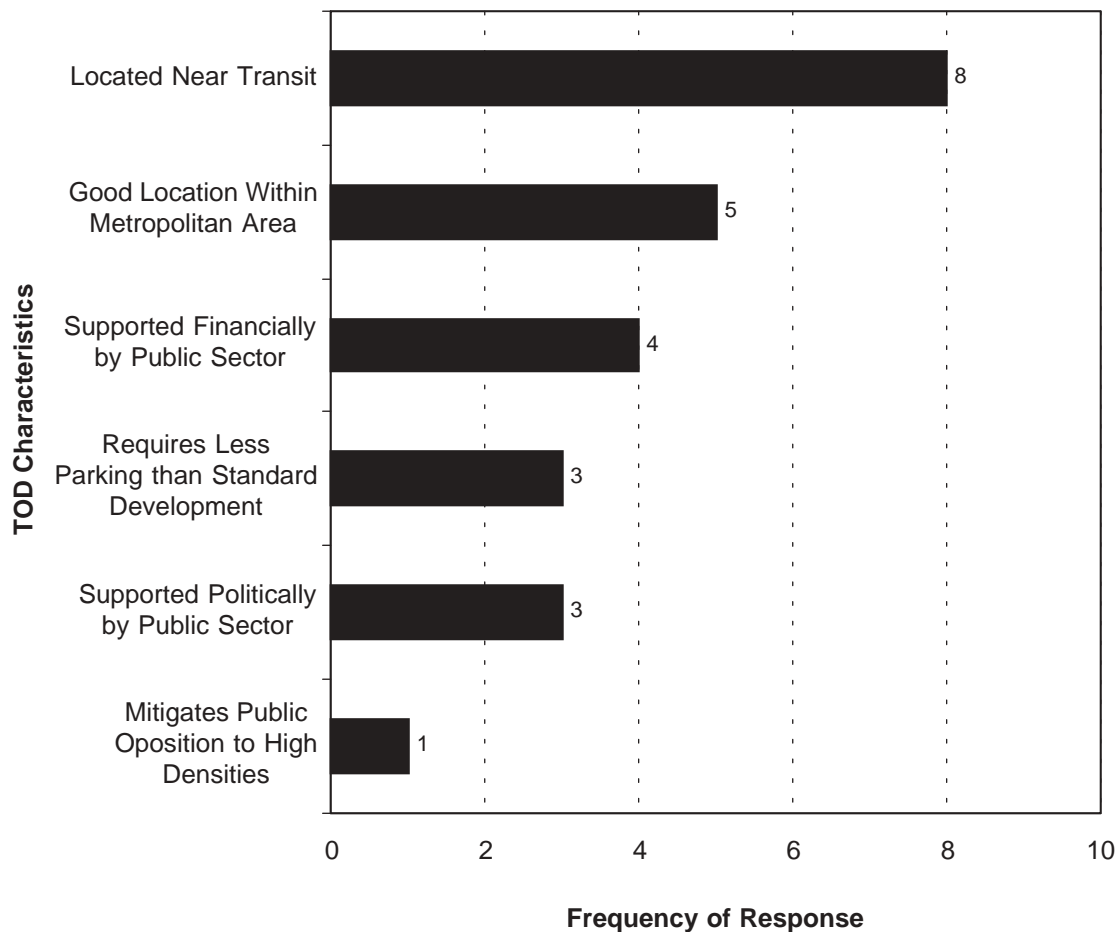


Figure 5.2. Characteristics of TOD that Enhance Ability to Obtain Equity Funds, Based on Developer Interviews.

Proximity to Transit

Although most developers indicated that a project's proximity to transit is not a significant factor affecting the ability to obtain conventional loans, 8 of the 35 developers surveyed indicated that it has been helpful in financing the debt for projects. Those believing that proximity to transit is helpful include office, retail, and residential developers. In general, their responses to interview questions demonstrated an ability to explain the benefits of development near transit in a sophisticated and realistic manner, a skill that they relied on during conversations with lenders.

One office developer explained:

All development financing is about demonstrating market support for a project. Transit access can help make the case for market support, especially for office uses in non-CBD [central business district] locations. If a development is in a pioneering location, then access to transit becomes a primary rationale for market support and financing.

The developer explained that aside from these instances, when developments are in up-and-coming locations, access to transit is a marginal consideration. Another developer, involved primarily with mixed-use projects that include large retail components, noted that proximity to transit can be helpful in making the case to lenders because being near transit means "additional commuter traffic generation."

Another interviewee, a multifamily developer, indicated that while it is hard to "sell a project to lenders" based only on the TOD aspects of a project,

knowledge of transit's impacts on commute patterns is useful in talking with lenders. This developer explained that while homeowners are willing to travel longer distances to reach work, renters are known to travel only about half an hour to work. To the extent that transit places additional locations within a half-hour commuted of job centers, this developer believes it expands the market for multifamily development and potentially increases the geography in which lenders will make loans to build apartments.

Among for-sale residential developers, three brought up the topic of LEMs. As noted in previous chapters, LEMs allow homebuyers in transit-accessible areas to borrow more money toward the purchase of a home than they would normally be able to borrow based on their incomes. While the developers who spoke about LEMs did so in fairly general terms, all of them felt that they improve the market for for-sale housing around transit.

Lenders who were interviewed seemed indifferent to whether a project was near a transit stop or not. Adjacency to transit stations, increased real-estate investment in the area, and potential rent premiums for superior access did not influence lending decisions according to those interviewed. One interviewed lender did note, however, that "improved access to employment areas increases the value of TOD residential projects because of lower vacancies and better rents compared with non-TOD projects." In order to make TODs more attractive to banks, one interviewee suggested implementing "programs or policies that strengthen creditworthiness, put additional money into projects, or create more publicity for them."

Mixed Use

A number of developers indicated that while TOD, per se, does not pose a challenge to obtaining debt financing, mixed-use development does. According to one developer, this was due to the lack of comparables in suburban locations, where single-use buildings predominate. Higher insurance costs associated with mixed uses also introduce risks. The challenge of doing mixed-use projects near transit stops is taken up in the next chapter, on barriers to TOD implementation.

Lenders' views on mixed uses and comparables were generally guarded, reflecting the uncertainties and challenges of intermixing activities like residences, shopping, and workplaces on a single parcel, whether near a train station or not. Those interviewed cited several factors that make lending for such projects more difficult, even if it does not result in different loan pricing or terms: (1) the mix of uses makes it more complicated to understand market support and thus estimate likely rates of return, (2) there are fewer permanent lenders willing to provide take-out financing for these types of projects, and (3) the underwriting process is generally more complex and takes more time. Permanent lender requirements may be more significant in determining the potential financing for a particular TOD or joint development project. Technical analyses that better reflect the benefits of mixed-use projects—such as evidence that they reduce vehicle trip generation rates that can in turn be used as credits against development-impact fees—would also aid in making mixed-use products “pencil out.”

Despite these concerns, several lenders said they are beginning to have a more favorable view toward the financial viability and marketability of mixed-use products, especially in urban districts experiencing an economic renaissance and undergoing gentrification. It is likely the case (and four lenders acknowledged this) that many banks have lent on mixed-use projects near transit stations without ever realizing that the project represented a TOD. One interviewee stated, “TOD projects on private property would never be recognized as TOD.” TOD seems to be largely an irrelevant concept for these lenders, distinct from other financing issues. One lender surveyed, for example, was the account manager for the Ohlone-Chynoweth TOD (parking-lot infill) project in San Jose, and he did not even know what TOD meant until it was defined for him. For a couple of the interviewed lenders, TOD was a negative label in that it was associated with inner-city or community development type projects. One suggested dropping the TOD label altogether and casting these as mixed-use projects that have the added bonus of being near a transit stop. This suggestion indicates that what matters is the combination of mixed use and accessible transit, not the notion of government-planned TOD (and all the connotations this brings, such as lengthy entitlement and permit-review processes).

More important than whether a project is mixed or not is developer experience, at least in the minds of lenders who were interviewed. One stated: “Mixed-use could be a plus or a negative; it depends on a particular project.” Seven out of the eight lenders cited limited developer experience with proposed project type as a highly significant factor in deciding to

invest. This suggests that a TOD project with an experienced developer of mixed-use areas will be more likely to have financial backing than an inexperienced TOD developer.

Comparables

Having comparable projects from which lenders can assess market performance can sway financing decisions according to several interviewed developers. Of course, whether the decision is a “go” hinges on TODs exhibiting superior financial performance, a topic addressed in Chapter 9 of this report. The absence of similar projects, particularly mixed-use projects that have sold near transit stations, can be a stumbling block to financing, especially in smaller urban settings where TOD is still a novel concept.

Several surveyed lenders remarked that the views and opinions of real-estate appraisers are particularly important in establishing value for lending decisions. Appraisers normally weigh standard features of “comps,” like building square footage and on-site amenities, in arriving at an estimated property value. Few think about or seriously consider benefits that might be associated with proximity to transit. The idea of capitalization benefits, whereby the accessibility advantages conferred by transit get absorbed into land prices, is not something that usually registers among most real-estate appraisers. Appraisals do not separately attribute value to transit orientation or location. One lender suggested that this is partially because TOD is not an established market for premium rents or valuation. Technical training of real-estate appraisers would help in this regard,

according to the interviewee. What also might help is if more and better transit capitalization studies, based ideally on matched-pair comparisons (the tried-and-true method of appraisers), are published in professional journals read by appraisers.

Parking

Below-code parking standards are another trait of TOD that some developers believe affects their ability to secure financing. Sentiment on this issue was mixed among the developers interviewed. While a few indicated that building projects with lowered parking ratios harms their ability to get conventional debt financing, a similar number indicated that the lowered need for parking, particularly structured parking, helps the viability of projects, making it easy to obtain loans.

One developer stated that a decade or so ago developers had to make a forceful case to banks and city agencies as to why a TOD project with reduced parking was a good idea. Now, he feels that virtually all local planning departments are very familiar with TOD and that the public sector is happy to prioritize it and support it with public funds. The private-lending sector, he mentioned, has been slower to come around. As recently as 6 years ago, he took a completed TOD retail project, leased to a credit tenant, to 50 different lenders before finding a lender who would provide permanent financing for the project. A couple of lenders initially committed to the project but pulled out when they found that there was no parking lot. According to the developer, lenders would not fund a retail project that had no parking, even though the developer had an operational project and

could prove that all of the customers were walking in off the street or arriving by transit. He feels that most lenders continue to hold suburban development up as their model and are reluctant to lend to projects with parking ratios below industry standards. Several developers noted that national associations whose views carry a lot of clout, including the Urban Land Institute and the National Association of Homebuilders, continue to praise the value of ample, convenient parking as a means of gaining a marketing edge over other competitors almost regardless of location.

Not all the surveyed developers bought into this logic. One noted that reduced parking ratios for a TOD saved on the cost of building structured parking. As a result, he improved the bottom line of his project, which he believes made it more attractive to lenders, who understood the rationale for providing fewer parking spaces. Fighting opposition to reduced parking, whether from neighborhood groups or traffic-engineering departments, however, can add costs and uncertainties that some developers would just as soon avoid.

Environmental Concerns

A couple of the developers surveyed indicated that environmental issues have affected their firms' abilities to obtain debt financing for TODs. A developer affiliated with a large residential development company indicated that her company normally likes to tackle complex deals because experience has given the company a competitive advantage in this area. Due to her firm's size and credit rating, she indicated that it almost never has to pay a premium on the interest rates or points for securing a

loan, even in complex deals. Nonetheless, she noted that lending standards tighten when brownfield issues are involved. Several lenders who were interviewed echoed this sentiment, noting that brownfield sites are riskier and more complex.

Summary and Lessons

Ultimately, TOD is an outcome of one or more developers putting up their hard-earned money, or the money of lenders and investors, to create a new form of urbanism around transit stations. To a large degree, interviews reveal that developers have a positive view of TOD as a viable and growing market niche. When asked to rate the overall financial record of TOD, interviewed developers on average scored it as a 5 on a scale of 1 to 7, indicating that they think it performs better than most products. Developers were especially optimistic about the prospects of TOD in areas where traffic congestion continues to worsen and there is a pro-TOD political sentiment. While there were substantial areas of agreement among developers who were interviewed, a number held conflicting views of certain elements of TOD. One example is parking. On the one hand, many developers relate to the idea that parking standards should be lowered to the degree that significant numbers of residents, shoppers, and workers ride transit. On the other hand, many have been reared on the principle that parking is an effective marketing tool and can sometimes make or break a project. Regardless, most favor leaving the decision of how much parking to provide to the private sector. Developers feel that they know the market best and will take advantage of cost savings when justified.

On balance, many developers feel that being near major transit stops is advantageous to the degree that it provides rent premiums. Some also feel that being close to transit can improve the ability to secure equity finance, particularly for certain product types in pioneering locations (e.g., office development in suburban locations). Most developers realize that more is needed than spatial proximity, however. Making sure that the walk between a project and a station portal is safe and reasonably attractive matters to many. Putting in complementary land uses, like convenience shops and service retailers, is particularly important to TOD homebuilders. Nonetheless, developers realize that regardless of what they think, access to funds is often dependent upon the views of lenders. While many developers embrace TOD as a concept, when it comes to securing conventional debt financing, there was a general agreement that TOD offers little help. Loan decisions, they noted, are governed by fundamentals, not urban-planning concepts. Interviewed lenders echoed this sentiment.

Most of the interviewed lenders had difficulty pinpointing the positive and negative factors that influence whether they invest in a TOD because banks, they contend, look at each project based on its individual merits. Dealing with the innate market characteristics of TOD—notably, mixed-use projects with the advantage of being near transit—is generally viewed as the best way to market the TOD product to the lending community. Factors that enhance the connection of a parcel to a rail station—such as direct and attractive pathways, well-lighted and secure portals, and a strong degree of public commitment

backed by infrastructure improvements like undergrounding utilities and upgrading road access—are likely to make TODs all the more attractive to lending institutions.

Interviews suggest that joint development projects are more difficult to finance than neighborhood-scale TODs. This is partly due to guilt by association—the fact that a project is directly tied, symbolically and figuratively, to a transit facility seems to detract from its value. The bureaucratic component of joint development projects, involving government institutions that are not always driven by the profit motive, makes some lenders uneasy as well. Of course, had lenders from the Washington (D.C.) Metropolitan Area been interviewed, where well-publicized joint development projects like Bethesda and Ballston are known to be hugely profitable, the reactions might have been different. Clearly, the transit industry would benefit from well-designed and financially remunerative joint development projects outside the Washington (D.C.) Metropolitan Area. As transit properties like Miami-Dade, MARTA, and BART continue to make headway on joint development deals, perhaps the cumulative experiences will eventually cast these public-private partnerships in a more positive light.

Notes

¹ The largest TODs undertaken by developers surveyed were Lindbergh Station in Atlanta and the Northpoint Project in Boston. Each of these projects covers nearly 50 acres and represents approximately 5 million square feet of space in a mix of uses. On the other end of the spectrum, six developers surveyed

indicated that their standard projects consist of fewer than 100 residential units.

- ² Following residential, the next most common product type was retail; 27 of the developers indicated that their firms are involved in at least some amount of retail development. Of this group, only two firms indicated that retail development accounts for more than half of their overall development activity. In total, 10 firms indicated that they have developed retail projects in excess of 100,000 square feet. The remaining 17 firms that have done retail development indicated that it is usually a small component in mixed-use developments. Nineteen developers indicated that their firms develop office space, including five developers whose firms are primarily involved with office development. A few developers indicated involvement in projects with institutional and industrial uses.
- ³ In some cases, where developers preferred to answer questions in writing rather than over the phone, mail-in questionnaires were sent that solicited the same information as was being collected through the interviews.
- ⁴ The profile of those surveyed was as follows: all work for large banks providing construction or short-term financing (i.e., no permanent lenders); two lenders interviewed are

affordable-housing loan officers; and the others are involved in market-rate lending. The large banks where the surveyed lenders work all have functional distinctions between “market-rate” lending offices that serve a region and “community development lending” offices that are involved in affordable housing or other projects oriented to community development.

- ⁵ U.S. Census Bureau, *Profile of General Demographic Characteristics: 2000 Census of Population and Housing* (Washington, D.C.: U.S. Printing Office, May, 2001).
- ⁶ See <http://www.census.gov/population/www/socdemo/age.html>.
- ⁷ The term “affordable housing” is used here to describe housing that is built with government assistance using federal income tax credits. In order to qualify for such funding, developers have to agree to maintain specified affordability levels over long periods of time, typically 55 years.
- ⁸ MTC is the Bay Area MPO, responsible for programming federal transportation dollars allocated through TEA-21.
- ⁹ Metropolitan Transportation Commission, *Transportation for Livable Communities Program Overview* (Oakland, California: 2002).

Chapter 6

Barriers to TOD: What They Are and How to Overcome Them

Types of Barriers

The literature cites many obstacles to TOD, just as it does to most forms of compact, mixed-use development.¹ Some barriers are financial in nature (e.g., lender skepticism), while others are quintessentially political and institutional (e.g., zoning restrictions due to opposition). While some barriers can be overcome through local actions and policies (e.g., restrictive zoning), others (e.g., automobile-oriented development patterns) are largely outside the sphere of local influence (e.g., cheap gasoline prices set through the global marketplace encourages automobile dependence), at least in a direct sense. This chapter discusses these and other barriers to TOD implementation. Initiatives that might help overcome impediments are also discussed. A combination of literature reviews, developer interviews, and survey results of stakeholder groups informed the discussion of this chapter.

The literature sorts barriers to TOD into three basic categories: *fiscal* (factors that detract from the financial feasibility of TOD projects, such as questionable market viability and lack of conventional financing); *organizational* (structural impediments lodged in the institutional fabric of transit agencies and other governmental entities responsible for projects); and *political* (land-use policies and NIMBY forces that impede multifamily housing and infill development more generally). Of course,

many barriers are interrelated—for example, the higher densities of TOD might prompt politicians to downzone, unleash citizen opposition, and prompt lenders to reject loan requests. Others are embedded in these larger categories—automobile-oriented development patterns form barriers to TOD in large part because overcoming them (i.e., creating denser, more transit-friendly environs) raises costs and political flak.

The barriers reviewed in this chapter and discussed in the literature explain, in part, why projects are not built, but, as some observers note, they are less useful for explaining why many of the projects billed as TOD fall short of expectations. In a recent Brookings Institution white paper on TOD, Dena Belzer and Gerald Autler note: “The barriers people associate with TOD tend to parallel the barriers associated with building types of high-density infill projects, regardless of proximity to transit.”² While this is true, unless the factors discussed in this chapter are dealt with at some level, TOD will remain more of an exception than the rule in most U.S. rail-served cities. Regardless, barriers that are particularly unique to transit station settings are also given attention in this chapter.

Fiscal Barriers

The higher construction costs, development fees, and risks that accompany dense, nodal development like TOD form significant financial

obstacles. Mid-rise, multistory structures require strong foundations and footings, steel-frame construction, elevators, and lobby areas, all adding cost and cutting down on net leasable space. Infill development might incur expenses for site clearance, environmental remediation, and infrastructure upgrading. Many developers weigh such risks and costs against building single-story structures on greenfields or the suburban edge where neighborhoods are stable and crime rates are low. In California, a series of lawsuits holding condominium builders liable for faulty construction up to 10 years after units were sold has frightened some developers from the high-density housing market altogether. Perhaps the trickiest part of high-density TOD is the pricey structured parking that accompanies it. A real-estate economist involved with TOD planning along the T-REX corridor in Denver has remarked:

You have to get the land values up to support structured parking. That costs at least \$15,000 a parking space, but add special features like a ‘retail wrap’ to the garage and streetscape improvements, and you’re looking at \$23,000 to \$25,000 a space. Development interests will be there as long as there are partnerships with the city. But it’s not instantaneous. It can take 10 to 15 years to evolve.³

Lining up financing for TODs in economically stagnant areas can be particularly challenging. While a host of public and private programs exist for financing affordable residential units, similar programs for commercial development are rare. In the case of San Diego’s Barrio Logan neighborhood, efforts to create a mixed-use

development have been successful on the residential side, but the project managers have struggled to find financing for the commercial development that will agree to a TOD plan (see Photo 6.1). The absence of an anchor tenant for the project hampered the developer’s ability to obtain financing. As long as the developer is able to provide loan guarantees, banks typically loan up to 70% of the money for a shopping center development.⁴ The anchor tenant typically provides the loan guarantees for the project, promising to continue paying rent even if the business at that site fails. Without an anchor tenant, banks are usually unwilling to provide loans.⁵

Similar difficulties have been encountered among non-profit/affordable housing groups trying to build TOD projects on transit-agency land in the San Francisco Bay Area.⁶ Since lenders often require ownership of the land being built on to be put up as collateral to secure the project loan, financially strapped nonprofit housing builders must often make concessions to lenders in terms of



Photo 6.1. Barrio Logan, Mercado Apartments, Near San Diego Trolley Station.

project design. In the process, the delicate details of good transit-oriented design may be sacrificed in order to satisfy the lending institution.

While projects like Barrio Logan in San Diego have been successful at building residences near transit, Atlanta has had some difficulties attracting residential development near its MARTA stations because of the high demand for office development there. Consequently, while there is a great deal of dense development around MARTA stations, it is mostly suburban-style office towers with lots of parking and poor pedestrian connectivity to nearby stations. This “dysfunctional density” is in part a result of density entitlements provided by the zoning code, which have increased property values in station areas. Since property values are so high, only high-value office and retail developments are financially feasible. These fiscal pressures result in monocultures of high-end office or retail that must draw on large market areas that are not easily served by transit, placing automobile site access above transit accessibility.

From the public-sector side, financial considerations also influence the likelihood that TOD will take form. Many recent-generation light-rail transit systems have followed the path of least resistance, seeking out disused freight lines, power transmission easements, and freeway medians where right-of-way acquisition and disruption costs are minimal. Such cost minimization also means development minimization. A station tucked in a freeway median largely precludes TOD.

Fiscal realities might prod some local governments to zone land for uses that

promise to generate the most sales and property-tax revenues, even if property lies within a walkable distance of a rail station. Fiscal zoning has been particularly rampant in states like California that have imposed ceilings on local property-tax rates. In a study of 232 southern California rail stations with commuter-rail and light-rail services, Boarnet and Crane found that fiscal zoning thwarted efforts to build affordable units around rail stations. California municipalities that rely heavily on sales-tax and property-tax proceeds were found to have high shares of citywide commercially zoned land within ¼-mile rings of rail stops.⁷

Many other barriers to TOD might be put under this fiscal category, such as automobile-oriented development patterns (which cost money to overcome), mixed-use TOD designations (which might not have a market base of support), and the process of permitting and entitlement (which increases “transactive” costs). Many of the developers interviewed for this study were critical of what they viewed as the unnecessarily cumbersome and fickle process of entitlement and permit review, even with TOD. Uncertainty and red tape add risks and costs. Some developers simply move on, almost literally, to greener pastures. Developers and, perhaps more importantly, those who often bankroll projects—lenders—know that they can make a nice profit building single-family tract housing and sprawling subdivisions oriented to highways. They have been doing it quite successfully over much of the post-World War II period. TOD, on the other hand, has a spotty track record, and in some parts of the country, it is virtually nonexistent.

Political Barriers

Many residents equate transit-based housing and infill office development with more traffic, crowded schools, and longer lines at grocery stores. Less often voiced but still in the minds of some is the prospect of people with lower incomes moving into the neighborhood. NIMBY opposition has stopped mixed-use, infill development near rail stations in Oakland, Miami, Atlanta, and most likely every U.S. city that has built rail systems over the past century.

Frightened by the prospect of additional traffic generated by the planned mixed-use development at Atlanta's Lindbergh Station, a neighborhood group filed multiple suits against MARTA to block construction. While the project is moving forward, these suits have put it behind schedule. Because of community pressures, the 512 housing units recently built near Santa Clara County's Whisman light-rail station—"representing the biggest housing development Mountain View has seen in at least 20 years"—contained no rental units and were built at less than half the density originally proposed.⁸ While the addition of more than 500 units near the Whisman Station might be considered a success by many, Inam views it as a promising TOD co-opted by NIMBY resistance:

The developers proposed a high density project because they perceived that there was a demand for that number of units on this site. Now, the 500 families who might have been housed through the original density have not only had their residential choices further reduced, they do not even realize that they have reduced choices because their units were never built.

Furthermore, the component of rental housing was eliminated, such that individuals and families who cannot yet afford to purchase a house or prefer the flexibility and convenience of rental housing have no option to do so, especially along a transit line. So, the demand for alternative development continues unmet thanks to projects like Whitman Station.⁹

Organizational Barriers

The difficulty of coordinating TOD among many actors and stakeholders is often a stumbling block to success. By one account:

In today's typical TOD project, the public sector builds the transit (often with the involvement of multiple agencies), local governments try to control development, and developers look for opportunities to make profits. Transit agencies also become involved as property owners in joint development projects. All of these entities—not to mention transit riders, neighbors, and the public at large—have different ideas about what the project should accomplish. . . . Too often, projects are implemented without a clear vision of desired outcomes, the different goals of the actors, and the ways in which those goals may work at cross-purposes and lead to a project that, while perhaps superior to traditional development, falls short of the potential of TOD.¹⁰

TOD coordination between transit agencies and localities can be especially difficult in areas with strong traditions of small, independent governments, like greater Philadelphia, where several

hundred municipalities govern land-use matters via local zoning. Similarly, successful TOD projects often require changes in thinking and organization within the government agencies involved in the process. Struggles over turf and resistance to change within public agencies are legendary and present major obstacles to effective project implementation. The classic conflict is between city architects and planners who argue for traffic-calming and neotraditional design standards (e.g., “skinny streets,” and intersection bulb-outs) and fire marshals and police chiefs who insist on generous and unrestricted road geometries for emergency vehicles. For liability reasons alone, the interests of protective services many times win out.

Lack of technical expertise within the public sector is sometimes cited as another barrier to TOD. This can be the case particularly with jointly developed public-private projects. In Miami, Atlanta, and other rail cities, transit agencies have “gotten the short end of the stick” when dealing with business-savvy, seasoned developers who know how to negotiate a favorable deal.¹¹ Bad experiences have at times turned transit board members against potentially lucrative joint development deals when opportunities have arisen. One analyst recommends that transit properties entering into lease agreements insist on contractual language that ensures a percentage of gross revenues from the development, not net revenues (profit). Since accountants have a number of “creative” ways to calculate costs so that a venture never shows a profit on paper, the public entity needs to protect itself and its revenue stream with contractual language that has very little “wiggle room.”¹²

In the case of WMATA, years of joint development experience has resulted in lease agreements that provide the agency with legal and financial protections. WMATA’s initial lease terms vary from 50 to 60 years, with an option renewal to a 99-year term. Rent is guaranteed, even if the developer declares bankruptcy. The rents also “bump up” when surrounding properties increase in value. Consequently, WMATA stands to benefit from increases in land values that may occur after a lease with the developer is invoked.

Sometimes it is the private side that feels alienated by the process. The structure of the land development agreement for Miami-Dade Transit’s Dadeland South project proved problematic from the developer’s perspective. Since the land for the project was leased to the developer and the county retained the property’s rights of ownership, the developer needed to comply with government equal-opportunity laws, adding to costs.¹³ The process of putting together a standard lease following the Disadvantaged Business Enterprise Program and other government requirements can also be time-consuming.

Barriers Unique to TOD

As mentioned earlier, many of the barriers outlined above are generic to any form of higher-density development. This section builds on the previous ones by focusing on four areas that are particularly troublesome when trying to move forward with a TOD: (1) the congestion conundrum, (2) logistical dilemmas (caused by the conflict between “node” and “place”), (3) the parking puzzle, and (4) getting the

mixed-use formula right, particularly in relation to retail components.

The Congestion Conundrum

In creating TODs, planners face a paradox. Development concentrated in one area invariably adds more traffic and lowers levels of service. The threat of traffic build-up can unleash a community backlash against TODs with the very best of intentions. Thus, while TODs are presumed to increase transit ridership, they are also equated with more traffic congestion.

There are no easy solutions to this dilemma; higher densities in a concentrated land area invariably bring more spot congestions, particularly at key intersections. Planners often plead that these short-term “disbenefits” must be weighed against the longer-term “benefit” of less regional traffic. While the levels of service might deteriorate in and around a station as a result of TOD, overall regional vehicle miles traveled (VMT) and congestion levels will fall with time. Some planners also make the case that added traffic is a sign of an active, rejuvenated community. They distinguish between “good” and “bad” congestion (a distinction like that between good and bad cholesterol). Traffic, in the form of both people and automobiles, characterizes all vibrant places with stellar transit services, (e.g., 42nd Street in Manhattan, Leicester Square in London, or Tokyo’s Shinkansen district). The “good congestion” of TOD helps to reduce the “bad congestion” elsewhere. Such logic does not always resonate with local residents, however. Doing what is within the broader good of the region is fine as long as it does not infringe on peoples’

jealously guarded property rights. TOD that threatens to add traffic to local streets (not to mention more kids in public schools, shoppers at outlets, and so on) does not fall in this category in the minds of most suburbanites. Elected officials who are beholden to their constituents do not always have the patience to wait until the longer-term benefits of TOD reveal themselves. Downzoning or building moratoria are easier ways of heading off traffic problems.

Logistical Dilemmas: the Conflict Between “Node” and “Place”

Transit stations are “messy places.” They are expected to accommodate the interface of feeder buses, park-and-ride, walk-on traffic, cyclists, passenger drop-off, taxicabs, paratransit vans, goods delivery, and other access functions. Movement conflicts, circuitous travel paths, and less-than-optimal usage of space are inevitable. Creating a comfortable human-scale environment that transforms a station into the centerpiece of a community can be next to impossible.

At a more basic level, Belzer and Autler call this a conflict between the role of a transit station as a “node” and its role as a “place.”¹⁴ Transit officials think in terms of nodes—points on the network where customers can access trains and buses. Function takes precedence over form (e.g., parking is sited as close to a station as possible even if it means creating a dreadful walking environment). City planners, New Urbanists, and TOD advocates tend to view a station as a place—a focal point for marshalling community resources so as to create an attractive, vibrant neighborhood that promotes sustainability, social interaction,

economic development, affordable housing construction, and other ideals. Transit managers judge any projects that take place on their property on the basis of whether they are financially self-supporting, increase ridership and farebox receipts, and help keep trains and buses on schedule. Neighborhood activists look at joint development as an opportunity for “place making.”

To ensure that transit managers “keep their eye on the ball,” some transit boards have banned their agencies from the business of property development, all but ensuring that a station is treated as a node, not a place. While it can own and reserve land, the DART authority cannot develop agency-owned property. This is considered outside of, and potentially distracting to, the agency’s central mission of running a transit business. Dallas’s much-heralded Mockingbird Station TOD would not have happened had the developer not been able to purchase property from DART.

Another type of logistical challenge facing many station areas is land assemblage. This is partly because many rail lines are built in older parts of the city and occupy former streetcar corridors or disused tracks. Land plots tend to be small in such settings. A lack of developable parcels was cited by many of the developers interviewed for this study as a major obstacle to TOD, particularly parcels of sufficient size to attract large development firms with significant financial resources. One developer indicated that his firm needs parcels that are at least 5 acres in size to make infill development worthwhile. Developers indicated that the cost and risk of negotiating to assemble land is ordinarily too great to justify the reward;

they believe that much more TOD would happen if the public sector could deliver preassembled parcels.

The Parking Puzzle

If there is any spot on the map where it makes sense to revamp parking standards, it is neighborhoods in and around transit stops. Many station-area residents buy into neighborhoods near rail stops because they want to shed one or more automobiles, thus freeing up money for other purposes, such as buying a nicer house or traveling more often. At the Alma Place housing project in upscale Palo Alto, just two blocks from the Caltrain commuter rail station, peak-hour parking demand is just four-tenths of a parking space per unit, even though parking is free.¹⁵ Nonetheless, lenders and local planners often insist on two parking spaces per residential unit (this is what lenders’ financial spreadsheets tell them is necessary, and most planners follow time-honored parking codes that say this is what is needed). In dense areas, podium or tuck-under parking spaces can add \$20,000 or more to the cost of a unit. Rigid parking standards can make TOD financially infeasible. For some developers, the problem is not excessive parking minimums but rather insufficient parking caps. They complain that jurisdictions that are particularly sympathetic to TOD can impose maximum parking limits that fall below market demand. Getting lenders to invest in such projects is virtually impossible.

One way to get the parking ratios right is to replace regulatory codes with market prices. This can most easily be done by decoupling, or unbundling, the price of housing from the price of parking

spaces. Most ownership housing and apartments have parking included in the base price of a unit. Those who do not own or need an automobile must pay for a space anyway, driving up the cost of housing. Unbundling parking can thus promote affordable-housing objectives and create a more walking-friendly environment. Below-grade parking nearly sunk the Pentagon Row mixed-use TOD in Arlington County, Virginia, because of cost inflation; the project continues to struggle financially despite high occupancy levels. Arlington County planners learned their lesson, decoupling parking and housing codes for the Market Common mixed-use project at the Clarendon Station. The project's site design was changed to make extensive use of surface and curbside parking and in so doing improved the project's "bottom line." (See Photo 6.2.)

Parking dilemmas also surface within the boundaries of a station, again reflecting a clash between a station's role as a node versus a place. Across the United States, suburban rail stations are enveloped by huge surface parking lots, catering to riders with automobile access rather than the desire of some to create an attractive civic space (as found around many suburban European rail stations) and serve the needs of walk-on users and cyclists. Park-and-ride patrons often have staunch supporters within transit agencies, creating barriers to the transformation of park-and-ride lots into transit-supportive developments. Some board members of U.S. rail-transit agencies have been voted into office largely on the platform of working to increase parking supplies.

These political fault lines have both fiscal and physical consequences. In the



Photo 6.2. Contrasting Approaches to Mixed-Use TOD Parking in Arlington County, Virginia. Pentagon Row, in the top photo, relied heavily on below-surface podium parking, inflating construction costs. Market Common, in the bottom photo, put parking on the street, complemented by nice landscaping, to save costs, even though its building profile is similar.

San Francisco Bay Area, BART's policies protect the park-and-ride patrons by requiring "one-to-one" replacement of any surface parking removed for the purposes of development on BART land. Consequently, only those projects able to produce sufficient revenues to cover replacement-parking costs are permitted to proceed. In practical terms, this means that ground-lease income must equal or

exceed the debt-service costs for a parking structure. This is rarely the case.

The hard line taken on parking deters TODs by creating a built form that is hardly conducive to pedestrian access. Broad expanses of surface parking separate stations from surrounding neighborhoods and create an urban landscape that encourages people to flee transit stations as quickly as possible. Shared parking between transit agencies and adjoining development is often seen as one way to shrink the footprint of TOD parking. However, this does not always work in practice. Efforts were made to strike a shared-parking arrangement between the Mockingbird Station TOD and DART; however, the deal fell through when it became clear that the agency's generous parking standards did not square with the developer's more restrained views on parking. John Gosling, a designer of mixed-use TODs, says "shared-parking reductions in mixed-use settings are not what they are cracked up to be." He cautiously recommends 3% to 5% for housing and office mixes, 7% to 9% for housing and retail mixes, and 9% to 12% for housing, office, and retail mixes.¹⁶

All sides agree that sorting out the parking puzzle is crucial to forming TOD. In the words of one rail planner, "If the parking requirement doesn't reflect the transit resource, it's not TOD; it's just development close to a transit station."¹⁷

Getting the Mixed-Use Formula Right

Mixed land uses are a defining trait of TOD. Yet, mixed uses can be difficult to realize. Often, each real-estate type has different lenders, investors, contractors, and financing parameters. Bundling

projects together on a single parcel can create confusion. Few financiers understand mixed-use development. John Gosling cautions that "mixed-use development has many moving parts, making it geometrically more difficult to finance, which translates directly into higher costs; recognize that there is no such thing as a mixed-use development industry—very few players have deep enough pockets."¹⁸

Further complicating the mixed-use challenge is the lack of comparables. The "comps" that do exist do not always have distinguished track records. Mixed-use TODs, such as Palm Court near the Blue light-rail transit line in Long Beach, California, fell into arrears, forcing banks to take over. Often it has been the ground-floor retail component of TODs that have suffered the most. (See Text Box 6.1).

Developers interviewed for this study took a fairly cautious stance toward mixed-use TODs. One developer indicated that because insurance costs are higher when uses are vertically mixed, it affects the bottom line and harms the ability to get financing. Still another developer noted that it is extremely difficult to do vertically mixed-use development when ownership components are involved. Multiple-use structures are also hard to build. Developers are generally more comfortable with a mix of uses in close proximity but on separate lots (i.e., "horizontal" versus "vertical" mixed uses).

Expressing this preference for horizontal mixed-use development, one developer said he hoped he was beginning to see a slow shift in thinking on the part of city

Getting the Retail Component of a Mixed-Use TOD Right

The piece of mixed-use TODs that has often struggled the most is retail. TOD retail is market driven, not transit driven (i.e., it is nearby residents, workers, and passersby who generally support the retail portion of a TOD, not transit riders). Retail is successful because of fundamentals—location, market, and design. Being near transit is secondary. In its recent publication, *Ten Principles for Successful Development Around Transit*, the Urban Land Institute warns: “It is misguided to believe that just because there is transit, if you build retail ‘they will come.’” (See Note 19 at the end of this chapter.)

TOD designer John Gosling offers the following advice on the retail component of mixed-use TODs, based on years of experience: determine retail mix, critical mass, and merchandizing strategies early, and design the project accordingly. Understand that retail tenants need good “presentation” and snazzy environmental graphics and keep the retail layout simple with a singular, continuous design that maximizes visual impact and invites foot traffic. Try to get it right because failing retail stigmatizes an entire development. Part of getting it right is making sure that ground-floor retail opens onto the street, clearly within the viewshed of passing motorists and that sufficient short-term parking within easy reach of the front entrance (a must for convenience retail) is available. Many TOD retail shops are inwardly focused in their designs, buffered from the street. This minimizes drive-by shopping and impulse-buying, both of which make up a growing part of the retail marketplace. If not designed properly, retail gets associated, visually and symbolically, with the “turf” of the upper-floor office and residential tenants.¹⁹

The Pacific Court mixed-use transit village in Long Beach, California, is a textbook example of a retail component that went awry. Pacific Court, with nearly 100,000 square feet of ground-floor retail and 142 above-ground apartments, opened in 1992 as a joint venture between the Long Beach Redevelopment Agency and a private developer. Many of the small retail shops are situated on the project’s exterior, away from the interior courtyard where the biggest draw, a 16-screen movie multiplex, is located. Moreover, there is no short-term parking next to the shops, meaning they depend entirely on walk-in traffic. Retailers complain that the layout also prevents movie-goers from passing by. As a result, many storefronts are empty. According to some observers, high retail vacancies may have pushed the project into foreclosure. In 1993, Pacific Court was valued at \$53 million. After foreclosure in 2000, the developer sold the project for \$13.5 million.

Pacific Court, Long Beach, on MTA’s Blue Light-Rail Line



Text Box 6.1

planners to be more willing to recognize single-use infill development in mixed-use neighborhoods as a desirable way to strengthen pedestrian-oriented neighborhoods. This developer focuses on multifamily infill housing and argues that developers should not be forced to do mixed uses if it will only serve to “dilute” the market for commercial real estate in an area sufficiently served by retail. Instead, he argues that single-use residential buildings bring new patrons to existing commercial activities and should be encouraged.

Public-Sector Perspective on TOD Barriers

The many barriers cited in this chapter form a veritable laundry list of hurdles to overcome. Which barriers are most serious? The national survey of five public-sector stakeholder groups shed some light on this question, at least from a government perspective. Survey respondents from transit agencies, local governments, redevelopment agencies, MPOs, and state DOTs were asked: “To what degree has each of the following factors been an impediment to transit joint development in your agency’s service area?” Respondents rated the factors on a scale of 1 (minimal) to 7 (major). Figure 6.1 summarizes the responses for the five stakeholder groups combined.

Stakeholders consistently ranked the automobile-dependent landscapes of many U.S. rail cities as the biggest obstacle to TOD. Automobile dependency was the largest factor in deterring TOD in the minds of those working in the public sector. This presents a “chicken-and-egg” problem or a “Catch-22,” wherein TOD is needed to increase transit usage and

reduce traffic congestion—two products of automobile-oriented land uses—and yet TOD is impeded by the same automobile-dependent forces.

Ranked next as obstacles to TOD were a series of “lacks”—minimal lender and developer interest, limited local expertise in planning and implementing TOD, and questionable market demand. In the views of higher levels of government, MPOs and state DOTs, local zoning restrictions are also to blame.

(Predictably, respondents from local government did not see this as a problem, just as they discounted the view that limited local expertise thwarted TODs.) Factors like community opposition, local skepticism over the value of TOD, inadequate transit services, and location of transit stations were generally rated as moderate barriers. (Again, higher levels of government were harsher in their criticism of factors that fall largely under the purview of local governments and transit agencies.) Legal barriers and replacement parking requirements were mostly viewed as having minimal effects on whether TODs take form.

It bears noting that many of these cited obstacles fall within the public sector’s sphere of influence. Some require institutional strengthening (e.g., better interagency coordination) and resource reallocations (e.g., enhanced transit services). Tackling other problems, notably automobile-dependent landscapes, is a much tougher challenge. While compact, mixed-use zoning and automobile-restraint programs will help in this regard, market realities will be far stronger determinants of whether America’s future built environments become relatively more transit or automobile dependent. Public policies

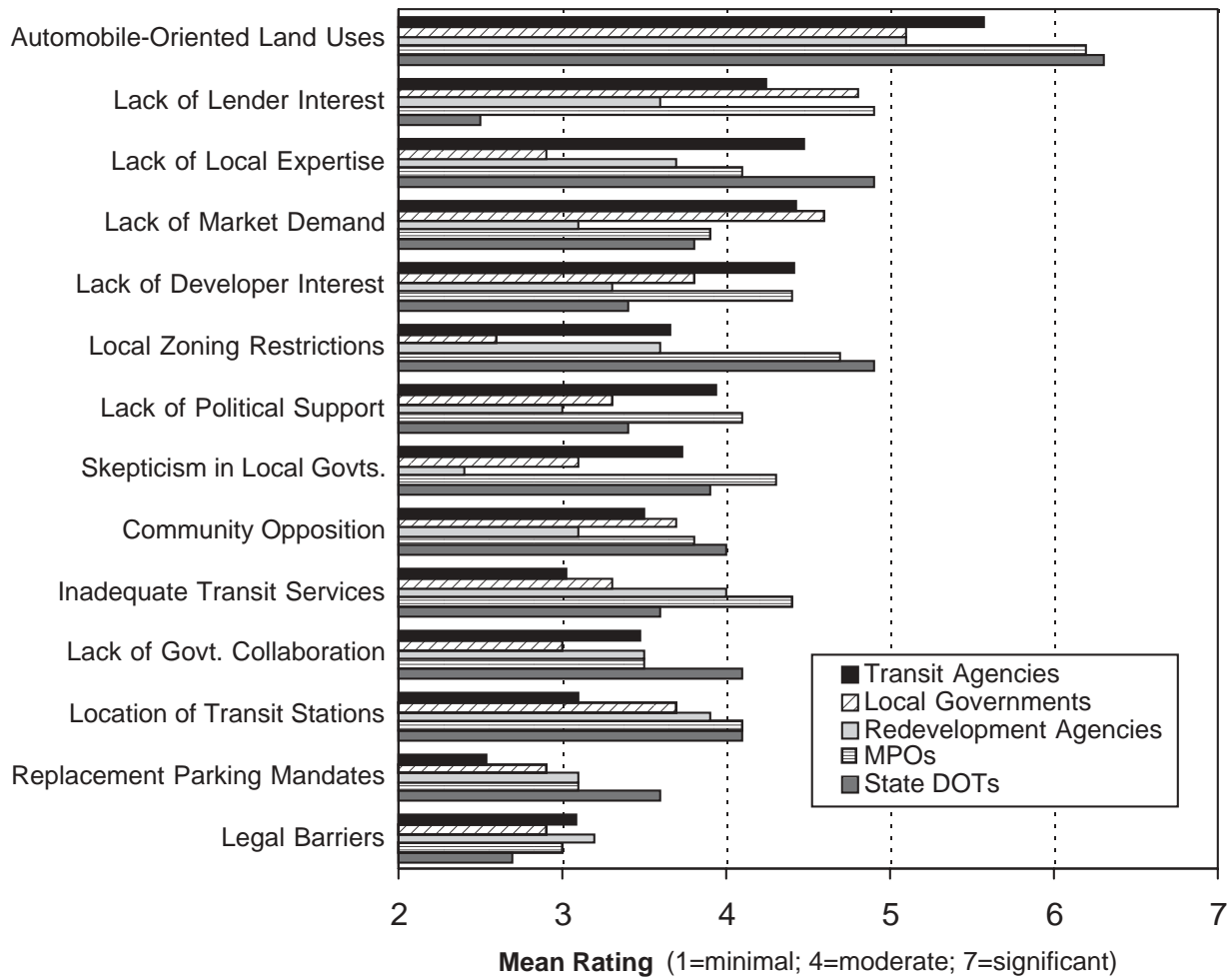


Figure 6.1. Rating of Impediments to TOD Among Five Stakeholder Groups.

like zoning affect market realities to some degree; however, exogenous factors like rising affluence and gasoline prices exert far stronger influences. While not an insurmountable barrier, the prevalence of automobile-oriented development makes the enterprise of TOD more difficult in the United States than anywhere else in the world.

Overcoming Barriers: The Development Community’s Perspective

Despite the many hurdles to TOD, developers interviewed for this study generally had a positive outlook about

the TOD enterprise and the role of the public sector in shepherding this effort. Most view public agencies as supportive and possibly even important partners in advancing TOD. Few are of the opinion that planners should “get out of the way.” Figure 6.2 shows the percentage of developers interviewed who view various public agencies as either partners, supporters, indifferent or obstacles when it comes to advancing TOD.

As might be expected, developers see the appropriate role of the public sector as incentivizing private development. Most believe they can make money in the TOD marketplace as long as they can avoid

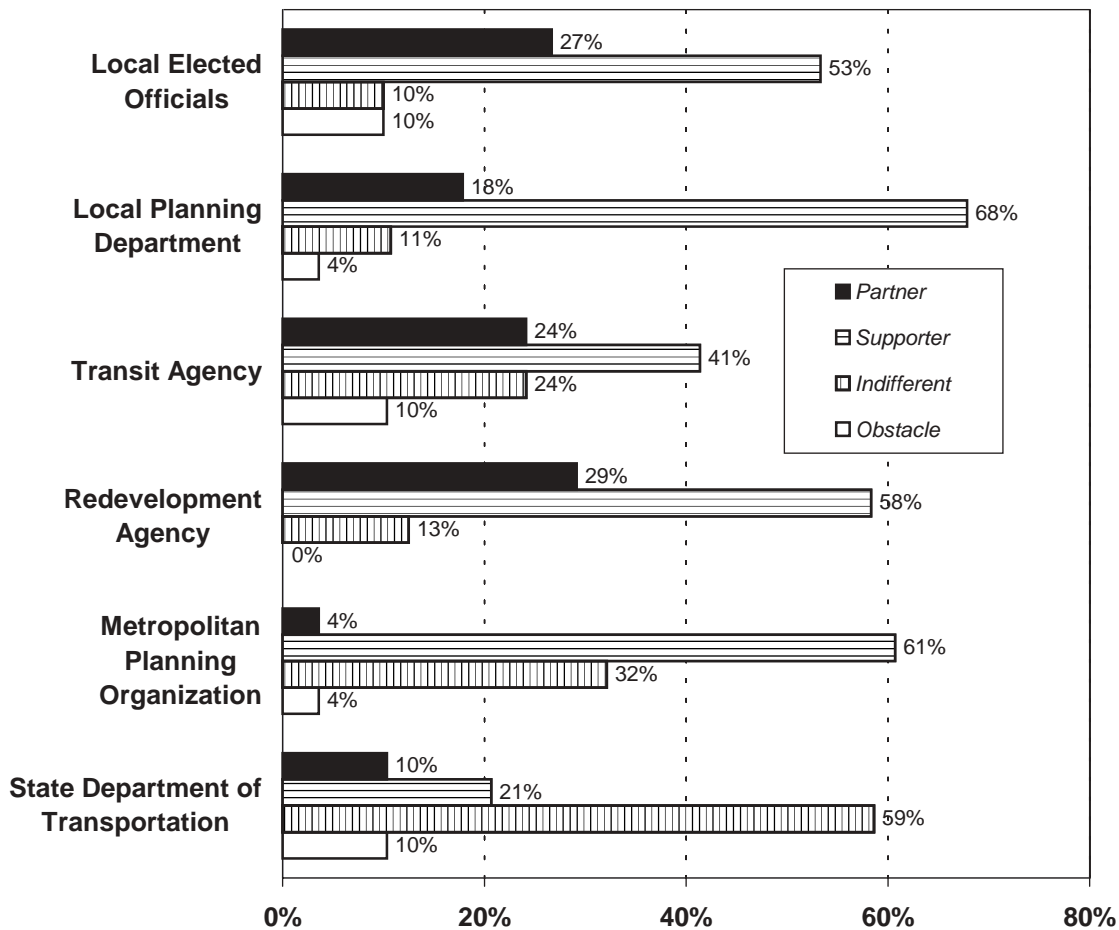


Figure 6.2. Developer Views of Public Agency TOD Roles, Based on Developer Interviews.

excessive red tape and minimize uncertainties. What often bothers them most is when governments “change the rules of the game” at the last moment. Accordingly, developers support good planning that provides a more predictable environment for development. Without a good station-area plan, there are no guarantees that neighbors and public officials will accept a real-estate proposal, nor is there a good handle on what a neighborhood is apt to look like 10 years down the road. Good plans increase the odds of good returns on investments.

The developers interviewed eagerly offered a number of suggestions for

improving the practice of TOD in the United States. For purposes of discussion, their recommendations can be grouped broadly into four categories: land assembly and infrastructure, the regulatory environment for TOD, public-sector financing of TOD, and public-private partnerships.

Land Assembly and Infrastructure

In general, developers were interested in seeing a more active role played by the public sector in completing activities that “lay the groundwork” for TOD. They were particularly enthusiastic about seeing public authorities such as

transit agencies and redevelopment agencies assemble land. Help with land assembly is particularly important for large-scale mixed-use projects in big, built-out cities, where land prices are high and developable parcels are few and far between.

In addition to assistance with land assembly, some developers were also eager to see public-sector investments in infrastructure around transit stations, including installation of parks and roads in greenfield locations and implementation of streetscape improvements in existing urban locales. These investments were seen as being particularly effective at attracting development. Most developers who were interviewed felt that the public sector should concentrate on investing in good, workable mass transit systems. Running clean and modern trains on time and expanding transit systems to grow the network of transit-accessible locations are things they actively support. In the minds of many, neighborhoods around stations that enjoy world-class transit services create their own markets for TOD, with little government intervention necessary beyond permissive zoning.

The Regulatory Environment

While in some respects developers welcomed additional public-sector involvement, not surprisingly, many of those interviewed equated this with more red tape. To a developer, the clock starts ticking once land is acquired and financing costs begin to accrue. Two things critical to the developer's schedule are certainty and timeliness.²⁰ The most commonly heard policy recommendation from developers was to streamline the development review

processes, particularly for fast-track projects near transit stations.

Interestingly, developers more often cited streamlining regulatory processes as a needed policy reform than increasing subsidies or tax incentives. This stands in contrast to the views of public-sector stakeholders, who generally thought streamlining measures were ineffective at promoting TOD (as noted in Chapter 4). Some developers drew a distinction between development review and planning processes, questioning the efficacy of the former while expressing enthusiasm for increased public-sector efforts to create community plans for areas around transit stations. Developers explained this apparent paradox by asserting that a carefully crafted community plan adds certainty to development review by establishing a lucid vision for development around a transit node. Having broad-based community buy-in is also essential.

In addition to a desire to see increased community planning, some developers were interested in seeing the public sector complete environmental impact reports (EIRs) focused on areas around transit stations. Examples provided included the focused EIRs done for rail-served portions of downtown Oakland and San Diego, California. These EIRs served to expedite the environmental review process for developers building in areas where a city agency had already completed preliminary environmental impact assessment work. Although California's Transit Village Act exempts TODs from "level-of-service" standards under the state's Congestion Management Act (see Chapter 3 for more on this), none of the 10 interviewed developers from California were aware of any

projects that took advantage of this provision.

Public-Sector Financing

Some developers were interested in seeing more public-sector financial support for TOD in the form of subsidies, tax incentives, and below-market-rate loans. A developer at a nonprofit community development organization believes that additional subsidies are needed for the retail components of mixed-use projects in order to attract retail outlets as a community revitalization strategy. A for-profit developer feels that the public sector needs to be ready with subsidies when it requires vertically mixed uses in places where market forces do not justify them. A brownfield developer believes that the public sector should step forward with money to pay the insurance premiums on environmental insurance policies, which would indemnify developers for cleanup costs in excess of an agreed-on dollar figure. While developers were certainly willing to accept public-sector financial incentives when they were available, they were not usually the factor driving decisions to develop. In instances where subsidies or the lack thereof drove development decisions, there was a sentiment that the public sector should “put its money where its mouth is,” so to speak, by paying to support policy goals such as community revitalization or to offset disincentives to development created by policies that run counter to market forces.

Of course, in highly depressed inner-city neighborhoods, real-estate developers expect (and usually insist on) direct financial assistance from the public sector in building TOD projects. Land write-

downs, assistance with land assembly, and equity partnerships are among the expected “perks.” Many developers also insist on loan subordination to protect them against potential creditors should TOD projects fail. Still, developers generally view the challenge of creating TODs in less attractive urban settings as a partnership, with both risks and rewards shared among public and private interests. Defining exactly how much of the risk gets shifted to the public sector, of course, is often a bone of contention. Most TOD developers believe a substantial share of the burden should fall on the shoulders of local agencies since the developers are taking unnecessary risks as long as opportunities for automobile-oriented development on greenfields exist. One mechanism to offset risk that was advocated by a developer was for the public sector to make equity funds for predevelopment activities available for developers working on risky infill sites where development serves a public purpose.

Public-Private Partnerships

The sentiment of developers toward public-private partnerships can best be summarized by the following comments from one interviewee:

As a private developer, my first preference is a project near [the local subway] totally controlled by us with no public entity partner. The public entity partner makes a project longer, more complicated, and more management intensive . . . unless the public relationship brings an economic advantage.

While developers favored more involvement from the public sector in certain activities, like land assembly,

they, not surprisingly, prefer that land be turned over to private control before development begins. Reasons for reticence toward public-private partnerships generally hinge on the slow pace of decision making within the public realm. Public agencies, many feel, are too bureaucratic to make good development partners. Also, developers are leery of public counterparts because of their general lack of real-estate expertise, particularly in the case of transit agencies and their governing boards. One interviewee suggested that the real-estate operations of transit agencies might be outsourced to a private entity with more real-estate knowledge.

Some developers did, however, recognize the economic advantage of partnerships, including one developer who works almost exclusively with public-private partnerships, often relying on the public sector to pay for parking construction. In theory, these arrangements lower overall development costs by allowing public facilities such as a parking garage to be built concomitantly with privately owned buildings. Construction staging areas can be shared, and efficiencies of scale can be achieved. While it is possible that such cost-sharing benefits exist, few developers seemed to believe that they adequately offset the red tape involved in partnering with a public agency.

From a developer perspective, arguably the most bothersome elements of working in public-private partnerships are requirements that land be leased rather than sold. Developers felt that financing would be easier and therefore more TOD would happen if land were available fee-simple rather than through a ground lease. FTA's new joint development rulings, which enable land

(for projects such as parking lots) to be sold to private developers for TOD without returning proceeds to the federal treasury, has opened the way for fee-simple transactions in the Washington, (D.C.) Metropolitan Area, the San Francisco Bay Area, and other regions actively seeking to infill surface park-and-ride lots.

Summary and Lessons

Many roadblocks stand in the way of TOD, just as they do with most forms of compact, mixed-use development. Some barriers are fiscal in nature, such as the higher costs and risks of dense, infill development, the alignment of rail lines along low-cost corridors that have minimal development potential, and fiscal/exclusionary zoning policies that restrict housing production. Others are in the form of political roadblocks, like NIMBY opposition to infill. Still others are institutional and organizational in character, such as the difficulty of coordinating TOD activities among multiple actors and stakeholder groups with divergent interests.

While many of these barriers are generic to all forms of dense, infill development, some are unique to TODs. One is the "congestion conundrum": the fact that nodal development around a transit station increases spot congestion, prompting some jurisdictions to downzone. Another is the logistical dilemma of accommodating multi-modal access needs, which often results in station road designs and parking layouts that detract from the quality of walking. More fundamentally, this represents a conflict between the role of a station as a functional "node" (particularly in the minds of transit managers) and a

desirable “place” (particularly in the minds of urban planners). Still another stumbling block unique to TODs is the rationalization of parking. By their very nature, transit stations offer “location efficiency,” enabling residents to get by with fewer automobiles than they might otherwise own. Yet lenders and planners often insist that code-standard parking be provided in station areas regardless. One mediating approach is to unbundle the price of housing and parking, creating separate markets for each. Within transit station boundaries, clashes are also found between the preferences of professional-class suburbanites who park-and-ride and other groups who would prefer more human-scale station designs. Many transit officials side with automobile-using patrons, invoking one-to-one replacement policies to ensure parking is in ample supply. Lastly, mixed land uses, which are a characteristic trait of TODs, pose difficulties in lining up funding, investors, and contractors. Vertical mixing is particularly problematic; most developers call for horizontal mixing instead. Quite often, the ground-level retail component of mixed-use TODs suffer the most, in part because they are poorly laid out.

The national survey of public-sector stakeholders shed light on what barriers are perceived to be the most onerous and difficult to overcome. Most problematic, according to survey respondents, are automobile-oriented development patterns. The lack of lender and developer interest in TOD, along with limited local expertise in planning for TOD and questionable market demand, are also generally seen as significant stumbling blocks. Factors like NIMBY opposition, inadequate transit services, and poor siting of transit stations were generally rated as moderate barriers.

While the developers interviewed for this study were enthusiastic about TOD, their views on what is “transit oriented” did not always square with urban design principles that call for mixed-use buildings clustered in close proximity to a transit station. Notably, a handful of developers felt strongly that TOD design guidelines should not overemphasize vertically mixed uses, such as ground-floor retail and upper-level residential. They explained that outside of dense urban locations, building mixed-use products in today’s marketplace can be a complex and risky proposition; few believe that being near a train station fundamentally changes this market reality. Those interviewed did welcome certain public-sector efforts to incentivize development including land assembly, infrastructure provision, strategic investments to improve neighborhood image, and expedited development review processes. In general, developers cautioned against over-regulation and identified actions that could be taken well in advance of development that would reduce risks and encourage more TOD.

Nothing will do more to surmount the obstacles to TOD than success stories. A developer active in north Dallas’s TOD scene remarked: “Density used to be a dirty word, but now that there are built examples on the ground of TOD and higher density, everybody is getting on the bandwagon.”²¹

Notes

¹ See R. Cervero, M. Bernick, and G. Gilbert, *Market Opportunities and Barriers to Transit-Based Development in California*, Working Paper 621 (Berkeley: Institute of Urban and Regional Development, University of California, 1994); E. Deakin, T. Chang, and

- M. Bernick, *Implementation of Residential Development at Rail Transit Stations in California: Case Studies and Policy Options*, Working Paper 736 (Berkeley: University of California, Institute of Transportation Studies, 1992); M. Boarnet and R. Crane, *Travel by Design: The Influence of Urban Form on Travel*, New York, Oxford University Press, 2001); and D. Belzer and G. Autler, *Transit Oriented Development: Moving from Rhetoric to Reality* (Washington, D.C.: The Brookings Institution Center on Urban and Metropolitan Policy, 2002).
- ² Belzer and Autler, 2002, op. cit.
- ³ M. Leccese, "Will T-REX Meet TOD?" *Urban Land*, Vol. 62, No. 5 (2003): 87.
- ⁴ G. Ohland, *Barrio Logan: Natural-Born Transit Village* (Santa Fe, New Mexico, The Great American Station Foundation, 2001).
- ⁵ Since the retail portion of the Barrio Logan project qualified the lender for Community Redevelopment Act credits toward state-mandated minimum investments in economically depressed communities, the bank was willing to provide the loan without an anchor tenant willing to guarantee the loan. The character of the Barrio Logan shopping center will be decidedly suburban in design, making it more of a "transit-adjacent" than a "transit-oriented" development. Due to the eagerness of the lending institution and the redevelopment agency to begin construction and start receiving the sales-tax revenues, the city's TOD planning guidelines are being overlooked in favor of suburban strip-mall development. The community and the developer have compromised at 3.5 parking spaces for every 1,000 feet of retail space, well above the 2 spaces recommended by the city's TOD guidelines but well below the suburban standard of 5 spaces, which is what the developer wants. While the site currently has a street running through its center—a feature that could be useful as a conduit for pedestrian site access—the current plans call for its removal. Current designs also call for the rear of the grocery store to face a main street adjacent to the site and the truck delivery bays to face the trolley station. Consequently, it seems that fiscal pressures not only cause private institutions to press for suburban, automobile-oriented development, but they also place pressures on public institutions to do the same.
- ⁶ G. Ohland, *Transit-Oriented Development in Four Cities* (Santa Fe, New Mexico, The Great American Station Foundation, 2001).
- ⁷ M. Boarnet and R. Crane, "Public Finance and Transit-Oriented Planning: New Evidence from Southern California," *Journal of Planning Education and Research*, Vol. 17 (1998): 206–219.
- ⁸ Inam, A., "Who Is Responsible for Alternative Development?" (paper presented at the 43rd Annual Conference of the American Collegiate Schools of Planning, Cleveland, Ohio, 2001), 24.
- ⁹ Inam, 2001, op. cit., pp. 26–27.
- ¹⁰ Belzer and Autler, 2002, op. cit, pp. 19–20.
- ¹¹ Price Waterhouse LLP, *TCRP Report 31: Funding Strategies for Public Transportation—Volume 2: Casebook* (Washington D.C.: Transportation Research Board, National Research Council, 1998).
- ¹² Cushman, K., "Joint Development at Transit Stations," in *Transit, Land Use & Urban Form*, ed. W. Attoe (Austin, Texas, Center for the Study of American Architecture, 1988).
- ¹³ Price Waterhouse LLP, 1998, op. cit.
- ¹⁴ Belzer and Autler, 2002 op. cit, p. 24.
- ¹⁵ M. Tumlin and A. Millard-Ball, "How to Make Transit-Oriented Development Work," *Planning*, Vol. 69, No. 5 (2003): 14–19.
- ¹⁶ J. Gosling, "Development Around Transit: Bringing Community Back to the City," mimeo (Baltimore, Maryland: RTKL Associates, Inc., 2003).
- ¹⁷ Tumlin and Millard-Ball, 2003, op. cit.
- ¹⁸ Gosling, 2003, op. cit.
- ¹⁹ Gosling, 2003, op. cit.
- ²⁰ R. Dunphy, D. Myerson, and M. Pawlukiewicz, *Ten Principles for Successful Development Around Transit* (Washington, D.C.: The Urban Land Institute, 2003).
- ²¹ S. Newberg, "TOD in Dallas," *Urban Land*, Vol. 62, No. 5 (2003): 105.

PART 3

THE IMPACTS OF TOD

TOD is in a position to produce a wealth of benefits, although impacts vary considerably, and some disagreement is found in the literature. Still, evidence continues to accumulate showing that, under the right conditions, TOD can produce real and meaningful benefits, especially with regard to ridership increases and improved economic conditions in neighborhoods surrounding stations. Chapter 7 reviews evidence on the breadth of benefits attributed to TOD, drawing from the literature and secondary sources. The views of various local stakeholders regarding TOD's potential benefits are also presented. Chapter 8 zeros in on TOD's ridership impacts, reviewing experiences to date and presenting original research on how development around rail stops gets translated into additional passengers in the San Francisco Bay Area and Arlington County, Virginia. Chapter 9 looks at the benefits of TOD from a private-sector perspective in terms of land-value and real-estate market impacts. Experiences show that various factors, some within the sphere of public-sector influence and others outside it, have a strong bearing on whether development near transit gets translated into price premiums.

Chapter 7

Benefits of TOD

TOD's Range of Benefits

TOD has attracted the interest of politicians, environmentalists, real-estate developers, and other groups in recent times because it yields benefits. TOD, as one of the more visible forms of smart growth, is increasingly viewed as an antidote to traffic congestion, the isolation and detachedness felt in many suburban communities, affordable-housing shortages, and inner-city decline and disinvestment. TOD, proponents maintain, can contribute toward creating a sustainable built form, functioning as a counter-magnet to automobile-induced sprawl. Under the right conditions, TOD can be a boon to local communities, especially when coupled with proactive public assistance. TOD can spur the redevelopment of declining neighborhoods (e.g., downtown Long Beach, California, and Arlington Heights, Illinois), spawn new suburban villages (e.g., Pleasant Hill, California, and Orenco, Oregon), breathe life into older suburban downtowns (e.g., Bethesda, Maryland, and Plano, Texas), and speed up the transition of places suffering from slow commercial encroachment (e.g., Ballston, Virginia, and Rutherford, New Jersey).

Even larger aspirations have been attached to TOD, such as its potential for building human capital by increasing day-to-day social interaction and strengthening the bond between residents and their community. *Quality of life* is

often used as an umbrella term for some of the less tangible benefits of TOD. Living in a neighborhood that allows one to drive less and walk, bike, and use public transit more, some feel, reduces stress, enables one to meet neighbors more often and spend more time with the family, increases physical activity, and offers a safer living environment (i.e., it increases the quality of life). By one account, “when people say ‘livability,’ they mean clean air and water, safe streets, positive race relations, affordable homes, quality public schools, greenery and open space, uncongested roads, and low taxes.”¹ Finding pathways to such lofty goals and reconciling conflicts (e.g., between quality public schools and low taxes) is no easy task; nonetheless, TOD is increasingly being looked on as a promising approach to providing a more livable and sustainable future.

The literature is replete with platitudes that have been heaped on the TOD concept; however, relatively few serious studies have been carried out that assign benefits to TOD in any quantitative or monetary sense. For the most part, anecdotes and story lines are relied on instead. Two benefits for which quantitative impacts have been measured—ridership increases and property value gains—receive special treatment as their own chapters in this report (Chapters 8 and 9, respectively). Methodologically, the challenge in gauging the payoff of TOD is *attribution*—how much of a change in

traffic congestion, property values, or open-space consumption is due to TOD versus all the other (confounding) factors that could account for the change. Presently, the state of knowledge on the benefits that can be assuredly attributed to TOD is fairly limited.

Table 7.1 organizes TOD’s purported benefits into several categories, providing the structure for much of the discussion in this chapter. Some benefits are public in nature, accruing to society at large.² Others are largely private, conferred on selective individuals, businesses, or property owners. Some benefits, such as increased affordable-housing opportunities, accrue to both

the public and private spheres to some degree. Moreover, quite a few of the benefits attributed to TOD are associated with any form of compact, mixed-use development (e.g., neotraditional neighborhoods), not just TOD. Benefits like reduced road expenditures, preservation of open space, and lower parking costs are generic to any program that reduces sprawl and automobile usage (and more specifically VMT).

Table 7.1 also divides benefits into primary and secondary categories. Primary benefits are those that represent a direct cause and effect between TOD and impacts. Secondary benefits spin off largely from primary ones and thus are

Table 7.1. Classes and Recipients of TOD Benefits

<i>Class of Benefit:</i>	<i>Primary Recipient of Benefit:</i>	
	Public Sector	Private Sector
Primary	1. Increase ridership and farebox revenues	5. Increase land values, rents, and real-estate performance
	2. Provide joint development opportunities	6. Increase affordable-housing opportunities
	3. Revitalize neighborhoods	
	4. Economic development	
Secondary/Collateral	A. Less traffic congestion and VMT-related costs, like pollution and fuel consumption (1)	G. Increase retail sales (1, 2)
	B. Increase property- and sales-tax revenues (5)	H. Increase access to labor pools (A, 6)
	C. Reduce sprawl/conservate open space (1, 3, 6)	I. Reduced parking costs (C, 2)
	D. Reduce road expenditures and other infrastructure outlays (1)	J. Increased physical activity (C, E, F)
	E. Reduce crime (3, 4)	
	F. Increased social capital and public involvement (3, 4)	

Note: Values in parentheses represent primary benefits and/or secondary benefits that are the source(s) of the secondary/collateral benefit listed.

collateral. Many secondary benefits are financial in nature, representing “accounting transfers” (i.e., shifts from the bank accounts of one group to the bank accounts of another).

Another important distinction to make regarding benefits is whether they are redistributive or generative.

Redistributive impacts involve transfers and accordingly are mainly financial and pecuniary. Higher sales-tax receipts from increased retail-sales activities in a TOD community are offset by lower tax receipts from the loss of retail sales (to the TOD) in another community with an automobile-oriented shopping center. Generative impacts represent net efficiency gains that stem from improved resource allocations and accordingly are economic (versus financial) in nature. Any reduced traffic congestion and thus travel time savings afforded by TOD is an unmistakable economic benefit. Time has scarcity value, thus motorists and others who save time as a result of mode shifts spurred by TOD are able to use their time more productively, whether at work or with friends and family. Of course, attributing travel time savings to TOD is exceedingly difficult without an incredibly rich and extensive time-series database. Factors like induced travel demand (whereby short-term gains in average travel speeds are eventually eroded as motorists switch routes, modes, and when they travel) can further complicate the analysis.

A 1998 study, *Economic Impact Analysis of Transit Investments*, concluded that transit’s impacts on cities and regions are largely redistributive, with few, if any, generative effects.³ Building a rail system, for instance, might shift growth from highway

corridors to rail stations; however, total numbers of households and employment in a region will not be affected (whether the rail system is built or not).⁴ While transit construction might fail to lure new companies and big-dollar investments to a region that would not otherwise occur, not building transit, not linking it with land use, and allowing traffic congestion and quality of life to slip are likely to be “de-generative.” This was brought to light in Atlanta when several large employers threatened to leave the region because of worsening traffic congestion. This proved to be a wake-up call, prompting the governor of the state to appoint a powerful oversight agency, GRTA, whose principle charge is to ensure that land use and transportation are closely coordinated every step of the way. GRTA uses its financial authority (i.e., control of state transportation grants) to enforce its agenda. Mega-scale mixed-use developments near rail stops, such as the Atlantic Steel Project and Lindbergh Station in Atlanta, are taking shape in large part because automobile-dependent sprawl is no longer viewed as economically sustainable.

One other point needs to be made about TOD benefits. One cannot simply sum the items listed in Table 7.1 as the totality of benefits because there is a fair degree of overlap among them. To do so would be double-counting. Touting the multiplicity of benefits attributed to TOD without acknowledging such double-counting can discredit TOD by giving nay-sayers an easy target for launching their critiques. It is fair to say that many of transit’s benefits are co-dependent and mutually reinforcing, with a fair amount of overlap between them.

Primary Benefits

This section reviews the primary benefits associated with TOD from both a public- and a private-sector perspective.

Public Sector

Below, the four primary public-sector benefits—ridership increases, joint development opportunities, neighborhood revitalization, and economic development—are reviewed.

(1) Ridership Increases. On the public side of the ledger, one of the primary benefits of TOD is higher ridership. What have been referred to as the “4 D’s”—density, diversity, design, and distance to transit—have a strong bearing on travel behavior in general and rates of transit ridership in particular. TODs, of course, score high on all four Ds: *density*—a doubling of density is associated with nearly a 60% increase in transit boardings according to one study;⁵ *diversity*—transit ridership rates at mixed-use suburban employment centers are on average 5% to 10% higher than they are at single-use employment centers (i.e., offices only);⁶ *design*—grid-like street patterns and pedestrian-friendly designs have been associated with transit-usage levels that are as much as 20% higher than usage levels at typical suburban subdivision designs;⁷ and *distance to transit*—in the Bay Area, those living near transit are generally five times as likely to commute via transit as other residents, and in the Washington (D.C.) Metropolitan Area and Toronto the likelihood increases to seven to eight times as high.⁸ Surveys

over the past 15 years underscore the ridership payoff of TODs:

- At the Randolph Towers near Arlington County’s Ballston Station, 69% of residents commuted to work via transit, compared with a regionwide transit mode share of just 9%;⁹
- Near the Pleasant Hill BART station, 55% of those living in Wayside Plaza and 37% of those living in Park Regency regularly commuted via BART versus a citywide average of 16%;¹⁰ and
- Nearly 80% of residents who moved to the Orenco TOD in Hillsboro, Oregon, reported in a survey that their transit usage had increased since moving into their new residences.¹¹

Virtually all other public benefits related to TOD stem from its ridership bonus. The ridership impact of TOD is considered so important that a separate chapter is devoted to the topic in this report. Chapter 8 presents original research probing the link between TOD and rail patronage in the Bay Area and in Arlington County, Virginia. As discussed in the chapter, high ridership is in large measure a result of “self-selection”—those who wish to commute via transit make being near a rail station a key factor in their residential location choice.

Increased ridership represents a net economic benefit to the degree that it translates into the conservation of resources with scarcity value, such as less fuel consumption, and reduced negative externalities, such as less pollution (air, noise, and “time”). A

financial benefit that is pecuniary in nature is higher farebox revenues to transit agencies. (It's a transfer benefit in the sense that money goes from the pockets of consumers, or transit riders, to the pockets of producers, or transit agencies; the generative, or economic, benefit of increased revenues is found in the ridership shifts and consequent congestion relief discussed below, not in the financial transfers.)

(2) *Joint Development Opportunities.*

TOD provides a financial benefit to transit operators who are able to capitalize on the ability to generate revenue (e.g., through air rights or ground leases) or reduce cost outlays (e.g., through sharing the costs of parking lots) from private development at or near a station. As discussed in Chapter 2, there are more than 100 instances of transit joint development currently underway in the United States. They are found mainly among rail properties in big cities, but some smaller bus agencies have managed to co-develop (and shed costs for) multimodal transfer facilities with private commercial projects as well.

Today, WMATA, serving the Washington (D.C.) Metropolitan Area, collects around \$6 million annually in joint development revenues, a figure the agency hopes to triple over the next decade. At the Bethesda Station alone, the agency receives \$1.6 million in ground-lease revenues from the Bethesda Place mixed-use project. A statistical analysis of joint development projects in the Washington (D.C.) Metropolitan Area and Atlanta found

that an even greater benefit was the increased patronage, and thus farebox revenue, that it spurred. Interdependencies between office development and ridership were found—jointly developed office space atop or near a rail stop spurred ridership, and ridership in turn spurred office development.

(3) *Revitalize Neighborhoods.* TOD

can be a catalyst to inner-city redevelopment, breathing new life and economic vitality into once-dormant neighborhoods. Ballston in Arlington County, Virginia, is a textbook example of this, as discussed in Chapter 12. In the 1970s, before Metrorail arrived, Ballston was a neighborhood in transition, with an odd mix of low-density apartments, fast-food outlets, automobile-repair shops, and other marginal land uses. Fortuitous circumstances, like the extension of the Orange Line to Vienna (which freed up land previously used for parking), coupled with proactive planning on the County's part (e.g., density bonuses and targeted infrastructure enhancements), triggered the transformation of Ballston into a vibrant mixed-use center. Today, it is one of Northern Virginia's most prestigious addresses for offices, restaurants, and hotels.

The extension of Boston's Red Line subway from Cambridge to Somerville sparked a similar transformation of Davis Square, a once-thriving commercial district that gradually declined during the post-World War II era. Streetscape improvements and storefront upgrading, funded through

Community Development Block Grants, accompanied the subway extension. Soon after the subway was opened, two new office buildings with a total of 170,000 square feet were added to Davis Square. Today, both are fully leased.

Capitalizing on the potential community benefits conferred by TOD can be an uphill struggle in many inner-city areas. Research shows that even in good economic times, the mere presence of transit cannot, by itself, catalyze a miraculous transformation of depressed inner-city neighborhoods.¹² A delphi panel study of professionals involved with TOD underscored the particular difficulties of bringing projects to fruition in inner-city settings. The panel agreed that difficult-to-surmount barriers include high financial risks, negative images, fear for safety, class and racial prejudices, and sometimes concern among residents that their neighborhoods will be gentrified.¹³

(4) ***Economic Development.*** Closely related to neighborhood revitalization is the ability of TOD to attract new investments and businesses to marginal or declining neighborhoods, thereby creating new and better-paying jobs. New employment, of course, has a multiplier effect, spinning off other local jobs. Union Station in Washington, D.C., a bustling facility for 50,000 daily train and bus riders, has sparked an urban renaissance. Retail sales have increased at an annual rate of 5%, and, according to one analysis, between 1,200 and 1,500 new jobs have been created at the station itself.¹⁴

The Fruitvale transit village in Oakland has sparked an economic renaissance in the once-declining neighborhood; however, it is unlikely that this would have occurred were it not for heavy subsidies, drawn from 20 separate funding sources, that have gone into the neighborhood. Several million dollars in grants went to façade improvements and building renovation for more than 100 properties along International Boulevard, Fruitvale's main street. Before the program, vacancies had been as high as 40% in the area; now they are less than 1 percent.¹⁵ So far, the Fruitvale transit village has been credited with adding several hundred new jobs to the area, a figure that is expected to grow when the project reaches build out over the next few years.

Private Sector

Two primary benefits of TOD that accrue principally to private interests are increased land values and rents and increased affordable-housing opportunities.

(5) ***Higher Land Values and Rents.***

Those owning properties and businesses near transit stations can reap financial gains from rising land prices and rent. This is presumably a pecuniary impact in that relative gains around transit stations are matched by relative losses for properties and businesses that lie away from stations. As reviewed in Chapter 9, some evidence suggests that parcels near rail stations that are part of a TOD or joint development project enjoy even higher premiums due to factors such as better

circulation and architectural integration. Land-value impacts vary considerably by setting and circumstances; however, in buoyant real-estate markets, such as the case of light-rail-served Santa Clara County in the late 1990s, premiums in the range of 25% to 100% are not unheard of.

(6) *More Affordable-Housing*

Opportunities. Many American cities with rail transit systems, San Francisco, Washington, D.C., Los Angeles, Chicago, and New York, to name a few, face an affordable-housing crisis. In San Francisco and Los Angeles, for example, only one out of four households can afford a median-priced owner-occupied home.¹⁶ TOD provides an opportunity to increase the stock of affordable units mainly because of its “location efficiencies.” Studies show that those living in TODs need to own and use fewer automobiles. This frees up income for housing purchases. Reduced parking also lowers the cost of housing. Researchers found that in San Francisco the average increase in the price of a housing unit with a parking space compared with a unit without parking is \$39,000 to \$46,000.¹⁷ Such numbers lend support to the LEM program, which is based on the very principle of households being able to trade off lower transportation costs for higher housing payments. TODs also help rental markets. The poorest 20% of American families spend 40% of their take-home pay on transportation. By reducing driving costs by \$3,000 to \$5,000 per year, TODs make it easier for low-

income renters to afford the higher rents found in many rail-served cities.

Secondary Benefits

This section reviews secondary benefits that spin off of the primary ones reviewed in the previous section. The notation in each subheading links each secondary benefit to one or more primary ones—“reduce sprawl/conserv open space (1, 3, 6),” for instance, denotes that the secondary benefit of less sprawl and open-space conservation stems from the primary benefits of increased ridership (1), neighborhood revitalization (3), and affordable housing production (6). The numbers correspond to those shown in Table 7.1 for the listed primary benefit. In some instances, so-called secondary benefits are largely products of other secondary benefits, for instance, the private secondary benefit of “reduced parking costs (C, 2)” is partly a product of the public secondary benefit of reduced sprawl (C).

Public Sector

(A) *Less Traffic Congestion and Other*

VMT-Related Costs (1). A primary second-order benefit of TOD, or so backers claim, is relief of traffic congestion and other “ills” of single-occupant automobile travel like high fuel consumption and air pollution. (This is an outcome of the primary impact of increased ridership, enumerated as the first public benefit in Table 7.1.) Reduced traffic congestion is clearly a generative benefit. In the chain of TOD increasing ridership that in turns relieves traffic congestion, travel-time savings are

the hoped-for “outcome” of the TOD “output.”

The Texas Transportation Institute estimates that traffic congestion costs the nation \$68 billion in time delay and extra fuel consumed per year, wasting 3.6 billion hours and 5.7 billion gallons of fuel.¹⁸ The increasing unpredictability of traffic congestion (e.g., not knowing when and where one will get stuck in traffic) likely adds deadweight economic loss through disruptive effects (e.g., having to cancel meetings at the last minute).

Is TOD an effective palliative to traffic jams? There is no direct causal evidence that can be found in the literature; however, research has made a link between TOD and VMT reduction. In as much as VMT declines occur in peak hours, it follows that TOD reduces congestion levels to some degree. A study of residents living in TOD-like neighborhoods in the San Francisco Bay Area found that they averaged around half the VMT per year as residents of suburban subdivisions, controlling for factors like median household incomes.¹⁹ Drawing from its own literature review, the recent California TOD study maintains that TOD can “lower annual rates of driving by 20 to 40 percent for those living, working, and/or shopping near major transit stations.”²⁰

Part of the environmental benefit of TOD comes not just from reducing VMT but also from substituting walk-and-ride and bike-and-ride access/egress for park-and-ride. From an air quality standpoint,

transit riding does little good if most people use their automobiles to reach stations. For a 3-mile automobile trip, the typical distance driven to access a suburban park-and-ride lot in the United States, 84% of hydrocarbon emissions and 54% of nitrogen oxide emissions are due to cold starts (inefficient cold engines and catalytic converters during the first few minutes of driving) and hot evaporative soaks.²¹ That is, a sizeable share of tailpipe emissions of the two main precursors to the formation of photochemical smog occur from turning the automobile engine on and driving a mile and turning it off. Drive-alone access trips to rail stations, regardless of how short they are, emit levels of pollutants that are not too much below those of the typical 10-mile solo commute. Thus, relying on an automobile to access a metropolitan rail service can reduce the air quality benefits of patronizing transit. Accounting for the impacts of TODs in reducing VMT and promoting walk-and-ride access, the recent California study claims that “TODs can help households reduce rates of greenhouse gas emissions by 2.5 to 3.7 tons per year.”²² Because of its location, design, and density, the Uptown District TOD in San Diego was estimated to have 20% less emissions per household compared with households in nearby developments.

(B) Increase Property- and Sales-Tax Revenues (5). A secondary by-product of rising land prices and rents from TOD is increases in property- and sales-tax revenues to host communities. From a regional

perspective, however, this is a financial transfer, for it means less property- and sales-tax revenues in (presumably more automobile-oriented) communities that would have housed these uses if the TOD did not exist. Still, property-tax income is an indirect form of value capture whereby governments share in some of the added value created by infrastructure investments like rail systems. By reducing the windfall that land speculators might enjoy, property-tax transfers score high on equity as well as efficiency grounds. And to the degree that TODs boost land-value premiums above those associated with being near transit, they yield even greater value-capture returns to jurisdictions with the political foresight and wherewithal to promote transit-supportive growth.

As a case in point, take the Pentagon City Fashion Center in Arlington County, Virginia. Surveys show that around half of the shoppers and customers going to the Fashion Center arrive by Metrorail. Many are federal workers who come from Washington's Federal Triangle area, a 5- to 10-minute train ride away. Every time they make a purchase, they produce sales-tax revenues for Arlington County, which by conservative estimates are several million dollars annually. Overall, Arlington County's Rosslyn-Ballston TOD corridor has been credited with generating 32.8% of the County's real-estate tax revenue, even though it makes up just 7.6% of the County's land area.²³ While this added value is mainly redistributive, one could argue that some of it is generative since the County

financially participates in the land-value premiums enjoyed by rail-served properties, resulting from accessibility improvements.

Evidence on the tax benefits of TOD is also found in California. More than 60% of customers going to the San Francisco Center and Horton Plaza in San Diego (both regional retail centers near downtown rail stops) take transit.²⁴ Without rail transit connections, a substantial share of these retail sales transactions would occur at automobile-served suburban shopping malls. The 55-acre La Mesa Village Plaza TOD in San Diego is estimated to have generated over \$3.2 million in additional tax revenues over the past decade as a result of stepped-up retail activities. It should be noted that subsidies—in the form of redevelopment financing, discounted land costs, and site remediation grants—were needed to produce these tax gains.

(C) Reduce Sprawl/Conserve Open Space (1, 3, 6). By encouraging infill and accommodating small-lot projects, TODs can reduce pressures to convert farmland and open spaces into tract housing and other land-hungry suburban development. The seeds of greater Portland's ambitious TOD initiatives lie in state-mandated Urban Growth Boundaries (UGBs) whose principle purpose is to preserve open space and farmland (see Chapter 17). *TCRP Report 74: Costs of Sprawl—2000* concluded that contiguous, compact development could save the United States nearly 2.5 million acres of land—much of it agricultural and

environmentally sensitive—over the next 25 years.²⁵ Sprawl-like development uses 10 to 40% more land than compact development.²⁶ By one estimate, switching to higher-density development patterns could save as much as 350,000 acres of farmland by 2040 in 11 counties of California’s Central Valley agricultural belt.²⁷ Besides saving land and money, reducing sprawl through TOD can produce other environmental benefits. One is improved water quality through reducing the amount of impermeable surface runoff. Another is preserving biodiversity by reducing the fragmentation of natural habitat and grazing grounds.

(D) Reduce Road Expenditures and Other Infrastructure Outlays (1).

Among the highest costs associated with low-density, automobile-supported patterns of growth are outlays for roads, sewer- and water-line extensions, and other infrastructure expansions. *TCRP Report 74* suggests that developments like TOD can reduce fiscal outlays for water, sewage, and roads by as much as 25%.²⁸ Overall, a savings of 188,300 lane-miles of local roads (valued at \$110 billion) and some \$12 billion in reduced water- and sewer-line extensions could be achieved by redirecting growth to compact centers over the 2000 to 2025 period. While some of these savings would be offset by additional outlays for regional transit systems and higher service costs in other sectors (e.g., for fire protection as a result of more buildings in dense settings), on balance a stepped-up transit investment and TOD program

that effectively curbed sprawl would likely save the United States over \$10 billion annually in public infrastructure expenditures.

(E) Reduce Crime and Increase Safety

(3, 4). By creating active places that are busy throughout the day and evening, providing “eyes on the street,” TODs increase safety for pedestrians, transit users, and the community at-large. Mixed-use, compact, and pedestrian-friendly places near transit nodes are very much in keeping with Jane Jacobs’s prescription for livable, vibrant, uplifting, and safe-feeling cities as poignantly described in her book, *The Life and Death of Great American Cities*.²⁹ TOD can also create “defensible spaces” that instill a sense of safety and well-being, particularly for families with kids, through a tacit form of neighborhood policing. A review of transit stations in Tucson, Corpus Christi, and New York City found that street life in combination with lighting improvements, addition of retail kiosks, street art, and a police presence were associated with declines in both perceived and actual crime rates.³⁰

Another way TODs can increase safety is by providing less hazardous settings for pedestrians and cyclists. One study estimated that accidents involving pedestrians cost the state of California \$4 billion in lost productivity and medical expenses in 1999.³¹ The various streetscape, traffic-calming, and integrated-pathway networks that accompany many TODs can reduce accidents by slowing down moving cars and

shielding pedestrians and cyclists from harm's way. Countries with world-class transit services and transit-supportive land-use patterns, like Germany and the Netherlands, have witnessed dramatic reductions in pedestrian and bicycle accidents through such design treatments.³²

(F) Increased Social Capital and Public Involvement (3, 4). Robert Putman, in his highly acclaimed book, *Bowling Alone*, makes the point that less automobile-dependent settings, like TODs, spur volunteerism, social interaction, and community engagement.³³ Because they regularly come into face-to-face contact, “chat across the fence,” and get to know their neighbors and neighborhoods, Putman contends that those living in TOD-like places get involved in community affairs (expressed by higher levels of participation in neighborhood clean-up drives, PTA meetings, voting, and the like). He estimates that for every 10% decrease in driving time there is a 10% increase in civic participation. Some critics cringe at such physical-determinist talk; however, the flip side of the coin is research showing that living in automobile-dependent sprawling suburbs is associated with commuting stress and higher rates of absenteeism.³⁴

The award-winning mixed-use TOD built at the Orenco light-rail station in Hillsboro, Oregon, features a wide range of housing options, from multifamily rowhomes to small-lot, detached single-family units (see Photo 7.1). The Orenco project was designed to encourage walking, both within the community and for access

to light-rail transit. To create a pedestrian scale, \$500,000 in federal clean air funds were “flexed” to finance the project’s main promenade. Orenco’s interconnected street system shortens walking distances, and tree-lined roads, combined with on-street parking, have created a comfortable sidewalk environment. Surveys show that the primary reason people have bought new homes in Orenco has been “community design and amenities.”³⁵ Orenco’s human-scale “community feel” has no doubt increased social capital by strengthening the bond between residents and their neighborhoods. The diverse stock of housing has also given consumers a wide array of choices in how to spend their disposable income for the two “big-ticket items”: housing and transportation.

Private Sector

(G) Increase Retail Sales (1, 2). By concentrating walk-on and walk-off traffic around rail stops, TODs are thought to increase shopping activities at nearby retail outlets. Those passing by when exiting transit stations after work, for example, might be inclined to pick up small items at nearby stores. Increased retail sales, however, are a pure financial transfer—from the pockets of consumers and merchants of automobile-oriented shops to the pockets of those doing business near transit stops.

Chicago’s Union Station, the second busiest railroad station in the United States, is home to several hundred locally owned and operated businesses. In the mid-1990s, the station’s food retailers were



Photo 7.1. Variety of Housing Products and Communal Spaces at Orenco Station, Hillsboro, Oregon. Various amenities and streetscape improvements have drawn many homebuyers to the rail-served community and promoted social interaction, something that many new suburban communities lack.

generating more than \$12.5 million in sales annually, which is about \$600 per square foot of rentable space.³⁶ This sales figure ranks the station as one of the top food retail locations in the country.

(H) Increased Access to Labor Pools (A, 6). Placing more workers within easy reach of jobs via transit can increase the pool of labor and specialized skills from which employers can draw, providing transit-accessible businesses a competitive advantage. Recent research demonstrates that higher levels of accessibility during commute hours are associated with higher labor productivity.³⁷ This held not

only nationwide, but also within the fairly intensively transit-served San Francisco Bay Area. Bay Area communities with high levels of transit accessibility (which TOD contributes to) were found to have higher levels of economic output per worker when controlled for factors like population size and employment densities. The flip side of poor access to labor is economic losses. The San Francisco Bay Area Economic Forum estimates that local businesses lose some \$2 billion annually in lost productivity because of employees sitting in traffic jams.³⁸

(I) Reduced Parking Costs (C, 2). Businesses and homeowners located

near transit stops are able to economize on parking, partly because larger shares of trip ends are by transit and also because of shared-parking possibilities. The Commons mixed-use TOD in downtown Denver, for example, has below-standard parking (2 spaces per 1,000 square feet of commercial space compared to a norm of 2.5 to 3 spaces). Shared parking has further lowered supplies. At around \$25,000 per space for underground parking, reduced parking afforded by TOD saved the developer several million dollars. Part of these savings, presumably, is passed on to consumers (especially when there is a “buyer’s,” or price-elastic, real-estate market).

(J) Increased Physical Activity (C, E, F).

America currently faces a serious obesity problem in part because so many teenagers and adults live a sedentary lifestyle. The U.S. Surgeon General recommends accumulating 30 minutes of moderate physical activity per day. However, 74% of U.S. adults do not get enough physical activity to meet public health recommendations, and about one in four U.S. adults remains completely inactive during their leisure time.³⁹ Public health officials contend that walking has been engineered out of everyday life because of automobile-dependent landscapes. As walking-friendly environments, TODs can play a role in increasing physical activity. A recent national study found that those living in more compact settings were 10% less likely to be obese than those living in low-density neighborhoods, all else being equal.⁴⁰ Another study, based on travel-diary

data from the San Francisco Bay Area, found that mixed land-use patterns, like those found at most TODs, significantly increased the odds of walking for non-work trips of 2 miles or less, controlling for factors like rainfall and slope that might deter foot travel.⁴¹

Debates

Not everyone sees TOD in a positive light. A spirited debate has surfaced about the pros and cons of TOD, with environmentalists and transit advocates praising TOD and skeptics criticizing it.

Portland’s experiences are often cited to underscore TOD’s beneficial side. Chapter 17 discusses Portland’s many TOD successes. Portland’s MAX light-rail system opened in 1986, and by 2000 more than \$2.4 billion in development had occurred within walking distance of the Eastside and Westside stations.⁴² Job access has been materially enhanced by MAX—the Westside line today serves 24,000 high-tech jobs, providing mobility to what is increasingly a vital part of the region’s economy. More than 1,800 multifamily housing units have been built on infill sites along light-rail and streetcar lines. Numerous accounts and studies have chronicled the rising land values and rents in neighborhoods served by Portland’s light rail system.⁴³

Not all interpretations of Portland’s experiences are so generous. In a critique of the idea that transit’s benefits get translated into higher land values that can be recaptured, one Portland observer commented:

Instead of value capture, Portland is having to subsidize transit oriented

development at light rail stations by means of property-tax abatements, zoning bonuses, and permit expediting. Transit oriented development was not occurring naturally in Portland and subsidy is being used to jumpstart it. The major obstacle is that land prices are not high enough to justify the densities and structured parking that are desired by transit oriented development planners. However, rationalizing the subsidy is difficult. TOD is supposed to yield benefits, not costs. Assurances about reducing urban sprawl, increasing use of alternative modes, and reducing pollution are not substantiated. In Portland, there appears to be a continuing need for subsidy.⁴⁴

Even at the level of a specific light-rail station, opinions differ markedly regarding net impacts. Take the much-vaunted Orenco Station, discussed earlier in this chapter. On the rosy side are surveys showing that nearly 80% of residents living near the Orenco Station said that they ride transit more since moving to their new residence.⁴⁵ Another researcher estimated that 22% of Orenco commuters regularly use public transit, higher than the 5% average for the region.⁴⁶ The Orenco TOD's popularity is underscored by the fact that, according to one observer, homes are selling 60% faster than comparable units in non-TOD projects.⁴⁷ As a further testament to its success, TOD boosters point out that Orenco was voted America's Best Planned Community by the National Association of Home Builders in 1999.

In striking contrast, a critical perspective on Orenco is offered by analysts from the Cascade Policy Institute:

Most of (Orenco's) earliest construction took place adjacent to Cornell Road, while the land immediately surrounding the rail stop remained vacant . . . In terms of transit use, Orenco Station has largely proven to be a disappointment. Most people who take the train . . . arrive there by car. Three large employers . . . provide free shuttles for their employees to get to and from the light-rail station. This inflates light rail ridership, but adds to local traffic—shuttles circulate for hours, often times empty—thereby diminishing the alleged environmental benefits of rail.⁴⁸

Based on a separate survey of Orenco's residents, another critic claims that "Three-quarters . . . always drive; and only one out of six use transit (including bus) more than twice a week."⁴⁹ She further notes that "Orenco Station fails the housing affordability test, with housing going around 30% higher than the county average."⁵⁰

Another critic challenges the very premise that TOD relieves traffic congestion. In a paper written for the Heritage Foundation, Wendell Cox wrote

Transit-oriented development increases congestion. The overwhelming majority of travel to proposed transit-oriented developments will be by automobile. This will strain road space, slowing traffic and increasing pollution as a consequence.⁵¹

This last comment speaks to the protracted nature of TOD's impacts. By attracting park-and-riders, passenger drop-off traffic, pedestrians, and others to a concentrated area, transit stations are

often surrounded by congested intersections. Also, in the near term, TODs unquestionably add more traffic to nearby city streets. Over the longer run, however, one expects less overall traffic congestion as TODs mature and win over more customers, and VMT is certainly less with growth around transit stops than without it. In modeling transportation and land-use scenarios for metropolitan Sacramento, California, using state-of-the-practice simulation approaches, researchers found that the addition of TOD to transit scenarios reduced VMT by up to 9% compared with baseline conditions.⁵² This translated to an economic benefit of 15 cents per trip, with benefits accruing to all income groups. The researchers further found that TOD helped reduce the regressive income effects of higher road pricing as part of a balanced transportation strategy.

Suffice it to say, many different “spins” have been placed on the impacts of TOD. For this very reason, TOD was called “a much-hyped concept” in a recent national publication, “with a predictable amount of misinformation and misrepresentation within the policy and development worlds.”⁵³ Conflicting interpretations and research findings stem in part from methodological differences and vagaries, but they also reflect the ideological leanings of analysts. Polarized research findings make it difficult to inform policy-makers about the benefits of TOD. Invariably, decisions regarding TOD get driven more by political and ideological considerations than by objective research.

Perceptions of Benefits

Notwithstanding what the literature and research say (or don’t say) about TOD’s benefits and disadvantages, many public-

agency professionals involved with TOD at some level have formed their own opinions. The national survey of stakeholder groups asked respondents to rate, on a scale of 1 (lowest) to 7 (highest), the importance of TOD in achieving various benefits. Figure 7.1 shows that the highest marks generally went to TOD’s prospects for boosting ridership. TOD also generally scored well on its ability to improve neighborhood and housing conditions. TOD’s contributions to livability and holding sprawl in check were rated most highly by respondents from large east-coast rail cities. There generally appeared to be the least amount of confidence that TOD could do much to relieve traffic congestion. Respondents from MPOs were particularly skeptical of TOD’s congestion-relieving benefits. Overall, there was the highest confidence in TOD’s ability to improve local conditions like neighborhood quality and housing affordability, and less faith in its role in stemming acute regionwide problems like sprawl and traffic congestion.

The 90 survey respondents from transit agencies were further asked to rate the impacts of joint development projects based on their own community’s experiences. Figure 7.2 presents the results. Transit-agency respondents felt joint development was most effective at spurring redevelopment and creating better-designed (e.g., architecturally integrated) projects. They assigned moderate credit to joint development’s abilities to increase public-sector revenues and transit ridership. They were least confident that it raised property values or contributed significantly to smart-growth agendas.

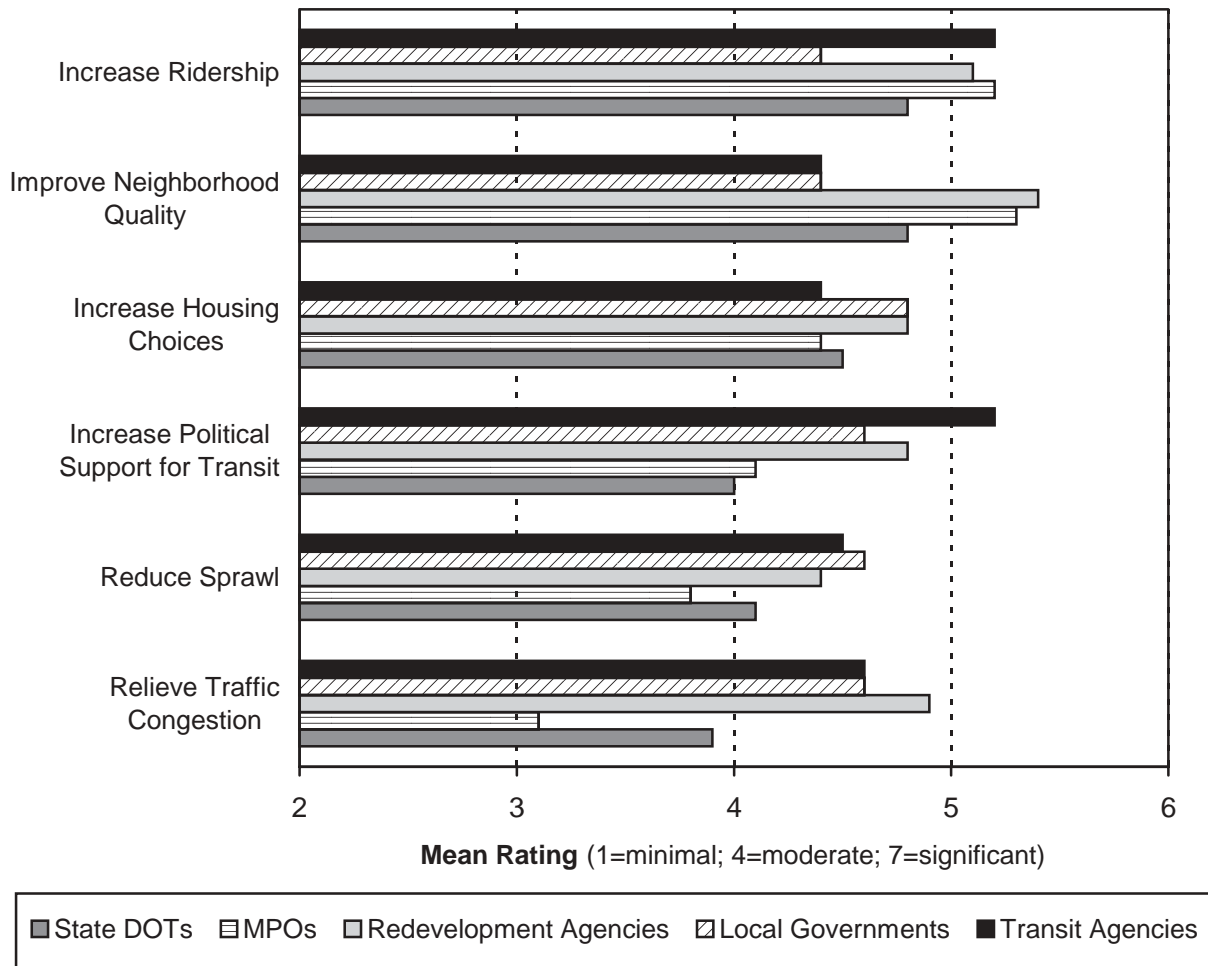


Figure 7.1. Rating of Impact of TOD in Achieving Benefits Based on Experiences in Stakeholder’s Community.

Conclusion

The potential benefits of TOD are wide-ranging, spanning across social, environmental, and fiscal concerns. Focusing growth around transit stations capitalizes on expensive public investments in transit by producing local and regional benefits. TOD, proponents say, can be an effective tool in curbing sprawl, reducing traffic congestion, and expanding housing choices.

The most direct benefit of TOD is increased ridership and the associated revenue gains. Research shows that

residents living near stations are five to six times more likely to commute via transit than are other residents in a region. Other primary benefits include the revitalization of declining neighborhoods, financial gains for joint development opportunities, increases in the supply of affordable housing, and profits to those who own land and businesses near transit stops. Among TOD’s secondary benefits are congestion relief, land conservation, reduced outlays for roads, and improved safety for pedestrians and cyclists. Many of these benefits feed off of each other, and quite a few are redistributive in nature—gains

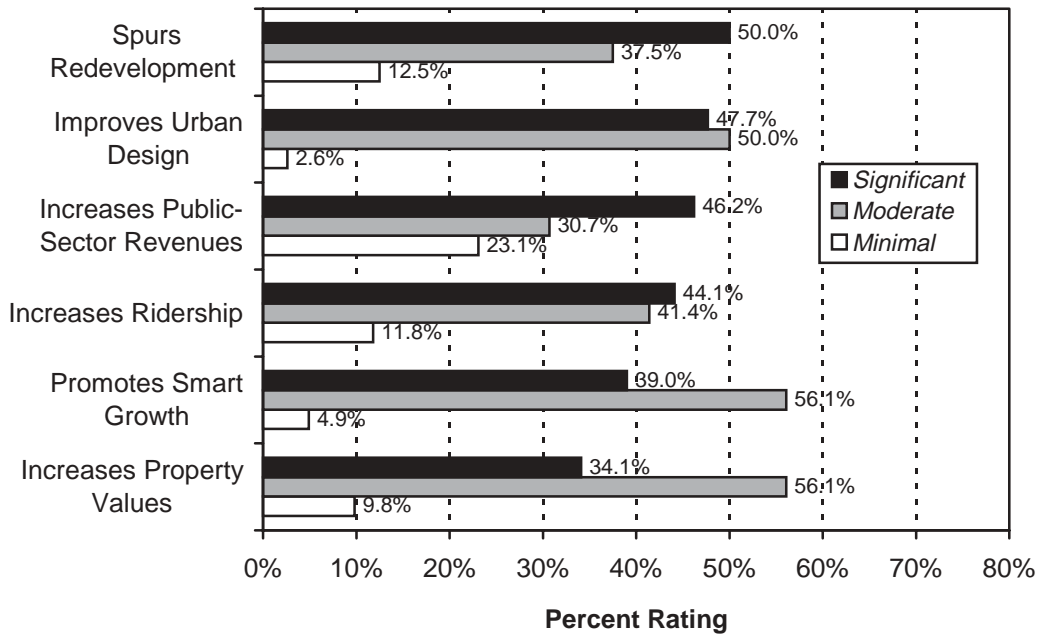


Figure 7.2. Rating of Joint Development Impacts by Transit-Agency Respondents.

by some are matched by losses experienced by others.

Impacts of TOD no doubt vary by time and circumstances. In a boom economy, when highways are jam-packed, the benefits of living, working, and running a business near a grade-separated, high-performance transit line are likely much greater than during an economic downturn. TOD is also likely to be more highly valued in big congested cities than in small uncongested ones. It is because of such variation that our knowledge of benefits remains partial. Such variation has also given rise to harsh debates and conflicting signals on TOD benefits, especially in “best case” settings like Portland, Oregon.

Those working for transit agencies and local, regional, and state governments generally give TOD a moderate rating in terms of its ability to produce benefits. TOD gets high marks for contributing to

neighborhood and housing conditions. Its greatest benefit, according to national survey respondents, is in increasing ridership. It is to the potential ridership benefits of TOD that we now turn.

Notes

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- ⁴ Transit investments certainly increase employment in the form of construction jobs

- and other project-related activities; however, these are redistributive not generative in nature. That is, they represent financial impacts in the form of shifting money from national taxpayers to local (or imported) construction firms courtesy of federal, state, and local grants, in addition to other financial sources.
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Chapter 8

Evidence on Ridership Impacts

TOD and Ridership

If there is any single benefit of TOD that all sides agree is beneficial to society as a whole, it is increased ridership. TOD is poised to relieve traffic congestion, improve air quality, cut down on tailpipe emissions, and increase pedestrian safety in transit-served neighborhoods by coaxing travelers out of their automobiles and into trains and buses. However, congestion relief and environmental benefits accrue to an appreciable degree only if TODs result in people making the switch from driving alone to using transit. While some critics charge that rail transit investments generally lure bus riders to rail, experiences show that TOD can attract significant shares of former motorists. A California study found that among those who drove to work when they lived away from transit, 52.3% switched to transit commuting on moving within a ½-mile walking distance of a rail station.¹ On balance, research to date shows that TOD yields an appreciable ridership bonus: well-designed, concentrated, mixed-use development around transit nodes can boost patronage as much as five to six times higher than comparable development away from transit.

While the chief environmental benefit of TOD comes from coaxing motorists over to mass transit, a secondary benefit is more walking and bicycle trips to and from transit. Larger shares of rail trips

accessed by walk-and-ride and bike-and-ride can reduce the need for parking, improve air quality, and promote physical activity. All transit trips involve some degree of walking; however, recent research makes clear that attending to the mobility and design needs of those who exclusively walk to and from stations is especially important.²

Another important ridership dimension of TODs is their mixed-use attributes. Some destinations, like offices and residences, produce trips during peak hours when trains and buses are often full. Others, like entertainment complexes, restaurants, and retail shops, generate trips mainly during off-peak hours, helping to squeeze efficiencies into the deployment of costly rail services. When mixed-use TODs are aligned along linear corridors—like “pearls on a necklace”—trip origins and destinations are evenly spread out, producing efficient bi-directional flows. This has been the case in world-class transit metropolises like Stockholm, Copenhagen, and Curitiba, Brazil, where mixed-use TODs have given rise to 55%–45% directional splits.³ This is in contrast to many U.S. settings, where peak-period trains and buses are filled to the brim in one direction but nearly empty in the other. Mixed and balanced land uses ensure mixed and balanced traffic flows.

Why is it important to know about the ridership impacts of TOD? The main

reason is that evidence can be useful in informing public policy. One application is the setting of credits and waivers against transportation impact fees. Los Angeles, Orlando, and Santa Clara County (CA) currently employ sliding-scale programs, adjusting impact fees downward for TODs. The Santa Clara County Congestion Management Agency recommends a 9% reduction in estimated trip generation levels when setting impact fees for new housing projects that lie within 2,000 feet of a light-rail or commuter-rail station. Research can also help inform policy initiatives like LEM programs by shedding light on the commuting cost savings of transit-based housing. It can also be of value to long-range modeling whose outputs weigh heavily on how scarce transportation dollars are allocated in Transportation Improvement Programs (TIPs). The recent scenario testing in Sacramento, California, using an integrated land-use and transportation model, for example, showed that rail investments combined with TOD and road pricing was more cost-effective and environmentally benign than a beltway scenario.⁴ The region's TIP followed suit by giving high priority to several major transit projects.

Reviewing the Evidence

Research to date has measured ridership impacts of residences, offices, and retail shops that are within walking distance of transit stations, normally defined as $\frac{1}{4}$ to $\frac{1}{2}$ mile away. Below, key findings based on U.S. experiences are summarized.

Residences

Most of the evidence on the ridership impacts of TOD is for residential land

uses. Past studies have mostly compared transit modal shares between those living within a walkable distance of a station and those who live farther away. Among the research findings to date are the following:

- Surveys from 1992 and 1993 of Bay Area workers living near BART found that, on average, 32% commuted by rail; this is more than six times the regional average of just 5%. Automobile availability and parking prices had a huge bearing on ridership rates. Station-area residents from households with no automobiles were 14 times more likely to rail commute than those from three-automobile households. And 42% of station-area residents who paid for parking commuted by rail compared with just 4.5% who received free parking.⁵ Further, if a commute was to downtown San Francisco and a station-area resident from a one-automobile household had to pay for parking, there was an 82% likelihood he or she would take transit; if, on the other hand, the person commuted to a non-San Francisco destination and could park for free, the probability plummeted to just 4%. Recent research updating this study similarly found that the probability of workers who live near California rail stops taking transit to work varied dramatically according not only to parking policies at the workplace but also whether they were able to flex their work schedules (see Figure 8.1).
- The highest transit capture rates among those living near rail stops have been recorded for the Washington (D.C.) Metropolitan

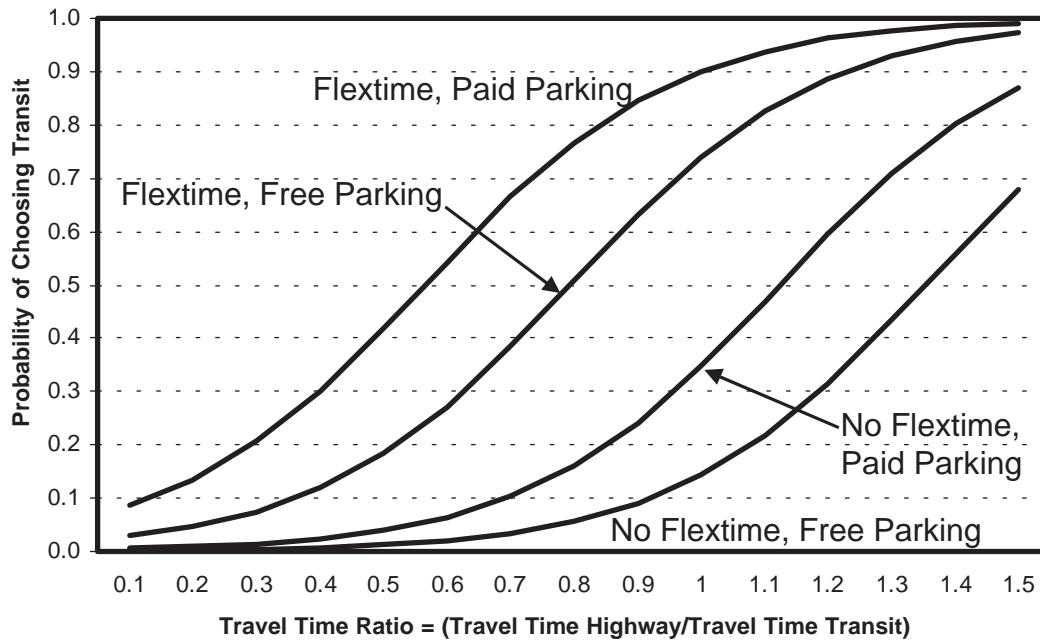


Figure 8.1. Sensitivity of Rail Commuting to Parking Prices, Availability of Flexitime Work Schedules, and Travel Time Ratios via Highway versus Transit, Based on Model for Predicting the Likelihood of California Station-Area Residents Commuting by Rail Transit in 2003.

Source: H. Lund, R. Cervero, and R. Willson, *Travel Characteristics of Transit-Focused Development in California* (Oakland, California: Bay Area Rapid Transit District and California Department of Transportation, 2004).

Area.⁶ Surveys from the late 1980s show the share of work trips taken by rail ranging from 18% to 63%, with the highest rates among residents heading to jobs in the District of Columbia. More recent surveys of those living along the 4-mile long, ½-mile-wide Rosslyn-Ballston corridor reveal that 39% use transit to get to work and 10% walk or bike; these rates are three times higher than the average for Arlington County as a whole.⁷ Also, 64% of rail patrons who live along the corridor walk to stations. Moreover, because of the mixed-use nature of TODs along the Rosslyn-Ballston corridor, counts of station entries and exits are fairly similar during peak hours—that is, stations handle a balance of trip

origins and destinations, making efficient use of available capacity. (See Chapter 12 for further discussions on TOD ridership impacts in Arlington County.)

- A study of Santa Clara County’s light-rail corridor found TOD residents patronized transit as their predominant commute mode more than five times as often as residents countywide.⁸
- At the Center Commons mixed-income TOD in Portland, transit mode share increased nearly 50% for work trips (from 31% before moving into the project to 46% after) and by 60% for non-work trips (from 20% to 32%).⁹

Offices

Many offices enjoy high rates of transit ridership by virtue of the fact that they are located downtown where levels of transit accessibility are the highest. The availability of free parking at most non-downtown workplaces erodes transit ridership. Evidence on the ridership rates of offices near rail stops (summarized below) comes mainly from California and the Washington (D.C.) Metropolitan Area.

- Surveys of rail commuting in the Metropolitan Washington (D.C.) Area found that nearly 50% of those working in offices within 1,000 feet of downtown Metrorail stations rail commuted; in the case of offices that were comparable distances from the more suburban Crystal City and Silver Spring stations, the shares were 16% to 19%.¹⁰ Place of residence was a particularly important explainer of whether office workers patronized transit. In the case of the Silver Spring Metro Center, a 150,000-square-foot office tower 200 feet from the Metrorail portal, 52% of workers who lived in Washington, D.C., rail commuted; among those living in surrounding Montgomery County, Metrorail was used by just 10%.¹¹
- At one of San Diego's most prominent joint development projects, the Metropolitan Transit System (MTS)/James R. Mills Building, surveys show that 18% of building users arrive by transit.¹²
- Surveys of those working in offices near BART found that workers were 2.5 times more likely to get to work

by rail than other Bay Area commuters.¹³ Living near transit made a difference. On average, 19.3% of those who lived in a city served by BART and who worked near BART commuted by rail compared with 12.8% of those who worked in a similar setting but did not live in a BART-served city.

Retail

Retail shops and consumer services can be particularly attractive additions to TODs because they often generate off-peak and weekend trips. Thus, they help to fill trains and buses during periods of underutilized capacity. As all-day, all-week trip generators, they improve the cost-effectiveness of expensive rail investments. At least three studies have documented ridership rates among those shopping at retail stores near rail stations. Findings include the following:

- For retail centers near Washington (D.C.) Metrorail stations, location and time of day of trips were the most important determinants of mode choice: well over 50% of shopping trips made to large downtown retail stores or made to other close-by malls at midday were made by Metrorail.¹⁴
- A 1993 survey found that over 60% of customers surveyed at downtown San Diego's Horton Plaza, two blocks from the Trolley line, arrived by transit or on foot.¹⁵
- Experiences in the San Francisco Bay Area reveal that location of retail centers has a strong bearing on rail capture rates.¹⁶ Surveys from 1993 show that 33.8% of patrons at

the San Francisco Centre in downtown San Francisco, which has a direct portal connection to BART, arrived by transit. For two suburban malls also within an easy walk to BART, the shares were below 20%.

Proximity and Built Environments Also Matter

Research also shows that proximity to transit matters a lot. Table 8.1, based on 1987 experiences in the Washington (D.C.) Metropolitan Area, reveals that commuting by transit erodes rapidly with distance from rail stations. For instance, 63% of residents of The Consulate apartment complex, 300 feet from the Van Ness-UDC Station, commuted via Metrorail; at the Connecticut Heights project, 3,800 feet away from the same station, 24% rode Metrorail to work.¹⁷ In the Washington (D.C.) Metropolitan Area, the share of trips by transit fell by around 0.65% for every 100-foot increase in the distance of a residential site from a Metrorail

station portal. In California, the ridership gradient is even steeper. Surveys of residents of 27 housing projects near rail stops in the Bay Area, San Diego, and Sacramento showed that ridership fell by 0.85% for every 100-foot increase in walking distance.¹⁸

In addition to relative proximity to a station, built-environment characteristics of TODs also influence transit ridership. The study of 27 transit-based housing projects in California found density to be the most important land-use predictor of ridership rates.¹⁹ Findings were similar for offices: on average, every addition of 100 employees per acre was associated with a 2.2% increase in rail commuting. The California surveys of residences and offices within ½ mile of stations found land-use mixes and the quality of the walking environment had relatively little impact on transit usage after controlling for density: “It could be that within a quarter to a half mile radius of a station, features of the built environment (ignoring issues of safety and urban

Table 8.1. Modal Splits for Residential Projects Near Metrorail Stations, Washington (D.C.) Metropolitan Area, 1987

Metrorail Station	Housing Project	Distance to Station (ft)	Percent of Commute Trips by:		
			Rail	Auto	Other
Rosslyn (VA)	River Place North	1,000	45.3	41.5	13.3
	River Place South	1,500	40.0	60.0	0.0
	Prospect House	2,200	18.2	81.9	0.0
Crystal City (VA)	Crystal Square Apts.	500	36.3	48.8	14.9
	Crystal Plaza Apts.	1,000	44.0	45.0	11.0
Van Ness-UDC (DC)	The Consulate	300	63.0	32.6	4.4
	Connecticut Heights	3,800	24.0	56.0	20.0
Silver Spring (MD)	Twin Towers	900	36.4	52.3	11.4
	Georgian Towers	1,400	34.7	43.1	22.2

Note: “Other” consists of bus, walking, cycling, and other travel modes.

Source: JHK and Associates, *Development-Related Survey I* (Washington, D.C.: Washington Metropolitan Area Transit Authority, 1987).

blight) matter little—as long as places are near a station, the physical characteristics of the immediate neighborhood are inconsequential.”²⁰ In their comprehensive review of empirical studies on travel and built environments, Reid Ewing and Robert Cervero concluded: “transit use depends primarily on local densities and secondarily on the degree of land use mixing.”²¹ Still, several studies show that the influences of mixed uses and urban design on transit ridership are not inconsequential, although these studies were conducted across all land-use settings, not just TOD. A study of six large suburban employment centers found that the existence of a retail component in an office building increases transit commute shares by 3%.²² Additionally, using data on over 15,000 households from the 1985 American Housing Survey, another study found that the presence of retail shops within 300 feet of one’s residence increased the probability of transit commuting by 3% (on average) ostensibly because transit users could pick up convenience items when heading home after work.²³ Recent research using data from rail-served Montgomery County, Maryland, reached a similar conclusion: mixed uses at origins and destinations induce rail travel for all trip purposes, with elasticities between transit usage and land-use diversity ranging from 0.45 to 0.62.²⁴

Self-Selection and Rail Commuting

Ridership gains tied to TOD are significantly a product of self-selection. Those with a lifestyle predisposition for transit-oriented living conscientiously sort themselves into apartments, townhomes, and single-family units

within an easy walk of a transit node. That is, being near transit and being able to regularly get around via trains and buses weighs heavily in residential location choice. High ridership rates are simply a manifestation of this lifestyle preference.

A study of Santa Clara County’s Guadalupe light-rail corridor, for example, found TOD residents got to work via transit five times as often as the typical employed resident of the county.²⁵ Self-selection was evident in that 42% of respondents stated that being close to transit was a big factor in the choice of a home or apartment. As further evidence of self-selection, a 1993 survey of San Francisco Bay Area residents living near rail transit found that 56.2% got to work by trains or buses at their previous Bay Area residence that was far away from a rail stop.²⁶ That study concluded that many TOD residents have a proclivity to patronize transit, whether to avoid the stress of commuting, for reasons of personal taste, or to make more productive use of time spent getting to work.

A recent study explicitly examined residential self-selection as a primary determinant of ridership rates among TOD residents.²⁷ Using data on travel diaries and locations of residences and workplaces from the 2000 Bay Area Travel Survey, a nested logit model was estimated. The selection of rail transit for commuting was nested within the choice of whether to reside within ½ mile of a rail station. Factors used to explain whether someone lived near transit included workplace location, job accessibility via highway and transit networks, and household and personal characteristics (e.g., type of household,

type of occupation, and automobile ownership levels). Using records for more than 11,000 individuals, it was found that 19.6% of those living within ½ mile of a rail stop got to work by rail transit; among those living beyond the ½-mile radius, the share was 8.6%. For the residential-location component of the nested choice model, whether one worked within ¼ mile of a rail station was the most significant predictor of whether one lived near transit. In addition to residential location, automobile-ownership levels were found to have a strong bearing on whether workers commuted by rail. All three factors—residential location, automobile-ownership levels, and rail commuting—were found to be closely interdependent. Using conditional probabilities, the study suggested that upwards of 40% of the ridership bonus associated with TOD is a product of residential location (i.e., self-selection).

From the nested logit results of the Bay Area study, a sensitivity test was conducted to show how probabilities of rail commuting varied as a function of three policy variables: residential location (within ½ mile of a station or beyond); workplace location (within ¼ mile of a station or beyond); and household automobile-ownership levels (0, 1, 2, 3+). The resulting sensitivity plot, Figure 8.2, shows probabilities of rail commuting are very high among all groups when the worker lives in a household with no automobiles. Adding one automobile results in probabilities plummeting; they fall most precipitously for those residing and working away from stations. For residents of transit-based housing, probabilities fall more gradually with automobile-ownership levels. For those living away from transit, the likelihood of rail commuting is not much different in two-automobile and three-or-more-automobile households. And for those

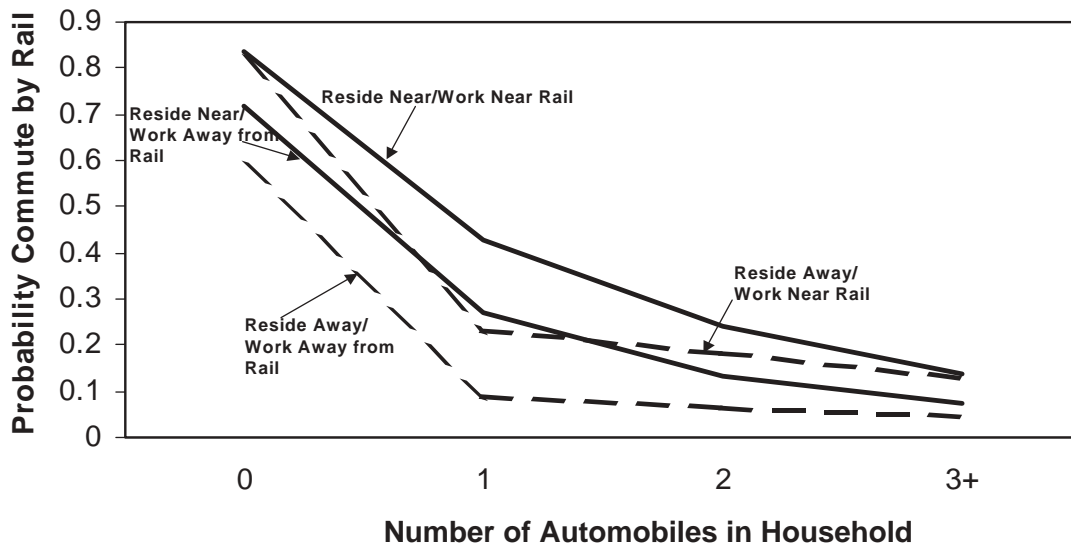


Figure 8.2. Sensitivity Plots of Rail-Commute Probabilities by Number of Automobiles in Household for Those Living and Working Near and Away from Stations.

Note: Reside Near = ½ mile or less; Work Near = ¼ mile or less.

Source: R. Cervero and M. Duncan, *Residential Self Selection and Rail Commuting: A Nested Logit Analysis*, Working Paper 604 (Berkeley: University of California Transportation Center, 2002).

living and working away from a rail stop, the odds of commuting by a non-rail mode is about the same for a one- and a three-or-more-automobile household—less than 1 in 10.

Figure 8.2 also reveals that working near transit interacts with automobile-ownership levels to produce different probabilities among station-area dwellers and their counterparts. Working near transit and having no automobiles means there is a very high likelihood, well over 80%, of rail commuting for both groups. Adding an automobile to the household results in the probability dropping far more sharply for non-station-area residents, however, to below the probability (0.28) for station-area residents who work beyond $\frac{1}{4}$ mile of the station. This suggests that an appreciable share of station-area dwellers who rail commute do so out of choice rather than necessity, further hinting that self-selection has taken place. Adding a second automobile to a station-area household, however, lowers the probability of rail-commuting sharply, below that of a non-station-area worker from a two-automobile household whose job site is near a rail stop. This indicates that the transit-ridership benefits of transit-based housing comes from those with relatively few (i.e., under two) automobiles in the household. In terms of public policy, this argues for flexing parking standards for housing projects near rail stations.

More recent research has confirmed that those living in compact, transit-accessible locations tend to own fewer automobiles and log fewer vehicle miles of travel per year. As part of an evaluation of the LEM concept, John

Holtzclaw and a team of collaborators recently studied travel behavior and automobile-ownership levels as functions of land-use and transit-accessibility characteristics of neighborhoods in three regions with LEM programs: Chicago, Los Angeles, and San Francisco. A doubling of residential density was found to reduce household automobile ownership and VMT per capita in the 32% to 43% range. The influence of transit accessibility on automobile ownership was less than that of density, but it was still appreciable.²⁸

Self-selection in no way diminishes the importance of planning for and building transit-oriented residences. If the marketplace was perfectly functioning, then a case might be made for governments to get out of the way so that producers and consumers could sort themselves into station areas unfettered. However, marketplaces are not perfect; factors such as NIMBY resistance to new construction, exclusionary zoning, imperfect information, or negative externalities affect them. Accordingly, findings of self-selection underscore the importance of breaking down barriers to residential mobility and introducing market-responsive zoning in and around transit nodes—zoning that acknowledges that those living near transit tend to be in smaller households with fewer automobiles. Flexible parking standards and LEMs would further encourage self-selection of TODs.

Transit Joint Development and Ridership

Some evidence suggests that joint development projects, such as air-rights development on transit-agency property,

yield among the highest ridership dividends of any form of TOD. In a 1983 study of nine transit joint development projects in the United States, Keefer found that every 1,000 square feet of new commercial floor space near a rail station generated an additional six transit trips per day, yielding an additional \$11.4 million (in 1982 dollars) in annual farebox receipts.²⁹ Case studies from the early 1980s estimated that fully realized joint development at rail stations with buoyant real-estate markets could increase ridership by 10% to 25%.³⁰ An empirical investigation of joint development projects in the Washington (D.C.) Metropolitan Area and Atlanta found more modest impacts, although interdependencies between office development and ridership were found statistically. Jointly developed office space on top of or near a rail stop spurred ridership, and ridership in turn spurred office development.³¹ Statistically, a 10% increase in a rail station's share of regional office growth was associated with around a 1% increase in that station's share of systemwide ridership. High rates of transit usage have also been found among patrons of joint development projects in San Diego and Miami.³² The ridership boost offered by joint development projects could be due to design factors, such as architectural integration of transit stations and adjoining buildings, improved pedestrian circulation, and transit's visible presence.

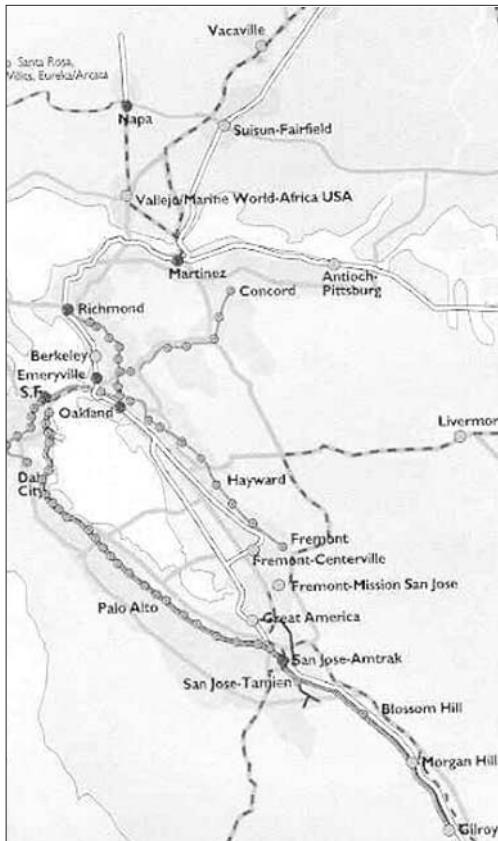
TOD-Ridership Case Study: San Francisco Bay Area

As revealed by discussions so far in this chapter, the ridership impacts of development around transit have been

studied more in the San Francisco Bay Area than anywhere. Surveys of residents, office workers, and shoppers in the early 1990s showed that being near transit significantly boosted ridership levels, as documented in the 1993 monograph, *Ridership Impacts of Transit-Focused Development in California*. This study was recently updated based on travel-diary surveys conducted in May 2003; the recent surveys found that TOD's ridership bonus has held steady.³³

To further probe the connection between land development and transit usage in the Bay Area, research was carried out, as part of the TCRP Project H-27 study, using recently released data from Census 2000 on journey-to-work travel and neighborhood attributes. Using the census data and Geographic Information System (GIS) tools, an aggregate analysis of proximity to transit and modal splits was conducted using each of the 129 rail stations in the San Francisco Bay Area as a data observation.³⁴ The Bay Area features three types of rail services—heavy rail (BART), commuter rail (Caltrain and Altamont Commuter Express), and light rail (VTA)—thus the breadth of rail offerings enriched the analysis. (Map 8.1 shows the extent of regional rail services in the urbanized portions of the Bay Area.)

The analysis that follows uses commuting, socio-demographics, and neighborhood characteristics of households within 1 mile of each of the 129 Bay Area rail stations to probe how station-area land-use characteristics influence transit commute modal splits. GIS tools allowed census-tract-level data to be interpolated for 1-mile rings



Map 8.1. Rail Transit Coverage in the San Francisco Bay Area.

around rail stations. On average, the share of motorized commute trips made by transit among those residing within 1 mile of the 129 Bay Area rail stations in the year 2000 was 12.6%. This compares to a regionwide transit modal split of 9.7%, based on Census 2000.³⁵

***Ridership and the 3Ds:
Density, Diversity, and Design***

Simple bivariate regression plots reveal that among those living within a mile of a Bay Area rail stop, the “3 Ds” of the built environment—density, diversity, and design—matter greatly.³⁶ For the 129 Bay Area rail stations that were studied, a strong positive relationship was exhibited between shares of

commutes by transit among station-area residents and each of the “3Ds”—specifically, residential densities, numbers of retail and service jobs, and city block patterns. Figure 8.3 summarizes the results of simple bivariate regression equations that estimate shares of motorized commutes by transit as a function of each of the “D” dimensions.³⁷ In general, Year 2000 transit commute shares among those residing within a mile of a station rose with residential densities, with the relationship exhibiting a slight logarithmic bend. From the equation, the likelihood that a Bay Area station-area resident rail commuted was 24.3% at densities of 10 units per gross acre. Doubling densities to 20 units per acre increased the likelihood to 43.4% and quadrupling them to 40 units per acre catapulted the probability to 66.6%.

The second “D” in Figure 8.3 relates to diversity, or land-use mix. The index used here is the number of retail and service jobs per gross acre within a mile radius of a station. From the perspective of modeling modal shares among residents, the addition of retail and service activities represents a diversification of land uses. Virtually all TODs, even if they are predominantly residential in nature, include retail and service uses. As noted earlier, several studies suggest that the presence of shops, eateries, and other services in a station area can boost transit patronage by several percentage points since riders can easily pick up convenience items when en route to home in the evening, just as they often do by automobile.³⁸ The regression equation shown in Figure 8.3 shows that transit modal shares rise with numbers of retail and service jobs up to a point; at 80 or more jobs per

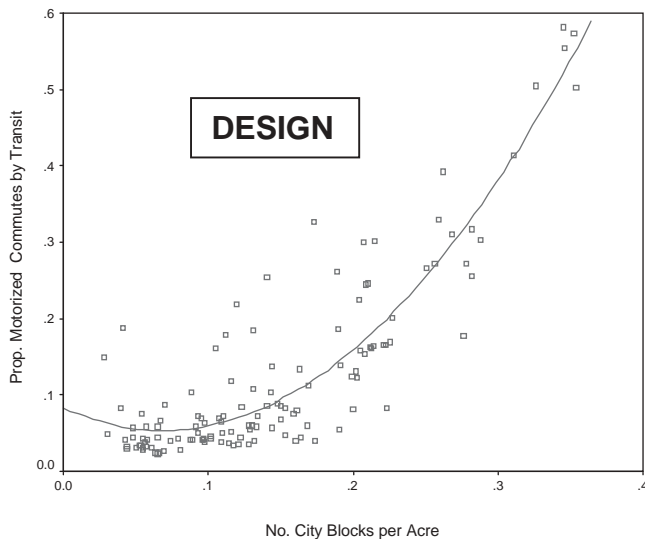
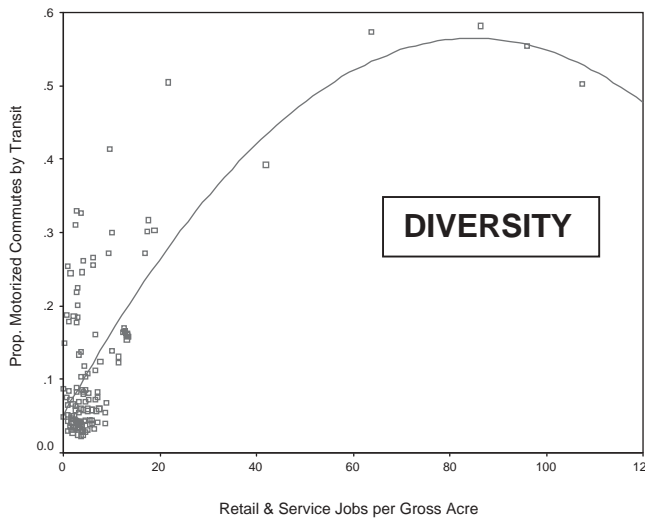
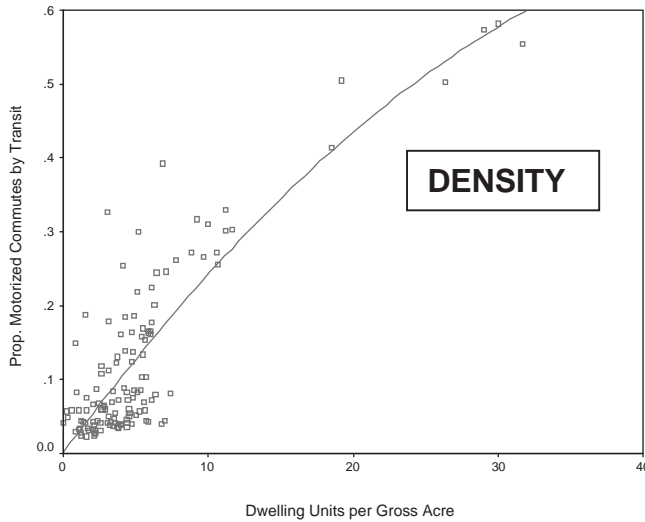


Figure 8.3. Transit Commute Modal Splits and the “3Ds” of TODs (Influence of Density, Diversity, and Design on Proportion of Commutes by Transit for Bay Area Station-Area Residents, 2000).

BIVARIATE REGRESSIONS

DENSITY:

$$\text{Prop. Commutes by Transit} = .0015 + .0266(\text{Housing Density}) - .00025 (\text{Housing Density})^2$$

$$R^2 = .738$$

DIVERSITY:

$$\text{Prop. Commutes by Transit} = .0510 + .0121 (\text{Retail \& Service Jobs}) - .000071 (\text{Retail \& Service Jobs})^2$$

$$R^2 = .566$$

DESIGN:

$$\text{Prop. Commutes by Transit} = .0830 - .844 (\text{No. City Blocks per Acre}) + 6.130 (\text{No. City Blocks per Acre})^2$$

$$R^2 = .817$$

Note:

N = 129 for all equations.

All predictor variables are significant at the .01 probability level.

acre, transit modal splits trend downward, possibly representing the fact that these are different residential markets given that residences generally represent a small share of land uses at such high employment densities. From the equation, the likelihood of a station-area resident rail-commuting was 11% with five retail/service jobs per gross acre. Raising this to 20 jobs per acre boosts the transit commute modal share to 26.5%, and increasing it to 60 jobs per acre shoots the share up to 52.1%.

The third “D” in Figure 8.3 gauges the design features of neighborhoods around Bay Area transit stations. Specifically, it measures the average number of city blocks per acre within a 1-mile radius of stations. It gets at the general scale, land platting, and street connectivity of station areas. The larger the number, the more blocks per acre and correspondingly, the more walkable a neighborhood generally is. The average number of blocks per acre ranged from a low of .028 per acre in BART-served Orinda, an affluent suburb in Contra Costa County, to a high of .353 per acre for areas around the Embarcadero BART station in downtown San Francisco. (Stated another way, the average block size in Orinda was 35.7 acres compared with 2.8 acres around the Embarcadero Station.) Among any single built-environment variable, average block size (expressed in quadratic form) was the strongest predictor of transit modal shares, indicated by the R-squared statistic of 0.817. The equation predicts that at an average city block size of 6 acres (for the 1-mile radius around a station), the likelihood that residents rail-commuted was 11.2%; shrinking the average block size to 3 acres increased the probability of taking transit to work to 48.2%.

Weighing Factors in Combination: Multiple Regression Results

While revealing, a limitation of the simple plots and equations discussed above is that built environment factors are correlated—dense settings, for example, also tend to be the most land-use diverse. Moreover, other factors that might be associated with built-environment variables, like parking supplies and median household income levels, could also be significant predictors. Failure to account for these other relevant variables can bias the statistical results. In this spirit, a multiple regression equation was estimated that predicts the influences of the three built-environment variables in combination with other “control” variables.

Table 8.2 presents the best-fitting multiple regression results. Including characteristics of stations and neighborhoods resulted in the removal of some of the built-environment variables presented in Figure 8.3 due to multi-collinearity. Still, the results are revealing. Notably, residential densities within a mile of a station still matter when it comes to transit commuting among station-area residents. Controlling for other factors, every 10 additional units per gross acre (which on a net residential acre basis generally corresponds to 3 to 4 additional units) is associated with a 3.7% increase in transit commute modal shares. Of particular note, however, is the fact that density and design positively interact with each other. That is, higher residential densities combined with small city blocks boost transit commute shares up even higher. For example, accounting for interaction effects, a

Table 8.2. Multiple Regression Results for Predicting Share of Year 2000 Motorized Commute Trips by Transit as Functions of Built Environment, Transportation, and Household Variables (for 129 San Francisco Bay Area Stations and 1-Mile Rings, Ordinary Least Squares Estimation)

	Coefficient	T-Statistic	Probability
<i>Built-Environment Variables</i>			
Residential Density: Housing Units per Gross Acre	.0037	3.226	.002
Density*Design Interaction: (Housing Units per Gross Acre; * No. City Blocks per Acre)	.0351	3.659	.000
<i>Transportation Variables</i>			
Transit Job Accessibility: No. of Jobs (in 100,000s) Accessible over Transit Network During Peak Hours	.0857	10.972	.000
Highway Job Accessibility: No. of Jobs (in 100,000s) Accessible over Highway Network During Peak Hours	-.0035	-4.689	.002
Parking Supply: No. of spaces (in 1,000s) at station	.0234	3.613	.000
<i>Household Variables</i>			
Automobile Ownership: Mean No. of Vehicles per Household	-.0851	-4.689	.000
Income: Mean Household Income (in \$10,000s)	.0359	2.085	.039
Constant	.1880	5.096	.000
<i>Summary Statistics</i>			
N = 129			
R ² = .928			
F-ratio (F) = 224.1 (probability = .000)			

doubling of mean residential densities from 10 to 20 dwelling units per gross acre leads to a rise in transit commute mode share from 20.4% to 24.1% for a typical Bay Area station setting with an average block size of 6 acres; the commute mode share rises to 27.6% if higher residential densities are combined with a smaller average block size of 4 acres.³⁹

Other variables in Table 8.2 also reveal something about ridership rates among station-area residents. Enhancing job access over the transit network increases the share of work trips by transit; predictably, doing so over the highway network has the opposite effect.⁴⁰ Park-and-ride supplies further increase the odds of rail commuting, even among those living within a mile of a station.

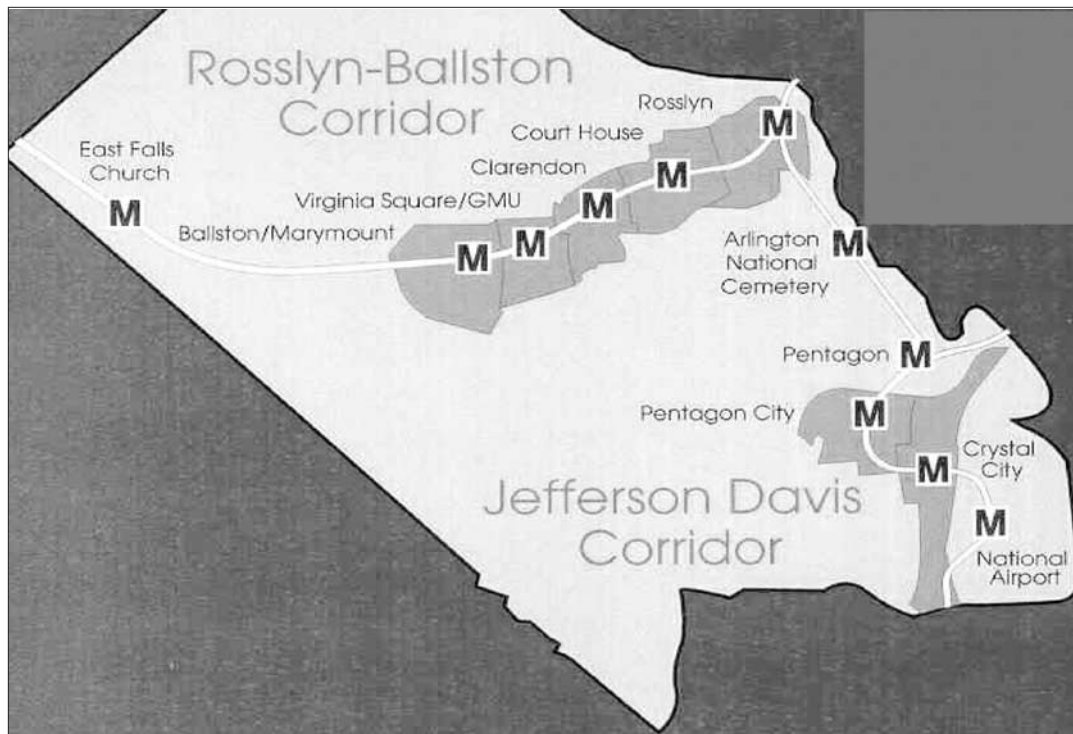
While density exerts a stronger influence on transit modal splits than do parking supplies, it is notable that even among those living within walking distance of a station, availability of parking is still an inducement to transit riding. The final set of control variables in Table 8.2 captures socio-demographic attributes of station areas. All else being equal, the share of motorized commutes by transit falls as average automobile-ownership levels rise in station areas. This is to be expected. Perhaps more surprising is the positive association of household income with transit modal splits. Given that Bay Area rail systems converge on central business districts that contain large shares of the region's professional office sector, the positive influence of income is not unexpected. This relationship probably reflects self-selection: office workers with downtown jobs and comparatively high incomes are more likely to reside near rail stops for purposes of economizing on commute trips.

Overall, the model shown in Table 8.2 was a very good predictor, explaining over 90% of the variation in modal shares of transit commutes among neighborhoods surrounding the 129 Bay Area rail stations. The results suggest that building housing around rail stops is positively associated with transit commuting; doing so at higher densities bumps up transit's market share even more. Combining higher densities with a more walkable scale design of city streets and block patterns draws even larger shares of employed residents to transit. In combination, these results underscore the importance of creating and redeveloping neighborhoods around rail stops that are transit-supportive in their designs.

TOD-Ridership Case Study: Arlington County, Virginia

No place in the United States has witnessed more high-rise, mixed-use development along a rail corridor over the past three decades than Arlington County, Virginia. Accordingly, there is no better place to examine the ridership bonus associated with TOD. As discussed in Chapter 12, Arlington County's two major rail corridors—Rosslyn-Ballston and Jefferson Davis—have witnessed an explosive growth in building activity since 1970, when Metrorail planning got underway: 24.4 million square feet of office space, 3.8 million square feet of retail space, some 24,000 mixed-income dwelling units, and over 6,300 hotel rooms.⁴¹ These additions were hardly the results of good fortune or happenstance. Rather, the transformation of once-rural Arlington County into a showcase of compact, mixed-use TOD has been the product of ambitious, laser-focused station-area planning and investment.

For purposes of examining the relationship between building activities and rail ridership in Arlington County, a cross-sectional/time-series database was built using annualized counts of development activities for the 1985-to-2002 period. Data were compiled only for seven station areas—Ballston, Clarendon, Court House, Crystal City, Pentagon City, Rosslyn, and Virginia Square—where building activities had occurred. (See Map 8.2 on Arlington County's Metrorail stations.) In combination, 18 time points of data for seven stations provided a pooled database of 126 observations. Building-activity data were obtained from the Arlington



Map 8.2. Washington Metrorail Rail Stations in Arlington County. The station areas of the seven Metrorail stations with significant development activity since 1970 are shaded.

County Department of Community Planning, Housing, and Development; summary information can be found in the report titled *Development in the Metro Corridors—2000*.⁴²

Supplemental data on Washington Metrorail service levels were obtained from the regional transit agency, WMATA, and additional information such as mean regional gasoline prices (for each time point) were obtained from various secondary sources.⁴³ For the 1985-to-2002 period, the average count of daily station entries and exits was 7,840 for the Arlington County stations that were studied. The mean amount of development activity within the seven station areas was 3,920 dwelling units and 4.2 million square feet of office and retail space.

Station Counts and Development Activity

As expected, there was a fairly strong association between the number of boardings and alightings at Metrorail stations and the amount of development that existed. Figure 8.4 shows that ridership gains closely tracked increases in the number of dwelling units and the amount of commercial square footage in the seven station areas over the 1985-to-2002 period. From the simple linear regression equations, every additional dwelling unit added slightly more than one additional boarding and exit. Given that residents usually enter and leave a station during the same day, this corresponds to roughly one daily Metrorail trip for every two housing units added—still a respectable number.

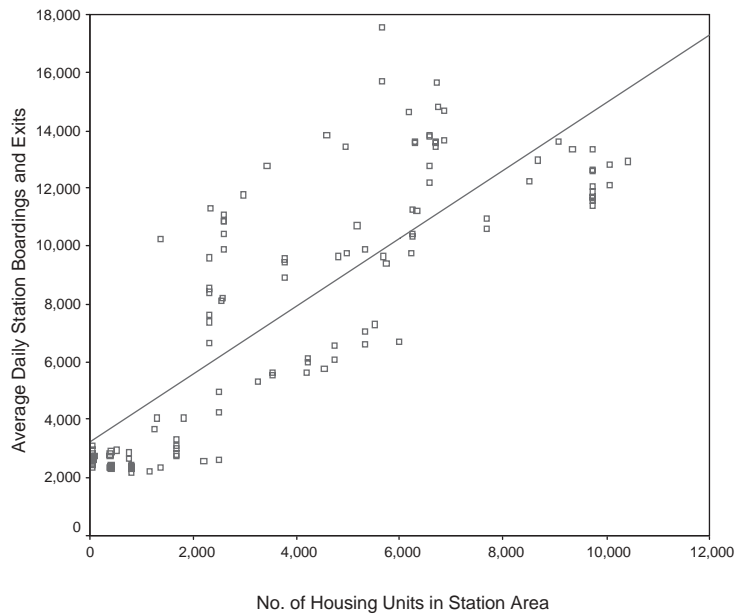
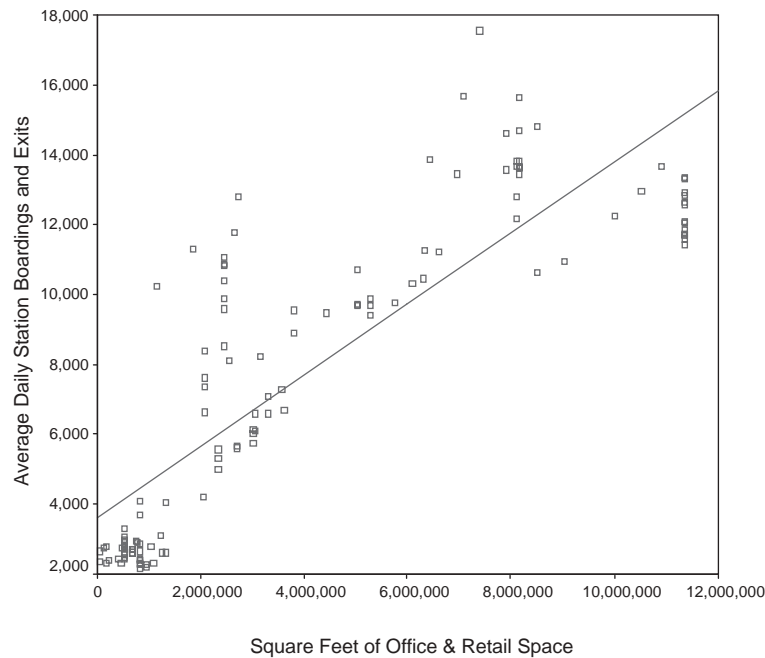


Figure 8.4. Station Boardings and Exits as Functions of Development Activity in Arlington County, Virginia, 1985–2002.



BIVARIATE REGRESSIONS

HOUSING UNITS:

**Station Boardings & Exits =
3204.9 + 1.173 (Housing
Units)**

$$R^2 = .680$$

OFFICE & RETAIL DEVELOPMENT:

**Station Boardings & Exits =
3603.6 + 1.018 (Square Feet of
Office & Retail Space, in
1,000s)**

$$R^2 = .723$$

Note:

N = 126 for both equations.
All predictor variables are
significant at the .01 probability
level.

Metrorail ridership was equally responsive to office and retail construction. The bivariate equation suggests that each additional 1,000 square feet of commercial floor space was associated with an additional station boarding or exit. (Again, to the degree that employees or customers entered and left

the same station, this corresponds to one additional Metrorail journey per 2,000 additional square feet of commercial floor space.) In very general terms, these relationships correspond to an elasticity of around 0.5; that is, a doubling of building activity was associated with a 50% increase in Metrorail ridership.

Arlington County Ridership Model

A limited set of variables was available to estimate the Arlington County ridership model because annual data, such as the data obtained for building activities, are rarely compiled for other potential predictor variables (e.g., census data are available only once every 10 years). Fortunately, annual data were available from WMATA on rail service levels, as represented by the amount of passenger space in rail cars (assuming four passengers per square meter of floor space) passing through stations per day. Given that transit ridership is highly sensitive to transit service levels (with elasticities typically in the range of 0.7 to 0.8), the availability of this variable on an annual basis for all stations, along with boardings and exits, enabled a streamlined model to be estimated.⁴⁴ Other annualized data that were candidates for entry into the model included mean regional gasoline, station parking supplies, and dummy variables for time points (to control for secular trends) and station areas (to control for idiosyncratic characteristics of particular stations not captured by other variables in the equation).

In estimating a model of ridership as a function of service levels and other explainers, ordinary least squares estimation can produce biased results. This is because of the endogeneity, or interrelatedness, of transit supply and demand. Over time, service levels influence ridership, and, assuming that transit planners are doing their job, ridership influences how much service is delivered. To account for this simultaneous relationship, instrumental variables, representing exogenous influences, were used to estimate values

of the predictor variable “rail service frequency.” The second stage of estimation involves using these predicted values, along with other variables, to explain Metrorail boardings and alightings. This technique is often referred to as two-stage least squares estimation.⁴⁵

Table 8.3 presents the best-fitting multiple regression results. As expected, Metrorail boardings and alightings rose with service intensities over the 1985-to-2002 period. Office and retail building activities were even more influential. Because of the close association of commercial and residential construction, both variables could not enter the equation at the same time; office-retail development was the strongest predictor of the two; therefore, it was used in the model. Residential development did enter the model; however, it entered as an interactive term with the service frequency variable. That is, Metrorail station boardings and alightings increased through the combined influences of increases in residential construction and service levels. Because of the multicollinearity of factors like development and service levels, including this interactive term enabled the model to be expanded without contaminating the results.

The model reveals the following relationships. Holding all else constant:

- Every 1,000 additional passenger spaces passing through a station per day attracted, on average, 210 additional passengers;
- Every 100,000 square feet of additional office and retail floor space increased average daily

Table 8.3. Multiple Regression Results for Predicting Metrorail Station Boardings and Exits as Functions of Transit Service Levels and Building Activities (for Seven Arlington County Metrorail Stations, 1985 to 2002, Two-Stage Least Squares Estimation)

	Coefficient	T-Statistic	Probability
<i>Transit-Service-Level Variable</i>			
Rail Service Frequency: No. of Passenger Seats Passing Through Metrorail Station per Day**	.2096	1.190	.236
<i>Building-Activity Variable</i>			
Office-Retail Development: Square Footage of Office and Commercial Floor Space (in 1,000s) in Station Area	.4740	2.186	.031
Residential Development-Service Frequency Interaction: Dwelling Units, in 1,000s * Rail Service Frequency	.0055	2.124	.036
Constant	1239.3	0.748	.456
<p><i>Summary Statistics</i> N = 126 $R^2 = .772$ F = 137.3 (probability = .000) ** Instrument variables used to estimate predicted value were mean regional gasoline price (\$); office-retail development; time-series dummy (1985=1, 1986=2, etc.); and station-area (0–1) dummy variables for Ballston, Clarendon, Court House, Crystal City, Pentagon City, and Rosslyn Stations.</p>			

boardings and alightings by nearly 50; and

- Every 100 additional residential units, when combined with 100 additional railcar passenger spaces per day, led to more than 50 additional Metrorail boardings and alightings per day.

For a streamlined equation, the model had fairly good predictive powers, explaining over three-quarters of the variation in Metrorail boardings and exits across the seven Arlington County stations between 1985 and 2002. Clearly, a fairly robust and well-functioning relationship exists between building activities, service levels, and

ridership in Arlington County. Along with the strong general influence of real-estate development on patronage counts (as discussed in Chapter 12), Arlington County’s balance of housing and employment growth along Metrorail corridors has given rise to balanced flows. Also, the extensive pedestrian and landscaping improvements made to station areas have encouraged many passengers to walk-and-ride.

Conclusions

A considerable body of research shows that under the right conditions, TODs can increase transit ridership and its associated environmental benefits. This

is partly a product of self-selection: those with a lifestyle preference for transit-oriented living move into TOD neighborhoods and act on their preference. Higher transit ridership is also a product of the compact, mixed-use, and walking-friendly attributes of many TODs. From a public policy perspective, evidence on TOD's ridership bonus gives credence to programs, like sliding-scale impact fees, that reward dense, mixed-use projects, and flexible parking standards that reflect the below-average automobile ownership rates among TOD residents.

Research shows that those living in TODs usually patronize transit five to six times as often as the typical resident of a region. There is some evidence that size and connectivity of a rail system has some bearing on the ridership impacts of TOD. The highest recorded rail capture rates are found in the Washington (D.C.) Metropolitan Area, which could be because Metrorail has the most extensive network of any recent-generation rail system in America, providing good accessibility to many parts of the region. Transit capture rates of those working and shopping in TODs tended to be lower than those of residents partly because self-selection is not as prevalent. Still, capture rates can be appreciable for non-residents of TODs, as high as nearly 50% in the case of those working in offices near central-city stations. Joint development projects sometimes can boost transit's modal shares even higher, mostly likely because of conducive design factors like good pedestrian connectivity between rail stations and adjoining buildings.

Research conducted using recent data on transit usage and land-use characteristics

of stations in the San Francisco Bay Area and Arlington County lends further support to past studies. For the Bay Area, transit commute shares increase with density, land-use diversity, and pedestrian-oriented design of neighborhoods around rail stops. Significant interaction effects were found between residential density and city block size. In Arlington County, office-retail development was the most powerful predictor of ridership at seven Metrorail stations. Housing construction interacted with transit service levels to give ridership a further boost.

Given the preponderance of evidence, the ridership benefits of TOD are unassailable. Society at-large reaps the dividends of people traveling in efficient and sustainable modes like public transit. Whether private interests similarly benefit from TOD, as reflected by real-estate market conditions, is the topic of the next chapter.

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- ³⁶ For review of the “3 Ds” principle, see R. Cervero and K. Kockelman, “Travel Demand and the 3D’s: Density, Diversity, and Design,” *Transportation Research D*, Vol. 2, No. 3 (1997): 119–129; and Cervero, 2002, op. cit.
- ³⁷ Proportions of Year 2000 commutes made by residents residing within a 1-mile radius of stations are for trips made by motorized nodes only (i.e., exclusive of walking, bicycling, and work-at-home options).
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- ³⁹ In this scenario, mean values are used for all other variables in the regression equation in Table 8.2 as follows: parking supply = 350 spaces, mean household income = \$76,000, highway accessibility = 895,200, transit accessibility = 88,900, and mean vehicles per household = 1.6.
- ⁴⁰ Isochronic measures of accessibility were estimated by accumulating census-tract job totals within 30-minute centroid-to-centroid travel distance ranges using peak-period network travel times obtained from the MTC, the regional planning organization for the nine-county San Francisco-Oakland-San Jose Consolidated Metropolitan Area.
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- ⁴² Ibid.
- ⁴³ Mean gasoline prices, for instance, were obtained from the Metropolitan Washington Council of Governments’s gasoline-price database, which is used to estimate long-range regional transportation models.
- ⁴⁴ For a summary of empirical evidence on transit service elasticities, see M. Wachs, “Consumer Attitudes Towards Urban Transit Services: An Integrated Review,” *Journal of the American Institute of Planners*, Vol. 42, No. 1 (1976): 90–102.
- ⁴⁵ For further discussions on two-stage least squares estimation, see R. Pindyck and D. Rubinfeld, *Econometric Models and Economic Forecasts* (New York: McGraw-Hill, 1997).

Chapter 9

Real-Estate Market Impacts of TOD

TOD and Real-Estate Markets

If transit investments create benefits, real-estate markets tell us. As long as there is a finite supply of parcels around stations, those wanting to live, work, or do business near transit will bid up land prices. The benefits of being well connected to the rest of the region (i.e., being accessible) get capitalized into the market value of land. As the cliché goes, rail-served properties enjoy good “location, location, location”: residents can more easily reach jobs and shops; more potential shoppers pass by retail outlets; and for employers, the laborshed of workers is enlarged. For some, stress reduction is perhaps also part of the attraction of being near transit. A developer of transit-based housing in St. Louis remarked: “The MetroLink station adds value to the project as part of the ‘no hassle’ lifestyle we are selling.”¹

Because the benefit conferred by being near transit is improved accessibility, looking at the land-value premiums is a good way to gauge the benefits of TOD. While research findings are varied, most of the evidence suggests that being near transit enhances property values and rents. At the Orenco Station in Hillsboro, Oregon, absorption of housing averaged eight units per month in 2001, and prices were running 20% to 30% above the area’s average, according to brokers with Costa Pacific Homes, one of Orenco’s homebuilders.² Near the Mockingbird light-rail station in Dallas, office and

retail space today rent for \$40 per square foot, some 40% above market rates. Even higher premiums have been recorded for office and retail space near Washington Metrorail stations in Arlington, Virginia, and Bethesda, Maryland.³ Rising land values have occurred not only in rail-served edge cities but also transitional inner-city neighborhoods. In the District of Columbia, land prices near the U Street and 14th Street Metrorail Station, in a predominantly minority neighborhood known for its jazz clubs and night-time entertainment, have nearly doubled in the past 3 years.

The idea that transit confers benefits to local real-estate markets is hardly new. After all, some of the toniest neighborhoods developed at the turn of the 20th century—Shaker Heights in Cleveland, Chestnut Hill in Boston, Roland Park in Baltimore, and Riverside near Chicago—were served by streetcar lines. While the fortunes of neighborhoods skirted by rail corridors suffered during the ascendancy of automobiles and freeways during the middle and latter parts of the century, in the 21st century, the tables once again appear to be turning. In Dallas, San Jose, Portland, Northern Virginia, Northeast New Jersey, and other rail-served settings, residential properties within an easy walk of light-rail stops are once again hot commodities. Many are fully leased and quite a few command top-dollar rents.

Evidence on Market Performance

Most studies on the land-value benefits of transit have evaluated the influence of proximity to or distance from stations, not whether a parcel of land is in a TOD. Research findings on the effects of proximity to transit on land values are not very consistent in part because impacts vary depending on severity of traffic congestion, local real-estate market conditions, swings in business cycles, and other factors. Some of these issues are addressed further in this chapter.

Below, empirical evidence on the land-value and market-performance impacts of transit systems is reviewed, first for residential housing and then for commercial properties. Relatively little research has been conducted on the land-value impacts of transit on other uses, like industrial activities; however, this should not be a concern since such uses are not particularly prominent in TODs.

Residential Properties

Most, although not all, studies of transit's impacts on residential properties have recorded premiums or net benefits. Studies over the past two decades show average housing value premiums associated with being near a station (usually expressed as being within $\frac{1}{4}$ to $\frac{1}{2}$ mile of a station) are 6.4% in Philadelphia, 6.7% in Boston, 10.6% in Portland, 17% in San Diego, 20% in Chicago, 24% in Dallas, and 45% in Santa Clara County.⁴

The type of transit technology has some bearing on land-value premiums. A study of experiences in the San

Francisco Bay Area found that heavy-rail systems conferred the highest capitalization benefits to single-family housing because of faster speeds, more frequent services, and wider spatial coverage than light-rail and commuter-rail systems.⁵ The study found that for every meter closer a single-family home was to a BART station, its sales price increased by \$2.29, all else being equal. Alameda County homes several blocks from BART stations sold, on average, for 39% more than otherwise comparable ones 20 miles from the nearest station. In the case of light-rail systems, however, capitalization benefits (i.e., value-added) were far smaller, and, in some instances, single-family homes within 900 feet of a station actually sold for less because of transit's "nuisance effect." A study of Atlanta's MARTA system suggested impacts also varied by type of neighborhood: transit accessibility increased home prices in Atlanta's lower-income census tracts but decreased values in upper-income areas.⁶

It is not hard to find conflicting signals on transit's residential property impacts. A study of Portland's MAX light-rail system found positive land-value effects only within a 500-meter walking distance of stations.⁷ A different study of both light-rail-served Portland and heavy-rail-served San Francisco Bay Area suburbs found residential property values were lower within a few blocks of rail stops than five or six blocks away.⁸ A study of single-family sales prices found no disamenity effect when homes were within 300 meters of BART stations.⁹ The same study, however, found a huge effect for commuter-rail services: in 1990, homes within 300 meters of the Caltrain stations

sold at an average discount of \$51,000. It seems plausible that whereas disamenity effects exist from being “too close” to rail transit in suburban settings, in fairly dense, mixed-use environments (with Manhattan as an extreme), ambient noise levels are so high and streets are so busy that there are no perceived nuisances from living within a block or so of a rail stop. The alignment also comes into play: because of noise levels, elevated structures depress residential values the most, whereas the effects of below-ground systems are often negligible.

Commercial Properties

Evidence on land-value benefits exists for office and commercial-retail parcels near heavy-rail systems in the Washington (D.C.) Metropolitan Area, the San Francisco Bay Area, and greater Atlanta.¹⁰ Comparable or even larger premiums have been found for commercial properties near light-rail stations in Santa Clara County, California, and suburban Dallas.¹¹ Even bus malls, experience shows, confer substantial benefits on commercial properties. Office rents along Denver’s downtown transit mall, for example, were 8% to 16% higher than comparable space off the mall in late 2002. Sixty-percent premiums were found for retail shops on the mall relative to the typical downtown retail outlets.¹²

Most evidence on commercial property comes from heavy-rail systems, and, as in the case of residential properties, it is not altogether consistent. An early study of BART found no evidence that rail’s presence increased commercial property rents around a suburban station and two inner-city stops.¹³ The absence of appreciable gains could have been due

to the fact that, at the time, BART was too new for meaningful accessibility benefits to have accrued, along with the fact that few zoning changes had been introduced. A study in Washington, D.C., found evidence of benefits to commercial properties in anticipation of heavy-rail services: property values fell by 7% for every 10% increase in distance from a Metrorail station, up to a radius of 2,500 feet.¹⁴ No follow-up work was conducted to see if value gains held over time, although numerous subsequent case studies suggest that Metrorail has materially benefited nearby commercial properties.¹⁵ Two studies of MARTA heavy-rail service reached opposite conclusions on impacts to commercial properties. One found that offices within 1 mile of highway interchanges commanded office rent premiums; however, those within a mile of MARTA stations typically leased for less than comparable space farther away.¹⁶ Another concluded that commercial properties were “influenced positively by both access to rail stations and policies that encourage more intensive development around those stations.”¹⁷

Although theory suggests light-rail systems confer smaller benefits to commercial properties, some researchers have reported otherwise. A study of the DART system compared differences in land values of “comparable” retail and office properties near and not near light-rail stations.¹⁸ The average percent change in land values from 1994 to 1998 for retail and office properties near DART stops was 37% and 14%, respectively; for “control” parcels, the average changes were 7.1% and 3.7%, respectively. For retail uses, this study

suggested a value-added premium of 30%. Anecdotally, the authors noted that North Park, the only regional mall served by DART, generally outperformed other malls in the Metroplex area, remaining 100% occupied during the 1994-to-1998 period while rents increased 20%. A follow-up study found office properties increased in value 53% faster than control sites from 1997 to 2001; however, no premiums were recorded for retail properties over this period.¹⁹

Several California studies of light rail's impacts on commercial properties have been more rigorous in their research designs; however, findings were generally inconclusive. A study of Santa Clara County's light-rail system found that properties within ½ mile of stations commanded premiums, although those that were ¼ to ½ mile away were worth even more.²⁰ Compared with other properties in the county, the estimated monthly lease premium within ¼ mile of a station was 3.3 cents per square foot, and for properties ¼ to ½ mile away, it was 6.4 cents per square foot. Sales premiums of \$8.73 and \$4.87 per square foot, respectively, were found, though models of sales values had poorer statistical fits.

TODs and Land-Value Premiums

The studies cited above looked at the effect of proximity to transit stations on land values and rents as opposed to the affects of TOD per se. Few studies have looked specifically at differences in rents and land values between projects that are in TODs and those that are not. Studies that have looked at differences have often used matched-pair comparisons. In general, experiences show that mixed-

use projects in walking-friendly settings served intensively by transit produce healthy real-estate results.

A study of experiences in the San Francisco Bay Area in the mid-1990s found that multifamily units within TODs commanded higher rents than otherwise comparable projects not within TODs. Besides being near transit, these multifamily projects also had fairly high densities (over 50 units per net acre) and featured convenience retail shops and various pedestrian amenities, thus taking on the attributes of a compact, mixed-use TOD. In 1994, rents for one-bedroom units near the Pleasant Hill BART station were \$1.20 per square foot compared with an average of \$1.09 for similar projects (in terms of size, age, and amenities) that were in the same geographic submarket but away from BART. Two-bedroom units near the Pleasant Hill Station leased for \$1.09 per square foot compared with \$0.94 per square foot for comparable units away from BART. On average, rents for one- and two-bedroom units in TOD apartments in the East Bay were 10% to 15% higher than non-TOD units in the same municipality that were otherwise comparable.

At Dallas's Mockingbird Station, TOD residential rents were going for \$1.60 per square foot per month in mid-2003; other comparable nearby properties not served by transit were getting \$1.30, or 20% less. In Englewood, Colorado, apartments rented at CityCenter—a transit-oriented village with civic uses, a cultural and performance center, and retail—are more than twice as expensive as comparable units elsewhere in the city. CityCenter's Class A office space is also leasing at a premium: gross annual

lease rates of \$21 to \$25 per square foot in mid-2002 compared with \$13.50 to \$17 per square foot for Class A space elsewhere in the city.²¹

Moreover, CityCenter's office occupancy rate is close to 100%, compared to 90% for the Denver metropolitan area. The project's retail sector is also outperforming its competitors: annual rents for stores averaged \$18 to \$20 per square foot in 2002 versus \$8 to \$14 per square foot for the city of Englewood. About 90% of CityCenter's retail space was leased and occupied in mid-2002 compared with a citywide average of 80%. Another good example of TOD's added value in the Denver region is 16 Market Square in Denver's central business district (CBD). The project lies next to the Market Street Station, Denver's "100% transit location," where all of the city's downtown-bound bus lines converge. In late 2002, 16 Market Square—with ground-floor retail and five stories of renovated office space—enjoyed a 60% premium over comparable downtown office space. Also, its commercial space was 100% leased; no other commercial building in downtown Denver can lay such a claim.

What these experiences tell us is that while proximity to good-quality transit is an important trait of TOD, this is not the only factor that adds value. When combined with higher-than-typical densities, consumer retail and services, and pedestrian amenities, proximity to transit can confer land-value benefits that are well above those of competitive markets. TOD's synergy of proximity, density, mixed uses, and walking-friendliness, under the right conditions, gets expressed through geometric gains

in property values and overall real-estate market performance.

Joint Development and Land-Value Premiums

What about the joint development projects? Do projects physically linked to transit stations, like air-rights towers or passageway connections, out-perform other markets? A comprehensive study of transit joint development projects in the Washington (D.C.) Metropolitan Area and Atlanta suggested that they do.²² The study of five rail stations in Washington, D.C., and Atlanta over the 1978-to-1989 period found jointly developed projects were better performers: in addition to average rent premiums of 7% to 9%, physically integrated projects tended to enjoy lower vacancy rates and faster absorption of new leasable space. On average, joint development projects added more than \$3 per gross square foot to annual office rents over the 1978-to-1989 period. Moreover, Atlanta's and Washington's joint development projects, the study found, were generally "better" projects (i.e., they were architecturally integrated, they enjoyed better on-site circulation [of both people and automobiles], and they made more efficient use of space through resource-sharing such as shared parking). In addition, the research showed that average office rents of transit joint development projects rose with increases in systemwide ridership. Other matched-pair studies of joint development in the Washington (D.C.) Metropolitan Area have reported comparable rent premiums of up to 10%.²³

A matched-pair comparison between projects near rail stations and freeway

interchanges further substantiated these research findings.²⁴ Office projects in Atlanta's and Washington's TODs showed modest rent premiums over their freeway-oriented counterparts. Premiums were attributed, in part, to rail-served neighborhoods being more pedestrian-friendly and having more net leasable space (due mainly to lower parking requirements). Whether adjacent commercial properties are physically integrated with rail stations, such as through air-rights development or direct passageway connections, was also found to have a bearing on market performance. Evidence likewise shows that renovation of stations improves the market performance of retail both within and close to stations. A recent study of older neighborhoods and business districts in the Northeast found rail-station rehabilitation was positively associated with increases in retail rents and surrounding commercial property values, with benefits increasing with city size and urban densities.²⁵

The Importance of Business Cycles, System Maturation, and Timing

More studies on the link between proximity to transit and land values have been carried out in the San Francisco Bay Area than anywhere else. A study led by John Landis of Bay Area real-estate market conditions in the early 1990s found that for every meter that a BART-served Alameda County home was closer to a BART station, its 1991 sales price rose by \$2.39, all else being equal.²⁶ However, no premium was found in the city of San Jose, and, in fact, the study suggested that there was a disbenefit associated with being near light rail: "Transit in San Jose actually *takes away* value from homes that are

located within reach of its stations."²⁷ Statistically, homes within 300 meters (a little less than $\frac{1}{5}$ mile) of a light-rail station sold for \$31,424 (in 1990 currency) less than homes more than 300 meters away, all else being equal.

The Landis study from the early 1990s stands in marked contrast to several recent studies that have recorded positive and appreciable premiums associated with being near light rail in both the city of San Jose and Santa Clara County as a whole.²⁸ A study by Robert Cervero and Michael Duncan examined relationships in 1999, when Santa Clara County's economy was on a roll, using land-sales data from the county assessor's office to study the effects of proximity on single-family homes, rental properties, and condominiums. Hedonic price models, based on multiple regression estimation, were used to net out the effects of proximity to transit from other factors that influence land values.²⁹ This study found that in 1999 substantial benefits accrued to residential parcels within a $\frac{1}{4}$ -mile distance of a rail station, whether it was light rail or commuter rail (see Figure 9.1). Large apartments that were within a $\frac{1}{4}$ -mile distance of light-rail stops, for example, commanded a premium of around \$9 per square foot. Compared with parcels that were within 4 miles of a light-rail station, this translated into an overall land-value premium of 28%.

What explains the huge difference in recorded land-value impacts between 1991 and 1999? There are four likely reasons: condition of the regional economy; levels of traffic congestion; system maturation and extensiveness; and institutional commitments to TOD. The

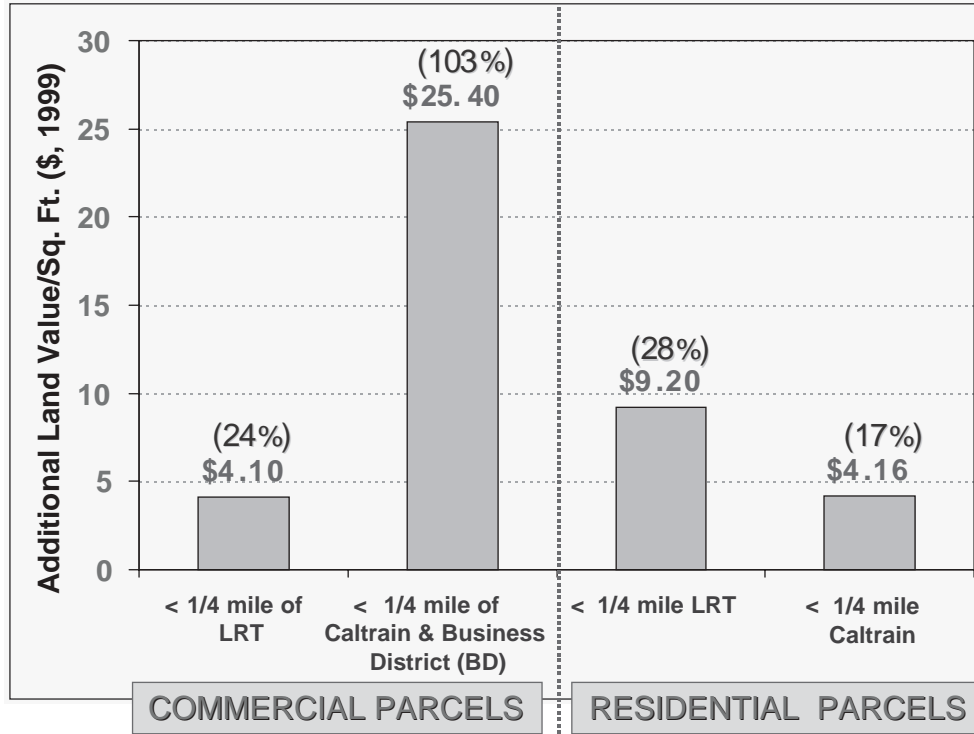


Figure 9.1. Commercial and Residential Land-Value Premiums in Santa Clara County, 1999.

Sources: R. Cervero and M. Duncan, "Benefits of Proximity to Rail on Housing Markets: Experiences in Santa Clara County," *Journal of Public Transportation*, Vol. 5, No. 1 (2002): 1-18; and R. Cervero and M. Duncan, "Transit's Value Added," *Urban Land*, Vol. 61, No. 2 (2002): 77-84.

point on the business cycle when land-value impacts are measured probably has a lot to do with how much of a premium is recorded, if any. In 1990, the year for which the Landis study measured no impact, the Bay Area was in the trough of a deep recession; therefore, little value was associated with being near transit. In fact, so many people were out of work that traffic congestion had almost disappeared (one of the few benefits of economic downturns). By the late 1990s, when Cervero and Duncan gauged impacts, the Bay Area's economy and real-estate market were red hot on the heels of the dot-com boom. Traffic congestion was as bad as ever, revealed by public opinion polls that identified gridlock as the number-one local problem

in the minds of Bay Area residents. In 1999, in fact, the Bay Area was ranked as the nation's second most congested region by the Texas Transportation Institute, and Santa Clara County was the most congested of the region's nine counties.³⁰ Under these conditions, being near transit was a bonus.

While the macro-economy might have been an overriding factor influencing the degree to which land-value premiums existed, another plausible explanation is system maturation. In 1991, Santa Clara County's light-rail system was in its infancy, providing service over 21 track miles; by the late 1990s, it was firmly entrenched in the local transportation scene, covering

nearly 30 track miles and offering more frequent services. Ten years into service, the light-rail system was beginning to take on more of the characteristics of a network as opposed to a single line. It must be remembered that transit has to compete with the private automobile, which operates on extensive hierarchical networks of local roads, collectors, highways, and freeways. Such networks provide high levels of connectivity, or accessibility. And, of course, it is enhanced accessibility that drives up property values around rail stations. Only when transit begins to mimic the network attributes of its chief competitor, the automobile-highway system, will accessibility improvements be significant enough to register through real-estate transactions. This was not the case in 1991 when the Landis study was conducted, but it was far more the case in 1999 when the Cervero and Duncan study looked at conditions.

Another explanation could be better institutional support. In the early 1990s, VTA had no in-house program aimed at promoting TOD and joint development. By the late 1990s, the agency was very active in both areas, having hired a full-time staff member who worked closely with developers, industry, and public agencies in building a coalition to advance TOD. These efforts paid off, for few areas of the United States matched the amount of development that took place around light-rail transit during the boom years of the late 1990s in Santa Clara County. Between 1997 and 1999, some 4,500 housing units and 9 million square feet of commercial-office floor space were added within walking distance of the only recently opened 8-mile Tasman West corridor.

Exorbitant housing prices at the time—in 2000, the median single-family home in the Silicon Valley cost \$617,000, an 87% jump from 5 years earlier—created a ready-made market for small, more affordable units near light-rail stops.³¹ Among the instruments successfully introduced by local governments to leverage TOD were tax-exempt financing, public assistance with land assembly, and overlay zones that permitted higher densities than the norm.

Of course, the various prerequisites to land-value premiums reviewed in this section are co-related—traffic congestion spurred more rail services and TOD institutional support. In 1991, the year in which Landis measured impacts, these conditions did not exist. The degree to which TOD yields benefits, it would appear, has a lot to do with timing and at what point along the business cycle studies are carried out. Moreover, benefits are also not automatic. They require proactive measures on the part of local governments to create TODs that allow the value-added opportunities of rail investments to be more completely fulfilled.

Leveraging Transit's Added Value Through Proactive Planning: The San Diego Experience

This last point (i.e., the importance of proactive government support for TOD toward reaping land-value benefits) is underscored by experiences in San Diego. When it opened in 1981, the 16-mile San Diego Trolley system—with service from downtown San Diego to the Mexican border at Tijuana—was a huge ridership success. Within 2 years of its opening, trains were so full that the

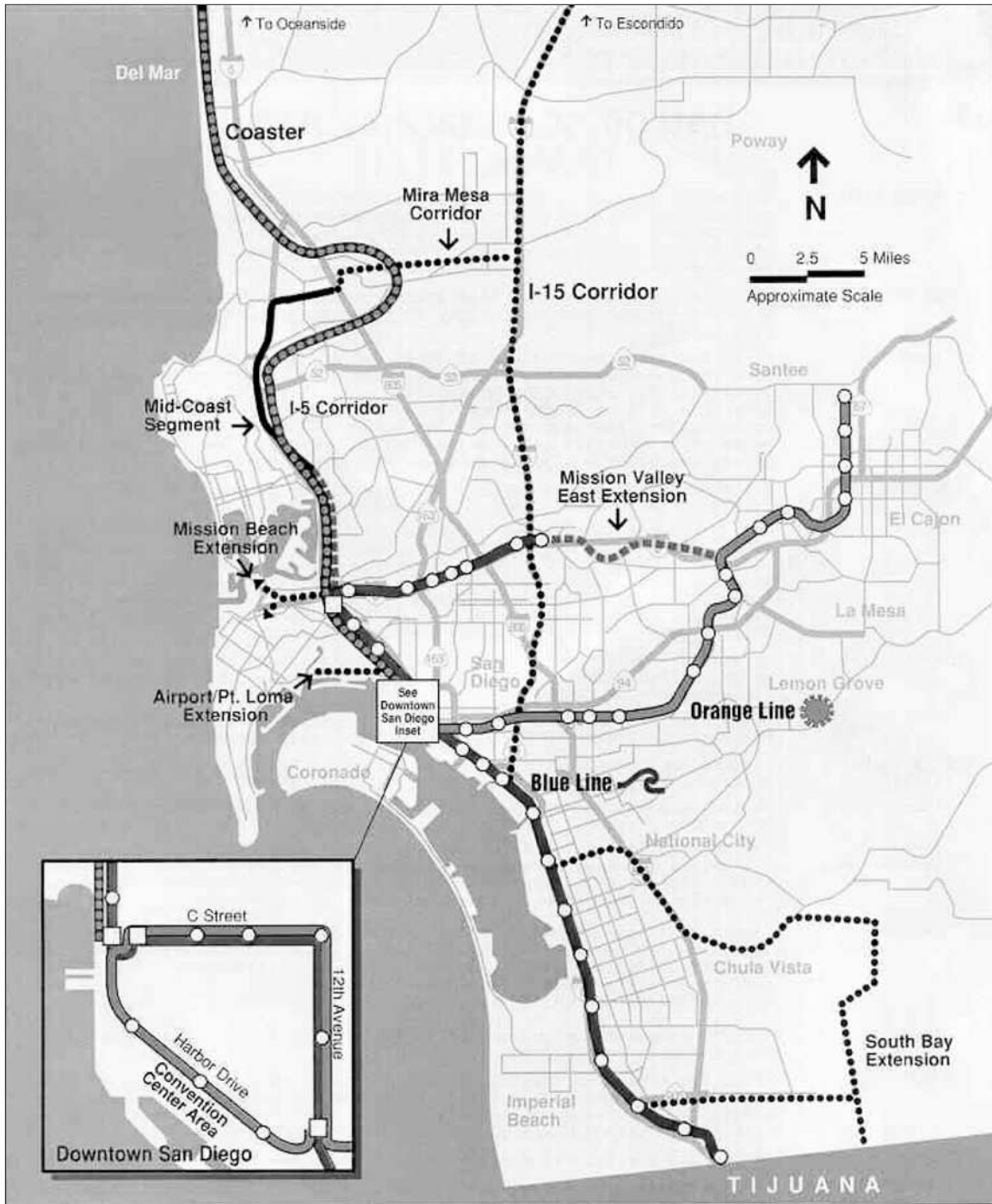
system was recovering 95% of its operating costs, an unprecedented achievement in the U.S. light-rail transit industry. (Map 9.1 shows San Diego's existing and planned rail transit network.)

In terms of land-use changes and TOD, however, the "Tijuana Trolley" (i.e., the southern Blue Line [or South Line] on Map 9.1) has hardly been a success. No notable developments have occurred along the Southern Blue Line over the past two decades, nor should have they been expected. For this first leg of the Trolley system, funded solely with local monies, the overriding objective was right-of-way and construction cost minimization. The South Line operates on disused freight track that abuts sagebrush and an odd mix of warehouses, factories, a military complex, and various automobile-oriented uses. Moreover, the South County area was not "where the action was." Employment has barely increased in this part of San Diego County since 1980. Accordingly, transit was not poised to induce appreciable land-use changes. Experiences show that transit investments do not create new regional growth but rather redistribute growth that would have occurred regardless.³²

Later extensions north of downtown, notably along the Mission Valley corridor, were an entirely different story (see Photo 9.1). North County was abuzz with real-estate construction when the Mission Valley rail extension and Coaster commuter-rail line broke ground in the mid-1990s. Thus, unlike with the Tijuana Trolley, transit was poised to channel land-use changes in these two areas. The Mission Valley extension, moreover, represented a change in the

thinking of the region's transit decision-makers. Rather than trying to minimize cost, the mindset became one of maximizing development potential. As discussed in Chapter 19, this was part of a larger smart-growth agenda that sought to put the region on a more sustainable pathway. The Mission Valley light-rail line became the region's model for transit-oriented growth. The line crosses the San Diego River three times in order to site development on the flat valley floor and preserve the sensitive hillsides that define the valley. Helping to lead the way was the city of San Diego's progressive TOD ordinance that incentivizes compact, infill development near Trolley stops (see Chapter 4). These efforts paid off. Between 1982 (when the Trolley extension was first proposed) and 1995, the Mission Valley saw the addition of 7,000 new housing units, 2,375 new hotel rooms, 1.6 million square feet of retail space, and some 6 million square feet of office inventory.³³ Since 1995, these figures have trended steadily upward.

The impact of this "about-face" in policy is clearly reflected by differences in land-value impacts. A hedonic price model was estimated for each of San Diego's transit lines using real-estate sales transaction data from Metroscan, a proprietary database available from First American Real Estate Solutions. For commercial properties (including offices, retail, restaurants, and hotels), data were acquired for calendar years 1999, 2000, and 2001. Models were also estimated for residential parcels based on Metroscan data from the year 2000. Combining sales transaction data with information on site (e.g., building size and quality), transportation (e.g., highway



Map 9.1. San Diego Rail Systems: Existing and Planned Light-Rail “Trolley” Extensions (Blue and Orange Lines) and Coaster Commuter-Rail Line.

Source: San Diego Metropolitan Transit Development Board.



Photo 9.1. Contrasting Land-Use Outcomes Along San Diego's Trolley Corridor. The top photo shows an inhospitable setting for land-use changes along the former freight corridor where the South Line operates between downtown San Diego and the Mexican border. The bottom photo shows the substantial amount of moderately dense housing recently built along the Mission Valley light-rail corridor, due in part to proactive planning by the city of San Diego.

travel times), and neighborhood characteristics of each parcel, hedonic price models enabled the added or discounted value from being near transit stops, to be netted out.³⁴

Figure 9.2 shows the recorded land-value premiums or discounts for commercial properties broken down by rail line, including the Coaster commuter-rail service that connects downtown San Diego to the northern part of the county. Premiums represent percentage differences attributable to being near transit for “typical” commercial properties within ½ mile of a Trolley or Coaster stop, holding all other factors constant. “Typical” means the average characteristics of commercial property in the database (e.g., the average commercial structure was an office building of 6,600 square feet in size in a neighborhood with seven workers per acre. Figure 9.2 reveals that offices, retail

establishments, restaurants, and other commercial facilities near Mission Valley Trolley stops and the downtown Coaster station enjoyed huge premiums, in the 30%-to-40% range. Both settings have benefited from proactive TOD planning, including targeted public infrastructure improvements (e.g., sidewalk upgrades and public landscaping), overlay zones to encourage mixed uses, and streamlining of building reviews. In contrast, there was a disbenefit, or land-value discount, associated with parcels near Trolley stops on the South Line. Where the commercial real-estate market was strong and proactive planning took place, premiums were appreciable. Where the market was soft and little effort was made to promote TOD, premiums were nonexistent, and some discounts occurred.

For the housing sector, premiums were recorded for multifamily units and condominiums across all Trolley lines.

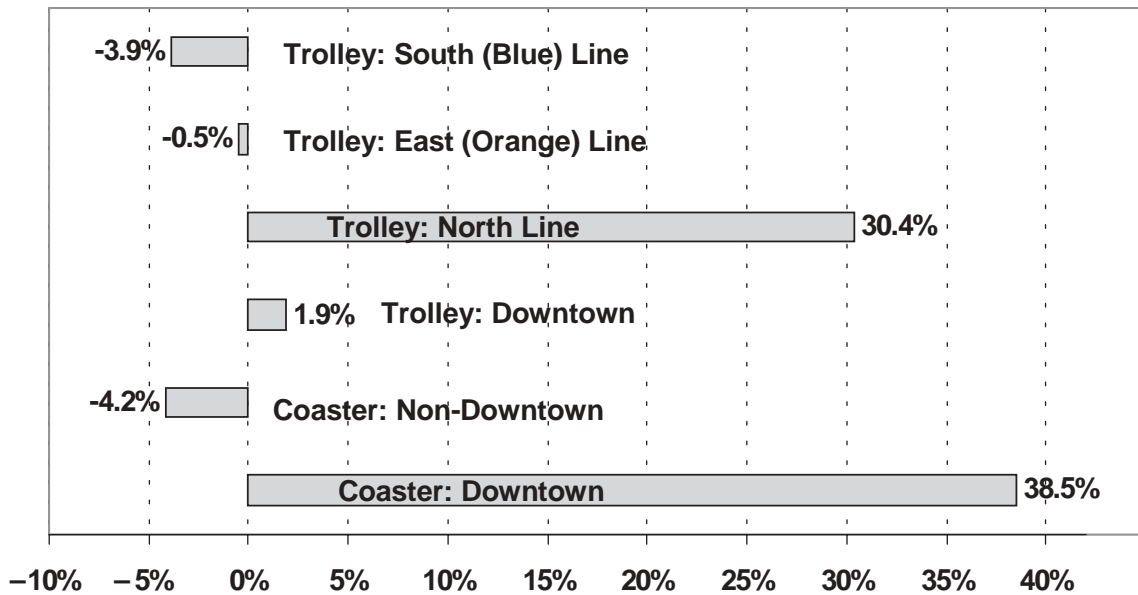


Figure 9.2. Commercial Land-Value Premiums or Discounts in San Diego County, by Rail Line.

Source: R. Cervero and M. Duncan, *Land Value Impacts of Rail Transit Services in San Diego County*, report prepared for the National Association of Realtors and the Urban Land Institute (Washington, D.C.: June 2002).

Differences were minimal. In the case of the Coaster commuter-rail line, however, premiums were huge for condominiums (46.1%) and single-family homes (17%). Apparently, owning a condominium or detached home within an easy walk of commuter rail is highly valued among the many professional workers with downtown jobs who live in the North County. Given that Interstate-5 north of downtown San Diego is the region's most congested freeway, many homeowners appear willing to pay a premium—\$85,000 for the typical condominium—to be within easy access of a Coaster station.

Experiences from San Diego County reveal that rail transit is capable of producing appreciable land-value benefits, although this is not automatic and relationships vary by type of land use and corridor. Subregional market characteristics have a bearing on outcomes. In the buoyant North County area, for-sale residential units reap large premiums, and in the healthy Mission Valley corridor and newly refurbished waterfront of downtown, commercial markets seem to flourish in transit's presence. In the soft real-estate market of the South County along the Tijuana Trolley corridor, the opposite holds true.

Transit's Added Value and Public Policies

Some of the land-value premiums associated with being near transit could be due to supportive public policies that are targeted at TODs. At The Commons, in Denver, planned use development (PUD) zoning was a factor in the master-developer's ability to sell portions of the property to individual developers at a premium. In a statistical sense, it is

difficult to separate out the importance of being close to transit stops from public-policy incentives, like zoning bonuses, in explaining land-value increases. In many instances, they are likely to be codependent: zoning incentives are necessary if proximity to transit is to yield dividends, and proximity to transit is necessary if density bonuses and other zoning "perks" are to pay off.

Notwithstanding the statistical challenges, several studies have sought to gauge the importance of public policies and strategic planning in leveraging the accessibility benefits conferred by transit investments. Using data from Washington County, Oregon, (served by Portland's Westside light-rail line), research found that announcements on the planned siting of light-rail stations and the use of zoning tools (e.g., overlays and interim restrictions) to promote TOD induced land-value increases even before the system began operating.³⁵ A study of TOD planning in Atlanta also found that policies aimed at encouraging more intensive development around stations, including parking waivers and minimum FAR requirements, interacted with proximity to stations to yield rent premiums.³⁶

Perhaps the most important public-policy implication of transit's potential to add value is in the financial arena. The existence of land-value premiums provides a potential source of revenue for transit agencies to tap into to help defray capital costs. Value capture makes sense in theory, but it is often difficult to implement in practice. Since the public sector invests taxpayer monies in rail systems, recapturing some of the value-added, one can argue, is equitable

from a societal point of view. Why let a fortunate group of landowners who happen to own property where stations are sited reap huge windfalls, especially when money is so desperately needed to retire capital bonds for expensive rail systems? Besides being equitable, public co-participation in land-value gains can also reduce the kind of land speculation that can drive real-estate prices so high that housing becomes unaffordable, an outcome that subverts the purpose of many TODs.

Recapturing value is particularly important to jump-starting TODs. This is especially true in distressed inner-city settings where a lot of upfront improvements and amenities are often needed to entice private investment. The responsibility often falls on cash-strapped municipalities to take the lead in attracting private capital to rail station areas by “sprucing up” the neighborhood through generous landscaping and sidewalk improvements and, in riskier settings, underwriting land-acquisition costs. All of this takes money, often lots of it. Thus, value capture provides a source of funds not only to help pay off the debt on transit investments but also to cover the cost of upfront ancillary improvements that can help jump-start a TOD.

In America, value capture occurs indirectly through higher property-tax receipts. However, these are largely transfer effects since gains in values of properties near rail stops (due to *relative* improvements in accessibility) are, theoretically at least, offset by losses in property values for sites farther away (due to *relative* decreases in accessibility). Even if there are net gains in property value income, these monies

end up in the general treasury and rarely get channeled back into transit projects, much less TODs. Only through tax income dedicated to transit agencies are tax receipts from land-value gains a bona fide form of value capture.

A more direct means of recapturing value is through joint development, such as air-rights leasing, ground leasing of adjacent agency-owned parcels, or station connection fees. Hong Kong’s rail system covers all of its costs, including interest, from rents produced by land developments around stations and fare receipts. To date, U.S. transit properties have been far more timid in recapturing value, although a few are beginning to move aggressively in this direction.

Presently, WMATA, serving the nation’s capital and the surrounding area, “recaptures” around \$6 million annually in value-added through various lease and interface fee arrangements, a number that is expected to grow markedly in coming years as very large joint development projects, like White Flint, take form. At Chicago’s Union Station, value capture occurs through rent surcharges (see Photo 9.2). Chicago’s RTA receives as much as 24% of gross sales receipts when sales volumes reach certain thresholds. This rent is in addition to common-area charges that cover maintenance expenses.

One of the most direct means of recapturing value is through benefit assessments. Los Angeles’s MTA obtained 9% of the funds used to pay for the \$1.5-billion Red Line subway through special assessments levied against owners of commercial properties in and around subway stations. MTA’s



Photo 9.2. Chicago's Union Station. The top photo shows the exterior of the refurbished historic train station. The bottom photo shows an active restaurant and retail activities within the structure.

benefit-assessment program, scheduled to sunset in 2008, was made possible through statutory legislation that granted the agency special access to beneficiary forms of financing. In most cases, a benefit-assessment district can only be formed if the majority of property-owners within the district agree to levy themselves to fund the improvement. While land-owners are often willing to do this to pay for improvements, like sidewalks, that directly abut their properties, getting them to agree to chip in to help finance rail systems or TODs

is more difficult. Convincing property-owners that transit adds value to their land-holdings is further made difficult by the fact that empirical evidence is inconsistent, even in Los Angeles. A recent study used hedonic-price modeling, similar to what was discussed above for Santa Clara County and San Diego, to net out the effects of proximity to rail lines (heavy rail, light rail, and commuter rail) as well as BRT (MetroRapid) services in Los Angeles County.³⁷ Appreciable land-value premiums (6.1%) were found around

Red Line subway stations for multifamily housing units; however, land-value discounts, or disbenefits, were measured around Red Line stations for commercial-office properties and condominiums. Premiums were found for these uses along some, but not all, Metrolink commuter-rail, light-rail, and even BRT stops. A confounding factor that might have depressed land values for commercial parcels near some Red Line stations is that many of these stations lie in redevelopment districts. Being in a distressed inner-city setting could have suppressed real-estate values near some subway stations, regardless of transit's presence. Nonetheless, the lack of a consistent pattern of land-value premiums makes it difficult to implement benefit-assessment financing in practice. The rational nexus doctrine that courts apply in weighing whether benefits have been conferred by public infrastructure sets a high standard that transit investments cannot always meet.

Lastly, value capture can also occur through land acquisition and banking aimed at securing profits through long-term leases or even fee-simple sales (i.e., real-estate development on the part of the transit-service provider). This is how the first generation of U.S. streetcar lines from a century ago were built and continues today to be how the majority of suburban rail lines in large Japanese cities are funded.³⁸ The reduction in federal contributions to new rail starts (from 80% to 50%) and increased competition for the shrinking pot have prompted more and more localities to think in entrepreneurial terms. In contributing some \$28 million toward the \$125-million price tag for the light-rail extension to Portland's International Airport, Bechtel Enterprises, in

partnership with Trammell Crow, is hoping to recoup its cost and then some by developing a 120-acre mixed-use TOD at the Cascade Station. The Pasadena Construction Authority, franchised to build the recently opened Gold Line to Pasadena, hopes to recapture around \$30 million of the capital cost of this extension by developing excess property obtained during right-of-way acquisition.

Summary and Conclusion

The weight of evidence to date shows that development near transit stops enjoys land-value premiums and generally out-performs competitive markets. This generally holds for residential housing (especially condominiums and rental units) as well as office, retail, and other commercial facilities. However, the payoffs are not automatic, and quite often a number of preconditions must be in place. One precondition is an upswing in the economy, with plentiful demand for real estate. Another is that traffic congestion is getting worse. Only then will there be market pressures to bid up land prices and a clear benefit to having good rail access: it provides an alternative to fighting highway traffic. Also important are public policies, such as zoning bonuses, which further leverage the TOD and system expansion that produces the spillover benefits of a highly integrated network. Moreover, if significant premiums are to accrue, it is important that transit be in a neighborhood free from signs of stagnation or distress that has a reasonably healthy real-estate market. In San Diego, premiums were recorded for commercial properties in the Mission Valley corridor, an area that has

generally enjoyed sustained growth over the past decade. Pro-development policies introduced by local governments, like overlay zoning to encourage mixed land uses and targeted infrastructure investments, bolstered commercial property values in the Mission Valley corridor. This stands in marked contrast to the South Line where little effort has been made to leverage TOD, in large part because of stagnant growth, and, predictably, no meaningful land-use changes have occurred.

Insights into the property value impacts of TODs carry policy significance. For one, public entities are in a position to recapture some of the value added through benefit assessments, land acquisitions and re-sales, and ground/air-rights leases. Some areas, such as the Washington (D.C.) Metropolitan Area, Los Angeles, and Portland, have been particularly aggressive in recapturing some of the value created by transit investments; however, legal and institutional concerns continue to impede progress in this area.

Because TODs take time to evolve, experiences suggest that land-value benefits take time to accrue as well. This was underscored by experiences in Santa Clara County, where in the transit system's infancy, no measurable land-value premiums were found, but by the system's 10th anniversary, when the real-estate market had revved up, benefits were appreciable. Savvy developers increasingly understand the long-term nature of profiting from TOD. In the words of one active TOD developer in the Denver region: "we're not here to 'flip' properties in the search for quick profits; with TOD and infill in general, we're in it for the long haul."

More and more, developers are using long-term pro forma when evaluating the potential payoff of TOD. Like any long-term investment, asset management is essential to reaping handsome profits. For this, the public sector needs to do its part to ensure that transit-served neighborhoods are, and will continue to be, viable places. Through effective partnerships with transit agencies, local government, and others—and under the right conditions—all parties are in a position to reap the financial gains conferred by well-planned and well-managed TOD.

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PART 4

CASE STUDIES

Case studies are to policy research what microscopes are to science. In this report, they help “zoom in” on many of the important issues, providing a more focused, grounded context. This penultimate section of the report presents 10 case studies that, in combination, offer a rich set of perspectives on the challenges and potential payoffs of implementing TOD. Cases are presented in approximate geographical sequence, from the northeast and to the southwest of the country, in the following order: Boston, New Jersey, the Washington (D.C.) Metropolitan Area, Miami, Chicago, Dallas, Colorado, Portland, the San Francisco Bay Area, and Southern California.

Chapter 10

TOD in Boston: An Old Story with a New Emphasis

Boston is an ideal transit story, with a long, rich tradition of transit-shaped development and a healthy present-day economy that is receptive to TOD. National comparisons show that the city of Boston ranked third in transit's market share for commuting at 33%, slightly behind Washington, D.C. And unlike Washington, which has witnessed a gradual loss of population, Boston's population grew by over 3% between 1990 and 2000. In addition, many of Boston's suburbs, such as Brookline, Somerville, Cambridge, Chelsea, and Malden, experience significant transit usage. This is a city that has grown up around public transportation, so TOD is not considered something particularly novel, but rather business as usual.

In recent years, greater Boston has enjoyed a robust economy. PricewaterhouseCoopers, in the report *Emerging Trends in Real Estate: 2003*, ranked Boston sixth in terms of investment and seventh for development, buoyed by a 24-hour vibrancy and a diversified economy.¹ The investment community has turned bearish on fast-growing sprawling suburbs, worried about traffic, lack of planning, banal commercial strips, and premature aging of housing stock. Suburban real-estate investments, the report warns, are subject to "becoming little more than commodity investments over time." There is a growing appreciation for the need to "create enduring main streets and real places." Not only are many

suburbs "not cool anymore," they also "don't work" very well. Boston, on the other hand, wins kudos for its multifaceted economy of financial services, health care, technology, and education, which "cycle independently." While tourism continues to be hard hit since 9/11, and no massive recovery is expected for the office market, barriers to entry of new products protect investors, and apartment rents, while softening a bit, continue to sizzle.

Boston Recovers Its Traditional Neighborhood Roots

Boston, as one of the oldest cities in the United States, has a traditional layout that was developed along TOD principles long before the term entered the mainstream planning lexicon. When this type of development fell out of favor in the 1950s and 1960s among planners, politicians, and the private sector, Boston entered, like all U.S. cities, the full throttle race to build more highways. During the same time period, the city jumped on board the same kind of "scorched-earth" urban renewal policies that were in vogue elsewhere. In the interest of creating a modern government-center area, smaller-scale traditional buildings were cleared and properties assembled to create monolithic buildings isolated in a vast space that were subject to New England winds and devoid of street life after work. Old-timers still remember with a certain amount of resentment how entire swaths

of traditional Boston neighborhoods were eliminated in the rush to modernize. Boston's TOD story is about the way the city has tried to take back its old neighborhood character without sacrificing modernity and mobility.

Boston's pursuit of its traditional character holds important lessons for other cities. By being responsive to its core constituencies and not fearing to go it alone in terms of transportation and planning, Boston has been able to recover its urbanity and vitality. For Boston, out-of-the-box thinking about transit and its relation to the city has helped the city recover from a decline; Boston now fetches some of the highest housing and commercial rents in the United States. Boston's TOD story demonstrates that it is not too late to recover from ill-conceived choices, particularly if public leaders can muster the courage and support necessary to embark on their own path to transportation and development. Boston's TOD resuscitation began when public officials recognized that their constituents fervently wanted them to save the traditional neighborhood feel of Boston (see Photo 10.1). Those seeking to return their neighborhoods to the qualities of yesteryear formed a powerful bloc of the Boston electorate, although their perspectives were politically diverse. The TOD renaissance in Boston is inextricably linked to conservative, aesthetic, and environmentalist impulses.

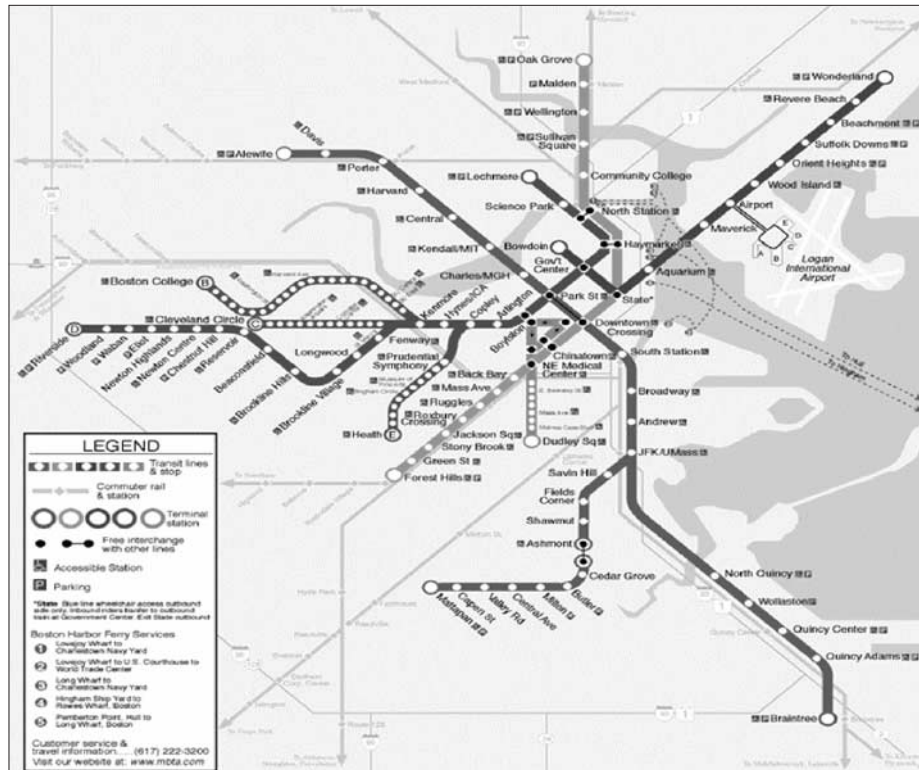
Boston's leaders understood that the only way to revitalize old neighborhoods was to modernize and upgrade public transit. The very first step taken was to halt the state's pro-highway transportation plan. After establishing a moratorium on new



Photo 10.1. Boylston Street West of Copley Square. Boston's human-oriented traditional streetscape has been rediscovered, leading to a sizzling real-estate market that now draws some of the highest rents in the country.

highways inside Route 128, Governor Frank Sargent repudiated his own past as a highway advocate and spearheaded federal legislation that allowed the use of Interstate highway funds for transit. Massachusetts became the first state to allow use of federal highway funds for mass transit improvements and acquisitions. This period, beginning in the early 1970s under Governor Sargent and continuing under the Dukakis and Weld administrations, resulted in Boston having a modern, efficient, and heavily patronized network of subway and commuter trains. Transfer funds were used to help extend the Red Line to Braintree in 1980 and to Alewife in 1985 and to reconstruct the Orange Line in 1987 (see Map 10.1).²

The bold step of modernizing mass transit with federal highway money gave



Map 10.1. MBTA Subway Map. *Source:* MBTA.

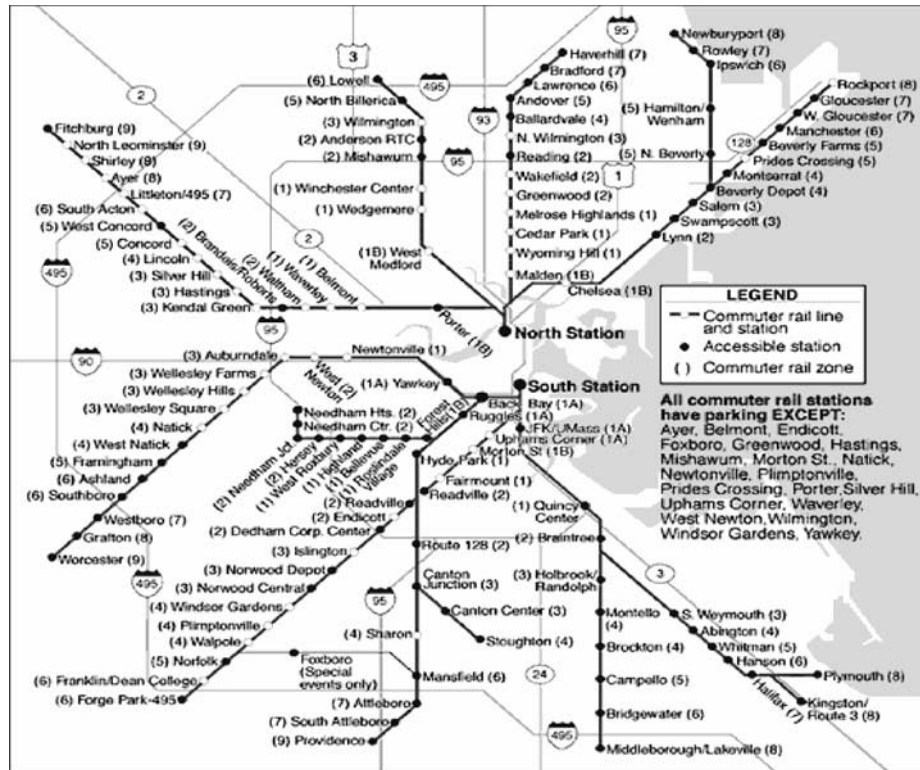
Boston the modern infrastructure necessary for neighborhood TOD-based revitalization.

A second crucial decision for Boston’s current TOD was Governor Dukakis’s revitalization of the Massachusetts Bay Transportation Authority (MBTA) services. Commuter-rail lines were reopened, existing lines within Boston were extended and renovated, and new rolling stock was acquired (see Map 10.2).³

A third factor in TOD’s resurgence was the negotiated parking agreement with the U.S. Environmental Protection Agency (EPA) that froze the number of allocated spaces in Boston at 1973 levels (approximately 35,500 spaces). This prevented excess parking from being built in Boston’s urban core (see

Text Box 10.1). Finally, new MBTA stations in Boston were built without parking, which promoted TOD by putting pedestrian accessibility above automobile convenience.⁴

These public policies had the cumulative effect of producing a more cohesive urban design. The policies adopted 20 to 30 years ago must also be given credit, at least partially, for Boston’s phenomenal residential real-estate market. Boston’s leaders recognized that the private sector would only build along TOD principles if modern, clean, and efficient transport were available. Financial constraints imposed by lenders meant that the public sector had to take the risks necessary for the city to rejuvenate. After it was clear that public officials were committed to a modern transit infrastructure,



Map 10.2. MBTA Commuter-Rail Map. *Source:* MBTA.

the private sector enthusiastically embraced TOD.

Boston’s TOD Toolbox

Boston does not so much plan for TOD as it does find ways to maintain its traditional urban fabric, a fabric that has been transit oriented from the beginning, having been built for the most part around trolley and streetcar lines. Almost all of Boston proper is within ¼ mile of one or more transit stations. Bostonians are used to this and expect the city to maintain this status quo.

Since the traditional neighborhood appeals to the entire Boston political spectrum, it has been in Boston’s political leaders’ interest to both sustain and expand it. These neighborhoods are characterized by a pedestrian orientation;

an intertwining of business, retail, and residential buildings at high densities; and close access to public transportation. Thus, instead of pursuing grand TOD schemes, Boston’s planners use small, subtle tools to make sure the system continues to function in a transit-oriented manner.

Today, Boston-style TOD is a proven commodity that developers and financiers are eager to deliver, and importantly for the city, an idea that does not have to be sweetened with lots of public money to convince developers and banks to deliver. Boston’s modus operandi is generally to encourage TOD through zoning and other types of regulations and then sit back and let the market deliver the product.⁵ In addition, since Boston’s core is highly accessible by transit, and most of the downtown’s

EPA Parking Freeze

The 1972 Clean Air Act had a profound and lasting effect on Boston's recent development. In the early 1970s, city leaders negotiated two agreements with the EPA to mitigate air pollution in the Boston area. This resulted in the formation of the Boston Air Pollution Control Commission, which was put in charge of implementing the agreement. The most noteworthy part of the agreement was that Boston was allowed to freeze its parking requirements at 1973 levels plus 10%. This cap is strictly enforced and includes all general public parking in Boston proper. It allows the Boston Air Pollution Control Commission to grant exemptions in only two cases: for private off-street parking based on need (e.g., residential, hotel guest, and employee) and residential parking, if the developers can demonstrate that the general public will be excluded from these spaces. Between 1977 and 1997, the total number of parking spaces grew by only 9%, from approximately 51,000 to 59,100 spaces.⁶ The cost of parking in Boston as compared with other American cities reflects the impact. Boston, at an average of \$408 per month for parking, has the second most expensive parking in the nation (the most expensive is midtown New York). (The U.S. average is \$147 per month.) The freeze has at times been politically unpopular, and developers often complain publicly, but in private they concede that they enjoy the higher profitability of not having to include parking in their projects. The parking freeze is next to impossible to lift because of a legal requirement imposed by the EPA that requires the city to offset the environmental impact of eliminating the freeze. No one in Boston, as yet, has found a politically palatable alternative to the freeze.

The popularity of parking caps is the result of its beneficial results. Besides improving air quality, it has produced an unexpected benefit: increased development activity. By making parking optional, developers are able to lower the cost of urban projects and thus more easily obtain financing. The parking freeze has also allowed the city to grow without disrupting the urban fabric with more automobiles, parking garages, and surface lots. Today, the city's narrow pedestrian-oriented streets are teeming with life.

After Boston enacted the parking freeze in 1973, Portland, Oregon, and Los Angeles sought to follow suit. However, Congress stepped in and passed legislation forbidding the EPA from reaching parking freeze agreements with cities. Without the option of reaching agreements with the EPA, the ball bounced back into the cities' courts. From the congressional action forward, cities have had to affirmatively vote to adopt parking freezes, which a number of close-in cities around Boston did, most notably Cambridge.

Former Massachusetts Transportation Secretary Fred Salvucci asserts that no public policy has had such a dramatic effect on Boston's development as the parking freeze of 1973.⁷ The parking freeze allowed Boston to shift its focus to mass transit. The freeze has also helped Boston to become one of the largest metropolitan areas that is in compliance with federal clean air standards. As importantly, the freeze contributed to Boston's human-scale ambience, producing handsome profits for developers in the process.

real-estate market is red-hot, most development occurring in central Boston is both transit oriented and lucrative, eliminating the need for subsidies. While Boston's legacy of TOD is in no danger today, it was once threatened by new highways planned for the city. Boston was saved by forward-looking state and city officials who recognized that their transit systems could not survive in a system where the federal government almost exclusively funded roads. A plan was devised to siphon funds from Massachusetts's federal highway funds and use them instead for transit improvements. Moreover, unique among cities, Boston focused its transit dollars on Boston's core rather than on suburban commuter lines. Boston was thus able to maintain high-quality transit services and a semblance of a dense urban grid.

The city of Boston and in particular the city's redevelopment authority, has over the years sought to strengthen transit's presence by using regulations, incentives, and other tools. For example, the city placed a cap on downtown parking; requires active ground-floor uses; promotes pedestrian-friendly streetscapes; and with large projects, requires contributions for infrastructure improvements. The city also encourages a jobs/housing balance around transit stations, which helps to maintain long-term economic health in all areas of the city and ensure extensive use of transit services both day and night.⁸

Of the tools the city of Boston possesses, one of the most commonly used has been Article 80 of the city's zoning code, which concerns the review and approval of new developments. As part of Article 80, according to John Dalzell,

Senior Planner with the Boston Redevelopment Agency, the city requires projects of 50,000 square feet and or more to prepare transportation mitigation plans as a precondition to approval.⁹ The city has encouraged large developments to make use of existing transit facilities and, if possible, to help with renovating or redesigning stations to better align entrances to the development. Other mitigation measures used to gain approvals include subsidizing employees' MBTA passes, making provisions for shuttle buses to outlying transit stations, and provision of storage facilities for bicycles.¹⁰

The Longwood Medical Area is an example where Boston mitigations were required. The Longwood Area's institutions, which include Harvard Medical School and other major teaching hospitals, coordinate the provision of shuttle bus and other multi-modal options in the Longwood Area, which is slightly isolated from surrounding mass transit services. As a result, very few workers today drive to the Longwood Medical Area.¹¹

A commonly used non-regulatory tool in Boston has been focusing economic development dollars on and adding police officers to areas around transit stations that are perceived to be underserved and dangerous. For some areas, this has prodded developers to build and rehabilitate residential buildings around stations.

The final piece of Boston's TOD toolbox is tax foreclosure. Boston consolidates and markets foreclosed properties aggressively to promote TOD. Since tax foreclosure is the main source of land that comes to the city, it offers the best

chance for promoting TOD in underdeveloped communities. Generally, foreclosed properties are abandoned or, if active, need improvements and safety repairs. Depending on the state of a building, the city performs the necessary work, including safety repairs, environmental remediation, or demolition of the building. Although the city is required to seek payment of back taxes and fees, which can include the cost of any improvements, usually a developer who purchases a property ends up with a subsidized parcel.¹²

Two other areas where the market needs help with city subsidies are affordable housing and elderly housing. Affordable housing is usually done on a small scale in conjunction with neighborhood community development corporations (CDCs). An example is Phase II of Back of the Hill, just completed, which included 50 units of infill affordable home ownership and rental housing within $\frac{1}{4}$ mile of the Green E Line.¹³ The other problem area, elderly housing, has become synonymous in Boston with what is called “overhousing.” Overhousing is the result of an overabundance of multifamily buildings in a neighborhood that once contained 8 to 10 people in a family, but now only houses 1 or 2 elderly residents. Often, the elderly owners of these buildings do not rent the extra rooms or floors for fear of problem tenants. As a result, elderly Bostonians are increasingly isolated socially from the rest of the community, and at the same time, their neighborhoods and transit stations suffer from the resulting de-densification.¹⁴ The city is addressing the problem by building senior housing in these types of communities. Once seniors are able to move into senior communities, under-

utilized multifamily housing can be more fully occupied.

Finally, the discussion thus far has been on tools used to promote TOD. However, Boston is also seeking to expand its transit system, even in bad economic times, to ensure the city has the infrastructure necessary to handle a growing city population. Boston has focused its future transportation plans on linking the “spokes” of the city’s subway system that radiate from downtown to make commuting faster and more efficient for its residents. As part of this plan, the most significant near-term new transportation investment in Boston is the opening of four new stations on what will be called the Fairmont Line. These stations are to be built along an existing commuter line and will “unlock” southeastern Boston, which has remained relatively isolated because of its lack of a good connection with the remainder of the city’s job and retail market.¹⁵ Since the area’s real estate is not as coveted as elsewhere in the city, the development around the Fairmont Line transit stations will initially be subsidized.

MBTA, Joint Development, and TOD

The conventional definitions of TOD and joint development do not fit easily in Boston, since the concepts have largely been conceived for the 20th-century suburban city prevalent in most of the country. For Boston, TOD was once the only type of development. It could be argued that almost the entire Boston core is TOD in that most longstanding buildings and neighborhoods were built around old trolley and interurban lines. Likewise, joint development as it is commonly understood—the selling or

leasing of transit-agency land to a developer in return for a stake in the development project—is not common in Boston, though much of the city’s development is physically oriented to transit stations.

While Boston owes much of its TOD pedigree to its age, history also explains why joint development has not occurred very frequently. Old transit systems like Boston’s never acquired much land around stations because they pre-dated parking lots.

This does not mean the MBTA has simply stood by and watched over the years, however. The agency has sought to maximize its influence on development. One step it took was to contract with a private real-estate service company to identify opportunity areas for joint development. Since 1996, the 23 stations where joint development could occur have been identified, with 3 or 4 of them considered to be good possibilities.¹⁶

The MBTA has been most proactive in forming equity partnerships (e.g., the agency leases or sells its land near a station to a developer and takes an equity interest in the development). In Boston, this occurs on a smaller scale than it does in the agreements typically found at younger transit agencies. For example, at the Ashmont Square Station, the MBTA entered into an agreement with a developer to build 150 units of housing on agency land. Proceeds from the development went toward construction of a new parking structure with 5,000 spaces near the station.¹⁷

Most real-estate activity at MBTA stations is not joint development, but rather is property management.

Frequently, the MBTA will allow developers to use MBTA property to enhance pedestrian connections (e.g., to a retail shop) while also advancing MBTA’s goal of increasing ridership. Unlike similar arrangements in the station-connection program in Washington, D.C., there is no monetary exchange between the private and public sectors. In Cambridge, the city and the MBTA negotiated with the developer of CambridgeSide Galleria, an urban mall, to run shuttle buses every half hour from the two “T” stops at Kendall Square and Lechmere Square located nearby. Presently, nearly 50% of the shoppers at the CambridgeSide Galleria walk or use transit.

Another example of Boston-style joint development was the tripartite agreement among the MBTA, Massport, and the developer of the World Trade Center in South Boston to construct a new underground Silver Line BRT station at the World Trade Center complex. Each party brought something to the table that the other parties wanted. Massport owned the land, the developer owned the World Trade Center buildings, and the MBTA had the power to choose the location of the station. The essence of the agreement concerned the sharing of costs and responsibilities for the station among the three parties. Massport provided the infrastructure, the developer bore the cost of construction, and the MBTA delivered the rail service. Both Massport and the developer were able to add value to their investments by vastly increasing access to the building, and the MBTA was able to increase ridership while defraying a large portion of the cost of a new station.¹⁸

While the MBTA has been working on joint development independently, it has

also gotten a renewed commitment from the state of Massachusetts in the form of the Office of Commonwealth Development. Formed by the newly elected Governor, Milt Romney, the new office is headed by Douglas Foy, a TOD advocate. As part of its work, the Office of Commonwealth Development has formed a TOD task force that includes the Secretary of the Environment, the Secretaries of Transportation and Energy, and the MBTA's real-estate planner. The charge of the task force is to formulate ways to promote TOD in Massachusetts. The hope is that this unprecedented partnership will help Massachusetts secure federal funding for new rail starts.¹⁹

The Boston Economy and the Real-Estate Market

The major players in the Boston economy tend to sort themselves out by location. Financial-services, law, and accounting firms drive the downtown and Back Bay submarkets, whereas venture capitalists and technology firms are concentrated in Cambridge. The Route 128 corridor, dubbed the "High-Tech Corridor," is also home to healthcare, manufacturing, finance, retail, and general-business firms. The largest technology presence in the area is in the more distant suburban I-495 markets, focused on the beltway corridor.²⁰ While it is diversified in terms of industry mix, Boston's economy remains volatile. The area has captured a large share of venture capital funds in recent years, and it continues to attract cutting-edge technology ventures, both of which are highly susceptible to market swings. By early 2003, a deteriorating market for office space pushed vacancy rates to over 17%.

Easy Transit Connections, Tough Development Sites

Most of Boston's historic buildings are located on or near one of MTBA's four subway lines. Early developers routinely sought out sites served by transit. The historical blending of buildings and public transportation means that transit is imprinted in the community's DNA, as represented by quaint transit-served venues like Fenway and the Boston Pops. To Bostonians, transit is an inseparable part of the urban landscape. Boston developer Richard Reynolds, principal of Spaulding & Slye Colliers, volunteered, "We never have to think about it." Pam McKinney, principal of the development consulting firm, Byrne McKinney & Associates, Inc., says that in Boston, "Transit is bred in the bone." In the 1990s, Boston encouraged development around the North and South Station areas, major commuter-rail destinations with good connections to the subway and buses. Table 10.1 lists some of the TOD projects under construction or completed. Many are building rehabilitations and infill projects. Boston's list of TODs will continue to expand as subway modernization programs and station-area enhancements like the North Station/Fleet Center take form (see Text Box 10.2).

Boston's historic neighborhoods and quaint buildings enjoy strong appeal, and rents remain high. One challenge has been how to serve the needs of a modern business or an upscale resident, accustomed to vastly larger spaces and a diversity of services, on a street grid and lot pattern more appropriate to a craftsman than a mutual fund manager. Copley Place and Prudential Center were pioneering 1960s solutions that broke the limits of small-scale properties but

Table 10.1. TOD Projects in Boston

Project	Size (sq. ft.)	Use(s)	Status
Back Bay Station	1,000,000	Luxury Condos, Hotel, Parking Garage, Retail	Under construction
Ruggles Station	300,000	Office Park	Completed in 1995
World Trade Center	1,300,000+	Hotel, Office Towers	Near completion
Fan Pier	3,000,000	Hotel, Multifamily Housing and Condos, Office, Museum, Parks	Fully Permitted
Northpoint	5,000,000	Office, Extensive Residential, Park	Planning stages
Millenium Center-Ritz Carlton	1,400,000	Mixed Use	Completed 2003
Alewife Brook	1,600,000	Office, Residential	Completed in 1988

involved huge public outlays to assemble the land needed for such large building scales. Boston’s “Big Dig” will provide numerous opportunities for large-lot transit-supportive redevelopment in years to come (see Text Box 10.3).

Revitalization: The Liberty Tree Building and the Combat Zone

Invoking the name of a revered icon of early Boston, the Liberty Tree building was erected in 1850 near a large elm tree that stood as a symbol of resistance to British rule during the Revolutionary War. The location was named the Combat Zone for the military personnel who had uniforms tailored there, but it later was notorious as the center of Boston’s adult entertainment district. By the early 1990s, the Liberty Tree building was vacant save for an adult bookstore; a concerted drive to turn the neighborhood around drew private interest in renovating the building.

Among the building’s assets is direct stairway access to the subway system;

however, building renovation required removing part of the subway entrance. A mezzanine was built on the fourth floor, adding 5% more space to the then 45,000 square feet within the building footprint. The exterior of the building was restored to a 19th-century façade (see Photo 10.2).²¹

The Liberty Tree building’s superior location above the subway station, its architectural beauty, and a tight office market in Boston offset the risk of being located in a less desirable part of the city. The building’s renovation proved to be the turning point for the Combat Zone. Governor Weld offered a state agency—the Registry of Motor Vehicles (RMV)—as a lead tenant for the refurbished building. With street life active from day workers and customers patronizing spin-off businesses like delis and retail shops, other buildings were soon targeted for renovation. Numerous renovations and conversions took place in the Combat Zone, including new office space, dormitories, retail space, and the massive Millennium Place mixed-use project.

North Station/Fleet Center

By the early 1990s, Boston Garden, the long-time, venerable home of the Boston Celtics and Boston Bruins, had become a victim of the financial realities of modern sports, which require luxury boxes, club seating, and expensive restaurants. Several sites were considered for a new arena to replace the Garden, but Governor Michael Dukakis strongly opposed any site not at North Station, the property adjacent to the old Boston Garden. When the legislature took up the matter, it agreed with Governor Dukakis by eliminating all other sites from consideration. The fate of the new Fleet Center, as it eventually came to be called, as a TOD, was thus sealed. The 1973 parking freeze, the dense neighborhood surroundings, and the excellent transit connections made any other type of development impractical and unfeasible. Moreover, the MBTA had already made plans to modernize the Green Line, which ran through North Station, as well as to build intermodal connections to the Orange Line and commuter-rail lines, ensuring the Fleet Center's patrons would be well served by modern and efficient transportation. As a consequence, no new arena parking was constructed, which is almost unheard of in the modern age of sports arenas.

Fleet Center was successfully built adjacent to the old Boston Garden, but the transit development potential of the area around the Fleet Center and the new North Station is still in the process of being fulfilled. After tough negotiations, the air rights above North Station and adjacent to the Fleet Center were leased to the city; responsibility for the transit improvements on the land was given to the MBTA. Recently, the contract for the construction of the new Green Line tunnel connection and demolition of the old Causeway Street Station was awarded, symbolizing the final step in infrastructure improvements for the city's North Station plans.



North Station/Fleet Center. The photo on the left shows the west side as seen from the outbound platform of the Green Line at North Station; the photo on the right shows the west entrance to North Station/Fleet Center. Lack of parking has not hindered the Fleet Center complex because of its dense pedestrian-oriented access points and superior transit location.

Text Box 10.2

North Station/Fleet Center



The Only Entrance to the Elevated Green Line at North Station (Left Photo). East Entrance to the North Station/Fleet Center (Right Photo).

A station-area plan for North Station/Fleet Center is nearing completion. Transit improvements and completion of the Big Dig will make the North Station TOD neighborhood the gateway for the northern approach to the Rose Kennedy Greenway development (being constructed over the Central Artery Tunnel). Although it was an arduous task to negotiate the title of the land between the city and state and involved extremely complex engineering and design to accommodate the new Fleet Center and modernized transit lines, the effort appears to have paid off. Real-estate insiders and local and state officials cite North Station as Boston's one "can't-miss" future TOD.²⁶

Text Box 10.2 (Continued)

Rejuvenation: Back Office Space with a Front Office Location

East-coast cities are filled with aging buildings plagued with safety and environmental problems. The State Street Bank Building, in the heart of Boston's financial district, is one of these buildings (see Photo 10.3). Built in the 1960s, its exterior design no longer in vogue, and years of deferred maintenance becoming increasingly evident, the building was about to slip into the less valuable Class B status. Moreover, the discovery of asbestos increased the cost of bringing the building back to its original status.

Undeterred, the building's owners began a \$98-million rehabilitation

project with the goal of retaining tenants being lost to newer Class A buildings. The first anchor tenant for the newly refurbished building was Fidelity Investments, one of Boston's thriving mutual fund companies, which had been looking for back office space in the suburbs. The building's quality refurbishment, central location, and good transit access gave it an edge over its suburban competitors.²²

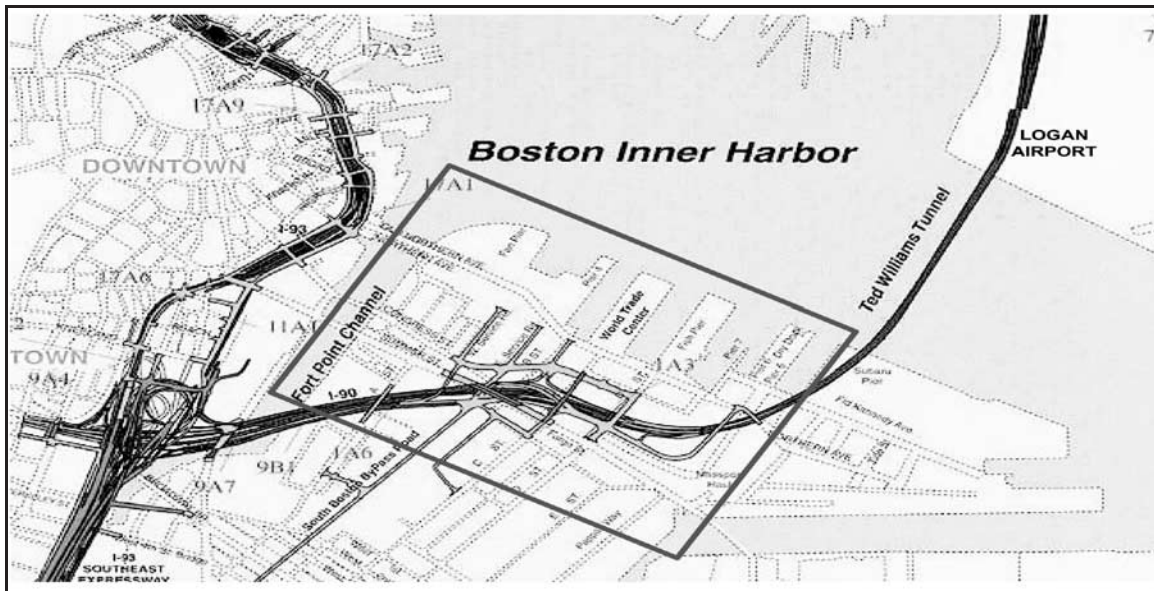
The State Street building's ability to retain and attract tenants at Class A rents and maintain high occupancy levels gave renovation a much needed boost in downtown Boston. Ease of transit access gave it a great advantage over newer suburban rivals dealing with

The Big Dig: New Land for TOD

Set for completion in 2005, the placement of Boston's Central Artery underground ranks as the largest, most expensive highway project in U.S. history. The project has been key to the redevelopment of the South Boston Waterfront as well as the reunification of the Financial District with the Downtown Waterfront. Because major rail corridors parallel the underground artery, once the Big Dig is completed, access between rail stops and major waterfront destinations will be materially enhanced.

When it was originally designed, the Central Artery was meant to handle only local traffic going in and out of Boston. An inner belt was to be built that would take automobiles around the city. Because the construction of the Central Artery displaced 20,000 residents and destroyed 1,000 residential and commercial buildings, strong community opposition led to the abandonment of the inner beltway project. As a result, the Central Artery has been handling both local and through traffic for over 40 years, producing an accident rate four times the national average.

The tunneling of the Central Artery will provide Boston with more than 30 acres of new open space, parks, and commercial development. All of this bodes favorably for a waterfront that is attractive to pedestrians and transit users.



Central Artery Construction Project (the "Big Dig") Source: Massachusetts Turnpike Authority.

Text Box 10.3



Photo 10.2. Liberty Tree Building with MBTA Stop. The Registry of Motor Vehicles (RMV) is located at street level. The RMV's success in breathing life back into the neighborhood led to the decision by the Commonwealth to locate the transportation building in Park Square downtown. Both were a part of the Commonwealth's strategy to pioneer locations of government agencies to stabilize conditions for the private market.

increased gridlock on Boston's freeways.

Main Street and TOD

Another important force in Boston's TOD renaissance has been its cadre of local nonprofit organizations that specialize in smaller neighborhood-scale development projects. These groups, however, rarely communicated or coordinated activities.

This changed when Boston became the first large U.S. city to enroll in the National Trust for Historic



Photo 10.3. Renovated State Street Bank Building. The refurbished building's comeback typified the spectacular performance of the Boston office market and real-estate market in general in the 1990s.

Preservation's Main Street Program. The Trust's program organized the city into 19 neighborhoods. The premise of the program was that in order to receive help, each neighborhood had to demonstrate that residents, merchants, and nonprofit institutions would work together. They also had to find a corporate "buddy" that would invest money and personnel in the program.

The program made immediate inroads. It won the National Trust's Great American Main Street Award. In four years, the program produced 313 new businesses, 2,326 (net) new jobs, 46,500 Main Street volunteer hours, 120 storefront improvements, and \$40 million in new commercial and residential construction (see Photo 10.4).²³ Before these improvements, most of the participating neighborhoods were considered crime ridden and thus



Photo 10.4. Main Street in Roslindale Village Neighborhood. The Main Street program focuses on improved storefront façades and improved streetscapes to enhance pedestrian access. The results have been a boon for participating businesses located near transit stops.

drew scant interest from the development community.

The Main Street Program has also become a key component of Boston's comprehensive TOD strategy. Most of the Boston Redevelopment Authority's TOD work centered on revitalizing retail centers in rail-served neighborhoods, a problem the Main Street Program has been particularly effective in solving. Often, lack of supermarkets and other major retail outlets are a primary deterrent to reinvestment. The Main Street Program's success at solving this retail vacuum in many places has resulted in vibrant TOD neighborhoods offering all the basic services, along with some specialty retail, within a short walking distance of transit stations. The Main Street Program has also helped Boston maintain a housing/jobs balance that is considered a crucial part of its long-term TOD strategy.²⁴

South Station: Development Around Commuter Rail

While much of Boston's TOD story involves its subway system in the urban

core and inner suburbs, the region also has an extensive commuter-rail system that links Boston with far-flung suburbs. Historically, there has been a disconnect between the two. While there has been unbridled enthusiasm for TOD in downtown Boston, support for TOD in the outer suburbs is lukewarm at best. This has led to an interest in concentrating development at major commuter-rail transfer stations. South Station is the most successful example of this effort to date.

Constructed in 1898 with large windows and a grand waiting room, South Station faced the wrecking ball in 1974. The Commonwealth intervened under then newly elected Governor Dukakis and halted demolition on the grounds of historical preservation.

Federal funds were later secured to restore the beautiful building as an intermodal facility hosting subway, commuter, and regional trains as well as Boston's spoke system of buses. The \$29-million renovation was completed in 1989, with the bus portion of the station completed in the mid-1990s. The

refurbished building was designed with a structural support to allow an office tower to be built when market demand permitted (see Photo 10.5).²⁵

Today, South Station is poised to realize its full TOD potential. Two developments, Russia Wharf and 500 Atlantic Avenue, are planned for parcels near South Station. Russia Wharf will be a mixed-use project with hotel, residential, and office buildings totaling over 1 million square feet and a 512-space parking structure built underneath. 500 Atlantic Avenue will contain a 420-room hotel and a 141-unit condominium for a total of 729,200 square feet, with a 375-space underground parking garage. In the course of two decades, the once rundown area around South Station has transformed into a bustling center of activity.

South Station, according to Al Raine, an assistant in the state office of planning under Governor Dukakis explained, happened only when the city and the state took a long-term perspective. In his estimation, it was vital that the city established a clear framework of public investments and regulations with plans that provided specific timelines. The plan for South Station also clearly shaped the densities and edges of the spaces around the station. All this was necessary to create the transparency that both developers and the public needed to see the vision through to fruition.²⁷

South Boston Waterfront: The Future Transit Neighborhood

The 1,000 acres of the South Boston Waterfront (or Seaport District) offer the city of Boston a chance to create the first new urban neighborhood oriented to transit in decades. The key to TOD in



Photo 10.5. South Station Main Entrance and Future Rendering. The Neoclassical building (top photo) that houses the station and the proposed Atlantic Avenue development (bottom photo) behind the station serve as anchors for the burgeoning commercial and office district targeted for suburban commuter traffic.

the Seaport District is the creation and utilization of MBTA's Silver Line, an underground dedicated busway linking South Boston Waterfront to Downtown Boston's South Station. The Silver Line is greater Boston's first BRT service.

The Seaport District was bustling with activity until the mid-1970s, when the marine and navy industries either closed or moved elsewhere. To make matters worse, the construction of the Central Artery formed a physical barrier between the Seaport and downtown Boston. The isolation of the area contributed to making the South Boston Waterfront a site of underutilized and underdeveloped land. For most people, the South Boston Waterfront has been a forgotten place.²⁸

There have been redevelopment efforts in the Seaport District in the past, but

none have been focused on transit opportunities. The TOD plan will be the largest and most comprehensive redevelopment effort to date for the waterfront. The aim is to create a lively, 24-hour, transit-oriented community (see Photo 10.6).²⁹

The success of transforming the Seaport into a TOD depends on the organization of transit in the neighborhood. For financial reasons, a decision was made to use BRT in place of extending the subway line to the South Boston Waterfront. The MBTA created the Silver Line, a dual-mode/dual-propulsion system. It operates as an underground electric bus around the Seaport, but becomes a low-emission bus traveling in bus-restricted lanes on city streets (see Photos 10.7 and 10.8). Two underground stations—Courthouse



Photo 10.6. Aerial View of South Boston Waterfront. Opportunities for cities to start over again on such a large tract of land so close to the central core are rare indeed. Boston has ambitious plans to make the Seaport District the crown jewel of its TOD renaissance by making the District a high-density urban village and tourist attraction served by a multimodal transit system.



Photo 10.7. Views of the World Trade Center Silver Line Transit Stop.

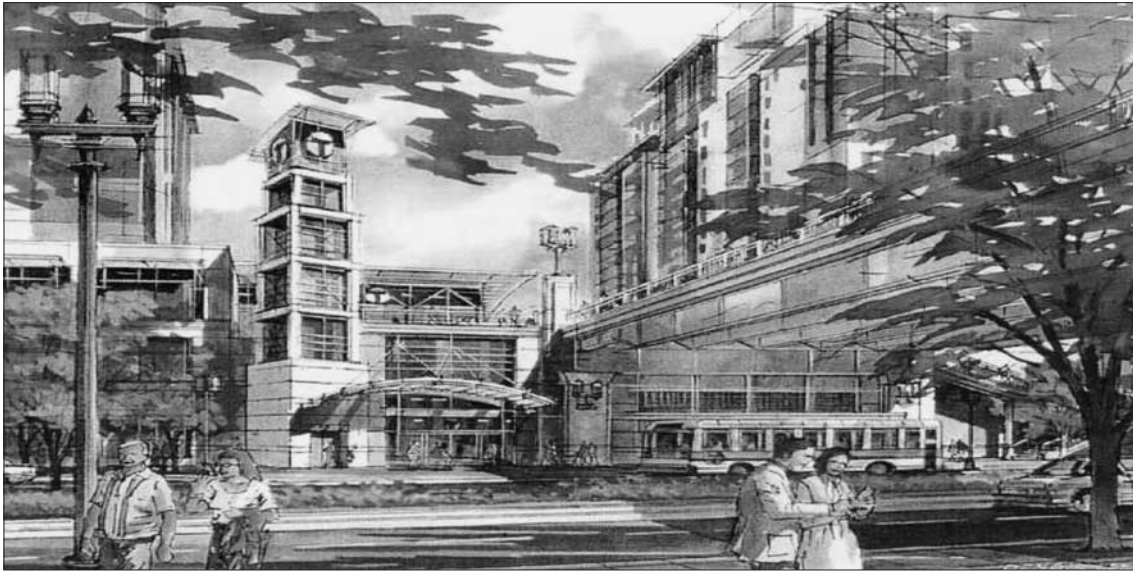
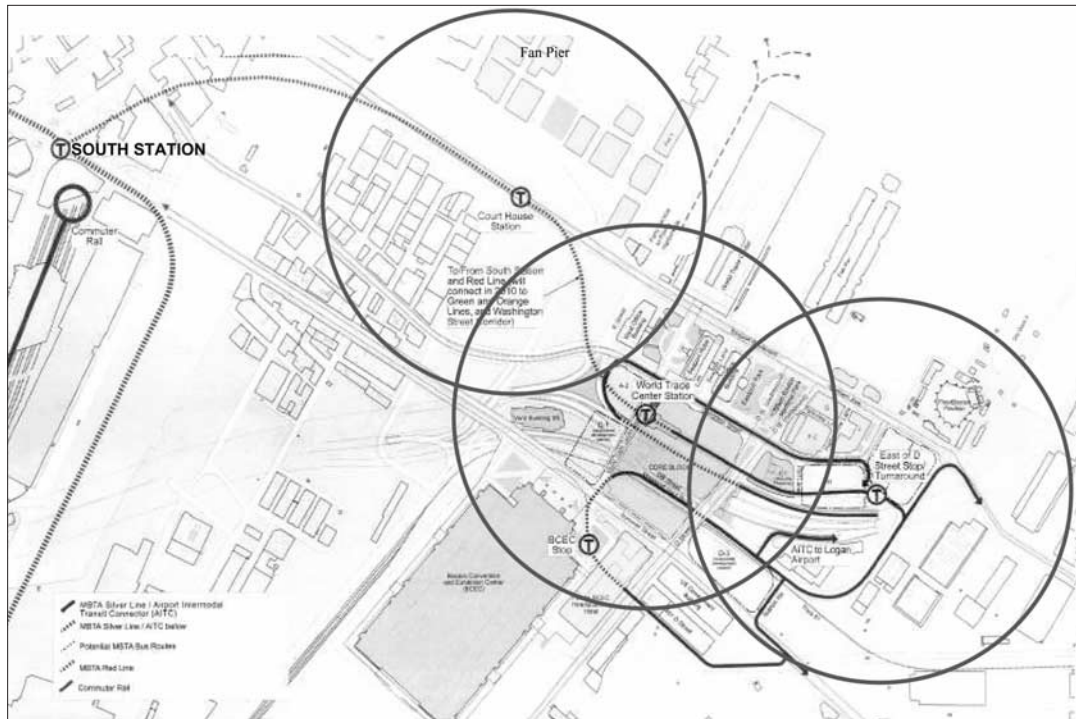


Photo 10.8. Depiction of the Future World Trade Center Transit Stop as a High-Density, Pedestrian-Oriented Urban Village.

and the World Trade Center—and two above-ground stations—D Street near the Fish Pier and the new convention center—are planned for the Seaport. Most development will be within an easy walk of these stations (see Map 10.3). The construction of a tunnel under the Fort Point Channel will connect the waterfront with South Station where Amtrak, commuter trains, and the subway can be accessed. Using the Ted Williams Tunnel, the Silver Line will also connect the Seaport District to Logan Airport.

With the MBTA goal of having 2 minutes between every Silver Line bus, the South Boston waterfront will be a 7-minute, one-seat ride from South Station in one direction and from Logan Airport in the other.³⁰

The Silver Line is unique among Boston's bus services. Real-time tracking of the buses using global positioning system technology has been introduced. The low-floor, 60-foot buses can accommodate up to 120 riders. MBTA is forecasting that 60,000



Map 10.3. Walkable ¼-Mile Radii Surrounding Silver Line Transit Stations in the Seaport District. The line will connect the isolated Seaport District with multimodal South Station. *Source: MASSPORT.*

passengers will use the Silver Line each workday.

The Seaport District is also slated for high-density residential development. Two sites are planned for over 1,100 owner-occupied units (see Photo 10.9). More housing will be needed, however, if the Seaport District is to become a true 24/7 neighborhood.

The commercial and open spaces of the Seaport District are moving along at a faster pace than residential space. The centerpiece of the District will be the Boston Convention & Exhibition Center (BCEC), with 550,000 square feet of contiguous exhibit space and an adjoining hotel. The site covers 60 acres and, if successful, will generate a high level of evening and weekend activity,

minimal private automobile traffic, and extensive pedestrian spillover to hotels, restaurants, and stores. One of the Silver Line’s underground stops is at the BCEC.

Boston’s commitment to making the Seaport District oriented to transit instead of adjacent to transit is evidenced by the parking limits imposed on the area. Before it has even been fully developed, the Seaport is already characterized as having “parking ratios typical of those found in mature, transit-intensive downtowns.”³¹ The Fan Pier site is offering only 2,280 off-street parking spaces, or 0.85 spaces per 1,000 square feet of development. Such low parking ratios ensure that automobiles do not have priority over transit in the Seaport. Not all TOD initiatives in

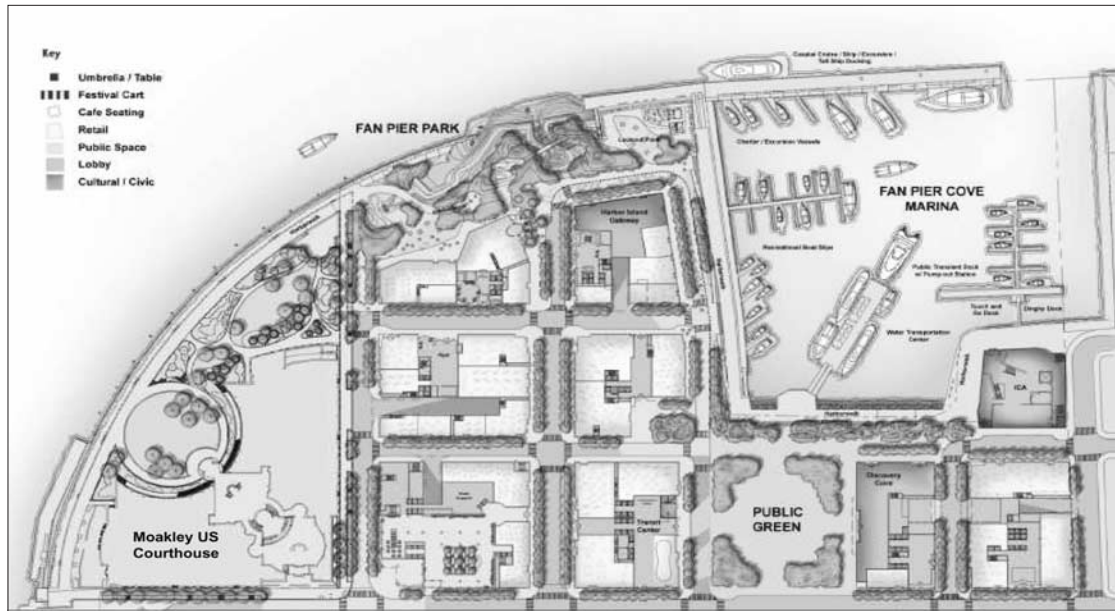


Photo 10.9. Residential Development Plans for the Fan Pier Section of the Seaport District.

Boston are nodal in form. Plans are under way to create a transit corridor that orbits the central city. See Text Box 10.4 on the planned Urban Ring of TOD.

Lessons Learned

Boston provides five important lessons for other jurisdictions' TOD development goals. First, a strong market makes many things work. Boston is such a desirable city for migrants and an attractive place for business that planning for transit helps reinforce a generally favorable climate. It also gives planners some leverage over development that might not occur in less desirable communities. Planning is important, but a strong market can help raise all boats in the harbor.

Second, strong public-sector leadership is needed to promote TOD, even in a strong market. The Boston case shows that even if a city was built around transit, and transit is ingrained in its culture, it cannot

rest on its TOD laurels. Public officials and private developers must work together to bring a more contemporary, market-sensitive version of TOD to the city and its surrounding communities. Backsliding is prevalent in America, and there is a strong motivation to do things that are easy rather than those that are right. In Boston's case, this has meant that when the private sector cannot lead, public officials must provide leadership on TOD to reassure lenders that their investments are secure.

The third lesson Boston provides is that a significant part of leadership is helping to make projects work financially. In Boston, this has involved creating the zoning; making infrastructure improvements (most notably in public transit); and providing predictability and transparency in the form of plans, guidelines, and permissible uses and densities. Also, enticements are needed to show developers that the aging

The Urban Ring

If the Seaport District is the future of TOD in the city of Boston, then the Urban Ring is the TOD future of the surrounding communities. The Urban Ring is a circumferential corridor, 15 miles in length and 1 mile wide, that encircles Boston's core, running through the cities of Boston, Chelsea, Everett, Somerville, Cambridge, and Brookline. Currently, passengers who want to travel between these communities must take the subway or bus into downtown Boston, switch transit lines, and head back out of the core in a different radial direction. The Urban Ring would eliminate this congestion by connecting the corridor communities via tangential BRT and light-rail routes. Riders would completely bypass the core of Boston. The ring would be the wheel to Boston's already built transit spokes and hub.

Building a circular transit corridor is not a new concept. In 1884, London completed the first circular transit line, the Circle Line, while the remainder of its transit lines were built in the spoke-and-hub design. The idea of Boston's Urban Ring was first proposed in the early 1970s as an alternative to the Inner Belt expressway. Funding for the project, however, was redirected at improving the existing transit system, and the idea was put on the backburner.

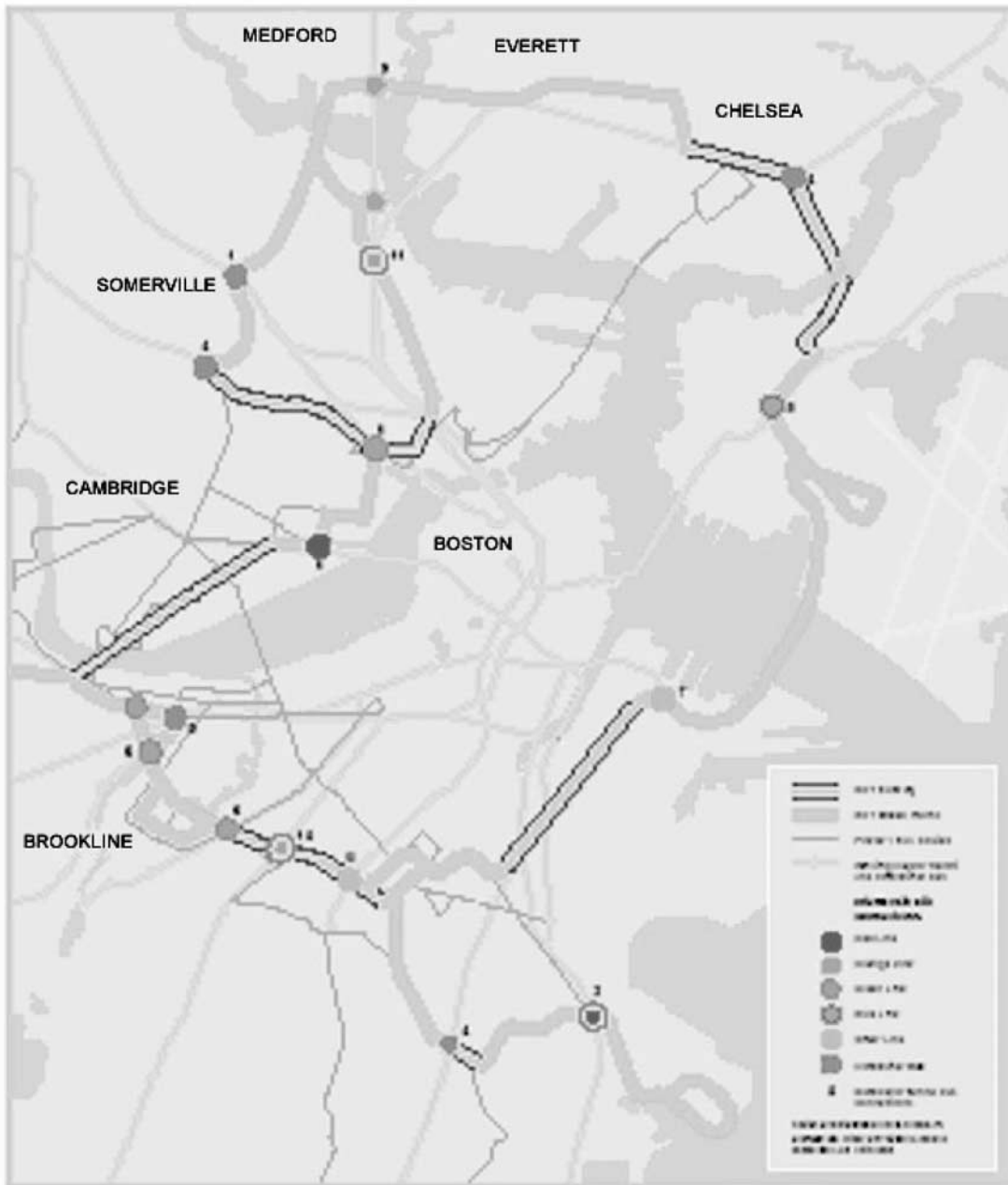
In the early 1990s, the Urban Ring concept was revived by David Lee, president of the Boston Society of Architects, and George Thrush, chairman of the Department of Architecture at Northeastern University. They emphasized the economic and community development activities that such a project would bring. In 1995, the leaders of the six cities impacted by the Urban Ring joined together to sign the Urban Ring Compact, which pledged their cooperation with the planning and development of the project.

In 2001, MBTA conducted a major investment study on the Urban Ring service, which advocated implementation and construction of the ring in three phases. Phase 1 is crosstown and express bus service; Phase 2 is adding BRT service, which will reach commuter-rail intermodal connections; and Phase 3 begins rail rapid transit service. The total project is expected to cost over \$2 billion.

Construction of the ring would bring new TOD opportunities to the area, which is growing faster than the region as a whole. Stephanie Pollack of the Constitution Law Foundation contends, "The Urban Ring alone shifts more people from cars to transit than every other project in the long-range transportation plan added together."

Text Box 10.4

The Urban Ring



Phase II of the Urban Ring Project. When it is completed, the Urban Ring will be the first circumferential transit corridor in the United States. Backers hope a ring of transit lines will spawn a ring of TODs that orbits central Boston. *Source: MBTA.*

Text Box 10.4 (Continued)

buildings or storefronts near transit stops are potential diamonds in the rough ready to be polished and redeveloped.

A fourth lesson is that transit has proven to be a lynchpin in a more sustainable form of urban regeneration. Boston and state officials took the bold step of using highway money for transit purposes. The vast improvements and expansion made to Boston's transit network in the 1970s and 1980s fueled the city's population resurgence in the 1990s. The 21% growth in transit ridership over the last decade exceeded that of any other major transit market in the country.

Last, a city must solicit broad-based support before committing to a TOD future. Public outcry stopped the Inner Belt project, while strong community support and involvement has made the Main Street Program an overwhelming success. Listening to the needs of the community will be key to creating a vibrant 24/7 Seaport District "new town/in-town."

Notes

- ¹ PriceWaterhouseCoopers, "Emerging Trends in Real Estate: 2003" (New York, 2003): 39.
- ² S. Warner, *Greater Boston: Adapting Regional Traditions to the Present* (Philadelphia: University of Pennsylvania Press, 2001): 156–160.
- ³ Frederick Salvucci, interview by Eric Nakajima, June 10, 2003.
- ⁴ Frederick Salvucci, interview by Eric Nakajima, June 10, 2003.
- ⁵ John Dalzell, interview by Robert Dunphy, October 8, 2003.
- ⁶ Boston Transportation Department, "Parking in Boston," in *Access Boston 2000–2010* (Boston: December 2001): 19–23.
- ⁷ Frederick Salvucci, interview by Eric Nakajima, June 10, 2003.
- ⁸ John Dalzell, interview, June 11, 2003.
- ⁹ John Dalzell, interview, June 11, 2003.
- ¹⁰ John Dalzell, interview, June 11, 2003.
- ¹¹ John Dalzell, interview, June 11, 2003.
- ¹² John Dalzell, interview, June 11, 2003.
- ¹³ John Dalzell, interview by Robert Dunphy, October 8, 2003.
- ¹⁴ John Dalzell, interview, June 11, 2003.
- ¹⁵ John Dalzell, interview, June 11, 2003.
- ¹⁶ William Constable, interview by Robert Dunphy, July 24, 2003.
- ¹⁷ William Constable, interview by Robert Dunphy, July 24, 2003.
- ¹⁸ Pamela McKinney, interview by Robert Dunphy, August 6, 2003.
- ¹⁹ Pamela McKinney, interview by Robert Dunphy, August 6, 2003.
- ²⁰ S. Coyne, "Boston: A Market Overview," *Urban Land*, Vol. 60, No. 9 (2001): 52–59, 118–122.
- ²¹ J. Albanese and S. Martinelli, "Restoration Renaissance: Preserving and Reusing Historic Buildings to Renew the Economic Life of Neighborhoods," *Urban Land*, Vol. 57, No. 12 (2003): 74–79, 96.
- ²² Urban Land Institute, *Project Reference File* (October–December 1995).
- ²³ A. Raine "Waterfront TOD," *Urban Land*, Vol. 62, No. 5 (2003): 79–83.
- ²⁴ John Dalzell, interview, June 11, 2003.
- ²⁵ Al Raine, interview, June 13, 2003.
- ²⁶ Al Raine, interview, June 13, 2003.
- ²⁷ Al Raine, interview, June 13, 2003.
- ²⁸ A. Raine, 2003, op. cit.
- ²⁹ Frederick Salvucci, interview by Eric Nakajima, June 10, 2003.

³⁰ MBTA SilverLine, “All AboutSilverLine.Com.” See <http://www.allaboutsilverline.com>; A. Raine, May 2003, op. cit., p. 80.

³¹ A. Raine, 2003, op. cit., pp. 81–83.

Photo Credits

Photo 10.1 J. Steinhart
Photo 10.2 E. Nakajima

Photo 10.3 P. Vanderwarker
Photo 10.4 B. Ward
Photo 10.5 (top) MBTA
Photo 10.5 (bottom) Hines Interests Limited Partnership
North Station Fleet Center Box: T. Glickman
Photo 10.6 ULI/Massport
Photo 10.7 (all) MBTA
Photo 10.8 ULI
Photo 10.9 Fan Pier Land Development Company

Chapter 11

New Jersey's Transit Villages: From Refurbished Rail Towns to Ferry-Oriented Development

TOD has a long history in the state of New Jersey, going back to turn-of-the-century streetcar suburbs and commuter-rail towns. Following decades of decline and disinvestment, today a movement is underway to re-energize neighborhoods surrounding longstanding train stations and to create vibrant and attractive transit-oriented communities. Spurred by powerful market forces, shifting demographics, and forward-looking state-led public policies, a new generation of transit villages is taking form in the ninth most populous state in the United States (and in terms of per capita incomes, the second wealthiest).

One finds a rich, interesting mix of TOD in the highly urbanized northeastern part of the state. Much of it has been in the form of redevelopment—from the refurbishment of century-old rail towns to the creation of attractive, market-rate housing on former industrial sites that today border modern ferry terminals. While TOD efforts are currently underway in other parts of the state, notably the Trenton-Camden corridor, most of what is on the ground is in the state's northeast quadrant. This case study thus focused on this part of the state.

No single factor accounts for the resurgence of TODs in New Jersey. Rather, a confluence of market dynamics, local political leadership, supportive state policy, and significant rail-transit service enhancements has sparked recent initiatives. These

influences are discussed in the next two sections.

New Jersey's Market for TOD

In 1964, William Alonso advanced the “trade-off” theory to explain residential location choice in the contemporary urban United States.¹ At its core, the theory holds that Americans decide where to live in reference to their workplaces by trading off housing and commuting costs. Those living near major job hubs (e.g., downtown) pay high rent premiums for the ability to get to work quickly; those residing far away from the center, on the other hand, endure high transportation costs (i.e., long commutes) but pay far less for housing. Residential rent gradients, Alonso postulated, taper with distance from CBDs and are matched by rising commuting cost curves. The model has the most relevance to a monocentric region with a dominant center, like the greater New York–Northeast New Jersey Metropolitan Area (at least compared with the rest of the United States).

Because of major rail enhancements and an affordable-housing crunch, Alonso's trade-off model is “alive and well” along the Manhattan–Northeast New Jersey axis. Manhattan has held the preeminent position on the urban hierarchy over the past several decades. As a command-and-control post in the global economy and an international center of culture,

arts, and entertainment, Manhattan's economic future remains bright. This is reflected in high residential rents. Today, a two-bedroom, 1,200-square-foot, unfurnished apartment in the average price range in midtown Manhattan goes for \$2,500 to \$3,000 per month. Manhattan workers pay a high premium in return for minimal commuting costs (both monetarily and in time investments). Alternatively, one can live across the Hudson River in a waterfront apartment in Hoboken, New Jersey, and pay \$1,800 to \$2,000 for the same unit. Ferry-oriented housing developments, such as Port Imperial, just north of Hoboken, have been built in the past few years on former industrial brownfields to serve this very market—namely, New York City workers who would prefer to pay less for housing (or get more for their money) and are willing to take a 10-minute ferry ride to and from Manhattan each workday. Go out farther to townships like South Orange, Rahway, and Rutherford—all within a 30-minute rail commute of Penn Station in midtown Manhattan—and one finds even better housing bargains. In neighborhoods surrounding recently refurbished traditional train stations in these places, the residential rent gradient falls to a typical range of \$800 to \$1,200 per month for similar housing. Thus, within a half hour commuted of midtown Manhattan, one finds a fairly differentiated housing-transportation marketplace, enabling households to trade off housing and commuting costs according to lifestyle preferences. With the help of good planning practice and supportive public policies, these unfolding market dynamics have given rise to rail- and ferry-oriented developments in a diversity of settings.

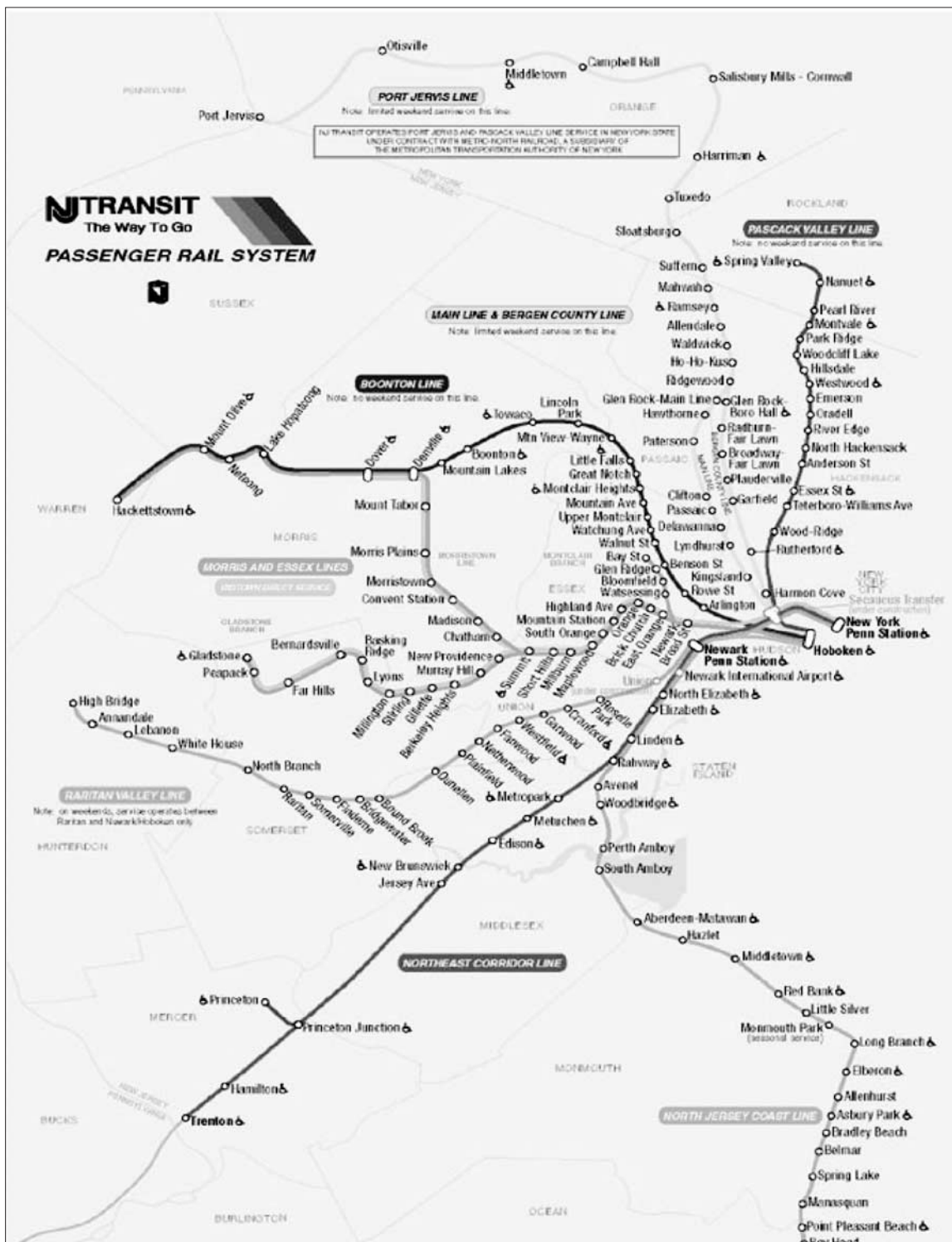
Other Factors Stimulating TOD

Market realities are not the only factors that have propelled transit village development in New Jersey recently. The following have also been important:

- **Rail service enhancements.** The state's transit authority, NJ TRANSIT, operates six major rail passenger services that provide radial connections to the concentration of jobs and services in the northeast part of the state (see Map 11.1). Four of the lines—Morris and Essex, Raritan Valley, Northeast Corridor, and New Jersey Coast—tie directly into New York's Penn Station.

Among the host of factors that have stimulated TOD activities in New Jersey, the most widely cited one is major rail service improvements: specifically, the introduction of direct, no-transfer services into midtown Manhattan; reduced headways; and refurbished train stations. These enhancements have worked to revitalize the town centers of traditional suburban communities by virtue of their superior access to New York City as well as the burgeoning waterfront district between Hoboken and Jersey City.

Developers openly acknowledge the importance of direct passenger services operated by NJ TRANSIT in pursuing TOD projects. In explaining why his company was investing \$160 million to redevelop a retail parcel next to a rail stop in a depressed part of Essex County, one developer recently confided to the *New York Times* that: "midtown direct train service is what drew us to



Map 11.1. NJ TRANSIT Rail Passenger Lines in Northern New Jersey.
Source: NJ TRANSIT.

the site.”² The *Times* article went on to say:

The coming of Manhattan Direct rail service has brightened up the downtowns in places like South Orange, where new rail stores have opened to cater to commuters and close-by residents, and in Morristown, where a development of 10 new town houses costing close to \$1 million each has all but sold out.³

To date, these enhancements have benefited towns west and southwest of Manhattan. The opening of the \$450-million rail transfer station in Secaucus will soon benefit rail commuters northwest of Manhattan (in the northeast corner of the state) and those on the Pascack Valley, Main, and Bergen County lines. The transfer facility will allow commuters to bypass Hoboken en route to New York Penn Station, significantly shortening their commutes.

It bears noting that the premium placed on frequent, direct rail services by developers is consistent with the national survey results reported in Chapter 2. In a healthy real-estate market with a pent-up demand for conveniently located housing, developers know they can make money building around rail stops. The most important thing the public sector can do, as shown by New Jersey’s experiences, is to provide frequent, convenient, reliable, and safe public transit services. This, as much as anything, will ensure a continued market demand for living and running a business near stations.

- ***Political leadership.*** In a number of small New Jersey towns, TOD has benefited from strong mayors who are firmly committed to revitalizing their traditional downtowns and who see transit stations as the focal points for these efforts. In New Jersey, the absence of term limits has given rise to strong mayors who have been in office for four or more terms. For some places, this has provided 10 to 15 years without abrupt shifts in policy direction, which is often required to mount successful downtown redevelopment campaigns. Moreover, a number of mayors championing transit village development run full-time businesses. As a result, they are often very entrepreneurial in their approach to TOD.

Mayors wield a lot of clout in real-estate development in New Jersey, a home rule state. Local leaders have nearly total control over zoning and land-use decisions. Many mayors in the northeastern part of the state see TOD in fiscal terms (i.e., an effective tool for downtown revitalization and economic development). In the minds of mayors, commercial and residential investments spurred by the presence of a rail stop translate into higher ratables and property-tax proceeds.

- ***State policies.*** In New Jersey, TOD is part of a larger smart-growth agenda spearheaded by Governor James McGreevey and his predecessor, former Governor Christine Todd Whitman. New Jersey has become a national leader in the smart-growth movement, using a mix of purse-string powers and regulation to curb sprawl and stimulate economic

growth. The state's Office of Smart Growth provides administrative and technical support for implementing the state land-use plan and directs state capital grants to local projects that embrace smart-growth principles.

New Jersey Future, a high-profile nonprofit advocacy group that is leading the fight for sustainable development, has produced a *Smart Growth Scorecard* to help communities rate new development proposals. Projects that are accessible by four or more transportation modes and that lie within a 5-minute walk of a rail stop receive high marks.

Two particularly important state policies that have helped to leverage TOD have been the "Transit Village Initiative" and progressive brownfield reclamation legislation. The 1999 Transit Village Initiative (described below) provides state grants and technical assistance to localities committed to transit-supportive development. And the 1998 Brownfields and Contaminated Site Remediation Act provides technical guidance and funding to municipalities for conducting cleanups of the more than 8,000 known contaminated sites that are dotted throughout the state. The Act is credited with providing greater clarity and certainty about the likely costs and timelines for remediating contaminated sites.⁴ The permitting and review process for brownfield redevelopment has also been streamlined.

Another state policy that has indirectly spurred TOD has been the

active support of farmland and open space preservation. Through the Garden State Farmland Preservation Fund, the state has purchased thousands of acres of farmland in an all-out campaign to curb sprawl and preserve natural habitats. This has constrained land supplies, however, and thus driven up housing prices. Land conservation has also prompted developers to focus on urban infill opportunities, including housing development near traditional train stations.

In New Jersey, smart-growth policies, like transit village initiatives and farmland protection, have been driven by economic development concerns every bit as much as conservation considerations. An affordable-housing crisis and continually worsening traffic snarls, officials fear, will prompt businesses to leave the state and choke off economic investment. (According to the Texas Transportation Institute, the New York–Northeast New Jersey metropolitan area ranks fifth nationally in travel time and congestion cost per peak road traveler.⁵) By locating mid-rise housing near train stations and major bus routes, New Jersey hopes to dramatically increase housing offerings while also staving off traffic congestion. Some 1.2 million new residents will be added to the state's existing 8.5 million total over the next 20 years. Locating housing around suburban transit hubs and directing job growth to cities is widely viewed as a cost-effective and environmentally sustainable strategy for accommodating this growth without burdening already

overloaded freeways and rail corridors.

The Transit Village Initiative

State interest in TOD gained momentum with NJ TRANSIT's 1994 release of a handbook on TOD, *Planning for Transit-Friendly Land Use*, chock full of illustrations and ideas on how to make communities more inviting to buses, trains, pedestrians, and cyclists. Introduced by then-Governor Whitman in 1999, the "Transit Village Initiative" embraced urban design and site planning ideals outlined in the handbook. Defining a transit village as "a municipality that is committed to redeveloping the area around its train station (typically ¼- to ½-mile radius) into a compact, mixed-use neighborhood with a strong residential component," the program awards funding for projects that contribute to these goals.

New Jersey's Transit Village Initiative gives priority access to state grants (e.g., for urban renewal and transportation improvements) and provides coordinated technical assistance from 10 different state agencies, with the NJDOT and NJ TRANSIT taking the leadership roles in coordinating efforts among agencies.⁶ Transit villages are supposed to get "bonus points" when it comes to receiving funds from the 10 agencies and related state and federal funding pools, such as NJDOT's Local Aid for Centers, Transportation Enhancement, and Bicycle and Pedestrian Projects programs. Local officials are somewhat guarded in their assessment of whether a transit village designation will translate into meaningful dollar figures. Although

the program started in 1999, 2002 was the first year money was allocated. According to one account,

1 million dollars of the nearly \$99 million federal . . . CMAQ funds New Jersey received in 2002 were dedicated as transit village monies, granted to eight designated transit villages. According to government sources, \$3 million in CMAQ funds have been allocated to the transit village program over the next 3 years.⁷

According to several mayors who were interviewed, a transit village designation helps in streamlining the state permitting process. If a developer encounters a problem in securing state permits, staff from appropriate state agencies will, and often do, help in overcoming it.

To become a transit village, a local community must demonstrate a firm commitment to transit village principles. (See Text Box 11.1.) First and foremost, station-area planning needs to be well underway, and some expression of private-sector interest needs to be secured.

To date, eight communities have been designated as transit villages: five in 1999 (Pleasantville, Rutherford, South Orange, Morristown, and South Amboy); one in 2001 (Riverside); and two more in 2002 (Rahway and Metuchen). Most of these communities were originally settled in the mid-1800s.

While New Jersey's Transit Village Initiative was well intended, the jury is still out on its potential effectiveness. One observer remarks:

New Jersey's Transit Village Scorecard

To enjoy priority access to state grants and receive technical assistance, local communities must demonstrate that they are committed to TOD. Specific criteria used to screen applicants and award a “transit village” status are

- ***Demonstrated land-use strategy.*** A master plan, zoning ordinance, or redevelopment plan must exist that embraces transit village principles.
- ***Available properties.*** Land must be available in proximity to transit facilities.
- ***Ready-to-go projects.*** There must be viable market interest and activities in the works.
- ***Station-area management.*** Economic development strategies and ancillary activities like streetscaping and traffic calming are desired.
- ***Architectural integrity.*** The historical significance of buildings should be preserved.
- ***Jobs, housing, and culture.*** Job creation, affordable housing, and cultural offerings should be promoted.

Text Box 11.1

So far, meager funding has kept the program from accomplishing much outside of a very few locations or from serving as an incentive strong enough to change the behavior of towns that are not already inclined to transit friendliness or station-area redevelopment.”⁸

Transit Villages in Traditional Rail Towns

The downtowns of most traditional railway towns in Northeast New Jersey have had similar fates. Over the past 30 years, the opening of indoor mega-malls has slowly but steadily chipped away at the economic vitality of once vibrant commercial districts. Main streets became boarded up save for a coffee shop here and a thrift store there. The combination of an affordable-housing crunch, worsening traffic congestion, and the desire among many for more traditional living environments, however, is beginning to change the fortunes of many rail-served business districts in Northeast New Jersey. Thanks to local leadership and state funding support, there is today a burgeoning market demand to live, work, shop, and do business in these once-moribund districts. The heritage stock of buildings, the small-town ambience, and the presence of rail stops with a 30- to 40-minute direct connection to midtown Manhattan has triggered this renaissance.

Rahway

The city of Rahway, 4 square miles in size, with 25,000 residents, is strategically located along NJ TRANSIT's Northeast Corridor (which shares tracks with Amtrak's Boston-Washington Northeast Corridor). With the 12th busiest NJ TRANSIT rail station and situated within a 35-minute train ride of New York's Penn Station, Rahway is on a rebound after decades of decline and disinvestment.

By all accounts, the perseverance of Rahway's mayor has been the catalyst to Rahway's transformation. A downtown

merchant who owns a shop directly across from the Rahway train station, Mayor Jim Kennedy has doggedly sought, over his 13 consecutive years in office, to reinvigorate the town center, beginning with the downtown rail station. In an address to New Jersey's Housing, Finance, and Mortgage agency, Mayor Kennedy remarked: "Our plan was designed around NJ TRANSIT's investment of \$18 million and a new train station; the station is a great asset that has brought us the ability to develop a unique central business district."⁹

Rahway's downtown plan calls for 1,400 housing units to be built within walking distance of the train depot. A mix of affordable, up-market, and luxury-rate units will be added. The mayor is forthright in noting who is being targeted for these new units—principally Manhattan workers who are priced out of Hoboken's increasingly expensive housing market. With typical leases fetching \$2,000 per month for two-bedroom Hoboken units overlooking the Hudson River, renters can save \$1,000 or more each month by living in comparable housing in Rahway. Several real-estate brokers who specialize in Hoboken's housing market were brought in to advise the mayor on how to market transit-based housing. Borrowing a chapter from William Alonso's "trade-off" theory, they urged the mayor to go after the "spillover" market—those who are willing to endure a longer commute in return for cheaper rents. Units are being built with a maximum of two bedrooms in order to attract a younger tenant clientele. To enliven the center so as to appeal to young professionals, an arts-restaurant-entertainment district is in the works. Such mixed uses complement and reinforce each other.

Residents are the eyes of the downtown district, providing a sense of security. Theater-goers add bustle during weekends and keep restaurants busy after hours. As all-day, all-week trip generators, these activities also provide a steady flow of transit riders.

In keeping with Scandinavian town-planning principles, a civic plaza fronts the Rahway train station (see Photo 11.1). Every Thursday the plaza becomes a farmer's market, and several times per month it supports a crafts fair. In 2002, the plaza was recognized by Downtown New Jersey as the best new use of public space in the state. Traffic-calming and streetscape improvements have been introduced to enhance the station area's pedestrian environment.

As a businessperson himself, Mayor Kennedy has aggressively pursued public-private partnerships. Using condemnation powers to assemble land and entering into equity agreements in lieu of collecting taxes, the mayor and his team have brought about remarkable changes among several strategically important parcels. A former dump site two blocks from the station, for instance, was recently replaced by 87 modern townhouses. The city advanced \$1.5 million for the project and waived property-tax payments for 10 years in return for 3% of the proceeds for real-estate sales. Another deal involved the city buying a boarded-up parcel across from the train station for \$250,000 and selling it to a developer for \$1,000. The developer in turn invested \$600,000 to overhaul the building, creating 4,000 square feet of ground-floor retail space with eight apartments above. The city receives a share of rent proceeds plus some \$15,000 annually in property-tax



Photo 11.1. Rahway Transit Village. Borrowing from Scandinavian town-planning principles, Rahway has made its recently refurbished train station the centerpiece of the community. The top photo shows a plaza fronting the station that occasionally hosts an open-air market, crafts fairs, and public celebrations. The lower left photo shows bicycle parking prominently situated at the station entrance. The lower right photo shows several nearby downtown streets have decorative lighting, bricked sidewalks, and traffic-calming chokers.

income. Many credit these partnerships to the mayor's "can-do" outlook and business acumen.

Rahway is also notable for pushing the envelope on parking for parcels near the

train station. A zoning overlay was created that creates a maximum parking ratio of 1.2 on-site spaces per unit—a remarkably low benchmark for a small town—for residential projects within three blocks of the train station.

A five-story parking structure is also being built next to the station in hopes of redeveloping the existing surface lot. Some observers, however, feel that Rahway's desire to attract park-and-riders could backfire by making the downtown less transit- and pedestrian-friendly than it otherwise would be. (See Text Box 11.2.) This view, however, is not shared by Rahway's mayor and other civic leaders, who feel ample convenient parking is necessary in the near term to attract sufficient ridership to revitalize the core. Another progressive policy has been the introduction of a free shuttle bus that feeds into the train station, supported by a grant from NJ TRANSIT.

South Orange

Situated along the Morris and Essex lines with direct service to Manhattan, the city of South Orange's train station recently underwent a dramatic facelift. Station facilities were modernized, and the structure itself was upgraded. Six formerly unproductive storefronts under the station viaduct were also renovated into commuter-oriented retail shops and sit-down restaurants (see Photo 11.2). Extensive streetscaping on and around the station, decorative lighting, and urban art have created a pleasant pedestrian milieu. A traffic roundabout and an entrance plaza have also helped vehicle circulation around the station.

South Orange, home to Seton Hall University, enjoys a small-town charm, a significant factor in the decision by several developers to build moderately dense housing near the train station. More important, however, was the introduction of direct passenger rail services to New York's Penn Station in

1996, which lowered the travel time from South Orange to only a half hour. A year earlier, the same trip took 50 minutes via a transfer at Hoboken.

Over the past 3 years, 340 apartment units have been added within ¼ mile of South Orange's refurbished train station. The flagship project is called Gaslight Common—named for the town's retro street lights. A national firm, LCOR, Inc., built the 200-unit, four-story project to take advantage of the developable site's close proximity to the station. The project has just one parking space per unit—almost unheard of in suburbia—and a density of 38 units per acre. In commenting on the natural market advantages of projects like Gaslight Common, an LCOR, Inc., vice-president said: "Transit-oriented development will be to this century what suburban development was to the past; people do not want to drive to the city anymore; they would rather take the train."¹⁰ In emphasizing the orientation of rail-based housing to childless households, a *New York Times* article recently noted that just three school-age children live in Gaslight Common's 200 apartments.¹¹

As in Rahway, South Orange's Mayor, Bill Calabrese, has been the lightning rod for the dramatic revitalization that is presently underway in downtown South Orange. When the plan was announced in the early 1990s to bring direct train service to Manhattan, Mayor Calabrese saw an unprecedented opportunity to turn around the slowly declining downtown. A redevelopment plan was prepared that called for bringing full-time residents to the downtown. Rail-based housing would be complemented by various urban design improvements and public amenities.

Rationalizing Parking Policies in Traditional Rail Towns

In the heated competition for shoppers, downtown merchants in traditional rail towns understandably want as much free and convenient parking as suburban malls. Generous parking supplies can also translate into park-and-riders who hang around and shop when they exit train stations in the afternoon. Parking, however, can also strongly influence the character of a district, making it seem not particularly pedestrian friendly or transit oriented. Below are excerpts from a commentary on Rahway's downtown parking policy and the larger dilemma facing New Jersey, published by the Tri-State Transportation Campaign, an advocacy organization (each passage is an excerpt).

“Part of the criteria to become a transit village is to ‘reduce parking requirements and encourage shared parking.’ One way to do that is to rezone for more residential density and mixed uses around the train station.”

“In New Jersey, however, the urge to build more parking is strong, and counterproductive. For instance, Rahway is also building a five-story parking deck right across the street from the station. Rahway has the right idea—the new parking lot will liberate downtown land currently used for parking to be redeveloped for other uses—but why not reduce the number of new parking spaces and make other transportation options more attractive to commuters? It's unclear whether other alternatives were thoroughly explored—like jitneys, car pool programs, bike lanes and parking, or increased feeder bus service.”

“The Rahway parking deck is just the beginning of New Jersey DOT's enhanced investment in new parking spaces. In late 2002, the DOT announced its plan to create 20,000 parking spaces near bus and train stations; that was enshrined in the executive order the governor issued creating the blue ribbon commission to study ways to enhance revenue for transport capital projects. A whopping \$200 million of New Jersey's long term capital budget is scheduled to be used for designing and building parking spaces. If the state held stock in parking firms that paid dividends, they might at least reap some benefit from this partnership. But spending precious capital dollars for the storage of vehicles on valuable land that could be put to economically productive uses is a waste of taxpayer money.”

“In 2003, \$13 million of New Jersey Transit's capital fund (thirteen times the entire annual allocation for transit villages) is designated for the design and construction of parking spaces. 840 spaces are to be constructed and 3,300 more designed by 2004.”

“Though the McGreevey Administration continues to hail added parking spaces as part of its smart growth initiative to bring new riders to train and bus stations, NJ TRANSIT research has found that increasing the number of parking spaces does not bring a commensurate number of new riders. The research revealed that more often these same riders were existing passengers who previously got to the train station another way, like walking, biking, carpooling, being dropped off or taking a bus or jitney. The new parking spaces just encouraged existing riders to drive, rather than get to the station in a smarter, more efficient manner.”

“Increased parking around train stations also increases peak hour congestion and pollution on local streets, which runs counter to transit village ideals.”

“Gov. McGreevey's agencies have to raise the bar for smart growth well beyond building more parking at train stations.”

Source: Tri-State Transportation Campaign, “Parking Investment Bad Sign for NJ TRANSIT Villages,” *Mobilizing the Region*, Issue 406 (March 10, 2003).

Text Box 11.2



Photo 11.2. South Orange’s Station Viaduct Stores. In 1995, café space was built in front of the station’s viaduct stores. Street trees, landscaping, decorative lighting, intersection bulb-outs, and diagonal parking have created a pleasant human-scale environment immediately adjacent to the station.

One of the first steps was to calm traffic and enhance pedestrian safety. With state aid, a former four-lane state highway piercing the downtown and directly serving the train station was narrowed to three lanes, sidewalks were widened, zebra-crossings and traffic signals were added, and intersections were bulbed-out to slow vehicular speeds. These public improvements in turn spurred private investment in new and old businesses. Today, South Orange has one of the most successful Main Street programs in the state.

South Orange is also pursuing the “ACE” model of downtown

redevelopment, emphasizing Arts, Culture, and Entertainment uses. A soon-to-be-completed theater-arts complex will share parking with the adjacent train station—a natural arrangement given that the parking demands for these uses are at opposite hours of the day and week. Historic preservation is also vital to downtown redevelopment; for example, a historic firehouse near the train station was rebuilt rather than being torn down and replaced by a modern facility.

As in other parts of the state, city government has facilitated redevelopment in South Orange by using condemnation

to assemble and hand over land parcels to developers. Low-interest loans secured for redevelopment sites have also been passed on to developers to entice private investment.

Metuchen

In 2003, the village of Metuchen, situated some 40 minutes from Manhattan on the Northeast Corridor, received \$600,000 in Transit Village Initiative grant funds. Money is going toward pedestrian walkways, bike racks, and traffic calming near the commuter rail station. Although there are already 75 spaces for bicycles at the station, demand has outstripped supply, with “bikes tied up all over the place,” according to the town’s mayor, Ed O’Brien.¹² For the past 20 years, the mayor has spearheaded a campaign to transform Metuchen’s downtown into a vibrant mixed-use center, taking advantage of the station. State funds, the mayor believes, are helping to seed this effort.

Morristown

With state Transit Village Initiative assistance, the city of Morristown is presently in the midst of “adaptively reusing” its 300-space surface parking lot. Situated next to the train station, the lot is being converted to 228 rental apartments, 8,000 square feet of retail space, and a three-level parking deck for 700 cars. Of the 700 total, 274 parking spaces will go to apartment units, coming in at 1.2 spaces per unit. The remaining 426 spaces will be for transit users. Both rental and for-sale housing will be built, targeted at professionals with jobs in Manhattan and the I-287 corridor.

In a recent interview in *On Common Ground*, a publication of the National Association of Realtors, a Morristown agent told this story about the seemingly insatiable demand for living in small rail-served towns like Morristown:

One of my clients absolutely would not sign a contract with me until he took a ride into Penn Station . . . I told him, ‘Don’t worry, it’s 51 minutes’ . . . ‘It better be,’ he said. ‘If it’s 52 minutes, I’m not going to buy it.’ It turns out the buyer was only kidding. He said, ‘It was 72 minutes, but there was a delay along the way. Where do I sign the contract?’¹³

Rutherford

The borough of Rutherford is situated on the Bergen County passenger rail line. Presently, it takes around 40 minutes to reach New York’s Penn Station via the Hoboken terminal and connecting Port Authority Trans Hudson (PATH) train or ferry services. When the Secaucus transfer facility opens, average travel times to midtown Manhattan are expected to fall to 25 minutes.

These dramatic travel time savings have been noticed by real-estate developers. After several decades of dormancy, construction cranes are once again active in downtown Rutherford. A two-story bank office was recently built catercorner to Rutherford’s train station. A two-acre mixed-use development (under construction) will add 48 rental housing units, a medical office facility, ground-floor retail, and a child-care center to the station area



Photo 11.3. Rutherford’s Transformation. A multi-story mixed-use project rises upwards across from Rutherford’s traditional train station. In recent years, NJ TRANSIT has invested over \$2 million in station roof and façade restorations as well as in improvements in the platform to make it compatible with the Americans with Disabilities Act. Presently, 35% of passengers reach the station by foot. Through various streetscape enhancements and traffic calming, borough planners hope to increase this share.

(see Photo 11.3). The developer received density bonuses in exchange for providing parking.

Rutherford’s emerging transit village is a prime example of interagency cooperation. Through a planning assistance program called “Transit Friendly Communities for New Jersey,” NJ TRANSIT hired consultants to work with the municipality to prepare a market-realistic land-use program, design parking deck and pedestrian improvements, and provide traffic engineering assistance for intersection and roundabout designs. With grant assistance from the state Transit Village Initiative, the borough has recently

made various streetscape and traffic-calming improvements, hoping to strengthen pedestrian connections between the traditional train station and downtown district.

Ferry-Oriented Development

U.S. de-industrialization has left land holdings that were once thriving businesses and industrial centers. Thanks to the state’s progressive brownfield remediation laws and smart-growth policies, many former industrial sites along New Jersey’s Hudson River waterfront are being dramatically transformed into viable communities. Mid- and high-rise residential towers,

nestled around ferry ports, have sprung up over the past decade in what previously were depressed communities like Hoboken, Jersey City, and Bayonne (see Photo 11.4).

One of the best examples of a successful ferry-oriented development is Port Imperial, a mixed-use, master-planned waterfront project situated 2 miles across the Hudson River from midtown Manhattan. With unparalleled vistas of New York City's towering skyline, the 95-acre site features 1,900 townhomes, mid-rise apartments, and condominiums and 100,000 square feet of specialty retail and restaurants (see Photo 11.5). At build out, these amounts will more than double. An estimated 70% of Port Imperial

residents take some form of public transit to work each day: most take New York Waterway ferries, with others taking nearby PATH commuter rail and Hudson-Bergen light-rail transit. Port Imperial is a classic example of residential self-selection: those with a lifestyle preference to live in a pedestrian-friendly urban setting and take transit to work choose residences near major terminuses—in this case, ferry ports. High ridership rates are a direct outcome of this self-selection. As long as a supportive public policy environment exists, as has been the case in New Jersey, the market will create the kinds of products that will allow workers to sort themselves into neighborhoods that are well served by public transit.



Photo 11.4. Ferry-Oriented Housing Development on Former Industrial Sites in Hoboken. With rents that are half or less of what tenants pay in midtown Manhattan, stunning vistas, and a 10-minute ferry ride to the city, Hoboken's apartment/condo market is red hot.

Photo 11.5. Port Imperial. As viewed from a ferry shuttle, the master-planned, mixed-use project—with a range of housing products targeted to a professional clientele—enjoys nearly 1 mile of Hudson River frontage.

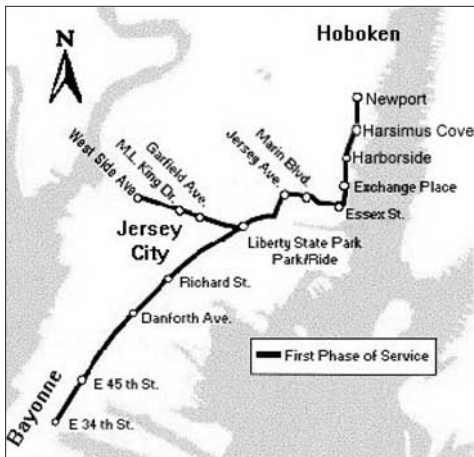


Re-urbanization in Jersey City

Not all rail-oriented development in the state has been predominately residential. In Jersey City, the state's second largest municipality (with a population of 228,000 in 2000), there has been a recent boom in white-collar office and commercial development. Back offices of Manhattan headquarters have been attracted to Jersey City because of the direct line of sight to New York as well as direct PATH and ferry connections. Most of the new development has been along the 15-mile Hudson-Bergen light-rail system (see Map 11.2). Light rail has served to channel growth along Jersey City's burgeoning waterfront, linking several dozen recently built mid- and high-rise office, retail, and hotel towers (see Photo 11.6).¹⁴



Photo 11.6. New Office Towers at the Essex Street Light-Rail Station in Downtown Jersey City.



Map 11.2. Hudson-Bergen Light-Rail Line. The system connects residential Bayonne and western Jersey City with Jersey City's Exchange Place and Newport Center as well as Hoboken Terminal—business and shopping centers with easy connections to New York City via PATH and New York Waterway ferries. *Source:* NJ TRANSIT.

Since the opening of the 15-mile Hudson-Bergen light-rail line between Hoboken and Bayonne, a flurry of building activity has occurred directly adjacent to the tracks: 690 mid- to high-rise apartment and condominium units, 3.95 million square feet of office space, two major hotels with 415 units, and around 100,000 square feet of street-level retail (see Photo 11.7).¹⁵ Projects abutting the tracks that are under construction or that have received development permits will add another 1,825 residential units, 4.42 million square feet of office space, 414 hotel rooms, and 320,000 square feet of retail. Within the 1.5-square-mile downtown Jersey City development district, the 22 built or soon-to-be-built parcels adjacent to the light-rail tracks



Photo 11.7. Residential and Hotel Towers at the Metro Plaza/Harsimus Cove Station in Downtown Jersey City.

make up the majority of the 11.8 million square feet of commercial space built downtown over the past 7 years and over 40% of the housing-unit additions (see Figure 11.1). And within two city blocks (or 750 feet) of the light-rail tracks, all of Jersey City’s

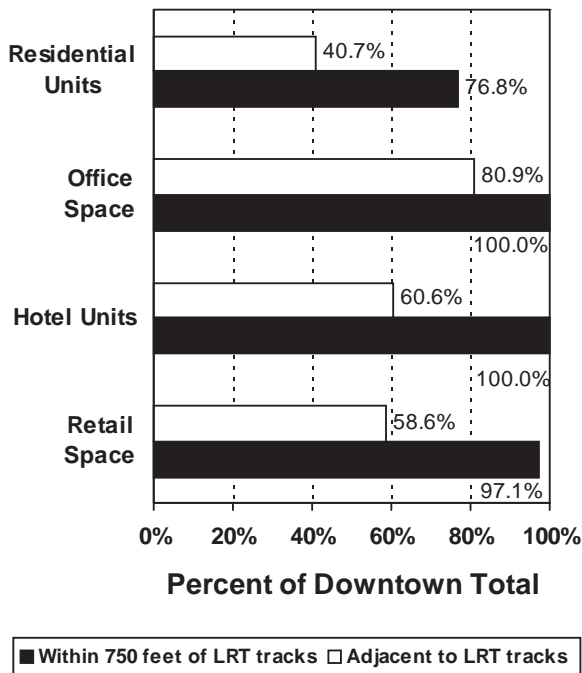


Figure 11.1. Share of Development Activity Near Light-Rail Line in 1.5-Square-Mile Downtown Jersey City.

office and hotel additions and over three-quarters of housing units have congregated. There is little question that light-rail transit has been a powerful magnet in focusing Jersey City’s past decade of central-city reinvestment and renewal.

One land use that stands out along the Hudson-Bergen light-rail line is the Newport Centre Mall—a 930,000-square-foot indoor facility that has the appearance of a modern suburban mall, including four major anchor tenants, except that it sits in downtown Jersey City, right next to the Pavonia-Newport Station (see Photo 11.8). While the mall pre-dated the light rail’s opening in 2000, the availability of frequent at-grade tramway access to nearby offices, condominiums, and hotels has certainly not hurt business sales. Macy’s recently opened a 237,000-square-foot retail addition within 100 feet of the Pavonia-Newport light-rail station. Increasingly, Newport Centre is taking on a multi-use character, adding offices, hotel space, and housing to the mix.



Photo 11.8. Light Rail at the Newport Centre Mall. The light-rail line lies under a pedestrian skywalk that connects Newport office tower (on the right) to the modern three-story indoor mall on the left (west) of the station.

Surrounding Newport Centre Mall are seven Class A, 20-story (or more) office towers, many of which host office workers displaced from lower Manhattan by the World Trade Center tragedy.

For the most part, Jersey City's light rail-oriented development has been driven by the market, requiring little in the way of policy levers or perquisites to steer development to the rail corridor. More important than light rail to the addition of so much new commercial and residential space in downtown Jersey City has been the presence of three PATH stations, providing direct connectivity to Manhattan. It is doubtful that anywhere near as much as the 12 million square feet of commercial development added in the past decade would have occurred in the absence of PATH services. What the light rail did, however, was to channel Manhattan's spillover growth that landed in Jersey City. Consistent with experiences elsewhere, experiences in Jersey City show that light rail does not *create* new growth but rather *redistributes* where already committed development occurs.¹⁶ Local officials concede that little concerted effort has been given to strengthening the transit/land-use nexus. TOD has occurred regardless. The integrated planning and urban design strategies that have occurred have been more of an afterthought. Still, public initiatives have been important to the renaissance currently underway in downtown Jersey City. The major public-sector contribution to large-scale development has been assistance with land assembly through condemnation. Forty-year tax abatements have also been introduced to encourage affordable-housing

construction. Also, parking standards have been lowered for most parcels abutting rail lines to around one on-site space per 1,000 square feet for office uses and less than one space for residential units.

While office and retail growth has predominated in Jersey City, one notable residential project that is currently in the works is Liberty Harbor North. The project, slated for an 80-acre former industrial site, openly and aggressively embraces New Urbanism design principles. According to the project's master-designers, the Miami-based firm of Duany Plater-Zyberk & Company, "Liberty Harbor North will perhaps be the most thorough exemplification to date of the principles of the New Urbanism."¹⁷ The mixed-use, transit-oriented, master-planned project will feature 6,337 dwelling units, 4.6 million square feet of Class A office space, and around three-quarters of a million square feet of commercial-retail development. The site's superb proximity to local and regional rail services is one of its strong suits. In addition to being served by two light-rail stops, the project is just a 5-minute walk to the Grove Street PATH station, providing direct rail connections to both lower Manhattan and midtown. New York Waterways also serves the site, providing frequent ferry connections.

Liberty Harbor North's New Urbanism design is most evident in its streetscape design—small city blocks in a modified grid arrangement. The project is sprinkled with plazas, greenways, and neighborhood retail to promote walking and easy access to light-rail and heavy-rail services.

Transit Joint Development

To date, there has been relatively little in the way of transit joint development in New Jersey, such as leasing air-rights above transit stations. This could change in coming years, however. At the Secaucus transfer station, NJ TRANSIT spent several million extra dollars to strengthen the foundation so that future office air-rights development could occur. A soft real-estate market has stalled activities; however, authorities expect a mixed-use project to one day be built above the facility.

NJ TRANSIT is also committed to public-private partnerships for extending future light-rail services. The extension of the current 4.3-mile Newark City Subway light-rail line to downtown Elizabeth, for example, is to be constructed through a public-private co-venture. The new \$1.1-billion, 34-mile light-rail line between Camden and Trenton, called the River Line and scheduled for an early 2004 opening, is a design, build, operate, and maintain project. The builder-operator, Southern New Jersey Rail Group, LLC, a consortium led by Bechtel and Adtranz, is considering ancillary real-estate projects at several stations. One study estimated up to 6,000 housing units could be added to the light-rail corridor between Camden and Trenton over the next 20 years, a product of “induced development.”¹⁸ A recent article in the *Philadelphia Inquirer* notes that the project “will restore some luster to the river towns whose economies faltered as sprawl took root in South Jersey,” but calls the investment “a controversial experiment that makes economic development, rather than

transporting commuters, its primary goal.”¹⁹

Conclusions and Lessons

New Jersey experiences point to the importance of a viable market and supportive public policies, from the state to the local level, in bringing about TOD. An affordable-housing crunch, growing demand for accessing midtown Manhattan, and worsening traffic tie-ups have created a ready-made market for living, working, and doing business near rail stops. At the state level, major capital improvements of commuter-rail lines and progressive smart-growth and brownfield remediation legislation have paved the way for developers to build near rail stops and ferry ports, whether mid-rise housing or mixed-use infill projects on former industrial sites.

Not all communities with stops on a direct rail line to Manhattan have witnessed TOD activities. Good access is not enough. Also needed are visions and visionaries. Powerful and influential local mayors, many serving their third or fourth consecutive term of office, have spearheaded the transformation of rail-served downtown districts in most instances. Most are entrepreneurial in their approach, seizing on the cachet of a traditional rail station and materially enhanced rail services as selling points for leveraging private investment. All have development plans in place that orchestrate how, where, and when the rebirth of station areas will take place.

Public policy and leadership have been important in leveraging TOD in New Jersey, but so have market pressures. Increasing numbers of Manhattan and Jersey City workers seek residences that

are a convenient walk to a train station. As one realtor put it:

In the New Jersey suburbs, putting the magic words ‘close to train’ in ads generates more interest in properties . . . Transit is extremely important to many potential buyers, and I lose some of them if I can’t provide it . . . I can’t tell you how many folks I’ve had go away because a home is not close enough to the train station.²⁰

Small towns like Rahway and South Orange are adding not only housing units but also revitalized cultural-entertainment districts near their train stations. These are complementary land uses in the sense that they provide all-week, all-day trip generators. State assistance via the Transit Village Initiative is seeding various streetscape and traffic-calming measures that are crucial to creating a pedestrian-friendly, human-scale setting.

New Jersey’s TOD experiences show that there is an element of truth in the saying that “small is beautiful.” The places that have been most successful in turning around neighborhoods bordering train stations have generally been small towns with powerful elected officials and small planning departments. This has created institutional efficiencies. Few of the state’s largest cities have gotten into the act, partly because of bureaucratic inertia. The notable exception is Jersey City. The millions of square feet of office, housing, and retail space along Jersey City’s light-rail corridor, however, is not so much the product of proactive station-area planning as it is good timing and location. Lying within 5 to 10 minutes of Manhattan via train or ferry, Jersey City would have experienced

spillover growth with or without light rail. What light rail did was to channel and guide where the growth occurred. The Hudson-Bergen light-rail line functions like a central-city circulator, connecting offices, shops, housing, restaurants, theaters, and cultural venues along the once-moribund but now-bustling Jersey City waterfront.

Notes

- ¹ W. Alonso, *Location and Land Use* (Cambridge, Massachusetts: Harvard University Press, 1964).
- ² J. Holusha, “New Vitality Around Old Railroad Stations,” *New York Times*, March 16, 2003, Sec. 11, p. 6.
- ³ Ibid.
- ⁴ The Brownfields Act allows for a memorandum of agreement (MOA) between a developer and the New Jersey Department of Environmental Protection to remediate a property. As long as the terms of the MOA are adhered to, a developer is protected from future liability in the event that unsuspected or unknown contamination is encountered at some later date.
- ⁵ T. Lomax and D. Schrank, *2002 Urban Mobility Report* (College Station, Texas: Texas Transportation Institute, 2003).
- ⁶ Among state agencies that provide assistance to localities under the Transit Village Initiative are the New Jersey Department of Transportation; NJ TRANSIT; the Office of State Planning; the Economic Development Authority; New Jersey Mortgage Finance; the Department of Environmental Protection; and the Council for the Arts.
- ⁷ Tri-State Transportation Campaign, “Promise of New Jersey’s Transit Villages Requires Stronger State Commitment,” *Mobilizing the Region*, Issue 405 (March 3, 2003). See <http://www.tstc.org/bulletin/20030303/mtr40505.html>.
- ⁸ Ibid.

- ⁹ New Jersey Department of Community Affairs, “Rahway Mayor Touts Redevelopment Plan for Central Business District” (May 7, 2002).
- ¹⁰ Holusha, *op. cit.*, p. 1.
- ¹¹ *Ibid.*
- ¹² Tri-State Transportation Campaign (March 3, 2003) *op. cit.*
- ¹³ J. Van Gieson, “Commuter Time & 24/7 Living,” *On Common Ground* (Summer 2003): 14.
- ¹⁴ The Hudson-Bergen light-rail system links the growing cities of the Hudson River waterfront. The system operates primarily at-grade between Bayonne and Bergen County. It serves the high-density commercial and residential centers in Jersey City and Hoboken and connects to ferries, PATH, and commuter rail.
- ¹⁵ City of Jersey City, Division of City Planning, *Downtown Development Map* (October 24, 2002).
- ¹⁶ R. Cervero and S. Seskin, *TCRP Research Results Digest 7: An Evaluation of the Relationship Between Transit and Urban Form* (Washington, D.C.: Transportation Research Board, National Research Council, June 1995).
- ¹⁷ Duany Plater-Zybeck & Company, *Liberty Harbor North: Project Description* (February 2001).
- ¹⁸ R. Pearsall, “Rail’s Fate Linked to Growth,” *South Jersey News*, April 24, 2001, p. 2.
- ¹⁹ F. Kummer and J. Downs, “South Jersey Light Rail: Development Boon or Transit Boondoggle,” *Philadelphia Inquirer*, July 27, 2003, B-1.
- ²⁰ Van Gieson, 2003, *op. cit.*, p. 17.

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 Photo 11.7 R. Cervero
 Photo 11.8 J. Bell

Chapter 12

Washington, D.C.: Model for the Nation

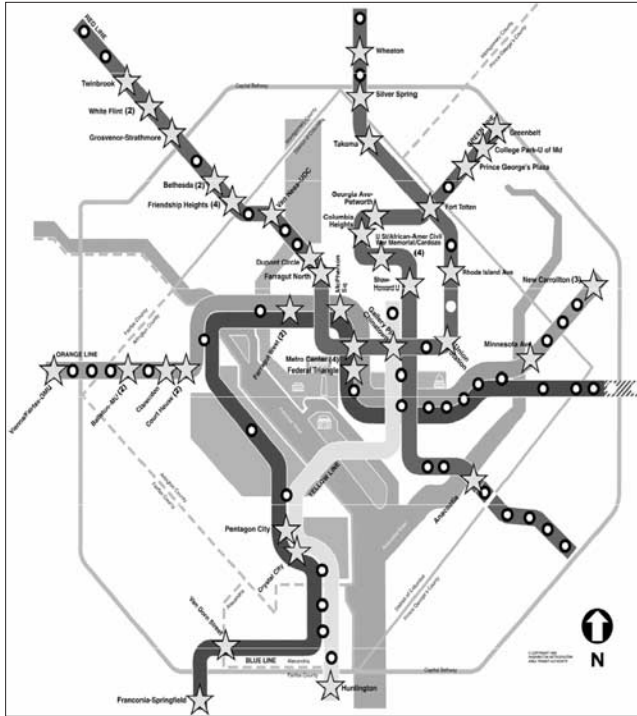
The Washington Metro system is the first modern rapid transit system built since the Second World War to specifically incorporate a goal of shaping regional growth in addition to fighting congestion and improving transit. The emergence of TOD around dozens of Metrorail stations is widely hailed as a success by local supporters and observers from around the world. Washington's transit planners wrote the book on modern joint development, and local governments chimed in with supporting local policies to advance TOD near Metrorail stations.

TOD leadership came early on from Metrorail's staff and board, as well as from three local jurisdictions: Arlington County, Virginia; Montgomery County, Maryland; and the District of Columbia. Each saw the development potential of the transit investment and jumped out in front to take advantage of it. Originally, the TOD successes were largely confined to downtown and upscale corridors in the District of Columbia, and the adjacent communities of Arlington, Virginia, and Bethesda, Maryland. Recently, however, there has been a resurgence of development, especially of in-town housing in once deteriorating neighborhoods in the District and in more automobile-oriented suburbs whose leaders are searching to replicate the successes of their more prosperous "inside the Beltway" counterparts.

Washington Metropolitan Area Transit Authority: A Joint Development Pioneer

All major transit investments require regional collaboration; however, the Washington, D.C., region was especially tricky, involving, as it does, two states and a federal district with direct oversight by the U.S. Congress. Washington Metropolitan Area Transit Authority (WMATA) is an independent regional transportation authority created by an Interstate compact that is still considered a model of multi-jurisdictional coordination. Originally created to build a rapid transit system consisting of subway, surface, and elevated routes, WMATA was subsequently given authority to take over the private bus operators serving the region. The agency has grown to become the second largest public transit operator in the United States, carrying over 1 million customers a day on bus and rail. Because of the region's extraordinarily complex political landscape, WMATA has no dedicated funding source, relying instead on a mix of various contributions from state and local governments, as well as passenger fares. This set the stage for the agency to take joint development opportunities very seriously.

WMATA's primary goal, like that of most transit agencies, is moving people, which in turn helps battle congestion and improve air quality. The 103-mile, 86-station Metrorail system is the centerpiece of the region's transit network



Map 12.1. Washington (D.C.) Metropolitan Area Subway System.

(see Map 12.1). Metrorail is an important presence in the District since, after all, a nation’s capital needs to function as efficiently and free of traffic gridlock as possible. However, national, regional, and local leaders recognized early on—some from their travels and work experiences abroad—that a transit network is more than a people mover. A transit system should also shape regional growth. Metro Board Chairman Chris Zimmerman notes:

When we talk about the great success of public transportation in this region, we generally talk about bus and rail ridership. But transit-oriented development is the real unsung hero of our operation. Due to the tremendous success of this program, our region has benefited from land use which attempts to maximize the value of our \$9 million investment in our regional Metrorail system.¹

WMATA’s leaders saw the importance of promoting adjacent development to generate riders and revenues, and long before the rail system became operational, the board adopted policies and procedures that created a public/private land development program. The first private development project, Rosslyn (Virginia) Metro Center, was initiated in 1973, 3 years before the Metrorail system opened. By 2003, there were 52 joint development projects with a market value of \$4 billion, which delivered some \$6 million in annual revenues to the transit agency (see Table 12.1). In addition, these new developments have generated an estimated 50,000 new transit riders and over 25,000 jobs.²

Creating a real-estate development department within WMATA in its infancy was a vital step in moving joint development activities forward. Staff with backgrounds in real-estate development were hired and given the resources to build a portfolio of land holdings. Private-sector experiences helped to create a more entrepreneurial approach to land-use issues than is found in most transit agencies. Rather than simply waiting and reacting to developer proposals, staff aggressively sought out mutually advantageous joint development opportunities. Working on their side was the fact that WMATA had accumulated a large amount of real estate around some stations, in part because some of the properties condemned and acquired were multi-acre farmsteads. While entire parcels were often not needed, because partial takings would have created less productive or unusable remnant parcels and severance damages would have been substantial, WMATA ended up

Table 12.1. WMATA Joint Development Projects

PROJECT	TYPE	LAND USE
Ballston	AR, GL, SC, SO	Mixed Commercial (office,retail, hotel)–Residential
Bethesda Metro Center Elm-Reed Street	AR, GL, SC, SO GL	Mixed Commercial (Office, hotel, retail) Office
Clarendon	SCF	Office
College Park		Negotiations with selected developer were terminated. Site is offered in current joint development solicitation.
Columbia Heights	GL	Residential, retail
Court House	GL	Office, retail
Dupont Circle	GL	Retail
Farragut North	GL, SCF	Office, retail
Farragut West Hill Building Assoc. International Square	SCF SC, SCF, SO	Office, retail Office, retail
Fort Totten	GL	Residential, retail
Franconia-Springfield (Greyhound Bus Kiosk)	GL	Retail
Friendship Heights Mazza Gallerie May Department Stores Chevy Chase Pavilion Chevy Chase Land	SCF SCF SCF GL	Retail Retail Retail Retail/Office
Gallery Place	S, SC, SO	Mixed Commercial (retail, restaurant, entertainment)–Residential
Georgia Avenue		Site was sold to the District of Columbia to accommodate government office building. Project was cancelled. Site is being reoffered for development by the District with WMATA oversight.
Greenbelt	S, SC, SO	Mixed Commercial (office,retail, hotel)–Residential
Grosvenor North Parcel South Parcels	GL, SC S	Residential, retail Mixed Commercial (retail, health club)–Residential
Huntington North South Montebello Connection	GL S SCF	Office, retail Residential, open space (12-acre park to be dedicated to Fairfax County by developer) Residential
KEY: AR= air rights; GL= ground lease; S=sales transaction in which WMATA reserves the areas it requires for its facilities; SC=shared construction cost; SCF=station connection fee; SO=shared operating costs. (Source: WMATA)		

(Table continues next page)

Table 12.1. (Continued)

McPherson Square	GL	Office, retail
Metro Center Columbia Square May Department Stores I May Department Stores II	GL SCF SCF	Office, retail Retail Retail
Minnesota Avenue	S, SC, SO	Office, retail
New Carrollton Amtrak Ticketing/Waiting Room Parking Garage Joint Development Project	GL GL	Retail Parking facilities shared with Amtrak. Negotiations with selected developer were terminated. Site is offered in current joint development solicitation.
Prince George's Plaza	GL	Mixed Commercial (office, retail)–Residential
Rhode Island Avenue (contract negotiations still in progress)	GL	Residential, retail
Shaw-Howard University Checkers Restaurant Howard University (contract negotiations still in progress)	GL, SO S	Retail Mixed Commercial (office, retail)–Residential
Silver Spring (contract negotiations still in progress)	GL	Multi-modal Transit Center Mixed Commercial (office, retail)–Residential
Takoma (contract negotiations still in progress)	S, SC	Residential, retail
Twinbrook (East & West)	GL	Mixed Commercial (office, retail)–Residential
U Street Parcels 1 and 9 Parcels 2 and 3 Parcels 4, 5 and 6 Parcel 7	S, SC S S S	Residential, retail Residential, retail Residential, retail Office, retail
Union Station	SCF	Retail, major railroad station
Van Dorn	GL	Residential, retail
Van Ness	GL	Office, retail
Vienna	SCF	Office, residential
Western Bus Garage	GL	Residential, retail over new bus garage
Wheaton (contract negotiations still in progress)	GL, S, SC	Mixed Commercial (office, retail)–Residential
White Flint West East	S GL	County Conference Center, hotel Mixed Commercial (office, retail)–Residential
<p>KEY: AR= air rights; GL= ground lease; S=sales transaction in which WMATA reserves the areas it requires for its facilities; SC=shared construction cost; SCF=station connection fee; SO=shared operating costs. (Source: WMATA)</p>		

purchasing more land than was necessary to build a new transit facility. This was not a financial burden to WMATA since the federal government picked up the lion's share of the tab. In the end, WMATA was left with the largest portfolio of land holdings of any transit agency in the United States.

Today, WMATA pursues joint development quite methodically. Station sites are carefully screened according to a set of criteria that gauges development potential. For sites selected, an RFP is issued to solicit developer interest. Through negotiations, a developer team is chosen and contracts entered into specifying the financial terms of the deal. In 1996, WMATA tried a less-judicious approach, soliciting developer interest for virtually all stations—described by one staff member as an effort “to cast a big net and see what sticks.” However, this proved to be too cumbersome, and the agency has since gone back to a more selective review.

Despite a record of successful joint developments that have buoyed WMATA's balance sheets, filled seats on trains and buses, and won praise throughout the United States, WMATA has in recent years sought to reinvent how it pursues TOD. Stinging criticism by local observers, among other factors, prompted this change of course. In view of the region's exceedingly strong economy over the past two decades, matched by exurban sprawl, many have felt WMATA could do more than it has to guide growth in the region. Local planners have often faulted the agency's glacial speed, and a former governor of Maryland, a substantial

contributor to transit funding, has slammed WMATA's efforts as ineffectual, especially with regard to inner-ring developments. The transit-agency staff identified the following as obstacles to doing creative real-estate development in a large bureaucracy oriented more toward moving masses of people:

- A cumbersome, slow project analysis and approval process;
- Inadequate marketing of development sites;
- Lack of community involvement;
- Lack of clarity of key business issues; and
- An increasing tendency to build projects that are adjacent to, not necessarily oriented to, transit (i.e., TADs not TODs).

These concerns have prompted internal organizational changes to clarify responsibility for joint development and integrate separate departments that often thwarted rather than facilitated development efforts. Next were the challenges of setting priorities for a small development team among a large range of potential development sites and clarifying business objectives (whether augmenting revenues, increasing ridership, or emphasizing TOD over TAD). To help target limited staff resources and board attention, WMATA engaged a private real-estate firm to conduct a portfolio market analysis of 24 available sites. A classification was developed that involved both market and public-intervention considerations. The 24 sites were divided into three equal categories. Level 1 sites have significant private-sector interest and will require little public-sector

intervention. Most of the sites are surface parking lots, which developers will need to replace, although the board is reviewing its policy to determine whether a one-for-one replacement will be required. Level 3 sites, on the other hand, suffer from a lack of private-sector interest and require substantial public-sector intervention over a long period of time. The middle-range Level 2 properties show some private-sector interest, but carry constraints due either to some hesitancy by the local jurisdiction to move forward or to site issues. The classification system helped target agency resources toward near-term partners and warn the board and participating governments about the extent of commitment required to develop some of the more difficult sites.³

In addition to a sharper focus on the development potential of various sites, WMATA has developed its own TOD guidelines, aimed at attracting new riders, increasing revenue intake, and helping expand the local tax base. Some of the guidelines include

- Maximizing the use of transit, not automobiles;
- Linking land use with transit (physically or functionally);
- Providing a diversity of housing types;
- Emphasizing mixed uses in high-density developments; and
- Creating special places.

This evolving focus on placemaking comes at a time when local planners themselves are seeking to reinvent some of the early ideas of TOD. The city of Washington, D.C., developed a Mayoral Task Force on TOD in 2002, and suburban governments continue to refine

TOD concepts and pursue parking-lot infill possibilities.

FTA's new joint development policies also prompted changes in how WMATA goes about its business. Before the policy changes, WMATA entered into unsubordinated long-term leases because the agency would have had to repay the federal treasury if land that was purchased with FTA funds was sold. Lease revenues, on the other hand, could be kept. Many developers, however, were "lukewarm" about long-term leases, preferring outright ownership instead. With the new rulings that allow an agency to sell land and keep the proceeds, WMATA has shifted to fee-simple sales, something that has attracted stronger developer interest. This has increased the pool of developers responding to RFPs and in so doing has made recent joint development deals that WMATA has entered into generally more remunerative.

One criticism leveled against WMATA's joint development efforts has been a lack of proactive community engagement. Historically, the agency has interacted directly with the development community, leaving public participation matters to local municipalities. This hands-off approach backfired, however, in the case of the Takoma mixed-use project slated for construction on WMATA property. A community backlash over the project design and the potential impacts on housing affordability prompted WMATA to institute a program that actively seeks community input in the planning and design of future joint development projects.

Arlington County, Virginia: Three Decades of TOD Success

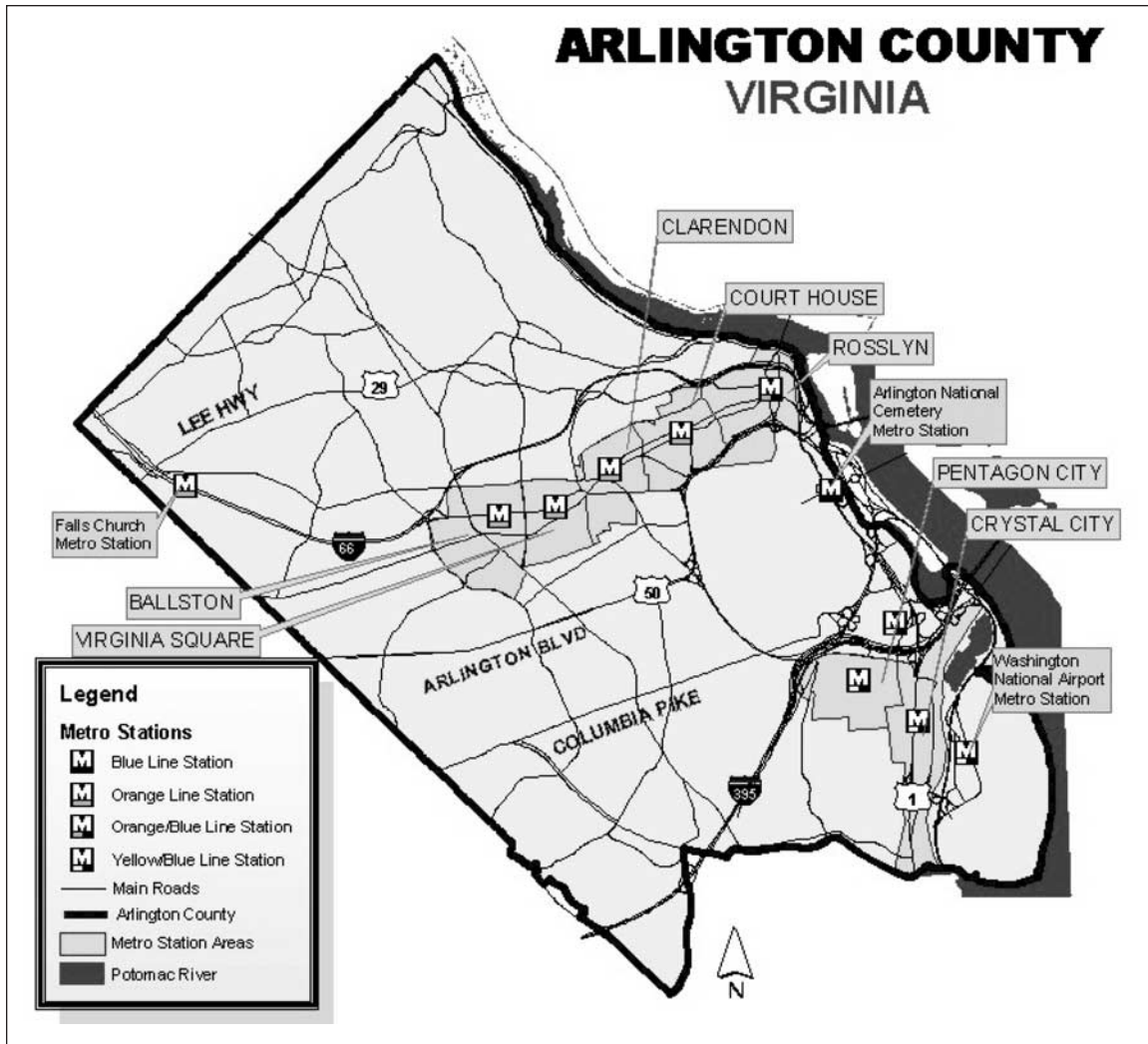
Arlington County is arguably the nation's best TOD success story of the past 30 years. Located directly across the Potomac River from Washington, D.C., Arlington County attracts many visitors to sights such as Arlington National Cemetery and the Pentagon. Since the 1970s, it has also become an increasingly popular place to live, work, and shop due in part to high-density development along its two Metrorail corridors: Rosslyn-Ballston and Jefferson Davis. A conscious decision by County planners, officials, and citizens to locate the Metrorail along two major arterials (Wilson Boulevard and Fairfax Drive) instead of down the median of Interstate 66 created opportunities for both public and private development. Superb transit access coupled with connecting thoroughfares ensured that trains, buses, automobiles, and pedestrians could easily reach neighborhoods that surround stations. Since Metrorail began operating in Arlington County in the late 1970s, it has become a popular origin and destination for residents and visitors alike.

Metrorail's Orange Line runs east and west, connecting the city of Rosslyn to East Falls Church, and the Blue Line runs north and south, connecting Arlington Cemetery to Reagan National Airport (see Map 12.2). The highest-density section of the Orange Line is called the Rosslyn-Ballston Corridor; the Blue Line axis spanning Pentagon City and Crystal City is called the Jefferson Davis Corridor.

Through a combination of strategic planning and market forces, each of

Arlington County's Metrorail stations has taken on a specialized function: Rosslyn, Ballston, and Crystal City serve as business centers; Court House has emerged as a governmental center (see Text Box 12.1); Pentagon City has become a regional shopping center; Clarendon functions as an "urban village" with shops and restaurants; and Virginia Square has a cultural and educational focus. Of the nearly 190,000 people living in Arlington County, 26% reside in Metrorail corridors even though they make up only 8% of the land area. Since 1960, over 31 million square feet of gross floor area (GFA) of office space and nearly 30,000 residential units have been constructed in the County, and over three-quarters of this construction has been in Metrorail corridors. Arlington County today boasts one of the highest percentages of transit use in the region with 39.3% of Metrorail corridor residents commuting to work by public transit.⁴ These are European-style transit modal splits, reflecting the kind of transit/land-use nexus found in some of Europe's great transit metropolises, like Stockholm, London, and Munich.

Because of its TOD successes, Arlington County has become a paragon of high-quality, transit-oriented redevelopment. In 2002, the EPA recognized Arlington County with a National Award for Smart Growth Achievement. The County's initial transit-supportive built form owes a lot to the foresight of visionary planners, local leaders, and citizens who helped prepare the County's general land-use and station-area sector plans. Textbook planning principles were introduced to ensure that compact, mixed-use development took form around high-capacity transit nodes. Arlington County planners understood



Map 12.2. Arlington County, Virginia, with Metro Station Areas.

Source: Arlington County, GIS Mapping Center, Department of Public Works.

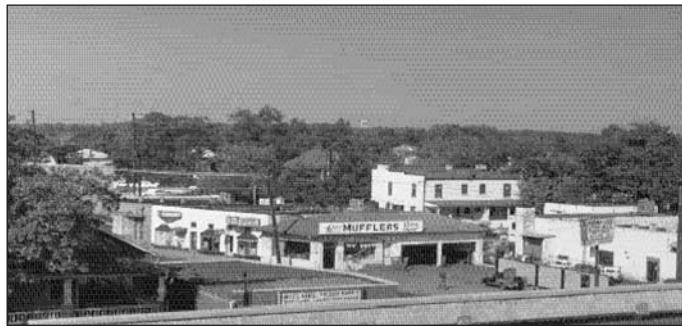
that Metrorail provided an unprecedented opportunity to shape future growth and proceeded to introduce various strategies—targeted infrastructure improvements, incentive zoning, development proffers, permissive and as-of-right zoning—to entice private investments around stations. After preparing countywide and station-area plans on desired land-use outcomes, density and setback configurations, and circulation systems, zoning classifications were changed, and developments that complied with these classifications could

proceed unencumbered. The ability of complying developers to create TODs as-of-right was particularly important, for it meant that developers could line up capital, secure loans, incur up-front costs, and phase in construction without the fear of local government “changing its mind.”

Arlington County’s ability to promote and sustain growth for some 40 years is a result of maintaining the original vision while adapting to the changing needs of its communities. The ongoing revision of plans, adoption of new policies, and

Court House Station: Leading by Example

Arlington County has spearheaded the planning of high-density development along Metrorail corridors. It is only fitting that the County's governmental offices, courts, and police headquarters are located in the heart of the Rosslyn-Ballston corridor at Court House Station.



Court House Station Area in the 1970s

The sector plan for Court House Station, which was adopted in 1981 and amended in 1993, designated the area as an urban governmental center with high-density residential and office uses. Court House Plaza, built in 1988, was selected as a focal point of the neighborhood. The Plaza is a pedestrian mall with 19 shops, restaurants, and a movie theater that can be directly accessed from the subway station below. The streetscape creates a pedestrian-friendly environment and provides pedestrian linkages to surrounding office buildings and residential complexes. The construction of a new Courthouse and Detention Center in 1994 completed the vision for an all-inclusive governmental center.

In more recent years, several technology-related firms have located in the Court House station area, creating a "Silicon Valley" of the east. High-tech and dot-com companies, such as Washingtonpost.com, Verizon, and Sapient, have major offices within the Court House station area. Today, there are over 14,500 jobs in the 200-acre Court House Metrorail station area.

Development around Court House Station is not limited to commercial and governmental offices. Since it is only a 5-minute train ride from Court House Station to Washington, D.C., the station area has become a popular residential location as well. From 1960 to 2002, over 5,400 housing units have been constructed. Currently, residential uses occupy around 55% of the land within ¼ mile of the station. The 2000 Census reported 9,643 residents in the Court House area, constituting 5.1% of Arlington County's total population.



Court House Station Area Today

commitment to citizen participation in the planning process have allowed Arlington County to maintain an active portfolio of development activities along Metrorail corridors.

County Plans

One key tool used to promote TOD along Arlington County's Metrorail corridors was the preparation of a thoughtful, illustrative general land use plan (GLUP). The GLUP set the broad policy framework for guiding all development decisions along targeted growth axes. In addition, individual sector plans were introduced that orchestrated development activities within the ¼-mile "bulls-eyes" of each Metrorail station. The sector plans specified not only land-use and zoning ordinances, but also urban design, transportation, and open-space guidelines. Commenting on the importance of a station-area plan for Ballston, one Arlington County senior planner remarked, "The Ballston Sector Plan represented a change in thought among County planners . . . a reduced bulk of development, streetlife, walking links to the transit station—all were elements reflecting new thinking about what makes a livable community."⁵ The careful, ongoing review and revision of the GLUP and sector plans has ensured that planning activities were up-to-date, market-responsive, and in synch with changing community goals.

Between 1961 and 1996, the GLUP was revised eight times. Each revision promoted higher-density development along the Metrorail corridors while maintaining lower residential density elsewhere in the County. Adding "mixed-use" designations, introducing

market-responsive land-use changes along the Metrorail corridors, and elevating the importance of urban design kept the GLUP relevant and garnered steady political support.⁶ Likewise, the station sector plans have been included in the County's plan-revision process. In 1989, the County Board initiated a mid-course review of the Rosslyn-Ballston Corridor to determine how well development outcomes matched the goals set for each station and the County. At that point, the many stations were 50% built out. County officials wanted to gauge the progress and rethink station-area policies. As a result of the review, addenda to the Rosslyn, Court House, and Clarendon sector plans were approved. Arlington County's successful review and revision of land-use plans demonstrates the importance of evaluating progress and adapting to changes while maintaining a vision for TOD.

New Policies

Although land-use and sector plans have been helpful in shaping development in Arlington County, they have not addressed all growth issues. For example, housing prices and rents along the Metrorail corridors have rapidly increased over the past 30 years. Additionally, new development has encroached on open spaces and put some historic sites in jeopardy. In response, the Arlington County Board adopted new policies to address these concerns.

In 1990, the "Special Affordable Housing Protection District" (SAHPD) was created to retain affordable-housing options within the Metrorail corridors. Instead of allowing new moderate- to high-income residential units to replace

lower-income ones, the special district permits higher densities to ensure that the affordable housing is preserved or replaced. The SAHPD policy was followed by the adoption of Housing Policy Principles in 1991. This policy made affordable housing a top priority for the County. The policy states that “a range of housing choices should be available to accommodate households of all income levels” and “affordable housing should be an integral part of the County’s land use, human service, and capital improvement planning process.”⁷ In 2001, the County increased density bonuses from 15% to 25% to encourage developers to include affordable housing units within their projects. Citizens, planners, and elected officials of Arlington County recognized that affordable-housing options were being taken away by TOD and responded quickly to enact new policies aimed at maintaining housing options. The Twin Oak project, an 18-story, 320-unit residential development in Rosslyn, took advantage of the County’s desire for more affordable housing near Metrorail stations. In order to replace the existing 55 garden-style affordable units with the new high-rise tower, as was required under the special overlay affordable-housing zone for this Arlington site, the developer, Washington-based Donohoe Companies, was successful in increasing the allowable density by more than 100 units. This enabled the developer to provide market-rate and affordable units in the same new high-rise structure, set in a high-demand location.⁸

Like affordable housing, open spaces were being depleted by TOD, especially along the Rosslyn-Ballston axis. In 1992, the County adopted an Open Space Policy that not only recognized

the importance of greenery, parks, and other open spaces to quality of life, but also led to the preparation of an Open Space Master Plan as a part of the Comprehensive Plan. The plan helped to protect, preserve, and enhance Arlington County’s natural environment. The Open Space Policy has been credited with allowing TODs to reach the kinds of very high densities needed to sustain intensive transit services. High-rise towers gained acceptance more readily as long as other parcels were kept open for the general public to enjoy.

Citizen Participation

Public outreach and community involvement have been a key part of Arlington County’s TOD success. Business partnerships and alliances, neighborhood conservation groups, and individual residents are frequently invited to express their opinions. These groups influence the planning process through a number of forums, including neighborhood meetings, workshops, and interactive web pages.

Three public-private partnerships in the Ballston, Clarendon, and Rosslyn Metro station areas serve as forums for community and business-related concerns. Ballston Partnership, Inc., was created in 1985 to attract investors and businesses to the area. Several of the partnership’s committees focus on issues like urban design, public safety, and real-estate development.

Arlington County’s citizens also have the ear of the County’s planning commission. The commission reviews the County’s Comprehensive Plan (including the General Land Use Plan) every 5 years and makes ongoing land-use

recommendations to the County Board. It often holds public hearings to solicit feedback and input from citizens about development in the County.

For some 40 years, the Neighborhood Conservation Program has drawn thousands of local residents into the planning process. Organized groups of citizens, with the help of County staff, are able to create and implement a Neighborhood Conservation Plan.

These plans, which usually address issues like zoning and transportation, are adopted by the County Board and serve as guides for the Board and staff members when making decisions about future development or land-use changes in a neighborhood. Over 40 neighborhoods have joined the program, giving those

citizens a voice and power to influence changes in their community.⁹

Development Trends

Arlington County has witnessed a phenomenal amount of development near its transit stops in the past four decades, more than any transit corridor in the country (see Table 12.2). With sector plans to guide growth, stations like Ballston, Rosslyn, and Clarendon have functioned as powerful magnets, attracting mid- and high-rise office, retail, and residential development.

Since 1980, total office space has doubled to more than 50 million square feet, with 70% of the office space located within the two Metrorail corridors. Additionally, the number of housing units in Metrorail

Table 12.2. Development in the Arlington Metro Corridors, 1960–2002

		Office Gross Floor Area (GFA) in Square Feet	Retail Gross Floor Area (GFA) in Square Feet	Residential Units	Hotel Rooms
<i>Metro Station Areas: Rosslyn-Ballston Metro Corridor</i>					
Rosslyn	Completed	7,827,779	663,856	4,620	2,125
	Under Construction	0	4,268	383	0
	Approved, But Not Yet Under Construction	895,243	29,778	585	160
Court House	Completed	3,468,361	161,879	5,401	580
	Under Construction	0	0	5	0
	Approved, But Not Yet Under Construction	555,009	51,472	306	324
Clarendon	Completed	459,126	223,941	504	0
	Under Construction	196,831	33,806	616	0
	Approved, But Not Yet Under Construction	105,317	85,488	308	0
Virginia Square	Completed	1,271,614	66,749	2,455	45
	Under Construction	315,352	27,059	0	0
	Approved, But Not Yet Under Construction	416,425	9,602	499	0
Ballston	Completed	5,721,138	840,076	5,914	430
	Under Construction	563,720	39,827	412	0
	Approved, But Not Yet Under Construction	901,263	30,076	596	336
<i>Metro Station Areas: Jefferson Davis Corridor</i>					
Crystal City	Completed	10,558,784	800,135	5,833	4,601
	Under Construction	0	0	0	0
	Approved, But Not Yet Under Construction	1,092,062	181,653	215	828
Pentagon City	Completed	11,650,846	981,788	6,048	5,429
	Under Construction	0	0	319	0
	Approved, But Not Yet Under Construction	0	0	0	0
TOTAL		45,998,870	4,231,453	35,019	14,858

corridors has increased from 5,700 to over 35,000 over the past 40 years. The Rosslyn-Ballston corridor has also emerged as one of Northern Virginia's primary retail addresses (see Text Box 12.2)

Comparing development trends in Arlington County to the region at large underscores the importance of transit as a counterweight to sprawl. Figure 12.1 shows that for the past three decades, the amount of housing in Arlington County's Metrorail corridors increased two to three times faster than the regional population. From 1985 to 1989, the inventory of office space built in the County's Metrorail corridors increased more than twice as much as regional employment (see Figure 12.2). Since Metrorail's inception, Arlington County has become a prominent location within the region in which to live, work, and run a business.

Jobs/Housing Balance

An important outcome of promoting mixed-use development along linear rail corridors has been balanced jobs and housing growth. Balanced growth ensures economic vitality and, as shown later, allows for efficient two-way travel flows. In 2003, there were 1.06 jobs for every employed resident in the County.¹⁰

Having both housing and jobs easily accessible by transit translates into higher ridership levels, as reviewed in Chapter 6. In 2000, 40% of the county's housing units and 65% of jobs were within Metrorail station areas. Figure 12.3 reveals the commute patterns of Arlington County residents and employees in 2000. Almost one-third of employed residents worked in the County, and 36% commuted to Washington, D.C., the epicenter of the region's vast transit network. Arlington

County also attracts workers from other areas: 80% of all employees live outside the County. High levels of external commuting into and out of a historically suburban county usually set the stage for automobile travel. Has Arlington County's success at concentrating these "trip ends" around rail stations translated into a high transit mode share? The next subsection addresses this question.

Modal Splits

Table 12.3 shows that 39.3% of residents in Metrorail corridors commute using transit while 10.5% walk or bike to work. Overall, 6 out of 10 commuters use an alternative mode to driving alone. Among County residents living outside of Metrorail corridors, only about 40% of commuters do not commute alone.

Surveys from 1989 highlight the ridership benefits of Arlington County's TODs. Residents of three residential complexes at the Crystal City Metrorail Station used transit for 48.5% to 62.2% of all trips. Also, 80% to 90% of trips to Washington, D.C., were by transit.¹¹

Mixed land uses and pedestrian-friendly designs can influence how users access stations. Only one station in the County—East Falls Church Station—has parking. At others, most customers are expected to arrive by foot or bus transit, helped along by a network of pedestrian ways. As shown in Figure 12.4, 64% of transit patrons walked to and from the Ballston Station in 2001. Fewer than one in five arrived by private automobile; many of these patrons were dropped off.

Retail at Metro: The Arlington Experience

In Arlington County, the Rosslyn-Ballston transit corridor offers an example of a highly developed retail market with a distinct transit orientation. Roughly half of the County's 5.2 million square feet of retail space is located within this transit corridor.



Rosslyn-to-Ballston Corridor

Stores near the corridor's seven transit stations range from major home furnishing and apparel retailers to grocery stores. The transit corridor also provides a wide array of local-serving retail and services, including 251 restaurants (60% of the county total), 79 specialty retailers (71% of total), 63 beauty/barber shops (50% of total), and 43 banks (56% of total). Although the mix of stores and services varies among the seven station areas, transit riders in the County truly enjoy one of the broadest sets of shopping options in the United States.¹²

Despite these positive trends, a 1999 study analyzing retail sales and leakage patterns found that Arlington County (including the Rosslyn-Ballston transit corridor) was losing potential sales to neighboring cities and towns and that additional retail development could be supported.¹³ Arlington County's "leakages" were particularly evident in the retail

categories of furniture and home furnishings, food stores, and hardware. In addition, even though the corridor had a diversified retail base, in terms of total dollars, over half of the retail sales in the transit corridor were occurring at used-automobile lots and auto repair stores. Moreover, the success of the larger-scale retailers along the corridor depended on traditional retail factors, such as freeway access and on-site parking, while many of the restaurants struggled to expand their business beyond the daytime patronage from nearby office buildings. In short, while the Rosslyn-Ballston transit corridor had achieved a retail base, the study identified numerous opportunities to further improve the vitality of the retail mix.



Market Common at Clarendon

A new mixed-use project, Market Common at Clarendon, exemplifies a retail concept that successfully integrates pedestrian-friendly, transit-oriented design with automotive access for regional customers. Opened in 2001, the first phase of Market Common has 300 apartments, 78 townhouses, 234,000 square feet of retail space, and 100,000 square feet of office space, all located within easy walking distance of two Metrorail stations.

Retail at Metro: The Arlington Experience

The project, fully leased at opening, features lifestyle and specialty retailers such as Pottery Barn, Barnes & Noble, Williams Sonoma, and Crate & Barrel, along with “uptown” eateries like Bertucci’s and Ben & Jerry’s. A 1,200-space parking garage supports the project. Market Common II, currently under construction across the street from Market Common, will add 64,000 square feet of retail space, including 22,000 square feet of front stores and restaurants, plus 150 surface parking spaces. Market Common II will feature Ann Taylor and Orvis Company, among other big-name tenants. Retail in this new phase is already fully leased, and the developer expects that residential units included in this phase will be highly marketable due to the urban, street-oriented ambience of the project.

While the Market Commons project demonstrates a refined blend of

contemporary retailing within a mixed-use, transit-oriented design, recent analysis by the County’s Economic Development Agency suggests that the previously identified sales leakage in the home furnishings and hardware categories has not dramatically improved.¹⁴ Their finding suggests that while Arlington County has expanded its retail base near transit, additional opportunities remain.

Challenges to achieving full retail potential include redeveloping used-automobile lots and automotive parts stores along Clarendon Boulevard, which contribute substantial dollars to the retail base, but do not contribute to a reduction in automobile orientation. In addition, the County must continue to encourage innovative development projects that maximize the benefits of a transit location while balancing the reality of customers living in nearby residential areas who travel by automobile to shopping destinations.

Text Box 12.2 (Continued)

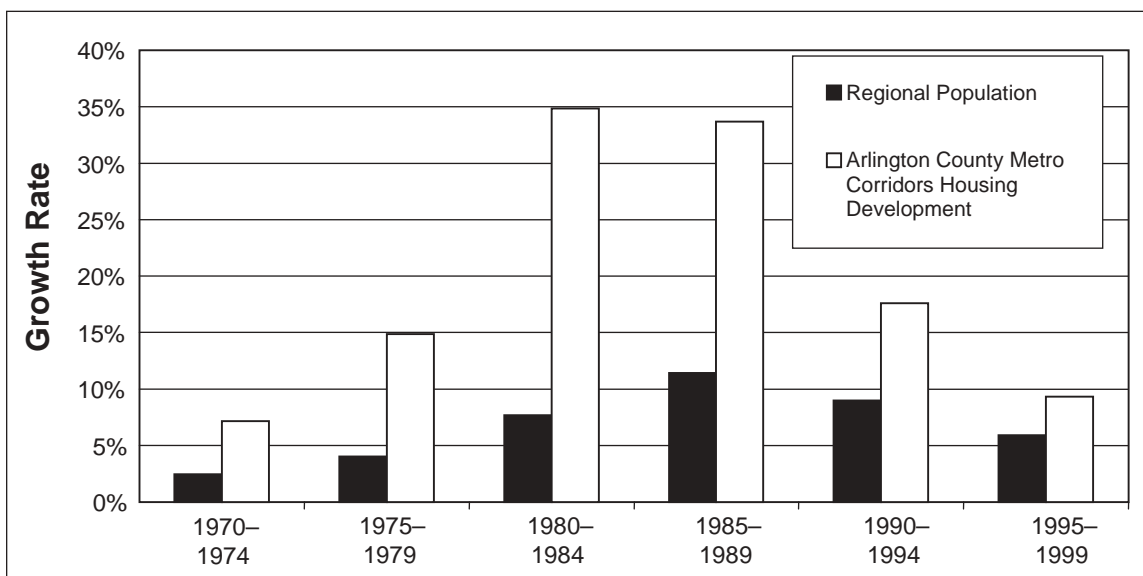


Figure 12.1. Arlington Housing Development and Regional Population

Growth Rates. *Source:* Metropolitan Washington Council of Governments, *Round 6.2 Cooperative Forecasts* (Arlington County Department of Community Planning, Housing, and Development).

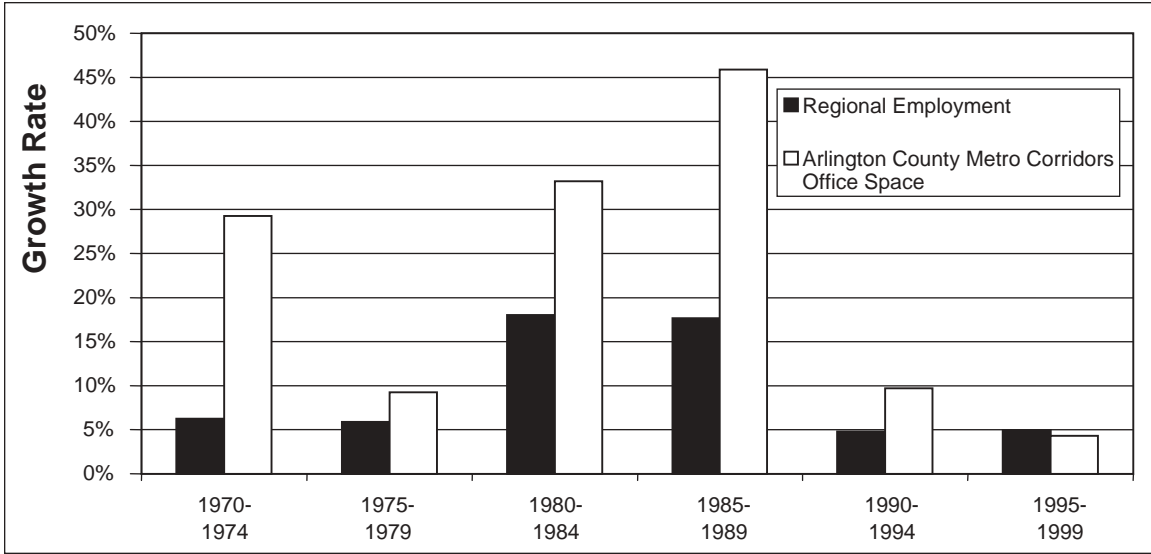


Figure 12.2. Arlington Office Space and Regional Employment Growth Rates.

Source: Metropolitan Washington Council of Governments, *Round 6.2 Cooperative Forecasts* (Arlington County Department of Community Planning, Housing, and Development).

As revealed by the ridership model presented in Chapter 8, an outcome of concentrated growth along Metrorail corridors has been higher patronage levels. Metrorail ridership in Arlington has risen by over one-third—an additional 22,000 daily trips, since operations commenced in 1980.

In 2002, the five Arlington stations that were most active were Rosslyn, Pentagon, Crystal City, Pentagon City, and Ballston, in that order (see Table 12.4). Retail, office and residential development at Pentagon City gave rise to more than a three-fold increase in boardings since 1980. Other stations that attracted mid-



Figure 12.3. Arlington County Commuting Patterns. The left panel shows commuting patterns of the County’s employed residents. The right panel shows patterns for those working in the County. Source: Arlington County Department of Community Planning, Housing, and Development; Arlington County Profile, 2003; U.S. Census 2000.

Table 12.3. Arlington Commute Mode Splits, 2000

Commute Mode (2000)	County	Metro Corridor	Outside Metro Corridor
Drive Alone	54.9%	40.5%	60.9%
Carpool	11.5%	7.3%	13.2%
Transit	23.3%	39.3%	16.7%
Walk/Bike	6.3%	10.5%	4.6%
At Home	3.4%	2.3%	3.8%
Other	0.6%	0.1%	0.8%
TOTAL	100.0%	100.0%	100.0%

Source: U.S. Census, 2000.

rise, mixed-use development, notably Court House and Crystal City, also experienced appreciable ridership gains.

As confirmed by time-of-day statistics, a benefit of balanced development has been balanced ridership. Figure 12.5 shows that Arlington County averaged higher shares of transit boardings and alightings at its stations in off-peak

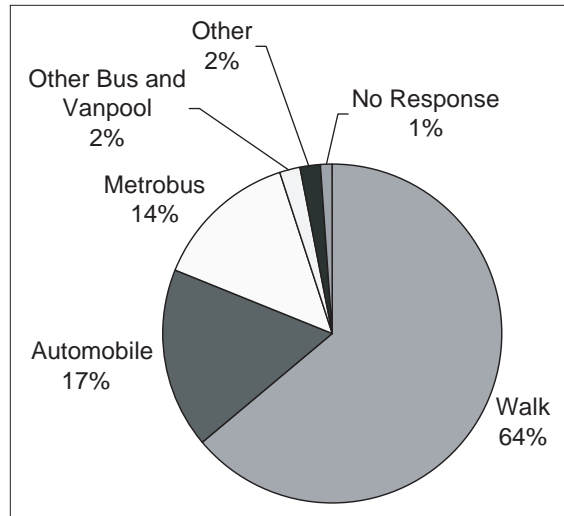


Figure 12.4. Ballston Metrorail Station Mode of Access and Egress, 2001. Source: Arlington County Department of Community Planning, Housing and Development.

hours than other jurisdictions, with the exception of Washington, D.C. Mixed land uses along the Rosslyn-Ballston and Jefferson Davis Metrorail corridors produced relatively high shares of midday, evening, and weekend transit

Table 12.4. Metro Ridership in Arlington: Weekday Boardings, 1977–2002

Station	Weekday Boarding				Ridership Growth 1980–2002		
	Nov 1977	1980	1990	2000	2002	Total	Percent
Rosslyn	11,167	12,752	13,565	14,672	14,816	2,064	16.2%
Arlington Cemetery	140	362	1,102	1,759	1,825	1,463	404.1%
Pentagon	10,558	16,123	20,687	15,548	14,136	-1,987	-12.3%
Pentagon City	1,312	3,586	6,650	11,058	12,805	9,219	257.1%
Crystal City	3,912	8,204	13,349	12,108	12,908	4,704	57.3%
National Airport	2,479	5,605	5,657	5,039	4,784	-821	-14.6%
Court House	-	2,825	5,310	7,079	6,695	3,870	137.0%
Clarendon	-	1,899	3,078	2,752	2,935	1,036	54.6%
Virginia Square-GMU	-	1,728	2,312	2,334	2,623	895	51.8%
Ballston	-	9,352	9,531	10,450	11,214	1,862	19.9%
TOTAL	29,568	62,436	81,241	82,799	84,741	22,305	35.7%

Source: WMATA database, 1977–2002.

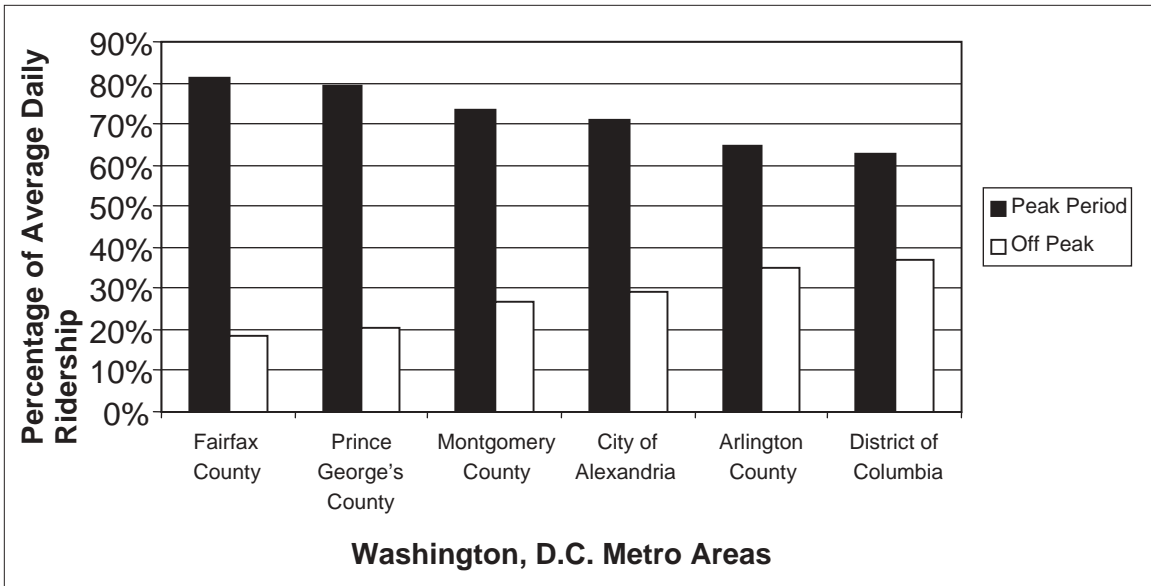


Figure 12.5. Percentage of Average Daily Ridership by Peak versus Off Peak and Locale, 2001. *Source: WMATA, 2002 Passenger Survey Final Report.*

trips. Figure 12.6 further shows that numbers of station entries and exits in Arlington County were nearly equal during peak and off-peak hours. During the morning rush hours, many of the County's Metrorail stations are both trip origins and destinations. The absence of a unidirectional, tidal flow of transit

demand means Metrorail trains are used efficiently, an important benefit of mixed-use TODs along linear corridors.

Another important travel-demand impact of TOD has been to keep traffic volumes on major arteries more or less in check. Table 12.5 shows that this has been more

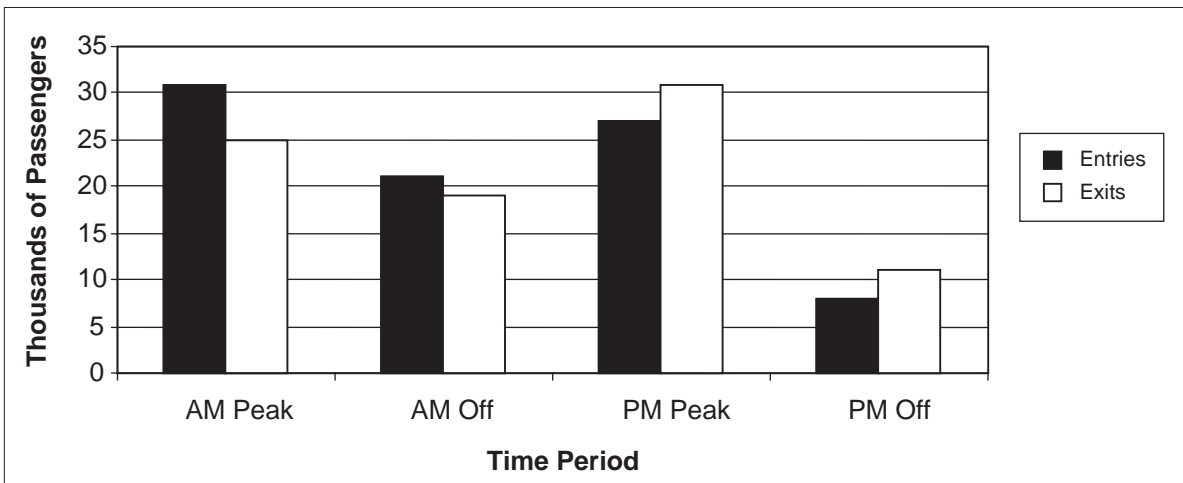


Figure 12.6. Arlington County Metrorail Stations, Entries and Exits by Time Period. *Source: Arlington County Department of Community Planning, Housing and Development.*

Table 12.5. Trends in Average Daily Traffic Volumes on Main Arterials Near Ballston and Clarendon Stations

Year	Ballston Wilson Blvd East of Glebe Rd	Clarendon Clarendon Blvd East of Danville St
1982	21,935	----
1984	20,354	----
1986	21,178	3,835
1988	21,183	3,089
1990	25,087	12,037
1992	21,179	13,286
1994	23,173	13,293
1996	23,064	13,793
1998	23,149	13,997
2000	22,350	14,790

Source: Arlington County Public Works.

or less accomplished on Wilson Boulevard serving the Ballston area, where average daily traffic (ADT) has hovered in the 22,000 to 23,000 vehicle range during much of the past two decades. Massive development during the late 1980s generated a surge in traffic; however, ADT on Clarendon Boulevard has generally stabilized since the early 1990s. Good-quality transit combined with market-rate parking prices and traffic management has prevented the kinds of traffic woes often associated with TOD from materializing in settings like Ballston.

Not everyone is happy with how roads have evolved near Arlington County’s Metrorail stations. Chris Zimmerman, a member of the County Board as well as the WMATA Board, recently remarked, “We got the land use ahead of the transportation.” Many of the County’s main roads serving station areas are more accommodating of high-speed through traffic than pedestrians. The

main route past the Court House TOD is a one-way couplet, which is a taboo in the minds of New Urbanists. Also, the Court House Station’s attractive pedestrian corridors are internal to the TOD, robbing roadways of an active street life. Efforts are underway to change this through a combination of traffic-calming, context-sensitive road designs, and sidewalk improvements.

Factors Behind Arlington’s Success

Arlington County is an extraordinary success story, a high watermark in America’s relatively recent foray into TOD. Why did it work in Arlington when other jurisdictions have tried and failed? Several key factors are listed below:

- *Textbook planning:* Good planning—specific station-area plans, density bonuses, as-of-right zoning overlays, and supportive infrastructure investments—played an important role in achieving a transit-supportive built form. Arlington County planners helped write the book on American-style TOD and have over the years released new editions that reflect plan amendments, greater attention to the needs of pedestrians, and a stronger accent on public amenities.
- *A receptive population:* Since its development as a bedroom suburb of Washington, D.C., in the New Deal, Arlington County has attracted a progressive citizenry, (at least by Virginia standards). Federal executives and those working at nonprofits and international organizations that struggle with big-world problems

populate the County and are inclined toward good planning and good governance. It is no fluke that the fight against resistance to school integration in the 1950s in Virginia began in Arlington.

- *Location, location, location:* Lying just across the river from Washington, D.C., and providing the opportunity to build tall buildings with better views of the Capitol's landmarks than were available in the city, Arlington was directly in the path of growth. As well-educated families flocked to Arlington and beyond, it became an attractive business location as well, with cheaper office space, more parking, and an easy commute to the District.
- *A deteriorating corridor:* Wilson Boulevard was one of the early access routes to Washington and, like other early highway corridors, was starting to show its age by the 1970s, with automobile dealers and services, cheap motels, and dated stores. County planners realized that the corridor was ripe for redevelopment; otherwise, it would have been a suburban slum. The coming of Metro provided an unprecedented opportunity for revitalization.
- *Tax base potential:* The upside of revitalizing the corridor was the potential to expand the County's commercial tax base to fund schools and other services desired by residents. Turning vacant, underused and financially underachieving properties into prime real estate lined the County's coffers and made it the envy of Northern Virginia jurisdictions.
- *Politics of collaboration:* Arlington's board members are elected at-large, on staggered terms and for long periods of time have been from the same party, Democrat. Moreover, the County Manager is appointed by the Board, rather than elected, so there is not the usual tension that exists between legislative and executive officials at the local level. Without the usual politics of confrontation, it has been possible to put forward big-picture plans like TOD and stick with them over the years. Since all members serve at-large, they feel less pressure to respond to particular constituent complaints and demands. NIMBY gripes about spot traffic congestion tend to get less political airplay as a result.
- *A manageable size:* The County's physical size, approximately 26 square miles, makes it possible for planners, officials, and citizens to have a good grasp of the territory, even in areas beyond their immediate neighborhood. That has made it possible to communicate the TOD vision to most in the community, who can regularly visit and patronize many of the new developments.
- *Good timing:* Fortuitous circumstances also had a hand in Arlington County's successes. One was the decision to extend the Orange Line from its terminus at Ballston to Vienna. Before the extension, the Ballston Station, like most rail terminuses, was surrounded by a sea of parking and bus staging zones. When these functions moved to the new terminus, large swaths of real estate became available to support large-scale projects.

Arlington County is not just a story of the past. More TOD possibilities lie ahead. There are 14 million square feet of commercial space and 22,285 housing units that can be built before the Metrorail corridors reach their development capacity.¹⁵ Arlington County's commitment to TOD will allow the county to sustain growth for another 30 years to come.

Transit and Economic Development in Washington, D.C.

WMATA and the District of Columbia have recently joined forces to tie Metrorail investments to economic development objectives. In a recent evaluation of nine potential transit corridors in the District, consideration was given to total ridership, mobility of transit-dependent residents, "constructability," connectivity to the existing Metrorail system, construction costs, and traffic impacts. More unusual was the inclusion of economic development criteria for transit corridor evaluation. Explicit weighting was given to supporting the city's economic development and neighborhood revitalization goals.

Stanmore Associates and Bay Area Economics inventoried and mapped the District's ongoing economic development and revitalization efforts to identify linkages and potential economic benefits of alternative transit corridors. The evaluation gave priority to transit corridors that would bring private investment to some of the city's economically depressed neighborhoods. Within each station area, development potentials were identified and growth projected. To assist in its selection of high-priority corridors for more

detailed consideration in the formal Alternatives Analysis phase, the Council of the District of Columbia requested fiscal impact projections associated with future development in each corridor.

The economic development analysis contributed to rerouting some of the corridors to enhance their potential economic spin-off. One route, initially proposed to run east-west via Florida Avenue and Benning Road, NE, was re-routed to use the H Street, NE, corridor, reinforcing the District's ongoing focus on revitalization of this historic business district. Other high-priority corridors emphasized connections across the Anacostia River, linking neighborhoods east of the river with the economic engines of downtown Washington and the expanding waterfront business center near the Navy Yard. Table 12.6 lists TOD projects already constructed or under construction in the Washington, D.C., area. Activity has become so brisk that the District has hired a TOD planner to work full time in helping to shepherd these and other projects forward.

Columbia Heights Redevelopment

The opening of the Metro's Green Line has led to significant new private and public investment. The last portion of the Metrorail system to be built in Washington, D.C. linked several low-income neighborhoods to the downtown and other employment concentrations. The improved accessibility has greatly increased the demand for middle-income housing in neighborhoods such as Shaw, Columbia Heights, U Street, and Petworth. These historic neighborhoods

Table 12.6. TOD Projects in Washington, D.C., 2003

Project	Total Size (square feet)	Use(s)
Department of Transportation Headquarters	1.4 million	Office
Station Place— Security and Exchange Headquarters	1.2 million (when complete)	Office
Southwest Waterfront	2.5 million	Majority office, 400 residential units, & 100,000 sq. ft retail
GSA Federal Building	422,000	Office, some retail
DC USA	500,000	Retail
Gallery Place	1.1 million	Mixed use, nearly equal parts office, retail, & residential (192 units)
Jefferson at Penn Quarter	616,000	Residential (428 downtown units), retail & new theater
Columbia Heights Station/Columbia Heights Plaza	183,500 and 224,000 (respectively)	Residential with retail (203 units & 206 units)— 20% of units are affordable
Ellington Plaza	178,000	Residential (186 units) & retail (15,000 sq. ft)
New Convention Center	2.3 million	Hospitality and retail

Source: D.C. Office of Planning.

have been largely bypassed by private investors for decades. Now, traffic gridlock, shifting demographics toward more childless households, and growing interest in urban living have increased the demand for housing in rail-accessible, in-city neighborhoods.

District of Columbia leaders place a high priority on neighborhood revitalization, building the Reeves Municipal Center at 14th and U Streets, NW, investing in affordable-housing developments, assembling development sites, and upgrading the public infrastructure. Columbia Heights has emerged as one of Washington's up-and-coming neighborhoods, with extensive private renovation of historic rowhouses as well as new retail and entertainment venues to the south along U Street, NW.

The 14th Street corridor that defines the neighborhood is attracting new retail investment in response to population growth. After languishing for more than a quarter century, the historic Tivoli Theater is being redeveloped for retail uses, live theater, and office space with a new adjoining supermarket and townhouses.

A \$140-million retail development, DC USA, proposed for development in Columbia Heights, will include a Target department store, a movie theater, big-box and small retail, restaurants, and a major public parking garage. The 540,000-square-foot project is dependent on a proposed \$50-million funding package from the District government. The D.C. Marketing Center reports that 152 housing units have been recently completed, with construction or renovation of 511 housing units currently underway and development

of another 572 units pending in the Columbia Heights Station area.

U Street TOD

One of the strongest markets for residential development and the cornerstone of the District's economic development plan is the U Street Corridor. Serving the area is the U Street/African-American Civil War Memorial/Cardozo Station. The area is best known for its many traditional jazz venues and is also becoming popular for its culinary offerings, with restaurants offering cuisines from all corners of the globe. Among the "20-something" crowd, U Street is an "in" place to live.

Since 2000, some 275 condominium and detached single-family units have been built within a ¼ mile of the U Street Station. Currently, four projects with over 500 multifamily residential units are in various stages of construction. Most eyes are on the Ellington Plaza mixed-use project, whose namesake is the neighborhood's favorite son, the jazz legend, Duke Ellington. Slated for completion in early 2004, Ellington Plaza will include 186 residential units and nearly 15,000 square feet of retail space.

WMATA owns two parcels near the U Street Station and through the RFP process has entertained development proposals for both. Current plans call for continued housing development, with some ground-floor retail, on both sites. One project will transform existing vacant lots and a dilapidated building into luxury lofts, office space, and contemporary retail. Condominiums with some 6,500 feet of ground-floor

retail are planned for the other. The District's Council member for the U Street area, Jim Graham, recently reflected on the economic development potential of these developments:

If everything that's planned happens, we're talking about 600 to 700 new residences. And all those people will want pet shops and hardware stores and other retail opportunities, which will really mean the economic diversification of 14th and U.¹⁶

Montgomery County, Maryland's Mature Business Districts

Bethesda and Silver Spring, in suburban Montgomery County, are both first-ring, inner-Beltway communities with mature downtowns. Both have enjoyed a significant amount of retail and office development since Metrorail's opening (see Text Box 12.3).

The Bethesda TOD: An Exemplar

Bethesda is the more affluent of the two suburbs, with some of the County's highest property values and incomes. Extending north from Georgetown, Wisconsin Avenue runs through the heart of Bethesda. The Metrorail station is on Wisconsin Avenue at the East-West Highway, Bethesda's 100-percent corner. Immediately to the north are the National Institutes of Health campus and the Naval Medical Center.

In 1970, as preparation began for the arrival of Metrorail, the County amended its master plan by reducing the size of the CBD boundaries to concentrate development. The plan also established a commercial transition zone to provide a buffer between the core and residential

Bethesda Row: Mixed Use TOD



Federal Realty Investment Trust

Bethesda Row, Bethesda, Maryland. *Source:* Urban Land Institute.

An exemplary model of the benefits of private-public collaboration is the Bethesda Row project in Bethesda's CBD. Bethesda Row is a large-scale, mixed-use redevelopment project on a site that covers seven contiguous city blocks and encompasses 13.5 acres of land. Currently, three of the four phases of the project have been completed, featuring 110,000 square feet of office space, 190,000 square feet of retail space, and 40,000 square feet of restaurants. The final phase will include art facilities, a movie theater, and possibly a residential component. The site is transit accessible, located within walking distance of the Bethesda Metrorail station. It is also pedestrian-/bike-oriented, as it is adjacent to the Capital Crescent Trail, a bike and pedestrian path.

Bethesda Row's developers, Federal Realty Investment Trust, funded the project through REIT financing and by phasing the project to both decrease development risks and create enough cash flow to cover future development costs. Montgomery County provided a significant funding source for the project by constructing a parking garage in the middle of the site using parking district funds.

The developers worked with county planners to ensure that the project complied with the city's downtown master plan, and the parties negotiated streetscaping designs as well as what the project's assumed traffic impacts would be. The developers also met with members of the community to address some citizens' concerns regarding the effect of national retailers on local businesses. The developers attracted a mix of local, regional, and national retailers to the project in order to resolve the issue.

The project has been a commercial and community success thus far. Office occupancy rate is currently at 99%, with annual rents running between \$20 and \$35 per square foot. The retail component includes 53 stores with average annual sales at approximately \$400 per square foot. The central location and diverse entertainment and restaurant facilities attract office workers and residents from nearby neighborhoods as well as from surrounding communities.

neighborhoods. Bethesda's CBD sector plan was amended in 1982 to ensure that the projects approved within the city's core maintained a high-quality design and complied with the community goals, including transit-oriented, compact development. The amended plan established public-facilities and design standards for the approval of new projects within the CBD. The plan also provided developers with the option of choosing an "optional-method" development. These projects are judged based on a "beauty contest" in which planners evaluate the site plan and the proposed provision of public amenities. These standards ensure that the city's planning board has more control over the design and the public resource capacity available to accommodate new projects within the CBD.

Public-private partnerships have also enabled the city to meet its planning and transportation goals. In the late 1980s, the county enacted legislation authorizing the creation of an urban district in Bethesda in which properties are levied a special tax to pay for public services within the district. In the early 1990s, the Bethesda Urban Public/Private Partnership was created to control the distribution of the revenues collected in the district.

Silver Spring's Emerging TOD

The Silver Spring Metrorail station, originally a terminus, was sited somewhat outside of the existing downtown because of a decision to use the existing railroad right-of-way west of the core. Downtown Silver Spring was a thriving business district in the 1950s and 1960s but later declined in the face of suburban mall competition. The

surrounding neighborhoods encompass a wide range of incomes, and the community benefits from a rich diversity of residents and employees.

In Silver Spring, as well as Bethesda, office development led the initial private investment response to Metrorail's presence. Several major office buildings were developed in both downtowns. Silver Spring attracted the National Oceanic and Atmospheric Administration. Due to its more favorable demographics, Bethesda developed a thriving restaurant district, attracting diners from around the region. Both downtowns benefited from the heightened interest in living near Metrorail, with increased demand and housing prices. Apartment buildings near the Metrorail charge premium rents, and close-in neighborhoods enjoy high occupancies.

For the first 15 years of Metrorail service, Silver Spring's office market flourished while the retail market faltered. The community experienced several false starts as developers attempted to bring major new retail to the downtown. In 1992, redevelopment of the former Hecht's department store into the City Place off-price retail development brought new movie theaters and retailers to the core, but the project was not large enough on its own to stem the retail exodus. Montgomery County planners responded. They assembled and cleared large tracts of land for redevelopment of Silver Spring's core. When Discovery Communications decided to consolidate its Bethesda offices into a single structure, major County incentives drew the company to the Silver Spring Metrorail station (see Photo 12.1).



Photo 12.1. Discovery Communications Headquarters, Downtown Silver Spring, MD.

The move from upscale Bethesda to long-struggling Silver Spring did not go unnoticed by the region's development community. Suddenly, Silver Spring became a hot spot. Renovation of the historic Silver Theatre attracted the American Film Institute and Roundhouse Theater, providing a new generator of pedestrian activity. More than 20 years following the Metrorail opening, the Peterson Companies and Foulger-Pratt have entered into an agreement with Montgomery County for the "Downtown Silver Spring" development. The first phase of this mega-project includes a new Whole Foods market; Strosnider's Hardware; and several small restaurant, retail, and service operations. The second phase, currently under construction, will bring several new restaurants, a state-of-the-art 20-screen Majestic Theater, Border's Books and Music, Pier 1, other specialty retailers, new parking garages, and a new office tower to downtown Silver Spring. The retail space is all oriented to the street, emphasizing pedestrian access. The first two phases will be followed by

a new civic building and public plaza, a residential complex, a hotel, and a sports club. This downtown development, three blocks from the Metrorail station, is the culmination of years of revitalization efforts by the County as well as private investments. While the development is not physically tied to the transit station, the close-in neighborhoods and the business district's office projects have all benefited from Metrorail service, creating the critical mass of both daytime and nighttime populations essential to successful retailing.

Rail to Dulles

The latest planned addition to the system is an extension to Dulles Airport, through Fairfax and Loudoun counties. This is Northern Virginia's technology corridor, one of the nation's fastest-growing and most prestigious business addresses. Extending rail to Dulles has been envisioned since the airport was built in the 1960s, thus right-of-way was preserved in the median strip of the Dulles Access Road. Airport officials felt that implementing the original plan would be a cinch, with right-of-way in place and relatively low construction costs. However, the price of the project ballooned when consideration was given to intermediate station stops to serve localities as well as the cost of direct access to the terminal itself. Once the cost hit \$4 billion, the localities, the FTA, and even some of the sponsors blinked. Various combinations of stations, bus rapid transit, and light-rail technology have all been considered to keep the project within a reasonable budget. Service to Tyson's Corner, the region's most successful commercial district, and, in retrospect, a major omission in the original subway plan,

was central to the deal. However, Tyson's spread-out form meant that it could require four to six stations, adding significant expense to the construction cost and delay to airport passengers (see Photo 12.2). Terminating at Tyson's would invoke the wrath of the Federal Aviation Administration, which would probably deny access to the Dulles Access Road. Bypassing Tyson's would save money, but would lose needed ridership, political support, and forgo the opportunity to make the region's premier edge city more oriented to transit.

A proposal adopted in August 2003 calls for a downsized 11-mile extension from the West Falls Church Station to the Reston area, a \$1.5-billion first phase of an eventual 23-mile route to Dulles and beyond. The first phase would have four stations in Tyson's Corner. Some 15 million square feet of new development is expected around these stations, about half of it residential. Fairfax County approved a Tyson's II TOD for 6 million square feet of mixed-use in June 2003 and a high-density residential project in Tyson's with 1,540 dwelling units in early 2004. Loudoun



Photo 12.2. Proposed Rail Station Site at Tyson's Corner. *Source:* Dulles Corner Rapid Transit Project.

County approved Moorefield Station TOD with 9.75 million square feet of commercial space and 6,000 housing units in late 2002.

An application for Preliminary Engineering funds is pending with the FTA. It is expected that federal funds would cover half the costs, with landowners and the state sharing the remainder. The financing plan for the project, however, unraveled in late 2003 when the Herndon Town Council, one of the affected municipalities, vetoed a single tax district for the Dulles corridor that was to have provided Fairfax's portion of the funding. Property owners in Reston, which is not incorporated, and Herndon feared that they could pay taxes for a project that might never reach that far west because the federal government might opt to withhold funding. This financing plan is in part due to the defeat of a transportation tax in the 2002 elections that would have generated significant revenues for the Dulles rail project. While the media and some Virginia leaders claim the project is dead, Herndon officials themselves have been open to working with the Fairfax County, and advocates still believe local concerns can be addressed in time to get the project back on track for federal funding.

The painful process of retrofitting transit into an unabashedly automobile-dependent edge city will be an uphill struggle and is a reminder of the importance of bringing transit in at the early stages of growth, as was the case in Arlington County. (See Text Box 12.4.) Some hope that one day some of the region's outer-ring edge cities can take on the appearance and ambience of Bethesda and Ballston.

The Design Challenges of TOD

While transit-oriented residences have become hot commodities in and around the nation's capital, they often pose special design challenges. Architect-designers with Dorksy Hodgson + Partners, a national architecture and planning firm with extensive experience in the Washington area, recently outlined these challenges in an article in the spring 2003 issue of *Multifamily Trends*, a publication of the Urban Land Institute.

- *Each project is unique.* A Metrorail station's location in relation to residential development, current vehicular and pedestrian flows, topographic conditions, and neighborhood character must all be given careful thought when a project is considered. TODs are not cookie-cutter projects!
- *TOD on constrained sites.* The 11-story Jefferson apartment tower with 14,000 square feet of ground-floor retail is nearing completion one block from the Clarendon Metrorail station in Arlington. Three roadways define the triangular-shaped site, presenting a unique mixed-use design challenge. Key site design issues were placement of the front door, garage, service entries, and main retail spaces. A constraint was transformed into an asset by incorporating "place-making" architectural features at the three corners of the site, including roof structure design elements, accent lighting, and a public plaza with a clock tower at one corner. While being near transit is one of Jefferson's draws, some visual and functional separation is necessary to ensure residents' privacy. Accordingly, an entrance and lobby separate from street-level retail were built, and the project's interior features amenities reserved for residents, including an outdoor pool and health club.



Constrained Site of the Jefferson Parcel, Near the Clarendon Metrorail Station. Three major roadways — Washington Boulevard, Tenth Street, and Highland Street — converged to form a difficult site for a TOD. Smart design treatments allowed a mid-rise transit-oriented apartment to take form.

- *TOD density through design—thereby, heading off NIMBY backlash.* NIMBY has formed impediments to TOD even in metropolitan Washington. What works best there, as perhaps everywhere, is a proactive approach: identifying key leaders early in the process, arranging community meetings, and reassuring everyone that a structure will visually enhance the existing neighborhood. For the 18-story Twin Oak residential tower near the Rosslyn Station, a highly articulated, stepped structure was designed to minimize the project's visual impact on an adjacent high-rise condominium; this design helped to gain the community's approval for the project. Twin Oak also kept land open by undergrounding parking for 350 cars, providing generous landscaping, designing an open plaza, and adding ground-floor retail uses that serve the entire neighborhood. One TOD developer from the area has remarked: "For a residential transit-oriented project to succeed, it must be attractive, look substantial, and be appropriately scaled, with plenty of curb appeal—while keeping everything within budget."

The Design Challenges of TOD

- *Mixed retail and residential design challenges.* Many residential transit-oriented projects in the Washington area aim to create a 24/7 urban lifestyle and use street-oriented retail to energize a project's pedestrian life while at the same time tapping into foot traffic to and from Metrorail stations. However, significant design challenges are often encountered. For instance, ground-floor retail needs greater floor-to-floor height (typically 15 to 18 feet) to be marketable, compared with the 8 to 10 feet between residential floors. That means the entire ground floor, including multifamily areas, must have higher ceilings, which increases project costs. Ground-floor restaurants pose problems such as where to put the exhaust shafts for kitchens. The exact size and location of restaurant space may not be known until leases are signed. Designers must thus allow exhaust shafts to be put in several potential locations, which can reduce net leasable space. Mixed-use designs can be further complicated by the need to accommodate the existing transit station's surface automobile and bus lanes, subgrade transit lines, and pedestrian walkways while addressing each site's geographic challenges and setback requirements.
- *The parking conundrum.* Parking can be a particular headache with mixed-use TODs. Designing a garage to accommodate the diverse parking needs of retail shoppers, office employees, and building residents can eclipse all other design challenges in complexity. While many workers and shoppers will take Metrorail, daytime parking spaces are still needed for others, with easy pedestrian and elevator access to the building. For residents, parking security is a huge concern. A garage might therefore require separate entrances for residents and shoppers. The Residences at Rosedale Park near the Bethesda Metrorail station required a unique solution. The project design includes six- and eight-story buildings on opposite sides of the street. The site configuration allows for only one entry ramp for a garage and service area for both buildings, mandating a common three-level, 300-automobile, underground garage that spans the below-street space between the two buildings.

Source: S. Silverman, "Designing the Urban Future," *Multifamily Trends* (Spring 2003): 30–35, 54.

Text Box 12.4 (Continued)

TODs and Real-Estate Market Performance

Given that the Washington (D.C.) Metropolitan Area enjoys one of the nation's best modern-day rail networks and transit/land-use connections and given its relatively healthy economic standing, one would expect real estate in

and around Metrorail stations to sell and lease for a premium. Empirical evidence bears this out.

Even before Metrorail services commenced, research had demonstrated that developers and speculators were bidding up land prices around stations in anticipation of downstream profits.

Using hedonic price models, researchers from the Wharton School at the University of Pennsylvania found a significant price elasticity of -0.69 for commercial-retail properties within 2,500 feet of Metrorail stations one year before the system opened (i.e., sales prices per square foot for retail parcels fell by 7% for every 10% increase in the distance to a station portal).¹⁷ A 1983 article in *American Demographic* chronicled Metrorail's land-market benefits in the early years. Between 1979 and 1982, 77% of mixed-use projects, 54% of hotel rooms, and 58% of total office space were built in Metrorail station areas, most on sites that commanded healthy rent premiums.¹⁸ Articles from the real-estate sections of the *Washingtonian* and the *Washington Post* from the early 1980s had banner headlines that proclaimed, respectively, "houses and condos near future Metro stations can be gold mines" and "value of land around Metro leaps dramatically in 5 years."¹⁹ By one account, during its first 5 years, Metrorail had "increased the value of downtown commercial land in the District of Columbia by at least \$1.6 billion and the value of land in Northern Virginia by at least \$81 million."²⁰

Fast-forward 20 years and pretty much the same story is being told. Jonathan Cox, vice president of the Holladay Corporation that built the Hartford Condominium project a block from the Clarendon Metrorail station says,

Everyone in the Washington area realizes the value of Metro . . . The Hartford's boutique condominium was sold out last April—early in the construction process. Our buyers value living in an urban area where restaurants and shopping are

convenient and walkable. They want proximity to Metro, whether or not they commute to work.²¹

Because of its demographics of young professionals and couples with no dependents, Washington, D.C., has one of the strongest urban apartment markets in the nation. According to Gregory Leisch, chief executive of Delta Associations, a real-estate market research company based in Alexandria,

Apartments located close to Metro transit lines are in high demand and command higher rents than those in suburban locations. Traditionally, apartments have served as an entry for younger people, but now the market is also fueled by baby boomers seeking close-in locations. Affluent empty nesters also see rental housing in the city as an attractive lifestyle alternative.²²

Public policies have also made building housing near Metrorail stops attractive to the development community. Most counties in the region have reduced their parking requirements from the traditional 1.6 cars per unit to just over one space per unit for residential projects within $\frac{1}{4}$ mile or so of a rail station. The resulting reduction in cost increases the project's bottom-line returns.

Given the Washington area's rosy demographic and economic outlook, demand for transit-oriented living, offices, and retail shops will likely remain solid for decades to come. Worsening traffic congestion—the region ranked the nation's second most congested in 2003 in terms of share of daily travel in "rush hour" conditions—will only increase the demand to be around Metrorail stations in years to

come.²³ In the words of one Washington-area developer interviewed for this study, “Today’s smart money is around Metrorail stops.”

Conclusions and Lessons

Because Washington’s Metrorail was intended to influence regional development patterns, it offers some lessons on building TODs from the ground up. While TOD in the region is of a scale and scope that is much grander than elsewhere in the United States, when stripped to the basics, the lessons that the Washington (D.C.) Metropolitan Area has to offer are transferable to other places. One important lesson is that planning cannot start too early. WMATA’s joint development program began before Metrorail service opened. Two entities, Montgomery and Arlington Counties, embraced the transit project as part of their long-range future and continued to refine their planning and implementation strategies to create transit-oriented communities around major rail stops. Citizens became reliable supporters, elected officials got on board, and developers worked earnestly to implement the policies. This early understanding of the role of transit made it possible to adjust the location of routes and stations and justified the high costs borne in return for a highly functional transit/land-use nexus.

The market is also crucial. In the cases of Arlington and Montgomery Counties and the District of Columbia, Metrorail was built through many locations that were attractive for residential and commercial growth, making them desirable for high-density development even without subway services. Other locations, lacking such market appeal,

continue to struggle with attracting the right mix or, in some cases, any new development. Greater public involvement and concessions are needed to make such projects work, with or without transit. In the case of the District of Columbia, the upscale projects in hot neighborhoods are desired in more working-class communities. Even in generally prosperous Montgomery County, Bethesda prospers with a relatively light hand on the planning tiller, while Silver Spring requires hefty public subsidies to help overcome the ills of an inner-ring suburb.

Retailing follows rooftops, even in a transit-intense setting. While it is often an attractive component of a TOD, it must pencil out to retailers and developers more interested in the amount and mix of housing nearby than the transit connections. Most developers insist that retail spending far exceed that delivered through a transit connection alone. Encouraging housing along a transit corridor helps support additional retail, regardless of how the shoppers get there. There are, however, special opportunities in which excellent transit access reinforces a superior trade area, as in the case of Pentagon City, a regional mall that is able to tap into a strong market of shoppers and also get more than one-third of its business from Metrorail.

Increasingly, WMATA is viewing parking as good interim use. Some of the best development opportunities around transit are on parking lots originally built for commuters. The impediment is that while in the eyes of the planners this is an interim use, in the eyes of the commuters and the transit agencies, it is essential and must be replaced. A staged

plan is needed to be able to develop such accessible sites and to ensure that if replacement parking is required, it will not be a barrier to such development. WMATA's recent efforts to proactively seek community input into the joint development decision-making process should make parking-lot infill a more acceptable practice in coming years. One is struck by the rich and diverse palette of TOD that is taking form in the Washington (D.C.) Metropolitan Area. Arlington County remains one of the nation's premier examples of TOD, if not transit-oriented corridors. Over the past 30 years, Arlington County officials, planners, and citizens have joined forces to employ various tools to steer high-density, mixed-use development along the County's two major Metrorail corridors. Besides high tax yields from development that would have probably gone to other jurisdictions, high and balanced-flow ridership has been an important payoff. Older suburban downtowns like Bethesda and, more recently, Silver Spring are also undergoing a TOD facelift. Progressive city and county policies, including density bonuses and flexible parking codes, have encouraged TOD in these areas; however, market demand for a suburban Metrorail address also deserves some of the credit. The nation's capital has long had transit-oriented commercial development; however, what one finds today are numerous housing projects breaking ground that are taking advantage of Metrorail's proximity. Traffic congestion beyond the Beltway, a robust and fairly resilient job market, and new downtown amenities are creating a back-to-city movement that is boosting infill and redevelopment in the District and inner-ring suburbs, often near Metrorail stations.

Notes

- ¹ Washington Metropolitan Area Transit Authority, "Metro Transit Oriented Development Program Marks a 26 Year History of Success," press release (Washington, D.C.: June 20, 2002).
- ² Alvin McNeal, "Placemaking: Developing Town Centers, Transit Villages and Main Streets," (presentation at Urban Land Institute Conference, Reston, Virginia, September 11, 2003).
- ³ Jones Land LaSalle, "Real Estate Portfolio Assessment" (Washington, D.C.: Washington Metropolitan Area Transit Authority, February 7, 2002): III-1.
- ⁴ U.S. Census of Population, 2000, Census Transportation Planning Package. Special tabulations of journey to work data for county defined zones in transit corridors.
- ⁵ Arlington County Board, *General Land Use Plan* (Arlington, Virginia: 1996).
- ⁶ Planning Division, Arlington County Department of Community Planning, Housing and Development, "30 Years of Smart Growth: Arlington County's Experience with Transit Oriented Development in the Rosslyn-Ballston Metro Corridor" (PowerPoint Presentation), 2003. Available at <http://www.co.arlington.va.us/cphd/planning/hotitems.htm>.
- ⁷ Meeting minutes from a meeting of the County Board of Arlington County, Virginia, Saturday, March 16, 1991. Available at <http://158.59.15.111:10001/isysquery/ir14e9f/1/doc>.
- ⁸ S. Silverman, "Designing the Urban Future," *Multifamily Trends* (Spring 2003): 30–35, 54.
- ⁹ Arlington County Board, 1996, op. cit.
- ¹⁰ Arlington County Department of Community Planning, Housing and Development, *Arlington County Profile 2003* (March 2003). See <http://www.co.arlington.va.us/cphd/planning>.
- ¹¹ JHK & Associates, *Development-Related Ridership Survey II* (Washington, D.C.: Washington Metropolitan Area Transit Authority, 1989).

- ¹² Arlington County Economic Development, *A Current Assessment of Arlington's Community Retail Base*, Issue Paper No. 2 (August 2003).
- ¹³ Bay Area Economics for Arlington Economic Development, *Retail Market Assessment of Arlington County Metro Station Areas and Commercial Districts* (June 1999).
- ¹⁴ Arlington County Economic Development, August 2003, op. cit.
- ¹⁵ Arlington County Department of Community Planning, Housing and Development, *Planning Information Report 55: Development Capacity in the Metro Corridors* (2002).
- ¹⁶ E. Kretikos, "Spate of Projects Enliven U Street," *Washington Business Journal*, November 11, 2002, p. 1.
- ¹⁷ D. Damm, E. Lerner-lam, and J. Young, "Response of Urban Real Estate Values in Anticipation of the Washington Metro," *Journal of Transport Economics and Policy*, Vol. 14, No. 3 (1980): 20–30.
- ¹⁸ C. Baker, "Tracking Washington's Metro," *American Demographer* (November 1983): 30–35, 46.
- ¹⁹ M. Weiss, "How Close to Metro? Houses and Condos Near Future Metro Stations Can Be Gold Mines," *Washingtonian*, December 1980, pp. B-1–B-4; L. Simons, "Value of Land Around Metro Leaps Dramatically in 5 Years," *Washington Post*, January 24, 1981, p. C-1.
- ²⁰ Simons, 1981, op. cit.
- ²¹ S. Silverman, Spring 2003, op. cit., p. 31.
- ²² Ibid., p. 32.
- ²³ See <http://www.mobility.tamu.edu/ums>.

Photo Credits

Photo 12.1: Silver Spring Discovery Inc.
Headquarters

Photo 12.2: Dulles Corner Rapid Transit Project
Bethesda Row photo: Urban Land
Institute

All other photos in Chapter 12 are from the
Arlington County Department of Community
Planning, Housing, and Development.

Chapter 13

TOD and Joint Development in the Sunbelt: Miami-Dade County

Over the past half century, Florida has grown at a faster rate than any other state in the nation, from some 2.8 million residents in 1950 to nearly 16 million in 2000.¹ As the nation's fourth most populous state, rapid-paced growth has heightened concerns about dwindling natural resources, mounting traffic congestion, and an overall declining quality of life.

In recent years, Florida's largest metropolitan areas have been under increasing pressure to either restrict future growth or implement plans that emphasize compact forms of development oriented towards transit. In particular, Miami-Dade County, Florida's largest and most densely populated region,² has aggressively sought to encourage TOD. Miami-Dade County's efforts are notable in several respects: (1) a unique institutional framework that allows the County transit agency to take the lead on planning and zoning at transit stations and along transit rights-of-way, (2) a heavy emphasis on transit joint development and public-private partnerships, and (3) a long history of viewing TOD and joint development as important tools for revitalizing inner-city neighborhoods. In addition to increasing transit ridership and reducing traffic congestion, TOD has often been looked on as a catalyst for promoting private investment in depressed neighborhoods and redressing social inequities. This case study provides an overview of TOD planning

across the state of Florida, followed by an examination of TOD as a tool for stimulating revitalization and community development in Miami-Dade County.

TOD in Florida

Florida has an established history of pushing transportation issues to the forefront of city and regional planning. The state has more municipalities with explicit "smart-growth" development codes than anywhere in the country, and it is currently in the planning stages of an ambitious statewide high-speed rail system. Florida's Comprehensive Plan stresses the importance of urban and downtown revitalization and encourages both the expansion of mass transit systems and the development of infill sites.

Despite these intentions, efforts to promote TOD as a growth management tool within state agencies such as the Department of Transportation and the Department of Community Affairs have been slow. TOD is given only general acknowledgment in the Department of Transportation's *Florida Transportation Plan*. Objective 3.1 of the Transit Element of the *Florida Transportation Plan* promotes TOD through "land use planning and urban design practices that facilitate transit service and access."³ The *Plan* also calls for "transit supportive strategies and standards" to be incorporated into state and local plans, but it does not specify what those

standards might be. The only active policy in the *Plan* suggests the incorporation of easements for future transit projects into the Department of Transportation's right-of-way acquisition processes. In the absence of concrete and specific direction from the state, local governments, in conjunction with some MPOs, have taken a more proactive stance toward implementing TOD.

The city of Tampa has adopted *Plan 2015*, which proposes developing a major fixed-rail transit system for Hillsborough County and Tampa's surrounding areas. *Plan 2015* explicitly recognizes a "general area of influence" of 900 feet to ¼ mile around each proposed station that, if located within Tampa's CBD, should create pedestrian networks separated from vehicular traffic, have a mixture of uses, and deter automobile travel close to the station.

The city of Orlando's most recent Transportation Element also mandates that the city "seek opportunities for development around transit centers . . . in an effort to encourage public transit ridership" (see <http://www.cityoforlando.net/planning/cityplanning/Policy%20Document5c.%20Transportation%20Element.pdf>). The Element calls for a harmonious relationship between major transit nodes and surrounding areas. In these and other Florida cities, concerted efforts are underway to introduce codes and create incentives for TOD.

Florida law also recognizes the ability of transit authorities to enter into lease agreements with private parties "for joint public-private transportation purposes to further economic development in this state and generate revenue for transportation."⁴ State law provides the

legal structure under which these joint developments may be entered and sets some limits on the scope of potential lease agreements. This legal framework for TOD has been crucial for TOD planning and implementation in Miami-Dade County.

Transit Planning and Joint Development in Miami-Dade County

Florida's most promising opportunities for TOD are found in Miami-Dade County, where relatively high densities have made public transit a viable transportation option. Miami-Dade County is also home to one of the most active local governments in Florida with respect to both transportation planning and joint development. Objective 7 of the County's *2001 Comprehensive Development Master Plan* (CDMP) encourages

development of a wide variety of residential and non-residential land uses and activities in nodes around rapid transit stations to produce short trips, minimize transfers, attract transit ridership, and promote travel patterns on the transit line that are balanced directionally and temporally to promote transit operational and financial efficiencies.⁵

The CDMP prohibits uses that are "not conducive to transit ridership" and specifies minimum densities for new development within various radii around the station area.

Despite clear goals from the CDMP, TOD in Miami-Dade County has met with mixed success. The situation is best understood in terms of the institutional landscape and market reality within which TOD occurs. Although the public

sector has been most directly responsible for the presence of TOD in the county, local governments have not always been able to smoothly coordinate amongst themselves. Varying intra-county market conditions combined with preexisting land uses account for the relative success at some stations and lackluster performance at others.

TOD Market Dynamics

The scarcity of developable land in Miami-Dade County has prompted developers to turn to infill projects. Across land-use types, the following development opportunities exist in the County:

- *Office:* Despite a recent softening in the market for Class A office space in most Miami-Dade sub-markets, the region's role as a center of international trade between the United States and Latin America has kept the office market fairly strong. The current pipeline of planned and proposed office projects includes hundreds of thousands of square feet near transit stations, mainly in downtown Miami.
- *Retail:* The Miami-Dade market is buoyed by a relatively small inventory of retail space. Miami-Dade County has the lowest retail space per capita in South Florida and has not added a significant supply in recent years. Presently, there is a pipeline of retail projects planned or under construction in Miami-Dade County such as Merrick Park in Coral Gables.
- *Residential:* Demand for multifamily housing remains strong in South Florida, due in part to strong demographic growth.⁶ The regional population increased by more than

27% from 1990 to 2002, compared with a national growth of around 15% over the same time period. Average monthly rental rates climbed by over 5% between 2001 and 2003. Vacancy rates in 2002 held stable as well, hovering between 2% and 4% for suburban, garden-style rental apartments. Luxury apartment units in more urban settings average a higher vacancy rate, closer to 10%. Presently, around 9,000 apartment units are being built annually in Miami-Dade County, the majority of which are high-rise urban infill projects (see Photo 13.1).

Transportation Agencies in Miami-Dade County

The County operates Miami-Dade Transit (MDT), the largest and most heavily patronized public transit system in Florida, and the 16th largest in the country. MDT is responsible for the daily operations, safety, marketing, and maintenance of four systems: Metrorail, Metromover, Metrobus, and Paratransit.



Photo 13.1. New High-Rise Housing Near the Brickell Metrorail Station in Downtown Miami. Hundreds of rental and for-sale multifamily units are currently planned or under construction on infill sites throughout Miami-Dade County, with much of the action in and around Metrorail stops.

Metrorail, which opened in 1984, is a 21-mile, elevated rapid transit system that runs from the city of Hialeah Gardens, southeast through downtown Miami, and continues southwest into Kendall. Metrorail connects with the regional Tri-Rail commuter-rail system at the Tri-Rail station in north Miami (see Map 13.1).

To encourage TOD along Metrorail corridors, the County has sought joint development partners at 11 of the existing 22 station areas. To date, four projects have moved forward, with eight

more in the pipeline, as summarized in Table 13.1.

Throughout Metrorail’s 19 years of operations, ridership has been flat, and the system has been perceived by many as underutilized. The County hopes to remedy this problem with a two-pronged strategy: (1) extending the system by approximately 90 miles and adding nearly 50 new stations and (2) targeting new development along Metrorail corridors. This strategy, proponents hope, will create new opportunities for joint development and TOD throughout the region.



Map 13.1. Miami-Dade Metrorail Lines. Source: Miami Dade Transit

People’s Transportation Plan

To support the County’s efforts to manage growth, reduce traffic congestion, and encourage TOD, voters in Miami-Dade County passed the *People’s Transportation Plan* (PTP) in November 2002. PTP raised local sales taxes by 0.5% and mandated that these revenues be used only for transportation and public transit improvements. PTP is projected to raise more than \$140 to \$150 million or more annually.

Approximately 75% of the surtax proceeds will flow into three programs: Metrobus service improvements, rapid transit improvements, and major highway and road improvements. MDT’s fleet of buses will nearly double, significantly increasing the number of service miles and routes. Some 90 miles of new track will be added to the existing Metrorail system, with the 50 or so planned new stations serving as catchments for “smart-growth” TOD.

The PTP stipulates that no more than 5% of the surtax proceeds are to be

Table 13.1. Miami-Dade County Metrorail Joint Development and TOD Activities, as of 2003

Station Area	Daily Boardings	Status	Comments
Okeechobee	1,568	In Process	At least 150 units of affordable rental housing with some market-rate housing.
Hialeah	1,139	NA	NA
Tri-Rail (a)	744	NA	NA
Northside	1,309	In Process	Affordable and market-rate rental units, 10,000 sq. ft. of ground-floor retail.
Dr. MLK, Jr.	817	In Process	172,000 sq. ft. of County office space and 13,500 sq. ft. ground-floor retail.
Brownsville	562	NA	NA
Earlington Heights	897	NA	NA
Allapattah	1,200	In Process	128 affordable garden style rental apartments.
Santa Clara	366	In Process	208 affordable rental apartments in a 9 story building.
Civic Center	3,492	NA	NA
Culmer	663	NA	NA
Overtown/Arena	737	In Process	341,000 sq. ft. office building, 588-space office garage, 4,000 sq. ft. of retail.
Government Center (b)	6,418	Completed	Station feeds directly into a mixed-use office and retail complex.
Brickell (b)	1,800	NA	NA
Vizcaya	836	NA	NA
Coconut Grove	1,067	In Process	407 market-rate apts., 150-room hotel, 41,300 sq. ft. of retail, 367 parking spaces.
Douglas Road	1,952	Completed 2002	150,000 sq. ft. of County office space, 750-space parking structure.
University	1,231	NA	NA
South Miami	2,325	In Process	Mixed-Use with 20 market-rate rental lofts, 160,000 sq. ft. office, 20,000 sq. ft. retail
Dadeland North	4,415	Completed	320,000 sq. ft. big-box retail, 9,600 sq. ft. TOD-retail, 48 apts. Mall opened 1994.
Dadeland South	4,144	Completed	600,000 sq. ft. office, 35,000 sq. ft. retail, 305 room hotel, 3,500 parking spaces.
Total	37,681		

Notes: (a) Metrorail / Tri-Rail transfer station NA = No Activity
 (b) Metrorail / Metromover transfer station
 Source: Mami-Dade Transit, 2003.

expended on administrative costs. All of the municipalities within Miami-Dade County will split the remaining 20% of the total surtax revenues on a pro rata basis according to population, with monies expected to go to local ancillary improvements like bikeways and traffic calming.

The PTP created two new County-level transportation entities. The Citizens' Independent Transportation Trust (CITT) will serve as an independent, nongovernmental decision-making body with significant powers over the expenditure and use of surtax proceeds. Each of the County's 13 districts will have one representative appointed by a "Nominating Committee," which, in turn, will be made up of members who are

"representative of the geographical, ethnic, racial, and gender makeup of the County" (see http://www.miamidade.gov/trafficrelief/citt_selection_process.asp). In addition to these selections, the mayor and the Miami-Dade League of Cities will each appoint one member to the CITT, for a total of 15 members.

The second new transportation-related department created after the passage of the PTP is the County's Office of Public Transportation Management (OPTM), which is responsible for the planning, engineering, construction, financial, and management services previously under MDT's jurisdiction. OPTM will also advise the CITT on how to spend surtax revenues from the PTP. In addition, OPTM will manage all joint development

property and leases. In effect, MDT continues to be responsible for the daily operations of existing public transit service, but OPTM will manage, develop, and implement all new projects and system expansions.

In its first 6 months of existence, OPTM has prioritized service improvements and expansions, with such actions as implementing free service on the Miami downtown Metromover and free transit for all Miami-Dade residents who are 65 years in age or older. The agency also purchased 170 new buses, increased the number of hours on 12 existing bus routes, and added on 50 new routes. To date, OPTM has had limited new activity in joint development, in part because other tasks have been considered higher priorities.

Joint Development

An important component of Miami-Dade County's plan to increase public transit ridership and transit-agency revenues lies in the joint development of agency-owned properties at or surrounding Metrorail station areas. Miami-Dade's first joint development agreement was in 1984 at the Dadeland South Metrorail Station (see Text Box 13.1). The first three stages of that development included more than 600,000 square feet of Class A office space, 35,000 square feet of retail space, and a 305-room luxury Marriott Hotel. Despite this successful initial foray, other joint development projects have been "slow going." The vertical "big-box" mall at the Dadeland North Station (1994) and the Miami-Dade Water and Sewer Department Headquarters at the Douglas Road Station are the only other two completed projects. However, in recent years, joint development has been

gaining momentum as urbanized portions of Miami-Dade County have become more attractive to private investment: three projects have begun construction since 2001, and groundbreaking is anticipated at two more station areas in early 2004.

As practiced in Miami, joint development typically involves the transit agency (MDT/OPTM) selecting a private development partner through a competitive bidding process and negotiating a long-term ground lease with that partner for one or more County-owned parcels near the transit station. As with other transit agencies across the country, joint development is seen as a key revenue generator. Miami's approach to joint development has largely been market driven; land write downs and financial incentives have not typically been part of agreements with developers. Moreover, joint development initiatives in Miami have, until recently, not involved direct participation or input of local redevelopment agencies, development authorities, or other local public agencies.

Rapid Transit Zone

One tool that the County has used to encourage private developers to engage in joint development activities has been the adoption of a rapid transit zone (RTZ).⁷ This zoning classification applies to all land and airspace deemed by the Board of County Commissioners as necessary for the construction of fixed-guideway transit, including all stations. The RTZ does not restrict any type of land use so long as it is "appropriate and compatible with the operation of the Rapid Transit System and the convenience of the ridership" (see *Miami-Dade County Code*, Section

Joint Development at South Dadeland Station

The South Dadeland Station's mid-rise skyline is the result of a joint development quid pro quo in the purest sense. The property is in a prime location, situated off of the U.S. 1 expressway and the southern Metrorail line, and it is within walking distance of the 1.5-million-square-foot Dadeland Mall, South Florida's largest. In the early 1980s, on recognizing the property's development potential, the Green Company approached Miami-Dade County officials about a possible joint public-private venture to develop the site. Following several weeks of negotiations, it was agreed that the Green Company would donate the entire property—about 6 acres in all—to the County while retaining all air rights. The company then negotiated a 99-¹/₂-year lease (55-¹/₂-year direct lease with an option for a 44-year subsequent renewal). The terms of the master lease are that the County is guaranteed a minimum annual income of \$300,000 over the life of the lease—\$200,000 from the Green Company and \$100,000 from the Marriott Corporation. Over time, these amounts have been indexed to the Consumer Price Index. If the amounts are greater, however, the County receives 4% of gross revenues received each year from the office and retail rentals from the Green Company and from lodging and concessionary proceeds from the Marriott Corporation. Since the original pay-out in 1988, the County has been receiving well over a half million dollars annually in lease income.

The South Dadeland Station is also a notable example of cost sharing. MDT benefited in part by connecting the station directly to adjoining office towers (Datran I and II) and thus reducing some of the cost in excavating and building the station's foundation. The station and adjoining building also share several facilities, including ventilation systems and auxiliary generators. Moreover, the developer and County jointly built and own the 1,650-space parking garage through a condominium form agreement, with 1,000 spaces belonging to the County and the remainder to the developer. In total, transit officials put the cost savings from the joint provision of these shared facilities at more than \$4 million.

The office and hotel buildings at and above the South Dadeland Station have performed exceptionally well. The office buildings enjoy an occupancy rate of 95%. In 1997, Datran I received a "Building of the Year" award from the Building Owners and Managers Association. Also, the hotel presently has the highest occupancy rate (96%) in South Florida.



Text Box 13.1

33C-2, D-9a). RTZs do not have any preexisting constraints, so the County may write the zoning codes after a project has been proposed. The RTZ ordinance specifies that the County and municipality shall jointly undergo a station area design and development process to prepare master plan development standards, but it does not address what recourses are available to the city should it disagree with the County's vision for the site.

The RTZ ordinance is intended to lessen a project's uncertainty by giving the developer a single jurisdiction to work with instead of two or more (see Text Box 13.2). In the case of the Douglas Road Station area, an

Politics and the Development Process

A frequent theme that emerged in interviews with public officials and developers in Miami regarding joint development was the role of politics in creating uncertainty and risk for private developers. For example, planners pointed to at least two cases where developer RFPs were issued, but then rescinded when the County Commission elected to enter into negotiations directly with a not-for-profit Community Development Corporation (CDC). Notwithstanding the important roles that CDCs have played in forwarding some joint development projects in Miami-Dade County, the lack of certainty and consistency in soliciting private development partners injects an element of risk into the development process. This added risk, in turn, may discourage private developers from investing time and money into pursuing joint development projects within the County.

Text Box 13.2

amendment to the RTZ ordinance allowed the city of Miami to review the CDMMP and accept or reject it. However, the city was not given the authority to modify the standards as submitted. The Board of County Commissioners had the ability to veto the city's rejection should the Board have found the proposed development to have "county-wide necessity and significance" (see *Miami-Dade County Code*, Section 33C-2, D-10a) This process was written to apply only to the Douglas Road Station area, but planners at the city of Miami believe that the project has set a precedent for all future County joint development projects within incorporated areas. City planners cited Allapattah and Overtown Metrorail stations as developments where the County ignored city requirements.

Staff at the Miami City Manager's Office also expressed concern about the city's lack of control in determining locally appropriate land uses and design guidelines within RTZs. They cited a need for the city's Office of Transportation to increase staffing in order to work more collaboratively with the OPTM and the developer in the initial station area design and development process before County adoption of a site plan.

All four of the Metrorail joint project developers interviewed for this case study felt that the RTZ was an asset in the development process. However, one developer indicated that the flexibility of the RTZ ordinance did not completely eliminate the uncertainty and risks of building under two jurisdictional bodies. He reasoned that because the RTZ ordinance is amended to suit each specific project, it can actually increase uncertainty by not producing hard and

fast rules for developers to follow. A municipality may also seek judicial review of the County Commission's action, which can bring the project into a lengthy and expensive lawsuit.

Local TOD Incentives and Constraints

In addition to RTZ tools and incentives, local jurisdictions, such as the city of Miami, actively encourage development in neighborhoods near transit even if they are outside the RTZ. Local incentives have mainly included reductions in parking requirements and increases in permitted FARs or per-acre unit densities. In addition, local development authorities have been active in assembling land and providing infrastructure for sites near rail stations. These efforts, however, have met with mixed success, and in certain cases have actually created a disincentive for development. Extremely high permitted densities (up to 1,000 dwelling units per acre in some cases) in much of downtown Miami have, until recently, contributed to a dynamic where market realities do not match the expectations of land investors. Thus, many large parcels have remained vacant in the absence of viable development proposals that match permitted densities and perceived land values.

Perhaps more importantly, there is a broad consensus across Miami-Dade County that local planning and urban design policies near transit have not adequately emphasized the creation of pedestrian-friendly, transit-supportive environments. In a recent article in *Planning Magazine*, Miami-Dade County Assistant Planning Director Lee Ralinson echoed this sentiment, stating that "there's still a disconnect in the community between land use and transportation."⁸ Even where densities

are transit supportive, the urban fabric surrounding transit stations is not conducive to transit usage or the creation of the fine-grain mixture of land uses needed to create a vital urban neighborhood.

TAD at Brickell

The Brickell Station in downtown Miami is one of two stations on the Metrorail line that directly connects to the downtown Metromover system. Over the past several years, the area surrounding this station has experienced substantial residential and office development, in part because of the exceptional accessibility it enjoys.

The Brickell sub-market has historically enjoyed one of the highest average asking lease rates in Miami-Dade County, and despite increasing competition from Coral Gables and other growing sub-markets, Brickell currently leads the region in construction activity with approximately 470,000 square feet of new office space over the past several years.⁹ In addition, the proposed \$90-million Mary Brickell Village near the Brickell Station will add nearly 200,000 square feet of retail space to Miami's CBD.

Development around the Brickell Station has not, however, contributed to a dramatic increase in transit ridership, with the station averaging fewer than 2,000 daily boardings. In part, this can be explained by the absence of an urban design framework for the area, leading to poor pedestrian connections between surrounding residential high-rise buildings and the station. While newly built and planned projects near the station do have transit-supportive densities, the lack of improvements such

as comfortable sidewalks, safe street-crossings, and inviting entryways create obstacles for pedestrians. This means that existing and planned projects are more “transit adjacent” than “transit oriented” in character (see Photo 13.2).

Overtown: TOD and Inner-City Revitalization

The construction of Metrorail in the early 1980s coincided with a period of social unrest in Miami, spawned by longstanding socioeconomic inequities, racial tensions, and the neglect of many inner-city neighborhoods. In this context, several Metrorail stations north of the Government Center Station, most notably Overtown, were viewed as potential catalysts for economic redevelopment.¹⁰

Actual investment near Metrorail transit stations, however, has fallen far short of expectations, and until recently joint development proposals have been few and far between. The experience of the Overtown Station area just north of the Miami CBD underscores the challenges that these station areas have encountered in linking TOD to community development and revitalization.

The Overtown neighborhood was historically the commercial center of Miami’s City’s African-American community, achieving notoriety as an arts and entertainment hub in the 1930s. At its peak, Overtown had a population of over 40,000 and a thriving commercial district along NW Second Avenue. Following the end of Jim Crow laws and legalized segregation, the neighborhood suffered a period of prolonged decline as local consumers began to shop at retail outlets in other

parts of the city, and long-time residents moved away. Overtown was also heavily affected by urban renewal and the construction of two major expressways (I-95 and I-395) that pierced through the heart of the neighborhood. Despite its historic roots and reasonably good location in the heart of the region, Overtown has struggled to overcome a prolonged cycle of disinvestment and decline. Today, the neighborhood has a population of around 10,000 inhabitants and is often described as the “donut hole” in the middle of downtown Miami.¹¹ Indeed, Overtown is the poorest neighborhood in the 4th poorest urban city in the United States.¹²

Against this backdrop, the planning and development of Metrorail’s Overtown Station in 1981 presented the neighborhood with an unprecedented opportunity to attract new investment and restore vitality to the struggling commercial strip. The Metrorail station was seen as an important means of redressing past planning mistakes in the neighborhood and of creating opportunities for local economic development. Aided by a federal Urban Initiatives Grant, a series of redevelopment plans were prepared calling for high-density, mixed-use development around the station. With the ability to accommodate up to 8,000 patrons daily, the Overtown Station was promoted in early plans as an important element in the area’s revitalization. Since no long-term parking was provided at the station, the creation of a high-density, pedestrian-oriented environment was considered essential to the station area’s success. Specific objectives for the station area were not elaborated in early MDT planning documents, but the following broad



Photo 13.2. TAD at Brickell Station.

The Brickell Metrorail station in Miami's CBD lies at the center of one of Miami-Dade County's major hubs of office and residential development. Densities for residential projects within $\frac{1}{4}$ mile of the station are, in general, in excess of 50 dwelling units to the net acre, and some residential blocks are considerably higher. Nonetheless, as pictured here, the Metrorail station does not blend particularly well with surrounding neighborhoods and is hardly "pedestrian scale." Metrorail's elevated structure casts shadows and forms visual barriers. The absence of ground-floor retail and services has diminished pedestrian traffic during off-peak hours, further detracting from the station area's ambience.

goals for the Overtown Station area were set out in a 1981 station-area profile:

- Promote the orderly use of land;
- Maximize the development of the area immediately to the west of the station;
- Encourage the development of housing for mixed-income households;
- Stress the preservation of historic buildings and sites, rehabilitation of existing housing, and redevelopment of blighted areas;
- Create a climate conducive for private investment and provide opportunities for minorities to manage and own businesses;
- Increase employment opportunities and upward job mobility for residents;
- Encourage residents to continue living in Overtown by promoting home ownership and providing new housing for low- and moderate-income families;
- Improve the delivery of human services and emphasize area security and a sense of community; and
- Provide better transportation to employment and service centers.¹³

In the more than 20 years since these goals were established, few have been fully realized. It is not for lack of trying. Over the past two decades, the city formed a community redevelopment agency for the area, Overtown and surrounding areas were designated as a Federal Empowerment Zone, and myriad public and private planning efforts sought to promote investment and development in the area. Despite these efforts, the Overtown Station area has

seen limited new development and reinvestment, and the station itself has one of the lowest ridership levels on the Metrorail system (less than 800 boardings per day).¹⁴ No joint development has occurred on site and little has occurred off site. The many financial and planning incentives offered could not overcome Overtown's stigma as an unsafe, high-risk inner-city neighborhood in a state of decline.

In contrast to Overtown, just two short blocks away, the Government Center Metrorail/Metromover station averages over 6,000 daily boardings and connects directly to a major mixed-use office and retail development serving thousands of office workers, commuters, and shoppers (see Photo 13.3). Almost any major destination near the Overtown Station, including the Miami Arena, can also be reached via Government Center. Indeed, placing the multimodal Government Center Station so close to Overtown cast the die, marginalizing Overtown as a serious destination. Without a clear



Photo 13.3. View of Government Center Metrorail/Metromover Station from the Overtown Metrorail Station.

advantage from a transit-planning or market perspective, the Overtown Station has, according to some, languished in obscurity.

A further obstacle to revitalization has been a marked lack of coordination among the various agencies and organizations working in Overtown. For example, the County ceded several parcels to the city of Miami in the 1980s on the condition that the land would be developed within 5 years. Miami's redevelopment agency, however, never sought to develop the parcels, thus prompting a dispute between the city and County. This dispute, in turn, has stifled efforts to secure public approval for a proposed joint development project at the Overtown Station.

Despite past disappointments, the fortunes of the Overtown Station area could be turning around in the wake of several major investments proposed on sites adjacent to the station. The most important of these is a mixed-use office and retail joint development project with OPTM and the Overtown Partnership, Ltd., as major partners. This project came about after an RFP issued by MDT failed to attract any submittals. Through an ordinance that allows the County commissioners to enter into development agreements directly with not-for-profit organizations, Miami-Dade County entered into an agreement with the Saint Agnes CDC for the development of a vacant lot owned by MDT adjacent to the Overtown Station. Subsequently, Saint Agnes entered into a limited partnership agreement with Taylor Development and Land Company under the auspices of the Overtown Partnership, Ltd. When completed in 2004, the Overtown

Partnership project will dramatically change the skyline of the immediate neighborhood, adding over 340,000 square feet of new office space (slated for County government agencies) as well as 4,000 square feet of retail shops and outlets. Proponents hope that this project, along with two smaller residential projects slated for the Overtown Station area, will finally bring much-needed transit-oriented growth to the neighborhood as envisioned two decades earlier.

Overtown's ability to seemingly turn the tide has unleashed a new round of interest in nearby development. Other projects proposed for the station area within the past year include

- A 14-unit townhouse project sponsored by the St. Johns Development Corporation,
- An 80-unit single family home for-sale project sponsored by the St. Agnes CDC,
- An affordable 40-unit single family for-sale project sponsored by the BAME CDC, and
- A proposed 1,300- to 1,500-unit mixed-use development around the historic Lyric Theater.

After decades of unmet promises, stagnation, and disinvestment, the arrival of construction cranes and shiny new office towers is expected to finally increase transit and foot traffic in the Overtown neighborhood, providing the kind of "eyes-on-the-street" environment that is so essential in achieving a sense of safety, security, and comfortability.

Increased transit ridership will be a bonus, although the creation of new jobs, the opening of new shops, and a more attractive streetscape is what appeals most to local residents and merchants. Such positive changes can instill civic pride, investor confidence in the neighborhood, and a sense of security and well-being. In Overtown, TOD is today viewed through the lens of a much larger agenda of community building.

Future Plans and Activities

The passage of the PTP in 2002 has significantly increased the County's immediate and long-range transit planning activities. For the immediate future, the OPTM will follow an "evolutionary concept." The agency will add overnight service to various bus routes and Metrorail, hire more drivers for MDT's expanded fleet of vehicles, and investigate the feasibility of improving major traffic corridors within the County before making high fixed-cost investments.

Opportunities for joint development should increase dramatically in the long term as the County moves forward in its effort to more than quadruple Metrorail's coverage over the quarter-century. Already, two new corridors totaling 26.7 miles of new fixed-guideway track are in the advanced planning stages.

The new North Corridor is to run directly north out of the existing Martin Luther King Jr. Station and 10 miles along NW 27th Avenue to the Broward County line. The OPTM believes that all seven of the planned station areas will be able to accommodate some type of park-and-ride facility and offer joint

development opportunities. To date, however, none of the station areas have undergone a visioning process or market appraisal to probe what types of land uses and community designs might be desirable or feasible.

Conclusions and Lessons Learned

In interviews conducted with planners and developers for this case study, a common sentiment expressed was that Miami-Dade County is a region that has not come close to reaching its TOD potential. Like most of South Florida, land-use patterns in Miami-Dade County are largely automobile-oriented, and transit ridership is insignificant compared with automobile usage. Moreover, major investments in transit infrastructure have achieved mixed results, with lower-than-expected ridership and limited clustered development outside of a few downtown Metrorail stations. Given the region's rapid rate of growth and emergence as the de facto center of Latin-American culture and commerce, some observers view the absence of the kind of TOD found in areas of comparable size in other parts of the country, even in fellow Sunbelt cities like Dallas and Atlanta, as a missed opportunity.

Notwithstanding past disappointments, there are signs that things could be changing, due both to public policies and market forces. In the Brickell sub-market of downtown Miami, for example, thousands of mid- and high-rise residential units have recently been built, and more are under construction. It is unclear how much of this is attributable to Metrorail's presence and how much is due to a larger gentrification movement that is sweeping the region. Some

observers think more the latter than the former, noting that the addition of apartment and condominium towers in the Brickell district has failed to increase transit ridership at the Brickell Station. This could, however, be due to the lack of pedestrian amenities in and around the station and, as is widely acknowledged, a poor interface between transit and land-use planning in the area.

As Miami-Dade County grows out of what many in the community perceive as an urban adolescence and takes on the persona of a major international urban center, the region will have to wrestle with the challenge of what to do with distressed and long-neglected inner-city neighborhoods. The forward-looking PTP, backed by a dedicated sales tax, embraces transit investments in general and TOD in particular as important catalysts of community redevelopment. Experiences to date, however, suggest that neighborhoods with stagnant economies and tepid real-estate markets must often wait a relatively long period of time (in the case of Overtown, over 20 years) for conditions to improve and TOD to gain a foothold. Transit amenities and vacant adjacent sites alone will not ensure reinvestment in the absence of compelling market factors. For better or worse, big government subsidies also seem necessary to turn around neighborhoods like Overtown.

Finally, Miami-Dade County's fairly unique approach to governance could, over time, work in favor of TOD and other smart-growth initiatives. Nationally, the area has been at the forefront of the County-charter system of government whereby the County serves as a kind of coordinating MPO with broad powers vis-à-vis local

jurisdictions. In the area of transit and TOD, this has translated into County control over planning and land-use decisions along Metrorail guideways and at Metrorail stations. In part, this centralized planning and zoning function has facilitated TOD by allowing developers to bypass multiple layers of bureaucracy and public process. On the other hand, planners and developers agree that this centralized planning function does not eliminate the need to work closely with local jurisdictions to ensure that land-use decisions and design guidelines are consistent with community needs. To be successful, TOD must ultimately be responsive to both broad market realities and the needs of local communities.

Notes

- ¹ Fannie Mae Census Note 02, Fannie Mae Foundation, April, 2001.
- ² The County's population in 2000 was 2,523,362, increasing by 30.3 percent from 1,937,094 in 1990. Miami-Dade County is part of the larger Miami/Fort Lauderdale MSA, but, for TOD planning purposes, the County rather than the broader region is the relevant geography for both demographic and political reasons.
- ³ Florida Department of Transportation, *2020 Florida Transportation Plan*, 2000. See http://www.dot.state.fl.us/planning/2020ftp/FTP_final.pdf.
- ⁴ *The 2002 Florida Statutes*, Title XXVI, Chapter 337. See <http://www.flsenate.gov/Statutes/index.cfm>
- ⁵ *Miami-Dade County Comprehensive Development Master Plan*, Land Use Element, 1999, p. I-13.
- ⁶ CB Richard Ellis, *South Florida: Multifamily Market Index Brief*, First Quarter 2002.
- ⁷ *Miami-Dade County Code of Ordinances*, Chapter 33C-2. See www.municode.com.

- ⁸ R. Knack, "Miami Bets on Transit," *Planning Magazine*, Vol. 69, No. 5 (May 2003): 20–21.
- ⁹ CB Richard Ellis, *Miami-Dade: Office Market Index Brief*, Third Quarter 2003.
- ¹⁰ This was borne out in interviews with public-sector representatives and staff at local CDCs. Public planning documents also refer heavily to the transit station's importance in revitalization efforts. See, for example, Miami-Dade Transit Design & Development, Station Area Profile 10, Overtown, June 1981.
- ¹¹ See <http://www.miami.com/mld/miamiherald/>.
- ¹² J. Little, "City of Miami Not Implementing 'Homeownership Zones' Despite Assurances to Federal HUD in its Consolidated Plan," South Florida Community Development Coalition, October 7, 2002.
- ¹³ Miami-Dade Transit, *Design and Development Station Area Profile 10*, June 1981.
- ¹⁴ Three residential towers were developed near the Overtown Station in the Park West neighborhood in the mid-1980s, but this development east of the station area has had little revitalizing impact on the Overtown neighborhood.

Photo Credits

- Photo 13.1. R. Golem
 Photo 13.2. R. Golem
 Photo 13.3. P. Peninger

Chapter 14

Chicago's Transit Villages: Back to the Future for Historic Commuter-Rail Towns

Development is once again following Chicago's long-established commuter-rail corridors as a growing list of communities are returning to their roots, pursuing TOD to revitalize downtowns that grew up around transit (see Map 14.1). While the results have been impressive, Chicago's experience is also a story about a few communities that have the resources, initiative, and leadership to tap into the market for compact walkable development around transit.

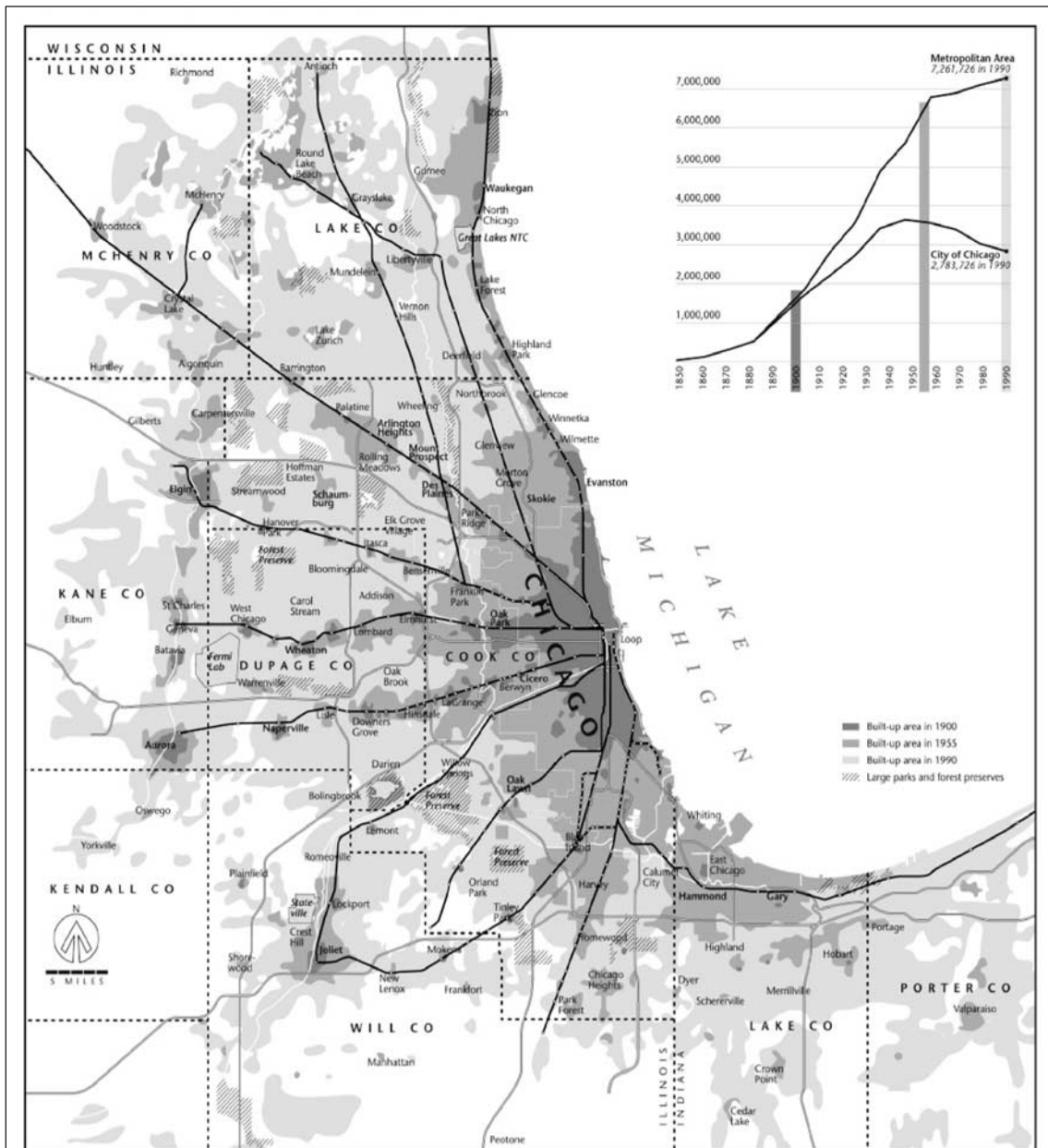
This case focuses on how TOD can be promoted in long-established commuter-rail corridors—specifically, Metra rail corridors in the greater Chicago region.¹ With the revitalization of central Chicago, there has also been new development around Chicago's heavy-rail system operated by the Chicago Transit Authority (CTA).

The design and service characteristics of commuter rail present different challenges to TOD vis-à-vis light-rail and heavy-rail systems. Light- and heavy-rail systems typically enjoy high levels of service in both directions throughout the day. Commuter-rail service, as the name implies, tends to be concentrated in the peak hours, with service focusing on the downtown in the morning and away from downtown in the evening. Commuter rail often uses existing freight railroad right-of-way and tracks, which often flank industrial districts. Many of these districts are in

decline and face problems like remediation of contaminated sites. Commuter rail also often depends on automobile access to generate CBD-oriented trips from outlying suburbs and exurbs. Parking supply and design are therefore critical issues at commuter-rail stations. In addition, continuing freight operations can constrain off-peak rail service (and the types of trips that can be served) and can also physically impact station-area development designs.

As the Chicago region continues to expand, some established inner-ring suburbs have successfully used TOD to exploit transit's development capacity and capture a larger share of regional growth. In redeveloping their historic downtowns, these communities have introduced amenities that provide a competitive advantage with new suburbs and have created a strong local and regional identity. In inner-ring suburban towns, strong local advocacy has been instrumental in leveraging TOD. Such communities have “rediscovered” assets, like charming historic rail stations, that were already in their midst.

While several regional actors are active in promoting TOD in Chicago, the success of TOD has largely been due to a strong regional economy and market demand, proactive local leadership, and successful coordination among agencies. In the sections that follow, the regional institutional landscape in which TOD planning occurs is



Map 14.1. Growth of the Chicago Metropolitan Area.

The region's early settlement patterns followed commuter railroads like pearls on a string. The areas in between began to be settled as early as the 1920s; by 1990, the urbanized area stretched into 10 counties in three states.

Reproduced with permission from: J. Grossman, A. D. Keating, and J. L. Reiff, eds., The Encyclopedia of Chicago History (Chicago: University of Chicago Press and the Newberry Library, 2004).

described, as are some of the tools that various agencies are using. Some of the region’s significant TODs are then profiled. The case concludes with a look at how TOD and local leadership are playing out in the quest to develop Chicago’s newest commuter-rail line along the Northwest Tollway.

Greater Chicago Is Sprawling Out and Growing In

TOD is being promoted on many fronts in greater Chicago. The region remains one of the nation’s fastest growing, and growth-related problems are also on the rise. Between 1970 and 1990, nearly 450 square miles of farmland and open spaces were consumed, an area twice the size of the city of Chicago. During this same period, population grew by only 4%. Between 1990 and 1995, 330,000 new inhabitants were added to the region—a

number equal to the growth during the previous 20 years.² While downtown Chicago has enjoyed something of a “residential revival” in recent years, growth continues to spill into the edges of the region. In the next 20 years, the region is projected to add 1.6 million residents, 800,000 jobs, and 1 million new automobiles.³ Such trends threaten valuable open space and agricultural resources. And ever-worsening air pollution and traffic congestion threaten the economic health of the region.

Table 14.1 outlines the primary reasons why various regional organizations are actively promoting TOD.

Chicago’s Multi-Layered Institutional Landscape

The Chicago region is a complex web of over 270 municipalities and jurisdictions. Coordinating regional transportation and

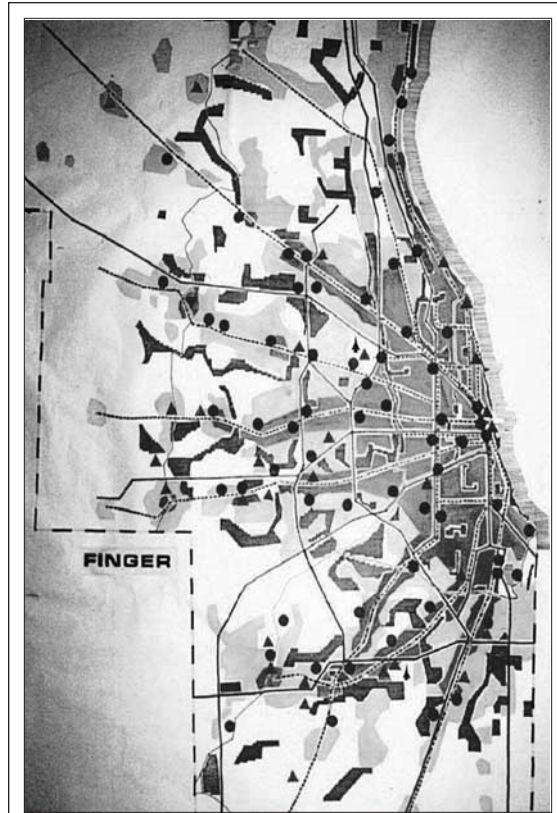
Table 14.1. Regional Agencies and Organizations Promoting TOD

Agency/Group	Function	Overview of Goals
Campaign for Sensible Growth	Coalition of government, civic, and business leaders in Northeastern Illinois	Preserve open space, reduce new infrastructure costs, provide multimodal choices, promote economic competitiveness and community revitalization.
Chicago Metropolis 2020	Nonprofit organization created by the Commercial Club of Chicago to advocate regional planning	Spend less time in traffic; live nearer to jobs; protect open space; promote transit, walking, and biking; provide economic opportunities for all residents.
Northeastern Illinois Planning Commission (NIPC)	Comprehensive planning agency for the six-county metropolitan area	Promote efficient development and transportation, make good use of planned rail stations, contain sprawl.
Metra	Regional commuter-rail operator	Make rail commuting more convenient, increase transit ridership.
Regional Transportation Authority (RTA)	Regional planning body for CTA, Metra, and Pace transit systems	Increase transit ridership, improve neighborhood quality, increase political support for transit.
Illinois Department of Transportation (IDOT)	State transportation authority	Promotes balanced growth, which can include TOD, to reduce traffic congestion, save farmland, protect natural resources, use existing infrastructure, reinvest in communities.

land use, therefore, poses a formidable challenge. Integrated regional planning took a big step forward, however, with the passage of an interagency agreement for Northeast Illinois in 2000 that clarified and built on earlier planning agreements.⁴ Prior to this agreement, determining who was in charge of even basic functions (e.g., local and regional population forecasts) was often problematic. The new agreement reaffirms that land-use and transportation plans should be coordinated, that land-use plans are to “lead” transport planning, that transportation is supposed to “serve” land use, and that agencies should work together in an open and collaborative process.

In this scheme, the Chicago Area Transportation Study (CATS) is the region’s designated MPO, primarily responsible for comprehensive transportation planning. The Northeastern Illinois Planning Commission (NIPC) develops the regional land-use plan and the socioeconomic forecasts that CATS uses for its own planning.⁵ Finally, the Regional Transportation Authority (RTA) is charged with coordinating regional transit services and developing transit investment cost estimates for CATS. Collectively, these agencies evaluate the effects of transportation plans on land use and the environment and adopt the RTP. On paper, then, a framework exists that is conducive to TOD.

In actuality, implementing TOD remains as elusive as elsewhere in the United States. Ultimately, TOD is a local decision, as state law grants zoning powers only to local cities and counties. Despite having long supported TOD concepts (see Map 14.2), NIPC’s land-use powers are quite limited. The agency



Map 14.2. NIPC “Finger Plan” of 1968. NIPC’s first regional plan aimed to cluster new development in regional centers along commuter-rail lines, separated by “fingers” of regional green space—akin to Copenhagen, Denmark’s celebrated Finger Plan. Around this time, both the regional expressway system and local roads networks were expanded significantly, and the fingers rapidly filled with new development.
Source: NIPC.

is able to “subtly” influence land-use patterns by developing the regional population and employment forecasts (which guide transportation investments) and through its review of facility planning areas.⁶ That said, NIPC has no implementation or enforcement powers, and thus its primary role is to advise local cities on growth and zoning issues and to provide technical assistance as

needed. To achieve its policy goals, NIPC tries to achieve consensus among its constituents and disseminates information about successful programs and projects, including TODs. Many communities are in fact NIPC supporters and actively participate in regional-planning dialogues.⁷ Later in this chapter, NIPC's current planning activities and how it hopes to promote TOD in the future are discussed.

TOD Implementation Tools

To date, cities and towns in greater Chicago have used a variety of tools to implement TOD, including development bonuses, eminent domain, open market purchases, site assembly, TIF, reduced parking standards, and rezoning. These tools are discussed in the TOD profiles that follow. In this section, some of the most important "macro-level" tools being used to promote TOD in metropolitan Chicago are reviewed.

State of Illinois

While the state of Illinois does not have a statewide growth management program (like Oregon or New Jersey), it has recently taken a more active role in promoting "balanced growth" in the state. The Corridor Planning Grant Program, administered by the Illinois Department of Transportation (IDOT), dedicates \$15 million over 5 years to help fund planning activities that promote the integration of land-use, transportation, and infrastructure planning in major transportation corridors.⁸ Examples of projects that are eligible for funding include the creation of TOD plans, development of intergovernmental agreements providing for multi-jurisdictional development and

zoning reviews, public-private planning to encourage affordable housing near employment centers, and the creation of multi-community corridor plans.

Communities in metropolitan Chicago's Northwest Transit Corridor have received program funds to develop a "TOD Toolbox," featuring a TOD best practices guide tailored to the needs of cities along a proposed new Metra corridor, as well as other rail corridors in the region.⁹ In La Grange, program funds have gone to help the village prepare a plan to invigorate the underperforming business area near its West End Metra rail station. To date, however, most program funds have been spent on downtown redevelopment not specifically related to transit (e.g., bike system plans and traditional economic development studies).

Regional Tools

At the regional level, RTA has developed a Regional Technical Assistance Program (RTAP) to help cities develop station-area plans and conduct public outreach associated with TOD planning. Since 1999, RTAP has contributed \$1.8 million to TOD planning and outreach. RTAP also sponsors research and workshops to trumpet the cause of TOD throughout the Chicago region.¹⁰

To date, RTA has completed 13 TOD studies. In the town of Tinley Park, RTA participated in TOD studies for two stations. At the Oak Park Avenue Station, historic preservation, infill redevelopment, and enhanced pedestrian circulation were emphasized. For the 80th Avenue Station, the study recommended a new station with retail uses, improved local bicycle and

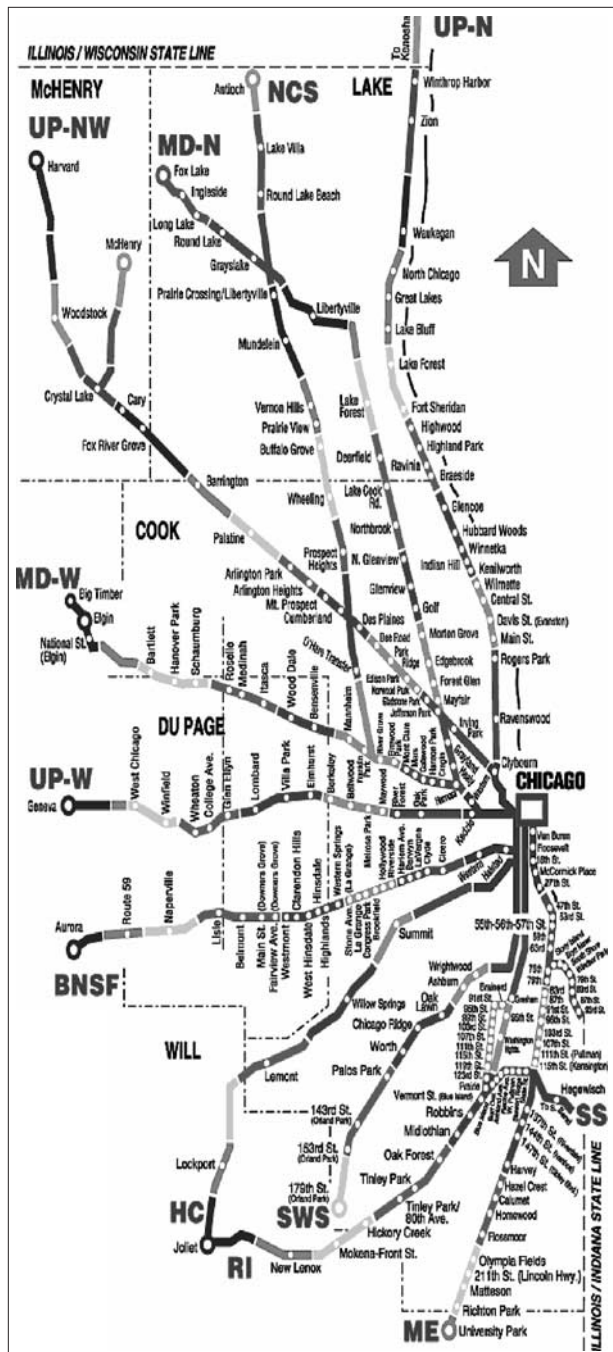
automobile access, buried utilities, and additional housing near the station. In both cases, recommendations are generally being followed. In the town of Elmhurst, extensive zoning changes were made, and pedestrian, automobile, and transit access was improved.

More recently, the village of La Grange has applied for RTAP funds to complement its Illinois Tomorrow funding to promote business and TOD development along the Burlington Northern Santa Fe railroad corridor. In Brookfield, Illinois, Tomorrow funds are being used to update the city's comprehensive plan. At the same time, the city, which has no planning staff, is trying to promote TOD in portions of its three Metra station areas.

Metra

Metra is the region's commuter-rail operator, providing service to some 150,000 daily riders. Metra provides service on 12 lines spanning 546 miles and 228 commuter-rail stations (see Map 14.3). The system's hub is downtown Chicago. Approximately one-half of all commute trips to Chicago's downtown loop are by Metra.¹¹

Metra is a strong advocate of TOD. The agency has released three studies that promote TOD on economic grounds and inform constituents about implementation strategies.¹² Metra has also developed an extensive database of proposed TOD projects in nearly 200 communities based on a regional survey. While Metra does not formally require development review, it has good long-term relationships with local planning departments and developers, who often approach Metra for advice and commentary.



Map 14.3. Metra Commuter-Rail System. Source: Metra.

Metra owns some commuter parking, although most is owned and controlled by local cities. Unlike many recent-generation heavy-rail systems, Metra has few large parking footprints. As older cities try to revitalize their downtowns by

adding development and making parking more convenient, Metra continues to work in partnership with them to seek out creative parking solutions.¹³

In some older suburban downtowns, parking has been distributed into multiple decks not immediately adjacent to the station. In other places, shared parking has been implemented. At the Schaumburg Station, for example, parking is shared with a minor league baseball stadium. In Palatine, fairly extensive redevelopment and parking reconfiguration have occurred. There, a new 1,150-space deck was constructed, including 850 commuter spaces. The old surface lot was converted into townhomes, condominiums and retail facilities. Also, a Starbucks coffee shop was in Palatine's refurbished station.

Advocacy Groups

Several advocacy groups are also active in promoting TOD in the region. One of the most prominent groups is the Campaign for Sensible Growth (CSG), an umbrella organization of government, civic, and business leaders striving to promote economic development, preserve open space, economize on infrastructure spending, and promote neighborhood revitalization. CSG promotes TOD by providing technical assistance to cities, developing public relations and educational materials, conducting research, and promoting legislative and policy changes.¹⁴

In addition, the Center for Neighborhood Technology has been at the forefront of developing and advocating the LEM program. Some Chicago-area mortgage brokers participate in LEMs, which acknowledge the "transportation

efficiency" of transit-accessible locations when prospective homeowners apply for loans. Chicago's LEM program has probably increased the occupancy of some housing projects near transit stops, but it has not been a strong factor behind the emergence of TODs.

TOD in Commuter-Rail Communities

TOD is on the rebound in suburban Chicago. A growing number of communities along Chicago's Metra commuter-rail line are using TOD as part of a conscious strategy to reinvest in and revitalize their downtowns. According to local observers, a dozen or so stations have active TOD initiatives underway.

This section profiles three communities incorporated between 1879 and 1887: Arlington Heights, La Grange, and Elmhurst. In each instance, the community declined as shopping centers sprung up in the 1970s and 1980s. Downtown plans were prepared in the mid-1980s linking transit to a broader downtown strategy, and proactive TOD planning is beginning to pay off. Transit stations themselves are the centerpieces of the renaissance taking place in many suburban Chicago communities as outlined in Text Box 14.1.

Arlington Heights

The village of Arlington Heights lies 23 miles west of Chicago on Metra's Union Pacific Northwest Line. Each weekday, about 2,500 residents board trains at the village's downtown station. Incorporated in 1887, Arlington Heights, with about 75,000 inhabitants, has become Cook County's largest suburb.

Over the last 15 years, Arlington Heights has seized upon TOD as an integral

Development-Friendly Transit: Learning from Metra

Transit stations can be places to come back to, not just places to leave from. The new stations in La Grange, Arlington Heights, and Elmhurst nicely demonstrate this principle.

Planners and transit designers can learn much by looking at how long-established commuter-rail systems, such as Metra, have been integrated into the communities they serve. The challenge is to successfully balance two often-conflicting needs: accommodating requirements for bus transfer and park-and-ride facilities while creating a milieu that is harmonious with the adjacent community. The template for contemporary transit design—getting the parking, automobile drop-off, and bus transfers as close to the platform as possible—can be deadly for TOD.

Too often the result of contemporary transit design has been the development of “automobile-oriented transit systems.” Design decisions on accommodating the automobile as the primary mode of access have resulted in transit stations engulfed with parking that are loathsome places for walking. This often creates a chasm between the station and surrounding neighborhood and all but precludes the opportunity for TOD.

Metra’s experiences show that new and refurbished stations that are development-friendly need not interfere with transit’s functional and logistical requirements. With careful attention to detail, it is possible to accommodate the automobile, meet all of the transit needs, provide for TOD and still use the station to anchor wonderful, vibrant spaces that attract people.

The most striking difference between established Metra stations and more contemporary, sensitive designs lies in the approach to commuter parking. Metra parking tends to be dispersed to a number of small lots rather than to one mega lot. Arlington Heights commuters have 1,261 spaces spread over 6 lots to choose from; La Grange has 359 spaces on 8 lots; and Elmhurst commuters have 932 park-and-ride spaces distributed over 15 parking lots. The stations provide comfortable, human-scale environments, not dominated by parking, which serve to extend the walksheds. Commuters are creatures of habit; if the parking is located away from the station, they will still find it and use it. By dispersing parking, the communities and their transit stations happily coexist.

Text Box 14.1

component of the city’s award-winning strategy to revitalize its historic downtown. The village has created a virtually new town center that includes a new Metra station, a performing arts center, high-density housing, commercial uses, and public parking

decks (see Photo 14.1). In 1980, 350 residents lived in the downtown in 150 units. By 2000, the numbers had jumped to 2,200 residents and 1,500 units. Since 1997, public investment of \$27 million has leveraged some \$225 million in private investment.



Metropolis Performing Arts Center



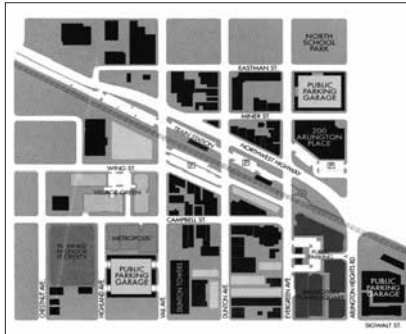
New Metra Station



Arlington Town Square



The Village Green



View from the Metra Station



Metropolis Lofts

Photo 14.1. Village of Arlington Heights. Through proactive initiatives, Arlington Heights has created a new town center that boasts a new Metra station, a performing arts center, high-density housing, several commercial uses, and public parking decks. The Metra station has truly become the community's re-energized hub.

Currently in its “maturation” stage, the village is increasingly relying on the redevelopment of underutilized commercial, manufacturing, and residential parcels close to the Metra station. A recent survey suggests that 17% of downtown residents now use Metra as their primary mode of commuting (compared with 7% for all of Arlington Heights).¹⁵

Arlington Heights has a long, rich tradition of city planning. The village completed numerous downtown plans and studies in the 1950s, 1960s, and 1970s. By the end of the 1970s, the downtown was in a steep decline, due in part to the opening of several nearby shopping malls that sucked the retail energy out of the core. To revitalize its downtown, the village has introduced

the following: new zoning that permits mixed uses and higher densities downtown, reduced parking requirements near the rail station, and the establishment of two TIF districts. The zoning revisions require first-floor retail uses in mixed-use buildings and allow buildings up to 140 feet in height. Also, the village has used eminent domain and open market purchases to assemble sites and build new infrastructure (e.g., structured parking). Moreover, the village has provided project-based gap financing (i.e., subsidies), façade improvement grants, business relocation assistance, and retail interior building grants to help offset interior finishing costs for new restaurants.

In the late 1980s, Arlington Heights completed its first major TOD projects—two mid-rise apartment buildings with 614 units and ground-floor retail. To leverage the projects, the village assembled part of the site and built oversized public parking decks next to the apartment buildings. While occupancy in the apartments has been strong, the projects' retail portions have leased more slowly.

These buildings were followed by a much more ambitious initiative in the downtown core. At one point, three major projects were in construction simultaneously, in addition to the village's own station renovation project. The first of these more recent projects, Arlington Town Square, opened in 2000, with 94 condominium units on 13 floors, 100,000 square feet of ground-floor retail space, 26,000 square feet of office space, and a six-screen movie complex.

The most controversial part of the project has been the 13-story residential

tower, a key part of the strategy to create an 18-hour urban place. While the condominiums have completely sold out, and the residents have energized the downtown, many people complain that the buildings are too high, given the village's small-town character. This has prompted the city to consider future height limits. The project also includes restaurants and national retailers such as GAP, Anne Taylor Lofts, Starbucks, and California Pizza Kitchen.

To make the project pencil out, Arlington Heights first assembled the site and then sold it to the developer with a buy-back provision. Under the arrangement, the village was required to buy back the land after 12 months if the developer did not like the final development deal; the village also had an option to buy back the land if it did not like the developer's program. In addition, the village constructed the underground parking for the project at a cost of around \$30,000 per space. Although costly, underground parking reduced the building massing and freed up land for open space.

Overall, the village provided \$13.9 million in public financing for the project, made up of \$9.9 million for the garage, \$2.6 million for developer gap financing, and an additional \$1 million (all TIF funds) to underwrite land costs. Before the project, the village took in \$65,000 in annual property taxes; now it receives \$1.5 million annually in property- and sales-tax income.

The second major recent project, the Metropolis Performing Arts Center, is another successful mixed-use project. It features a 310-seat, live performance theatre, 63 condominium loft units, 64,000

square feet of retail and office space, and 816 parking spaces in an adjacent public garage. The loft units, priced below other downtown units, sold quickly. To jump-start this project, the village provided \$2.35 million in gap financing for the theater. The village retains rights of first refusal should the owner seek to sell the live performance theater.¹⁶

The last major project, the Village Green, features three 8- to 10-story buildings with 250 condominiums, 53,000 square feet of retail space, and 17,000 square feet of offices. Residential units cost from \$260,000 to \$1 million, and many have been sold to empty nesters and childless professionals.¹⁷ The 10-story residential tower, the newest of the three, has an attractive stone finish reminiscent of buildings in downtown Chicago and contributes to the emerging urban image of the entire downtown. Together, the three residential projects have helped to keep a big grocery store downtown that was considering relocating out of the city. For this project, the village contributed \$8.7 million for land acquisition and gap financing.

Critical to downtown redevelopment was the \$4.7-million construction and relocation of a Metra station in 2000. By moving the station one block west and the platforms two blocks west, rail transit is closer to the downtown core, and a large gap between the north and south sides of the tracks has been filled.

The relocated site has substantially improved north/south access to the station, made all the more attractive by the addition of parks and public art next to the rail platform. In addition, brick pavers, decorative lighting, and benches similar to those used in the downtown

were installed to unify the area. The village-owned station itself is abuzz with activity, with a McDonalds, a bakery cafe, and a Gateway Newsstand. Funds for the station refurbishment were provided by six agencies, including Metra, IDOT, and the village (which used TIF funds). This project received a distinction award from CATS for CBD train-station design.

The village manages the 2,180 parking spaces used for retail, commuter, employee, and resident parking. Over time, the village has become more sophisticated in how it balances parking among uses. Retail parking is free for 3 hours, and permits are sold for the other uses. The village changes the parking mix in the decks regularly to accommodate changing conditions.

In summary, the village of Arlington Heights realized early on that it was not sufficient to just enact zoning changes to spur transit-oriented growth; it has been proactive, introducing a host of public improvements—streetscape projects, parks, parking decks—that have leveraged private development and paid off nicely.

According to Charles Witherington-Perkins, Director of Planning and Community Development, the following factors have been vital to the village's TOD success:

- (1) A clear vision;
- (2) A willingness to commit public resources (TIF, aggressive parcel acquisition, and structured parking);
- (3) Strong and consistent local leadership (at both the staff and political levels) that will take risks and stay with the program in the face of periodic criticism; and

(4) Continuity and dedication among staff to execute the plan.

La Grange

The village of La Grange is located 14 miles west of Chicago on Metra's Burlington Northern Santa Fe Line. Each day, two stations generate about 2,400 boarding rides en route to and from downtown Chicago, about 37 minutes away by rail. Incorporated in 1879, the village has a historic character and appeal and a very walkable core.¹⁸ Like Arlington Heights, La Grange has less freight activity than other Metra stations, which instills a human-scale ambience.

Encompassing only 2.5 square miles, La Grange has 15,600 residents.¹⁹ The village is a predominantly residential community with a thriving downtown business district. The downtown has evolved into a regional restaurant destination (with over 30 restaurants). With little opportunity to expand, La Grange has made a concerted effort over the last 15 years to make the best use of its existing assets, including the downtown rail station (see Photo 14.2).

La Grange's 1986 Master Plan provided the foundation for its downtown transformation.²⁰ The Plan identified



“Triangle” TOD from Station



Refurbished Metra Station



Downtown La Grange

Photo 14.2. Village of La Grange. Over the past 15 years, the Village of La Grange has created a thriving downtown business district focused around a refurbished Metra station. Guided by a 1987 plan, the village used local initiative to acquire key sites for two condominium projects and nearly 50,000 square feet of retail. Façade and streetscape improvements have helped attract over 30 restaurants to the downtown.

redevelopment sites in proximity to the rail line, established a “transitionary” zoning district to allow a gradual conversion to higher uses, and created a multifamily zone to increase downtown densities. In addition, the Plan established a TIF district, collecting the tax increment on both real-estate and sales taxes, to promote redevelopment throughout the core. To further entice redevelopment, the village has acquired and assembled land; run a façade loan program (zero interest, fixed-rate loans for renovation, restoration, maintenance and signage improvements to building façades);²¹ made streetscape improvements (e.g., plantings and maintenance); and provided bike patrols to enhance security.²²

The first major redevelopment project in the village was the 40-unit La Grange Plaza condominiums, completed in 1995. For this project, the village assembled the site and sold it to the developer at 50% of the market cost. The village also made environmental remediations to the site, formerly occupied by automobile-oriented facilities. All the condominium units have been sold, and, as in Arlington Heights, most buyers have been over-50 empty nesters and under-30 professionals without children.

In 2000, the village began its most challenging project, the “Triangle Redevelopment,” located north of the Metra tracks, where downtown commercial activity was weaker than in the core to the south. For this project, the village negotiated to acquire 11 properties and assemble a site on both sides of La Grange Road. The site included older, low-intensity uses such as a bank, an under-

performing strip mall, a fast food restaurant, and a 70-year-old dry-cleaning establishment.²³ These have been replaced by 78 condominium units, 45,800 square feet of retail space, and 194 parking spaces. The village has retained rights to approve the project’s tenants and building design.

As in Arlington Heights, rehabilitation of the downtown Metra station has further rekindled La Grange’s historic past. Improvements included station cleaning; tuck-pointing; interior redecorating; and lighting, safety, and access upgrades. The village assumed control of the station’s leasable space after Metra paid for and completed the improvements.²⁴

Over the years, village planners have become very knowledgeable about parking, its relationship to the train station, and how to manage it. The village has over 1,500 on- and off-street parking spaces and has good signage directing drivers to multiple, relatively unobtrusive lots spread throughout the downtown. Both Metra and civic/government parking are shared with restaurants in the evenings, and the village provides centralized valet parking on Friday and Saturday evenings, when high restaurant demand leads to shortages.

Elmhurst

The city of Elmhurst is situated 15 miles west of Chicago on Metra’s Union Pacific West Line and generates about 1,800 daily boardings. Incorporated in 1882, the city has about 43,000 inhabitants living in primarily owner-occupied housing. Like La Grange, the downtown core area has an intimate

relationship with its Metra station and, today, is home to thriving shops, full-time residents, and an active night life.

Downtown Elmhurst has not always been a thriving district. In the 1970s and 1980s, infrastructure was decrepit; an at-grade railroad track obstructed traffic; shopkeepers were flocking to shopping malls; and many buildings were vacant, as were streets.²⁵ The city's 1990 Comprehensive Plan initiated much of the recent redevelopment, designating the area immediately north of the tracks as the city's primary shopping area, and that south of the tracks for mixed office and service uses. The commuter station area was to become the city's hub, physically and symbolically.

To enact the plan, the city introduced several zoning changes, including allowing mixed uses, having retail directly front pedestrian streets, mandating street-level windows for retail shops, reducing parking if shared with other uses, and locating loading zones at the rear of buildings.

Today, Elmhurst's entire core is a TIF district. The city also grants low-interest loans (to renovate historic downtown buildings). It also runs a façade assistance program that pays for 50% of improvements (up to \$50,000). Landscaping improvements, like new plantings in open spaces and the addition of street trees to screen surface parking lots, have created a quality walking environment. (See Photo 14.3.)

Since 1990, 25 projects have added about 300 residential units and 140,000 square feet of commercial space to downtown Elmhurst. Local officials estimate that the city has leveraged nearly \$17 in private investment for each dollar in

public funding. Downtown Elmhurst now boasts several three- to five-story, nicely designed residential infill projects. Located on an abandoned grocery store site, the Market Square Townhouses (26 units) and Condominiums (48 units) incorporate the local prairie-style architecture in high-quality construction. Many buyers are long-time residents seeking smaller, easy-to-maintain properties in town.

TOD Shaping New Commuter-Rail Lines

Metropolitan Chicago is entering another era of rail building. The region has local and federal funding commitments for a \$1.35-billion rail reconstruction and expansion program, including 41.5 new miles of Metra commuter rail along the Southwest and West Corridors commuter-rail lines.

TOD emerged as an important consideration in the competition to secure Chicago's newest transit line along the Northwest Transit Corridor. The corridor parallels the Northwest Tollway (I-90) west of O'Hare International Airport and contains over a million jobs and more than 600,000 residents. Local mayors, through the Northwest Municipal Conference, have embraced TOD as part of their strategy to build a local consensus and enhance their chance of securing federal New Starts funding.²⁶ Using funds passed through RTA, the Conference sponsored an interactive community process leading to the development of TOD sketch plans for the corridor. Development of the seven planned transit villages along the Tollway would capture nearly 66,000 additional jobs and 8,700 new dwelling units over and



Nine-Story Apartment near Station



Market Square



Museum Place



Rehabilitated Metra Station



Downtown Infill

Photo 14.3. City of Elmhurst. The rehabilitation of Elmhurst’s Metra station ignited redevelopment of the downtown.

above what is provided in existing station-area plans (see Figure 14.1).

The Future of TOD in Metropolitan Chicago

The political and market forces that have propelled the revitalization of rail-served historic downtowns over the last 20 years are likely to continue. Now that several successful TOD projects have been completed, “the word is out.”

Greater Chicago is ahead of many other regions in leveraging a new generation of TODs in that many corridors are already dense, and mixed uses are common. However, many station areas are constrained in their development opportunities by local zoning that is

decades old. Many are also in a state of decline and turn their backs on their aging train stations. Also, there is an abundance of industrial land along suburban rail corridors requiring some level of remediation if new land uses are to be implemented.

How much and how quickly TOD spreads in Chicago will be governed by several factors, including

- *The Market.* Metro Chicago is experiencing TOD and sprawl at the same time. Paradoxically, sprawl is actually creating conditions conducive to TOD. As growth leapfrogs outward, communities that have been leapt over see TOD as a way to re-center themselves and

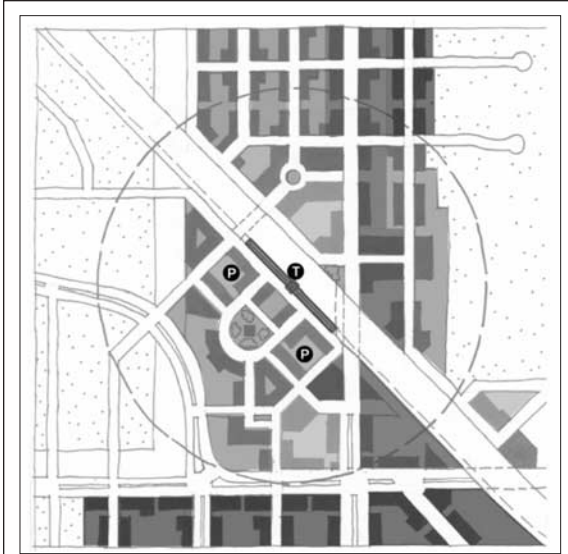


Figure 14.1. Northwest Transit Corridor TOD Plan. Local mayors are placing a heavy emphasis on TOD in the quest for Chicago’s newest commuter-rail line. Development of seven planned transit villages along the “STAR Line” would provide the capacity to capture nearly 66,000 jobs and 8,700 new dwelling units over and above existing plans.

compete in a changing marketplace. Those policy aspirations are complemented by punishing levels of traffic congestion that are prompting more commuters to choose housing near rail stations. Chicago remains one of the nation’s most congested regions, creating a ready-made market for TOD. Several studies have examined the accessibility advantages of rail-served properties in greater Chicago. One study by Gruen Gruen + Associates, which looked at both Metra and CTA rail stations, found that beginning at 500 feet from a station, home prices fell by 1% with each additional 100 feet from the station, up to 5,300 feet.²⁷ Another study, which

evaluated the short-term impacts of Metra’s newest line (the North Central Service, opened in 1996), found that up to 30% of new homebuyers in some station areas considered the availability of commuter-rail services to be important to their purchase decision.²⁸ Similarly, preliminary surveys in Glenview, a new TOD built on a former naval base, reveal that 35% to 45% of new residents are Metra commuters.²⁹

- *Rail Improvements.* Metra has embarked on ambitious upgrades to serve its growing ridership. The agency obtained \$2 billion in state funding from 2001 until 2005 to expand reverse-commute services, grade-separate tracks at road crossings, and refurbish its rolling stock. Major new alignments are also being planned, increasing the opportunities for TOD. One project, the 55-mile STAR Line, will provide north/south service between Joliet and the edge city of Hoffman Estates and east/west service from Hoffman Estates to O’Hare Airport (the second corridor is known as the Northwest Transit Corridor). A second “inner-circumferential” alignment will connect O’Hare Airport to Midway Airport. Collectively, these alignments will form a suburban rail grid to complement Metra’s successful city-to-suburb radial service.

Land-use studies and planning for these routes have already begun with participation and funding by Metra, RTA, and the state. Perhaps more importantly, both studies have obtained significant local matches

from cities in the corridors, which have generally taken an active interest in maximizing TOD opportunities (and would pay for new stations). Ongoing studies are consciously using land use as a “differentiator” in New Starts reporting, even as some districts already have strong congressional representation (and are likely to receive earmarked funding).

- *Regional Planning.* Up until recently, there has been little regional leadership on TOD, although this is changing. Chicago Metropolis 2020, a nonprofit civic-planning initiative of the Commercial Club of Chicago, recently unveiled a regional plan to implement TOD as part of a broader framework to manage Chicago’s increasingly automobile-dependent growth.³⁰ Key recommendations of the plan include growth focused on regional centers and TODs, removing zoning barriers to TOD and mixed-income communities, modernizing transit (using new funding), introducing bike- and pedestrian-friendly designs, and restoring the environment. Furthermore, the plan calls for an Intergovernmental Growth Management Act allowing for county-level “cooperation councils” to implement integrated plans for transport, land use, economic development, and resource protection, and centralized state planning spending via the Bureau of the Budget, to be consistent with regional planning objectives.³¹ Finally, the plan calls for the state to merge CATS, NIPC, the Illinois Toll Authority, and RTA into an all-powerful umbrella organization with land-use transportation imple-

mentation authority. It is still too early to assess the prospects for this ambitious plan. Even as the state legislature is considering a bill to study the proposed agency consolidation, turf issues are surfacing.

At the same time, NIPC is currently in the midst of its own planning effort, Common Ground, which consists of a series of workshops, focus groups, and hands-on computer-based exercises to learn what people want the region to look like in 2030. The process, to be completed by the end of 2004, will provide the foundation of a new regional comprehensive plan. To date, the process has been successful in engaging local citizens, elected officials, private developers, minority groups, and environmental advocates.

- *Social Factors.* TOD remains very much an issue of available resources in Metro Chicago. Cities that have a strong tax base and funds to leverage tend to progress quickly, while less well-off cities do not. Affordable housing remains a particularly controversial issue. Some density and infill development are often accepted, as long as they allow expensive, for-sale units. In Arlington Heights and La Grange, for instance, new units have been primarily for-sale condominiums. In the past, the Campaign for Sensible Growth and the Metropolitan Mayors Council have tried to promote affordable housing with little success. Metropolis 2020 recommends creating a state housing act requiring all towns to provide a range of housing options and prioritizing funds to places that create workforce housing.

In other communities, density in general remains a divisive issue. The mid-rise densities in Arlington Heights are not viewed favorably by some communities considering TOD, prompting RTA and other agencies to focus discussions more on design possibilities than on density per se. One instance in which NIMBY resistance led to down-zoning was in Olympia Fields, an exclusive community to the south of Chicago (the “Lake Forest of the southern suburbs”). There, a new town center was planned for 54 acres of greenfield under single ownership. A visual preference survey originally led to a sensitive conceptual design. However, after the locals got involved, a large surface parking lot was introduced instead, only minor commercial/retail uses were included, and the condominiums and townhouses were replaced by a gated single-family community.

Conclusions and Lessons

Metro Chicago’s experiences point to the potential of using commuter rail, designed in a sensitive manner, in combination with supportive public policies and targeted public investments to leverage the revitalization and rejuvenation of older suburban downtowns. Common to the success of these efforts are the following:

- *Transit System Design:* A new or refurbished Metra station strategically located in the downtown core jump-started private real-estate investments. Commuter parking was sensitively located away from the platform to a number of small lots to

preserve key land parcels for civic spaces and other uses.

- *Taking the Long View:* Success did not always come quickly. In each community, the downtown redevelopment/TOD strategy was part of a master plan that the community had been pursuing for 15 to 20 years. Patience and a willingness to make short-term sacrifices for long-term gains were important traits in several instances.
- *Continuity and Leadership:* An essential element in each community was the ongoing persistence and leadership provided by professional staff and elected officials.
- *Development Tools in Place:* Instrumental in leveraging TOD was the realization that achieving well-designed, walkable, compact development in ailing downtowns would require public investment— assembling sites, upgrading public infrastructure, and rehabilitating older buildings.
- *Managing the Parking:* Metro Chicago’s commuter-rail TODs require good automobile access to be viable. Each community understood the need to have a comprehensive approach to the design, placement, management, and sizes of commuter parking. Where possible, shared parking was introduced to economize on construction and conserve land.
- *Supportive Real-Estate Market:* Worsening traffic congestion and shifting demographics helped provide a ready-made market that each community was able to tap into for denser residential development.

Notes

- ¹ Other major transit providers in the Chicago region are the CTA, which provides regional heavy-rail and bus service, and Pace, which provides suburban bus service.
- ² Campaign for Sensible Growth, *Growing Sensibly*, brochure (Chicago: n. d.).
- ³ Chicago Metropolis 2020, *The Metropolis Plan: Choices for the Chicago Region* (Chicago: 2003). See <http://www.metropolisplan.org/main.htm>.
- ⁴ Chicago Area Transportation Study (CATS) Policy Committee, "Resolution 00-01: A Resolution Endorsing the Interagency Agreement for Regional Planning in Northeastern Illinois" (March 2000).
- ⁵ NIPC has jurisdiction in six counties: Dupage, Kane, Will, Cook, Lake, and McHenry.
- ⁶ Approval of facility planning areas is required by the Illinois Environmental Protection Agency before water and sewer services can be expanded into developing areas.
- ⁷ Created by the state, NIPC has no guaranteed funding base and operates like a private (service for contract) consulting firm. Most contracts are with the state and federal governments and must be renewed continuously. NIPC also collects about \$800,000 per year in voluntary contributions from local jurisdictions, which is mainly used to match state and federal grants.
- ⁸ This program is currently part of a broader Illinois Tomorrow statewide initiative, which pulls together a variety of state programs under a common focus: to encourage the creation, expansion, and restoration of livable communities in Illinois. For more information, go to <http://www.state.il.us/state/balanced/>.
- ⁹ The TOD toolbox will establish corridor planning standards for the planned Northwest Transit Corridor.
- ¹⁰ See <http://www.rtachicago.com/business/planning.asp> for more information about RTAP publications.
- ¹¹ Based on 1990 Census journey-to-work data for the six-county region. Metra, "Securing the Future," (Final 2003 Program and Budget) November 2002, p. 3.
- ¹² These studies are: (1) Metra and Northeastern Illinois Planning Commission (NIPC), "Guidelines: Land Use in Commuter Rail Station Areas: Guidelines for Communities" (planning brochure), 2nd printing, April 1999; (2) Camiros, Ltd. and Valerie S. Kretchmer Associates, Inc., "Strategies: Local-Economic Benefits of Commuter Rail Stations for Communities and Businesses," (planning brochure) Metra, Chicago, IL, April 1999; and (3) S. B. Friedman & Company, Vlecidis-Schroeder Associates, and Nancy Seeger Associates Ltd., "Approaches: Residential Development Near Commuter Rail Stations," (planning brochure) Metra, n. d., Chicago, IL.
- ¹³ Metra requires the replacement of parking that it owns and established a parking committee in 1987 to ensure that its riders are adequately served as parking issues become more important with increasing redevelopment. Metra has worked closely with RTAP staff on several downtown redevelopment projects and continues to do so.
- ¹⁴ For more information see <http://www.growingsensibly.org>.
- ¹⁵ Most trips are work trips; service is not frequent enough or late enough to serve non-work trips very well. The 7% figure is based on analysis of the 2000 Census by Arlington Heights Planning and Community Development Department. The 17% figure is based on Downtown Residents (mail) Survey in 2002, administered by the Planning and Community Development Department.
- ¹⁶ The purchase price would be reduced by the amount of the village's financial contributions.
- ¹⁷ Over time, downtown Arlington Heights has become a desirable regional address for residential real estate, and the market remains strong.
- ¹⁸ The village generally promotes high-quality development and has a nationally designated historic district to ensure that homes are well preserved and maintain their architectural and historic significance.
- ¹⁹ Per the 2000 Census, median income in the village is \$80,000 and the median home value

- is \$272,000. The village has about 4,000 owner-occupied units and 1,000 rental units.
- ²⁰ The Plan itself was based on a “State of the Area Report” completed by Camiros, Ltd. (planning consultants), February 1985.
- ²¹ The village has made approximately 40 façade loans. The maximum loan is \$40,000; a corner building with two façades could qualify for \$80,000.
- ²² The village also sponsored a “traditional” Main Street program (e.g., business hours coordination and shopper parking reimbursement) throughout the 1990s, with limited success. The program was dependent on village staff and funding, which the village is too small to provide on a full-time basis.
- ²³ The dry-cleaning facility was a brownfield site. EPA brownfield funds were secured to do site cleanup, and “comfort letters” were provided to let landowners know that there were no other contaminants on the site.
- ²⁴ This is a fairly common arrangement with Metra, with whom the village retains a good working relationship.
- ²⁵ Downtown Elmhurst experiences lots of freight activity that often impedes traffic. This problem was partially rectified with the construction of a new vehicular/pedestrian underpass.
- ²⁶ The Northwest Municipal Conference, a regional council of government formed in 1958 is a membership-supported association representing a population of over 1.2 million. With 44 municipalities and 5 townships, the Northwest Municipal Conference unites an area of over 300 square miles.
- ²⁷ Gruen Gruen + Associates, “The Effects of CTA and Metra Station on Residential Property Values, a Report to the Regional Transportation Authority” (June 1997), Northbrook, IL.
- ²⁸ In most cities along the alignment, the service was too new to significantly affect development patterns. Three communities, however, have already implemented TOD zoning and designs—Centennial Crossing, Vernon Hills, and Prairie Crossing. Valerie S. Kretchmer Associates, Inc., “Land Use Impacts: North Central Service Impact Evaluation—Phase II” prepared for Metra (June 1999).
- ²⁹ Data are based on Fall 2002 Origin/Destination surveys by Metra. (Metra periodically conducts surveys of selected residential properties to estimate rail usage and mode of access.) At Railway Plaza, a 417-unit development near the Route 59 station, Metra estimates that every 100 households generate 53 riders who walk to the station. At the Spring Avenue Station development in LaGrange, about 56 riders per 100 households were found.
- ³⁰ The Commercial Club is the same group that commissioned Burnham’s celebrated 1909 Chicago Plan.
- ³¹ The Campaign for Sensible Growth has also advocated for a “State Office for Sensible Growth” to designate priority development areas, establish clear funding priorities, and coordinate funding and permitting activities.

Photo Credits

Photos 14.1, 14.2, and 14.3 were taken by G. B. Arrington.

Chapter 15

Dallas: Using TOD to Create Place and Value in a Sprawling Metroplex

Viewed from 37,000 feet, the Dallas Metroplex (i.e., region) would not appear to be a strong candidate for TOD. Interlaced by freeways and dotted with sprawling subdivisions, mega-malls, and other space-hungry land uses, the lay of the land does not seem particularly inviting to transit usage.

Unlike other regions, where the central city initially takes the lead role in promoting TOD, the city of Dallas has largely adopted a “wait-and-see” approach to TOD. The TOD leadership in this property-rights-friendly state, where government and planning have historically had relatively limited roles, has come from suburban communities and the region’s transit authority.

What has done most to kindle interest in Dallas’s growing (and increasingly traffic-choked) suburbs is the TOD success story at Mockingbird Station. North of downtown Dallas, the Mockingbird Station capitalized on private developer initiative, a good site, strong local demographics, and an abundance of adjacent regional attractions. A TOD “sea change” has occurred in the first-generation suburbs of Richardson, Plano, and Addison, where committed local officials have worked with savvy developers to proactively plan and develop station areas. Whereas DART initially led the TOD charge, now local cities are

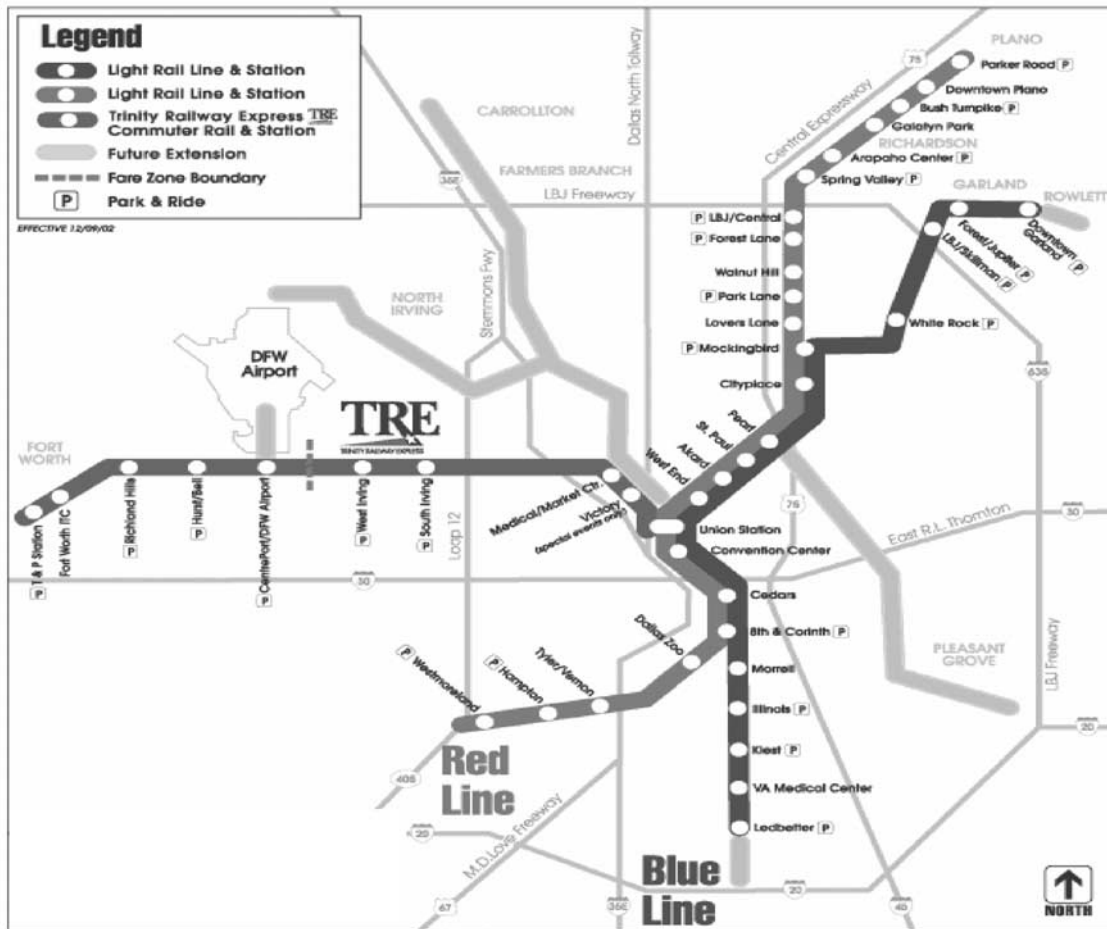
In Dallas’s northern suburbs, a “fear of being skipped over” is a primary

motivator, and TOD is helping to create unique downtowns to attract growth that would otherwise go to the sprawling fringe of the region. In Plano, TOD is being used to revitalize a traditional downtown that flourished long ago. At Mockingbird Station, Richardson, and Addison Circle, new downtowns and commercial centers are mushrooming upwards from scratch. In these places, sophisticated developers are building multiple projects with multiple uses to provide “the full meal deal” within the station area. In all the places profiled in this case study, TOD is not just a collection of unrelated projects, but rather is consciously being used as part of a “place-making” strategy.

Regional TOD Players and Tools

DART serves the city of Dallas and 12 surrounding municipalities. DART presently operates 44 miles of light-rail service connections with 34 stations and more than 130 local and express bus routes (see Map 15.1). The light-rail “starter line” opened in 1996, and service was extended to Garland and Plano in late 2002. Today, average weekday light-rail ridership is about 55,000. In addition, DART operates the Trinity Railway Express commuter line, which connects to Dallas-Fort Worth International Airport and downtown Fort Worth. All told, DART moves more than 200,000 passengers per day across its 700-square-mile service area.¹

DART Rail System



Map 15.1. DART Light-Rail System, 2003.

Source: DART.

DART does not have a formal TOD program (named as such), but promotes transit-supportive growth via economic development activities and programs. According to DART TOD specialists, this gives them greater flexibility to get involved in a broad range of projects that could potentially affect DART ridership. TOD planners spend about half their time educating cities and developers about the benefits of TOD via general publications and focused consultations and the other half coordinating detailed

station designs with DART engineers and local city staff.

To promote TOD, DART employs a variety of tools. With its board's approval, DART can lease and sell surplus property (e.g., underutilized parking) for affordable housing and other ventures. At the Arena Station, currently under construction, DART sold its air rights (starting at 26 feet above grade) for 55% of the land value. The air rights will allow the Arena to build over

the back one-third of the public plaza that will be part of the rail station. At the 8th and Corinth Station, DART is in the process of selling surplus parking to an affordable-housing developer, pending board approval. In other cases, DART has proactively acquired surplus property to one day be exchanged for station-area infrastructure (and good TOD development). In the Plano profile that follows, the details of this type of deal are described.

In designing stations, DART pays particular attention to station placement and bus and pedestrian linkages. At the I-90 station, for instance, DART broke the historic mold for how its transit facilities are laid out. In this case, commuter parking and the rail platform are separated by about 400 feet, whereas in typical stations, they abut each other. The commuter parking is located in the right-of-way under an elevated freeway (covered parking is desirable in the Dallas heat), and the platform is across the street. DART strategically located the platform in the middle of a large development parcel that is under single ownership (i.e., a potential future TOD) and built a 400-foot pedestrian walkway to provide a direct connection from the parking to the platform. When it can, DART tries to locate stations in the “middle of the action” and locate transit support facilities at the edge of activity areas.

Finally, DART also returns 15% of the sales taxes it receives from cities through DART’s Local Assistance Program. The funds can be used for a wide variety of transit and congestion mitigation projects. Funding is discontinued when a light-rail construction contract is approved within the benefiting city.

The North Central Texas Council of Governments (NCTCOG) has not yet developed a comprehensive, regional TOD strategy, and because not all of its member cities have light-rail service, it “treads carefully” in this regard. In spite of this, the NCTCOG recognizes the value of TOD, and it has taken steps to promote it. A recent issue of *Regional Mobility Initiatives*, a monthly report on the agency’s transportation planning activities, discussed how to improve rail station access (particularly for bikes and pedestrians) and vehicle access and parking, as well as transit-supportive designs, implementation strategies, and success stories.² In addition, the NCTCOG’s *Mobility 2025 Update* embraces “sustainable development” as the region’s new strategic approach to transportation planning, programming, and construction. The plan recognizes four categories of sustainable development and calls for multimodal planning support for them. The four categories are strategic urban development, integrated land-use planning/urban design, TOD, and access management. In a related step, the NCTCOG also established the Sustainable Development Fund, a fund of \$24 million for the Dallas District of the Texas Department of Transportation (TxDOT) to pay for TOD improvements.³ TOD at the Cedars Station received \$5.8 million in CMAQ monies through the Sustainable Development Fund.

TOD in Light-Rail Communities

Greater Dallas stands out as an example of great divergence—a yin and yang in TOD implementation. Along the starter line in the city of Dallas, market factors are overcoming the lack of supportive public policy, triggering mixed-use

development next to transit at some stations. A very different picture emerges in the suburban communities along the DART extensions where market forces have been complemented by public-sector leadership, investment, and supportive policies.

Mockingbird Station

The city of Dallas provides a good example of how market factors and private-sector vision, rather than public policy, can spawn large-scale development next to transit. Since the opening of the DART light-rail system in 1996, more than \$1.2 billion in new commercial and residential investment has been constructed within walking distance of DART.⁴ With the exception of the Cedars Project, this has happened without any subsidies, TOD planning or supportive policies by the regional planning agency, the city of Dallas, or DART (along the starter line).

While there has been significant development next to DART stations, much of it has been “transit adjacent” and is not truly “transit oriented.” One notable exception is Mockingbird Station (see Photo 15.1). Located 4 miles north of downtown Dallas (a 15-minute train ride), Mockingbird Station is a mixed-use, urban “chic” village linked directly to a light-rail station (after which it is named) via a welcoming pedestrian bridge. The assemblage of offices, shops, restaurants, and lofts near the station cost around \$145 million to build, a substantial sum given that such a “product” had absolutely no track record in automobile-friendly Texas.

This pioneering project has set the tone for other TODs in the Dallas Metroplex.

Recalling trips to New York City and Europe during his youth, developer Ken Hughes consciously sought to tap into the transit system to bring the ambience and energy of those places to Dallas. When interviewed for this study, Hughes remarked, “If you look at the chemistry in London, Paris, Mexico City, or wherever there’s mass transit, you find kinetic activity created by transit stations. A little bit of that will happen here with the trains.”

Strategically located at the intersection of Mockingbird Lane, a major east-west arterial, and the North Central Expressway, the TOD abuts DART’s Mockingbird Station, the initial terminus of the 20-mile light-rail starter system. Light rail has since been extended to both Garland and Plano, with Mockingbird Station sitting today at the confluence of the two lines. The project is linked to nearby Southern Methodist University via dedicated shuttle service. It is also near the Katy (hike-and-bike) Trail and White Rock Lake, two regional recreational resources. Also nearby is the well-to-do Park Cities neighborhood. Many of its residents patronize the numerous retail and entertainment offerings at Mockingbird Station. This has given the TOD a rather upscale ambience, which by national standards is more the exception than the rule.

The Mockingbird Station project was initiated in 1997 when Hughes bought a 7-acre property with an abandoned Western Electric building on Mockingbird Lane. The three-story brick/concrete building, built in 1947 as a telephone assembly plant, had high loft ceilings and was next to the planned Mockingbird Station, but it was filled with junk and covered with grease.



Photo 15.1. Mockingbird Station. Dallas's Mockingbird Station was the first mixed-use project in Texas specifically designed and built for a light-rail transit station. It includes 211 upscale loft residences, 140,000 square feet of office space, and 180,000 square feet of destination and convenience retail, theaters, and restaurants.

Today, the bottom level of the refurbished structure has 45,000 square feet of retail space (e.g., the Gap and Urban Outfitters) and is topped by four stories of new construction to accommodate 200,000 square feet of apartments. Most of the half-century-old brick walls remain exposed, and the large jalousie windows were retained. The building is topped with a distinctive arched roof, recalling the bow-string trusses of the original building, a design frequently employed in 19th-century railroad terminals. A 25-meter Olympic-standard pool is located on the roof.

In 1998, the developer purchased the office tower next door (the Guaranty Federal Bank Building), adding more parking and 3 acres to the site, giving the project direct freeway access to complement the rail access. This purchase

was critical for the project as it enabled 1,150 underground parking spaces to be built for future residents, workers, and customers and converted part of the existing six-story office parking garage into 35,000 square feet of retail space (housing Virgin Records). The office building was subsequently expanded to 140,000 square feet. Below the office tower and adjacent to the parking structure are high-end retailers (e.g., Abercrombie & Fitch and Ann Taylor Loft), posh restaurants, and outdoor cafes.

Rounding out the development is the eight-screen Angelika Film Center and Café, which features independently produced films. Its parking is underground. The building, located on the northwest corner of the site, is directly accessed via the pedestrian bridge that connects the development

with light-rail and bus service. Finally, a brand-name boutique hotel is also planned for the site, west of the film center and immediately east of the Central Expressway.

The loft apartments, which first went on the market in 2001, rent for \$900 to \$2,700 per month and average 1,200 square feet each. According to Hughes, rents are some 35% above “comparables,” which is attributed in good part to transit’s presence. Most tenants are 30- to 45-year-old professionals who can afford to own but prefer to rent. Six top-floor penthouses rent for up to \$4,600 per month. According to Hughes, many residents were living in downtown lofts but felt too isolated. “But primarily, they wanted access to the train. We’re getting people who work in the Telecom Corridor that want to live close in and take the train to work.”

The Mockingbird project’s parking facilities do not reflect the presence of transit, although not because of developer resistance. The project has 1,400 parking spaces; two double bays of parking for 150 cars are in the center of the project, and the rest is structured or below ground. According to Hughes, the surface parking is not enough to overwhelm pedestrians, but it is sufficient (and desired) to activate the project by creating movement. Hughes estimates that he had to build \$6 million worth of excess structured parking for the project. While the city gave the project a mixed-use parking reduction credit, it refused to reduce parking further to reflect transit’s proximity.⁵ The developer estimates he may have only needed to provide 1,300 spaces, but he acknowledges that some tenants may

have resisted the lower figure. Questioning the parking standards could have been risky because there was no track record for such a development.

With the exception of federal contributions toward public infrastructure, the development has been 100% privately financed. The developer connected his project to the Katy Trail and has spent over \$600,000 for improvements to public sidewalks and landscaping. In addition, the developer paid \$500,000 to bury existing above-ground utilities.

The project’s only shortcoming is poor pedestrian connections across adjacent streets and highways. Sidewalks surrounding the project are undersized, discontinuous, and flank fast-moving traffic. In the future, the developer and the city would like to see Mockingbird Lane converted into a boulevard with raised medians, wider sidewalks, landscaping, and traffic-calming devices.

Historically, the city of Dallas has made no changes to its plans or zoning codes to promote or allow TOD. For this project, both land parcels were already zoned for mixed-use development, so there were no zoning obstacles to overcome. The most coordination with public agencies occurred in designing and building the pedestrian bridge linking the project directly to light rail. This required the developer to work “hand in glove” with DART. As light rail was already operational prior to the project kickoff, there was no opportunity to change the location of the station, which sits in a deep below-grade trench and was designed to incorporate a future pedestrian bridge to the west.⁶ During

construction of the developer-financed bridge, workers had to take care to cover and protect overhead wires and could only work in 3-hour shifts so as not to disrupt light-rail service. From the bridge, elevators and escalators carry passengers to the depressed passenger-loading platform. In effect then, the transit station, which includes a Starbucks coffee shop, serves as the “front door” to the development.

The Cedars

The Cedars, just south of downtown Dallas on the starter line, was once the site of a large forest of conifer trees. Over time, the area became one of Dallas’s first suburbs (with numerous Victorian homes), but it later transitioned into a primarily industrial and commercial area. Today, proactive public leadership and developer initiatives are converting abandoned industrial land and buildings yet again into a vibrant TOD with a strong residential base.⁷ Four major projects are helping to bring the area back to life.

Anchoring the redevelopment area to the east is DART’s Cedars Station, which is served by both the Blue and Red Lines and provides short-term parking, bus bays, and bike racks on 2.2 acres. To the north is DART’s Convention Center Station, where the Convention Center recently underwent a 300,000-square-foot expansion. The entire area is envisioned as a commercial/entertainment/hotel/residential district, with the corridor between the two DART stations becoming an “Arts Walk” and entertainment quarter that is attractive to a younger, more “bohemian” market than the market in Plano, Addison, or Mockingbird.

Just south of the Cedars Station lies South Side on Lamar, the primary catalyst of the area’s urban renewal. Developed by Matthews Southwest, South Side on Lamar is a 10-story, mixed-use “live and work” center that reused an abandoned Sears Roebuck & Co. Catalogue Merchandise Center built in 1913 (see Photo 15.2). With over 1.4 million square feet, the project includes 455 lofts; retail space (e.g., a coffee shop, a small grocery, and a dry cleaner); offices; and a live performance space. Over 90% of the loft units are occupied, primarily by young professional couples and empty nesters attracted to the district’s arts focus. Around half of the commercial space is presently leased.

Matthews Southwest also opened a Gilley’s western bar one-and-a-half blocks from Convention Center, the district’s 190,000-square-foot entertainment complex based in concept on the 1980s country music “honky tonk.” Targeted at tourists, conventioners, and Dallas residents, the complex includes themed bars and restaurants, an amusement arcade, a rodeo arena, retail shopping, and a high-tech recording space similar to Austin City Limits.

Rounding out development to date is the new Dallas Police Headquarters, which adds a major employer to the neighborhood. With 360,000 square feet on 3.2 acres, it houses over 1,300 employees and consolidates 37 law enforcement functions into a single facility.⁸

DART has been active at The Cedars, successfully securing a \$5.8-million CMAQ grant from the NCTCOG for pedestrian improvements, including wide



South Side on Lamar



New Police Headquarters



South Side Rooftop Sign with Dallas Skyline in Background

Photo 15.2. South Side on Lamar, Dallas. Located at the Cedars Station, South Side is the redevelopment of a 10-story abandoned Sears catalogue center into a 1.4-million-square-foot TOD with 455 lofts, 20,000 square feet of retail, and 100,000 square feet of office space.

sidewalks, an Art Walk, landscaping, pedestrian lighting, bike lanes, park benches, and bricked walkways. The city of Dallas has also contributed \$500,000 through a Cedars TIF district for streetscape improvements and awarded tax abatements for the Gilley's development. Under the terms of the 5-year abatement, the city will forgo 50% of the taxes assessed on the increased value of the existing property. The city also gave Matthews Southwest a \$22-million historic tax credit for restoring the Sears building.

Plano

Downtown Plano lies some 40 minutes north of downtown Dallas on DART's Red Line. Covering 72 square miles and with 237,000 residents, Plano is a

relatively affluent community with a primarily service-based economy.⁹ During the boom times of the 1980s, millions of square feet of campus-style office space were built in Plano, quickly transforming it from a rather quiet residential community. Since the early 1990s, Plano has sought to change course. The city has consciously embraced the principles of New Urbanism and TOD in hopes of transforming its downtown into a compact, mixed-use urban center. Guiding its redevelopment program is a vision of improving quality of life, providing a model of sustainable development for maturing suburban cities, and creating a unique suburban identity for itself.¹⁰

According to Frank Turner, Plano's Executive Director of the Business

Development Center, the city has been committed to its downtown, which has historic and symbolic significance, for decades. During the past 40 years, Plano has witnessed explosive growth. (Its population was 2,100 in 1950.) Suburban shopping centers sapped downtown Plano's vitality as a retail center. By the 1980s, the downtown's tenant mix had changed from retail support (e.g., grocery, drug, and hardware) to specialty stores (e.g., novelties and antique shops) that closed by late afternoon. The downtown was dead at night, turnover was high, and absentee ownership led to a gradual physical and economic decline, which began to spread to adjacent neighborhoods. In the regional landscape, downtown Plano had become "the forgotten commercial center" of a once prosperous farming community.

The city's efforts to rebuild the downtown started in the 1980s with landscaping, streetscaping, and other aesthetic improvements. A new municipal building was constructed and later expanded, and several derelict buildings were removed to expand Haggard Park, the historic "heart" of the City.¹¹ While these improvements made downtown more attractive, they did not attract much private investment.

A major milestone occurred in 1991 when the city council approved a new downtown development plan. The plan's overriding goal was to create a compact town center utilizing New Urbanist principles. Specifically, it recommended expanding the downtown through infill and redevelopment adjacent to historic commercial buildings in the core. A new business/government (BG) zoning district was

formed in 1993, which allowed mixed-use development in the entire (80-acre) downtown core. The new zoning restricted the amount of surface parking that could be built, limited building heights to four stories (to distribute density), and required new buildings to be next to the street. During this period, the city also reconstructed key downtown streets and implemented "historic" design finishes. While the opening of DART was still a few years away, the groundwork was being laid to capitalize on a new light-rail station.

In 1995, DART revised its earlier plans to operate only special-event service to downtown Plano, opting instead to build a full-service, "destination" platform without any park-and-ride facilities.¹² DART and the city worked together to strategically relocate the platform to bring the entire downtown BG district within ¼ mile of the platform and to facilitate the city's first major redevelopment project, Eastside Village (Phase 1). Properties to the east of the platform consisted of an old shopping center and scattered deteriorating commercial buildings. The city had previously acquired two-thirds of the block to clear for parking, but with DART's change in plans, the block became an ideal candidate for redevelopment. In a deal between the city and DART, DART used eminent domain to acquire the remaining one-third of the block, a portion of which was required for the DART platform. DART then transferred the balance of its property to the city in exchange for the city assuming responsibility for reconstructing streets, drainage, and utilities needed to serve the platform. In essence, this was a "public-public partnership."

The city assembled the entire site and in 1998 issued a request for qualifications (RFQ) for developers. In a selection process that solicited inputs from neighborhood residents and merchants, Robert Shaw’s new development company, Amicus Partners, was selected from the four companies submitting their qualifications. Prior to the decision to relocate the station, Shaw’s company had approached the city about doing a TOD project. In Plano, the company saw an opportunity to replicate the success of its previous Uptown Dallas project, and it wanted to use transit to create a “sense of place” that sustains or enhances real-estate values over a long time.¹³

Following the selection of Amicus Partners, Robert Shaw led an intensive community-driven process to develop a design concept for the site that would

realize the city’s vision of a transit village, create a sense of place, and perform well financially. Density was a major bone of contention throughout the process. Local officials and citizens reviewed preliminary designs for 4 months and, in 1999, supported increasing the site’s allowable density to 100 dwelling units per acre (up from 40 in the original BG zoning). After extended negotiations, the community was willing to accept high density in exchange for the prospect of re-energizing and upgrading downtown Plano.

The resulting project, Eastside Village 1, was completed in 2001 (see Photo 15.3).¹⁴ It sits on a 3.6-acre parcel adjacent to the historic downtown and near two performing arts centers, a transit museum, a residential historic

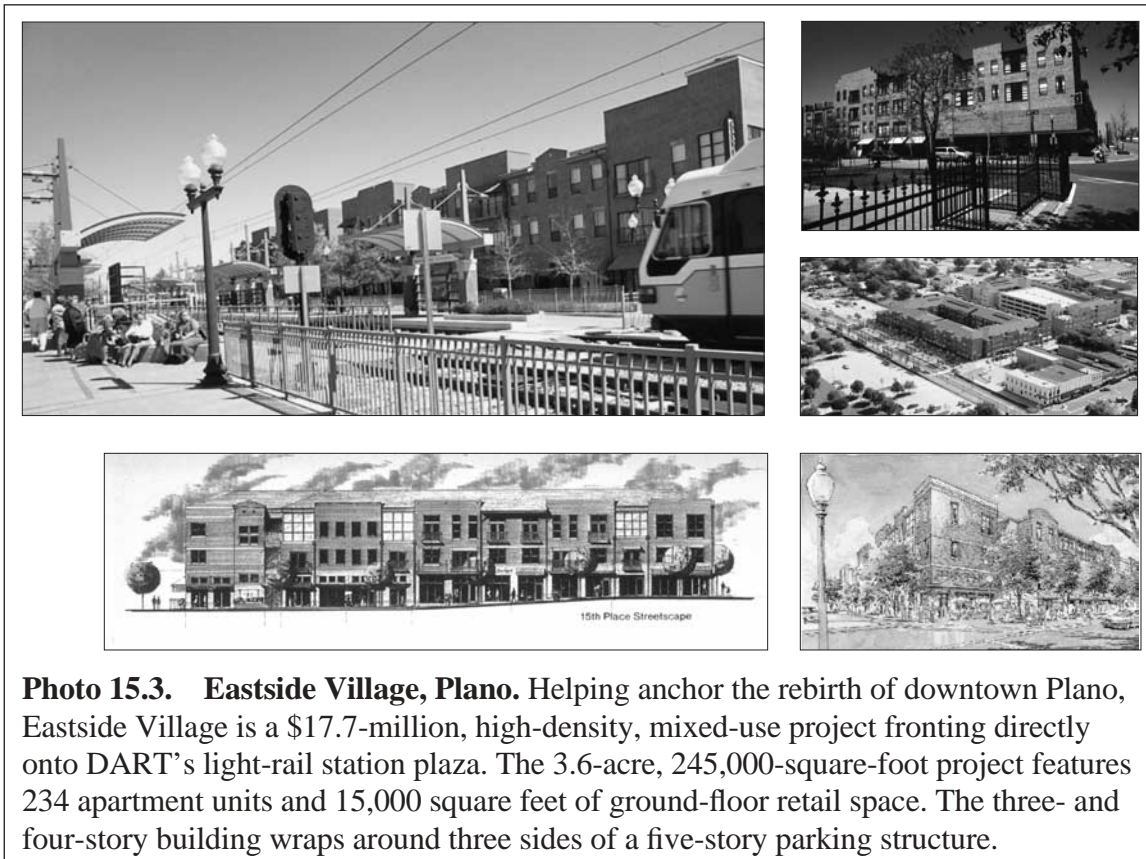


Photo 15.3. Eastside Village, Plano. Helping anchor the rebirth of downtown Plano, Eastside Village is a \$17.7-million, high-density, mixed-use project fronting directly onto DART’s light-rail station plaza. The 3.6-acre, 245,000-square-foot project features 234 apartment units and 15,000 square feet of ground-floor retail space. The three- and four-story building wraps around three sides of a five-story parking structure.

district, and Haggard Park. The project features three- and four-story brick buildings with zero setbacks and designs reminiscent of 19th-century mercantile structures. The buildings house 234 loft apartments (renting for \$600 to \$1,200 per month) above 15,000 square feet of ground-floor commercial space, including two restaurants, small offices, and a community room leased by the city. The whole development is split in half by a new street. The western portion of the site directly abuts the DART platform and plaza, integrating private and public space, and the interior of the building contains a courtyard and pool. The eastern portion of the project has an interior five-level parking garage with 351 spaces. The first level is open to the public to serve the commercial facilities and has a 4-hour limit (poaching by DART commuters had been a problem). The top four floors are gated for project residents. Surrounding the whole project on three sides are 47 angled on-street parking spaces.

Encouraged by the anticipated success of Phase 1, the city and Amicus Partners began working together to put together another project. Nearby, the city owned another 1.1 acres adjacent to 2.2 acres owned by a utility company seeking to relocate. Shaw's company bought the utility parcel, and the city contributed its land in return for 100 future on-site public parking spaces. The city also paid the company \$800,000 for public infrastructure improvements. After another design process involving downtown merchants and residents, Eastside Village 2 was born.

Built from 2001 to 2002, the second project is similar in design and scale to Eastside Village 1. It includes 229 loft

apartments and 25,000 square feet of ground-floor retail. A new street bisects the site to provide garage access and expand the downtown grid. Parking is similar at the second project, which has 419 garage spaces (100 owned by the city) and 33 surface spaces. Compared with the first phase project, however, the interior garage at Eastside Village 2 is more visible to local traffic, and the retail has thus fared better. In both projects, most residents are singles and young professional couples without children.

To help leverage the Eastside Village projects, the city paid for new local streets, constructed brick sidewalks, and provided street furniture and ornamental lights. It also granted Shaw's company a parks fee waiver and credited development fees against ground-lease payments.

Going into the first project, Shaw's starting assumption was that light rail would help to publicize and market the TOD, but that the fundamental demand for rental units would not change because of the project's location next to DART. During interviews for this study, Shaw commented, "I've been proved totally wrong on the impact of DART." Phase 1 opened 1½ years before DART and leased up quickly. The second phase of the project, however, overtook the first phase, and occupancy in the first phase dropped from 98% to 89%. Then, according to Shaw, "A miracle happened—DART opened." Shaw believes that 25% to 50% of new leases are now DART-driven, and occupancy is back at 98% for Phase 1. Shaw believes, "Because of DART, the project is dramatically out-performing the market. I'm a convert." Now both projects

market directly to DART users by handing out coffee and doughnuts on the platform, and project advertisements include a DART “banner.” Text Box 15.1 outlines Shaw’s philosophy on TOD design.

The city is not done rebuilding its downtown. While the two projects have added nearly 500 dwelling units and at least twice as many permanent “eyes on the street,” the city would like to add another 500 units near the DART station as part of its vision of a “Plano Transit Village.” Other tools used by the city include a TIF district, parcel assembly, a neighborhood empowerment zone (which reduces development fees), and a historic preservation tax abatement program.

Once again, downtown Plano is becoming a regional destination. New businesses include the Coffee Haus, Jorg’s Café Vienna (an Austrian restaurant), Two Brothers Cigars, Spa St. Clair, and the Eastside Art Gallery. Three new restaurants are expected to move in soon, which will create more good energy for evening shopping. In the last 3 years, 26 new single-family houses have been built in the older neighborhoods adjacent to downtown, and the city continues to restore historic commercial and civic buildings. The city is also reusing its first school gymnasium, built in 1938, as a performing arts center. As at Mockingbird Station, DART is benefiting from high weekend and entertainment/leisure use.¹⁵

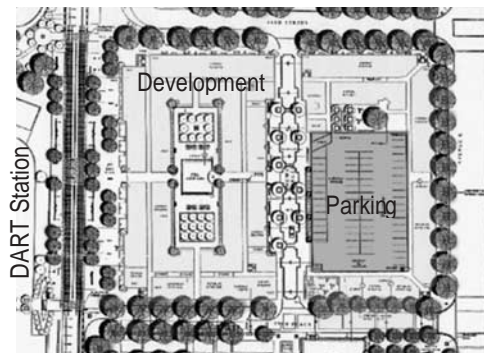
Neither of the Eastside Village projects, it should be noted, would have happened without risk-taking commitments by both the developer and the city. The city articulated the vision and provided

Mixed-Use Lessons

Developer Robert Shaw focuses on four elements to create a successful mixed-use project such as Addison Circle or Plano Transit Village:

1. **FAR (Floor Area Ratio):** push the FAR to the maximum extent possible.
2. **Building Efficiency:** gross to net, maximize the amount of leasable area in relation to total building size.
3. **The Parking Solution:** get to the smallest amount of parking space per square foot of leasable space.
4. **The Ground Floor Plane:** activate the street face on the development.

Finding the right parking solution is a major driver in Shaw’s projects. Shaw starts by finding the parking solution and then works from there. Over time, he has fine-tuned the art of parking costs. His four- to five-story structures typically have a 200 x 120 foot footprint to allow for efficient deck runs, or about 300 square feet per parking space (well below suburban averages of 400 to 500 square feet). He has developed relationships with parking contractors; the decks are concrete poured in place and, depending on the cost of materials, come in at \$3,700 to \$4,500 per space—much less than the costs typically associated with structured parking. The plan view of Shaw’s Eastside Village in Plano (below) illustrates these relationships.



Text Box 15.1

incentives. The developer understood what was necessary to translate the vision into an economically viable project with a design that the community could embrace. According to Shaw, the city’s leadership behind TOD filtered down to all levels of the staff. City officials advocated for the station location, saw an opportunity to marry development with the platform, assembled the site, offered it for development, paid for public infrastructure, and increased allowable densities. In effect, the city “pulled” the projects through so that the developer did not have to “push” them, and Shaw essentially became the “arms and legs,” by his own admission, to make staffs’ visions real.

Addison Circle

Addison Circle is an emerging 80-acre mixed-use town center in the town of Addison, a post-war suburb located 20 miles north of downtown Dallas (see Photo 15.4). Unlike Mockingbird

Station, The Cedars, and downtown Plano, it is not presently served by light-rail transit, although civic leaders hope this will one day change. Currently, it represents a bus-based TOD with the possibility of transforming into a rail-served one.

With about 15,000 residents, Addison is a “land-locked” community of 4.5 square miles, about 80% of which is built out. In creating Addison Circle, local officials consciously sought to build a “complete” town center with a full-time residential base that would strengthen the local restaurant/entertainment industry. In the 1970s, Addison became a focus for regional restaurant and hotel development when it permitted liquor by the drink before most other suburbs did. By the early 1990s, however, the industry began to decline when population dispersed to far-flung suburbs, and new entertainment corridors began to emerge. Due in part to the success of Addison Circle, today Addison has over



Photo 15.4. Addison Circle, Addison. Addison Circle is a very walkable 80-acre high-density town center that closely adheres to the principles of the New Urbanism. A bus transfer center and future commuter-rail line serve the edge of the project. At build-out in 2010, the project will include 4,000 dwelling units, 4 million square feet of office space, and 250,000 square feet of retail space.

150 restaurants, and the town has retained its regional status as a thriving entertainment/leisure destination.

Addison Circle is a dense, mixed-use neighborhood with a strong residential presence that closely adheres to the principles of New Urbanism.¹⁶ Planning for the town center began in 1991, when the town's updated comprehensive plan proposed a special mixed-use, residential district. The concept was subsequently refined and confirmed in a community-based visioning exercise (Vision 2020), in which residents rejected building more traditional garden apartments, opting instead for a comprehensively planned "urban place."

Located near a regional toll road, the Addison Circle site was the last significant unbuilt parcel in town (and one of the largest sites in the area) and was under single ownership (Gaylord Properties). The site abuts Addison's Old Town and is within walking distance of existing employment, retail, and entertainment uses, as well as the town conference and arts center. Around the time the site was identified, the town also persuaded DART to locate a bus transit center across the road that forms the southern boundary of the development. While other communities did not want the transit center, Addison officials sought to capitalize on the proximity of abandoned but well-maintained freight rail tracks that bordered the site. In the future, DART is likely to operate commuter-rail service in this corridor.¹⁷ In the meantime, Addison's leaders are happy with a town center that enjoys intensive bus services and ease of transfers.

The detailed planning and urban design process that has unfolded over the past

decade has been a true public-private partnership involving the property owner, the town, and the developer (initially Robert Shaw's Columbus Realty, later purchased by Post Properties, a seasoned nationwide developer of TODs). The first step was to conduct a market study to ensure that residential demand would justify high-quality public infrastructure; calculations suggested that it would.

On showing that market pro forma penciled out, the developers made numerous presentations of design concepts and potential projects to local officials and residents to solicit their buy-in. With community support, new design guidelines were then written into the zoning code, covering allowable densities, lot coverage, building materials, parking distribution, and streetscape standards. At the same time, financial analyses were completed to establish the development program/phasing and identify funding gaps. Finally, the town and developer signed a development agreement ensuring \$4 million of public improvements in exchange for 1,500 residences in the first 5 years. To pay for the public infrastructure, the project area was designated a TIF district.

Development by Post Properties started in 1993 and today the project is around one-third built out. At completion in 2010, the project will include 4,000 dwelling units (at 55 dwelling units per net acre), 4 million square feet of office/commercial space, and 250,000 square feet of street retail. Total public investment will likely reach \$9 million, matched by more than \$300 million in private investment.

Densities are uniformly high throughout the Addison Circle project. Residential

buildings are generally four to eight stories with interior courtyards and high-quality brick and stone finishes.¹⁸ A strong emphasis on landscaping, streetscape improvements, pocket parks, and other aesthetics “softens” perceived residential density. Also, most residential buildings contain street-level retail, cafes, restaurants, galleries, and/or offices.¹⁹ Units range from one-bedroom apartments to penthouse lofts and townhomes, and monthly rents range from \$700 to \$2,600. Most residents are upscale “choice” renters: singles, empty nesters, and young professional couples with no children (age 30 to 55). The project also includes a 10-story office building.

Addison Circle is very pedestrian-friendly. Sidewalks and crosswalks are paved in brick, and the site has an abundance of street trees, bike racks, benches, and other street furniture. To date, the town has spent three times its “normal” amount for streetscaping. The project’s street network consists of a closely spaced grid. Parking, at one space per bedroom, is in above-grade structures behind the buildings. All the buildings have a maximum 6-foot setback from the sidewalk, and fire and access lanes (i.e., mews) between buildings provide primary access for many residential units.

Addison Circle is particularly proud of its multiple small parks, which are in good locations and are interesting and usable enough that they have become genuine community focal points. Some apartments open directly onto the mini-parks. The “signature” feature of the district, however, is a new traffic circle with a \$2.1-million public art exhibit.²⁰ Called *Blueprints*, it includes five

“petals” standing 45 feet high and 140 feet across and integrates designs originally done for the town’s older buildings and parks. The town and developer worked with residents to design the space and select the artwork in a design competition. The site also includes a large open-space plaza that links to the transit center via a special-events pavilion adjacent to *Blueprints*.

Overall, the keys to developing Addison Circle were the proactive role of the town in requiring high-quality development; a team effort by the town and developer to create a comprehensive plan; adequate time to market development concepts; and the town’s contributions towards high-quality infrastructure. As in Plano, continuity among local leaders has also been vital to the project’s success.

Few would contend that Addison Circle is not a bona fide energized, mixed-use center with a unique identity. Whether or not it is truly a TOD, however, is debatable. Those close to the project admit that the transit center, which is separated from the development by a large open space, did not fundamentally change the project’s urban form. When new rail service begins in the corridor, however, Addison Circle can transform into a highly functional TOD if a station is sited adjacent to key buildings (and the bus transit center is relocated). The final chapter of Addison Circle as a transit-oriented community is yet to be written.

Richardson

Located in the city of Richardson, Galatyn Park is 35 minutes north of downtown Dallas on DART’s Red Line. Richardson is a mature suburb with nearly 92,000 residents and is located in

the heart of the region’s “Telecom Corridor,” which generally parallels the Central Expressway. The corridor is characterized by major office, commercial/retail, and light industrial land uses in close proximity to the highway, while low-density housing dominates the remainder of the corridor.²¹ With over 600 high-tech and telecommunications firms, more than 80,000 employees work in Richardson.

Relative to the region at large, the Telecom Corridor is projected to undergo rapid residential, commercial, and industrial growth in the coming years.²² Richardson is slated to become the region’s second largest employment center by 2010, when over 100,000 workers are expected to commute to Richardson. Recognizing an

“unprecedented” opportunity to shape future growth, city leaders enthusiastically embraced DART and TOD. As Richardson lacks a true downtown and has few land parcels left for employee housing, city staff have envisioned Galatyn Park as a high-density, mixed-use area providing a “24/7 lifestyle” geared to high-tech workers (see Photo 15.5). In addition to creating a new civic core, the city also hopes that DART will become a major employee commute option. In the words of one official, “We see the DART stations as the future of the city.”

The city began planning for TOD as soon as plans to extend the DART starter line were announced. Originally, Galatyn Park Station was to be sited along a major east/west arterial. However, after



Photo 15.5. Galatyn Park Station, Richardson. Galatyn Park is charting new ground, slated as Richardson’s first high-density, mixed-use center. Located between a DART station and Nortel’s office campus, Richardson’s new 27-acre “civic core” will feature a 336-room hotel, a performing arts center, 8 acres of mixed-use retail and office space, and 4 acres of residential space at 35 to 90 dwelling units per net acre.

consulting with Nortel, a major employer planning to expand its facilities, the city strategically approached DART to move the station north, next to a large vacant parcel under single ownership. Soon afterwards, the city assembled what it refers to as a “dream team,” composed of representatives from DART, Nortel, and the Galatyn Park Corporation (the developer), to create an urban hub around the station.

While DART was planning and building the rail extension and new stations, city staff traveled to several other rail cities (e.g., Washington, D.C., Atlanta, and Portland) to gain insights into how TOD might be implemented at Galatyn Park and elsewhere.²³ The staff also began building community support for TOD (via educational workshops) and supported an Urban Land Institute Advisory Services panel in 2000 focused on the market potential for TOD.²⁴ City leaders quickly bought into the TOD concepts, designating neighborhoods around five proposed stations for TOD. Of the stations, Galatyn Park was chosen as the new town center; other stations would have less intense development and serve other functions (e.g., significant park-and-ride provisions). Nortel, an early supporter of TOD, pledged to remain in the area for the long term and has since built a large four-building complex immediately east of the primary TOD site. Nortel aligned its buildings to enhance views and open onto the project’s core. The company also shares its parking with entertainment and retail uses on evenings/weekends.

Galatyn Park was designed as a “destination” station, devoid of commuter parking. Development focuses on 27 acres that form a half-circle to the

east of the station (with I-75 on the other side). With its columns made of stainless steel bundles (representing conduit wire), the station design relishes the area’s high-tech character. A 2-acre plaza with a water fountain connects the station to the Charles W. Eisemann Center for Performing Arts (built by the city) and will eventually connect to an expanded nature trail.²⁵

North of the plaza lies the 336-room, 12-story Marriott Renaissance Hotel, which includes a 30,000-square-foot conference center. Immediately south are 12 acres of developable land zoned for high densities. Of this land, 8 acres will be mixed-use retail and office, and 4 acres will be residential (with densities of 35 to 90 dwelling units per net acre). Apart from the station areas, the dominant housing products in Richardson are low-density single-family houses. To accommodate these “pioneering” densities, the city has stipulated that project designs and building materials must be approved to ensure high-quality construction before anything can be built.

The city of Richardson is taking what is for it the unusual initiative of developing a TOD zoning code for its four stations to create a new template for development. Historically, the city has typically changed its zoning in response to landowner or developer requests. Recently, the city has held up some developer requested re-zonings until the new code is adopted. The new code²⁶ will feature “urban” setbacks and side yards, requirements for mixed uses, smaller and slower street standards, and reduced parking requirements.²⁷

What does the future hold for Richardson? At build out, DART is

expected to spark upwards of \$300 million in private investment at Galatyn Park, and the city will have invested some \$75 million. In the words of a city staff member, the city is “now creating a new string of nodes with a new type of development that will identify our community in the future; this is a way to re-identify ourselves.” Another staff member has said, “We are trying to create special areas, special places for where folks want to be.”

That said, the city’s approach has been a tempered one, and it acknowledges that it is charting new ground in a place with no high densities, mixed uses, or TOD. Housing remains a politically sensitive issue in Richardson, and the city wants to get it “right” from the start. Currently, there is very little apartment housing in this relatively affluent city. Thus, each station has a 350-unit cap, and, while the densities have been increased at Galatyn Park, no net new housing has been allowed in the city. If TOD is to spread to other station areas, it will be critical that initial projects at Galatyn Park are well received.²⁸

The Future of TOD in Dallas

What does the future hold for TOD in and around Dallas? On the public-sector side, while the NCTCOG values and encourages TOD, it lacks any regulatory control and is not likely to delve into local zoning code issues, owing to a political climate where local control is jealously protected. Nevertheless, the NCTCOG has considered pursuing regional land-use policies that are consistent with federal New Starts reporting (as part of its Mobility 2030 planning). The potential for macroscopic change exists.

TOD would also benefit if the region’s largest city, Dallas, were more supportive.²⁹ To date, the city has done little to promote TOD, and its business leaders have been more concerned that DART keep its facilities safe and clean than in considering how it might be used to leverage development. This too, however, may be changing. Dallas has recently added a full-time TOD specialist to its small planning staff and is also in the process of designing a TOD overlay zone. DART continues to prod the city to take positive steps, and most observers expect Dallas to assume a greater role in coming years.

Regardless of the future posture of the NCTCOG and the city of Dallas, powerful market forces will continue to drive TOD. The Dallas Metroplex continues to sprawl, and, despite the generous supply of tollways, beltways, and expressways (i.e., it has good road access), congestion has steadily worsened. Savvy developers, building owners, and cities like Richardson and Plano recognize the advantages of good rail access, place making, and walkable communities. Real-estate market data performance bears this out. A recent study found that, between 1997 and 2001, residential properties near DART light rail appreciated 39% more than properties further away from rail.³⁰ For office properties, land-value premiums were even higher—53%. Retail properties, on the other hand, witnessed little impact.³¹

According to TOD developers, residential units near DART quickly lease and sell. Self-selection partly accounts for the healthy TOD housing market. On the office side, a recent article on DallasNews.com notes that

office investment and transactions near DART are increasing and that DART's importance is likely to grow.³² As office competition in the far suburbs has intensified, investors are now looking for properties closer to popular DART lines, where occupancies and rents have been higher. Retail uses in TODs, however, are likely to take longer to lease up and add a truly urban ambience to mixed-use projects.

Due to the success of DART and TOD, the region's rail-served cities continue to look for future TOD opportunities. In Plano, for instance, discussions have begun regarding whether to convert its end-of-the-line Parker Road Station from a large park-and-ride lot to a TOD.³³ In addition, preliminary TOD planning is underway for DART's next round of extensions, slated to reach Irving, Carrollton, and Farmers Branch in 2008 to 2010. At the Las Colinas stations in Irving, high-density residential, retail, and office uses are planned, with a new civic center and hotel directly integrated with light rail. The town of Farmers Branch wants to revitalize its historic downtown with pedestrian-friendly retail and residential development. Like many of its suburban neighbors, Farmers Branch has taken the lead in developing a conceptual master plan around its planned DART station.

Carrollton has three visions for its three stations (as described in the *Carrollton Renaissance Initiative*): the Old Town Station would be surrounded by retail/residential development to reinforce the area's historical character; Trinity Mills would include TOD mixed-use development with both light rail and major highway access; and Frankford

Station would primarily serve park-and-ride commuters (see <http://www.cityofcarrollton.com/development/planning/specialprojects.shtml#Ren>).

Conclusions and Lessons

The Dallas Metroplex offers striking contrasts in the "art and science" of TOD. The city of Dallas has yet to take any clear steps towards leveraging the investment in DART, in keeping with its hands-off tradition toward planning and government intervention. In stark contrast to Dallas, suburban jurisdictions along DART's new light-rail extensions have been "ahead of the eight ball," planning and implementing TOD before stations even opened.

TOD experiences from the Dallas region offer the following insights:

- *Dallas TOD success looks much like other places.* Contrary to what some believe, there is no uniquely Dallas approach to TOD. Similar to other places in the United States, each suburban jurisdiction had an enlightened and involved city leadership that invested time, money, and political capital to achieve TOD. Communities, like Plano and Richardson, have assembled a TOD tool kit that offers financial and regulatory incentives and public investment in infrastructure.
- *Sophisticated developers made a difference.* The common link in each of greater Dallas's TODs is the presence of a recognizable major developer: Ken Hughes at Mockingbird Station; Robert Shaw at Addison Circle and Plano; Pete Coughlin of Matthews Southwest at South Side on Lamar; and Don

Dillard in Richardson. So far in Dallas, unlike other communities, TOD has been the exclusive domain of major developers. One can only imagine how much more TOD would today exist in Dallas if leadership on the private side were matched to local political leadership and a more receptive public-policy environment.

- *TOD as place making.* In each of the suburban communities, TOD has emerged as an important tool to achieve a broader community strategy of creating a sense of place. TOD funds have gone to revitalize or even create a new civic core. Place making was also part of the developer's formula for Mockingbird Station. While in cities like Portland TOD is a tool to contain sprawl, for many communities in Dallas, it is embraced as a strategy for inner-ring communities to better compete with sprawling communities on the outer edge. In Dallas, moreover, place making appears to be a money-making proposition. The success of projects like Mockingbird Station has not gone unnoticed, with new projects breaking ground and more on the drawing board that aim to mimic Mockingbird's ambience. In Dallas, imitation is not only the sincerest form of flattery; in an environment of rapid growth and worsening traffic conditions, it is also a way to turn a profit.
- *Ratcheting up TOD a notch.* The most provocative question is not what has happened with TOD in the Dallas Metroplex (clearly much has), but rather what more could have

happened with supportive public policy and leadership from the city of Dallas. As the region's dominant center, one cannot help but speculate that Dallas's leadership in the TOD arena could have created important synergies. The real-estate market in Dallas appears to be supportive of TOD. It bears watching to see what more can happen if the city changes course to take the steps to adopt policies to allow the marketplace to produce more TOD within the city.

Notes

- ¹ To promote ridesharing, DART also operates an extensive system of high-occupancy vehicle lanes. More than 100,000 commuters use these lanes each weekday.
- ² North Central Texas Council of Governments, *Regional Mobility Initiatives*, Vol. VII, No. 1, February 2003.
- ³ Funds are actually distributed through the Center of Development Excellence.
- ⁴ Jack Wierzenski, (DART) email to John Boroski (Parsons Brinckerhoff) 9/5/2003.
- ⁵ The standard parking ratios would have required 2,200 parking spaces.
- ⁶ The station originally provided access to a park-and-ride and bus transfer facility on the east side, but provided no access from the station across the trench to the development site.
- ⁷ Public participants include the Texas State Historical Commission, TxDOT, Dallas County, the city of Dallas, DART, the NCTCOG, EPA, and the National Park Service.
- ⁸ Matthews Southwest donated 3 acres of land for the new police headquarters, and IBM also provided land as part of a 20-year leaseback in exchange for tax credits.
- ⁹ Plano also includes high-tech manufacturing, several distribution centers, and national office headquarters.

- ¹⁰ For a detailed account of Plano’s history and redevelopment strategy, refer to an unpublished white paper, “Downtown Plano: Creating a Transit Village,” by F. Turner, Plano Assistant Village Manager, May 2003.
- ¹¹ Haggard Park is used for weddings, family outings, and concerts, and unifies the whole area much as Boston Commons does in Boston.
- ¹² Major park-and-ride facilities are instead provided at other stations (e.g., the Parker Road, end-of-line, station).
- ¹³ Shaw is a seasoned developer with a strong background in mixed-use development. He founded Columbus Realty, which was eventually acquired by Post Properties, and he was the initial developer of Addison Circle. He is currently developing Legacy Town Center, also in Plano, and knows how to produce a quality product in a very efficient, competitive market.
- ¹⁴ Shaw has a 70-year ground lease with three 10-year options. The land is leased at a below-market rate, which increases over time and is indexed to the developer’s return on investment.
- ¹⁵ Ridership in downtown Plano in the year 2010 was projected to reach 900, but it is already at 1,100 daily riders.
- ¹⁶ Addison Circle won a Congress for New Urbanism Charter Award for District Design in 2002.
- ¹⁷ The future Cotton Line will likely provide commuter service to the Dallas-Fort Worth airport.
- ¹⁸ Many units include high ceilings, bay windows, fireplaces, hardwood floors, and high-speed Internet access. Community amenities include four pools, courtyard fireplace/grills, on-site courtesy staff, and controlled access security.
- ¹⁹ The entire Addison Circle project is performing well in the marketplace; the restaurants in mixed-use buildings have fared particularly well. Initially, several ground-floor “dot.com” firms were attracted to the project because of the “feel” of the area. In the future, the town will exert greater control over the programming of uses, and it hopes to attract fewer software firms as they do not generate significant site activity.
- ²⁰ The developer contributed \$450,000 towards *Blueprints* and the town paid the rest.
- ²¹ Major corridor employers include Texas Instruments, MCI WorldCom, EDS, Alcatel, Fujitsu, and Southwestern Bell.
- ²² With the worldwide downturn in the telecommunications sector, the pace of growth in Richardson has slowed from earlier forecasts.
- ²³ TOD leadership continues to come from three key city staff members who have had the support of the city council to do visioning and visit other cities.
- ²⁴ For more information, see Urban Land Institute, *Richardson, Texas: An Advisory Services Panel Report* (June 11–16, 2000). The city also consulted with national TOD firms such as ERA and Calthorpe and Associates.
- ²⁵ The project also includes a developer land donation and a capital gift from a prominent Richardson resident.
- ²⁶ The code will create a planned district for each station, not an overlay zone.
- ²⁷ The area is probably over parked now. Richardson already allows shared parking.
- ²⁸ The 1-90/Bush Turnpike Station has the potential to become a “Mega-TOD.” The station area lies completely vacant in the shadow of the freeway interchange, and it is owned by the well-connected Hunt family, who is taking the lead in determining what will happen there.
- ²⁹ The city of Dallas has suffered from a systematic dismantling of its planning program and staff over 25 years, from which it is just starting to rebuild. The city does not view TOD negatively, but from a functional standpoint (because of limited staff), it has been difficult to participate, and therefore Dallas has largely been absent from the regional TOD dialogue.
- ³⁰ B. Weinstein, *DART Light Rail’s Effect on Taxable Property Valuations and Transit-Oriented Development*, Prepared for Dallas

Area Rapid Transit (Denton, Texas: University of North Texas Center for Economic Development and Research, January 2003).

- ³¹ Industrial properties have had negative impacts due to interference with site access.
- ³² S. Brown, *Investors Snapping Up Towers Along DART Line*, www.dallasnews.com, May 30, 2003. At the time of the article, four buildings had recently sold, two sales were pending, and \$130 million worth of property was “in play.”
- ³³ Some local residents oppose adding significant density at Parker Road, as has been proposed, and several parties are concerned about how increased density at Parker Road will affect the downtown core, which continues to revitalize.

Photo Credits

Photo 15.1.

First row: UDC Urban

Second row: G. B. Arrington

Photo 15.2.

Top right: DART

G. B. Arrington

Photo 15.3.

First row: G. B. Arrington

City of Plano

Photo 15.4.

G. B. Arrington

Photo 15.5.

First row: City of Richardson

G. B. Arrington

Chapter 16

TOD in the Mountain West: Colorado

Introduction

Colorado is the third fastest growing state in the United States, with population increasing twice as fast as the nation as a whole over the past decade. Rapid growth has been accompanied by prosperity; however, recently it has also become synonymous with traffic congestion, air pollution, and sprawl.

According to a 1999 survey by the Pew Center for Civic Journalism, “the complex of issues surrounding growth, development, traffic, and roads is easily the top issue on the list of problems that Denver residents mention without prompting, since 60 percent of them do so,” compared to just 18 percent nationally.¹ Echoing the frustration of Denver residents, the Texas Transportation Institute found that traffic congestion in metropolitan Denver rose dramatically from 1994 to 2000. The region ranked as the nation’s fourth worst for increases in delay per peak road traveler and fifth for increases in congested peak-period travel.² Congestion, coupled with concerns over smog, has sparked a growing interest in smart growth generally and, more specifically, in TOD.

In Colorado, concerns about an eroding quality of life and traffic headaches are not limited to urban areas. The Roaring Fork Valley, a semi-rural area in the western part of the state, was featured in a 1999 *New York Times* article entitled

“Five Commutes That Make You Feel Better About Yours.”³ This article highlighted the 1-hour each way commute that has become increasingly common in the Valley as people move farther away from employment centers, like the resort community of Aspen, in search of affordable housing. This is true in Parachute, Colorado, where residents pay an average of \$473 less per month in rent than do Aspen residents, but pay \$420 more in monthly commute costs, virtually canceling out any savings.⁴ The Valley’s several small towns and three rural counties have come together to create the state’s first Rural Transit Authority. Accompanying this effort has been a thoughtful campaign to plan for TOD. While it is still in its early stages, the experience points to the challenges of pursuing TOD planning and implementation in small-town settings.

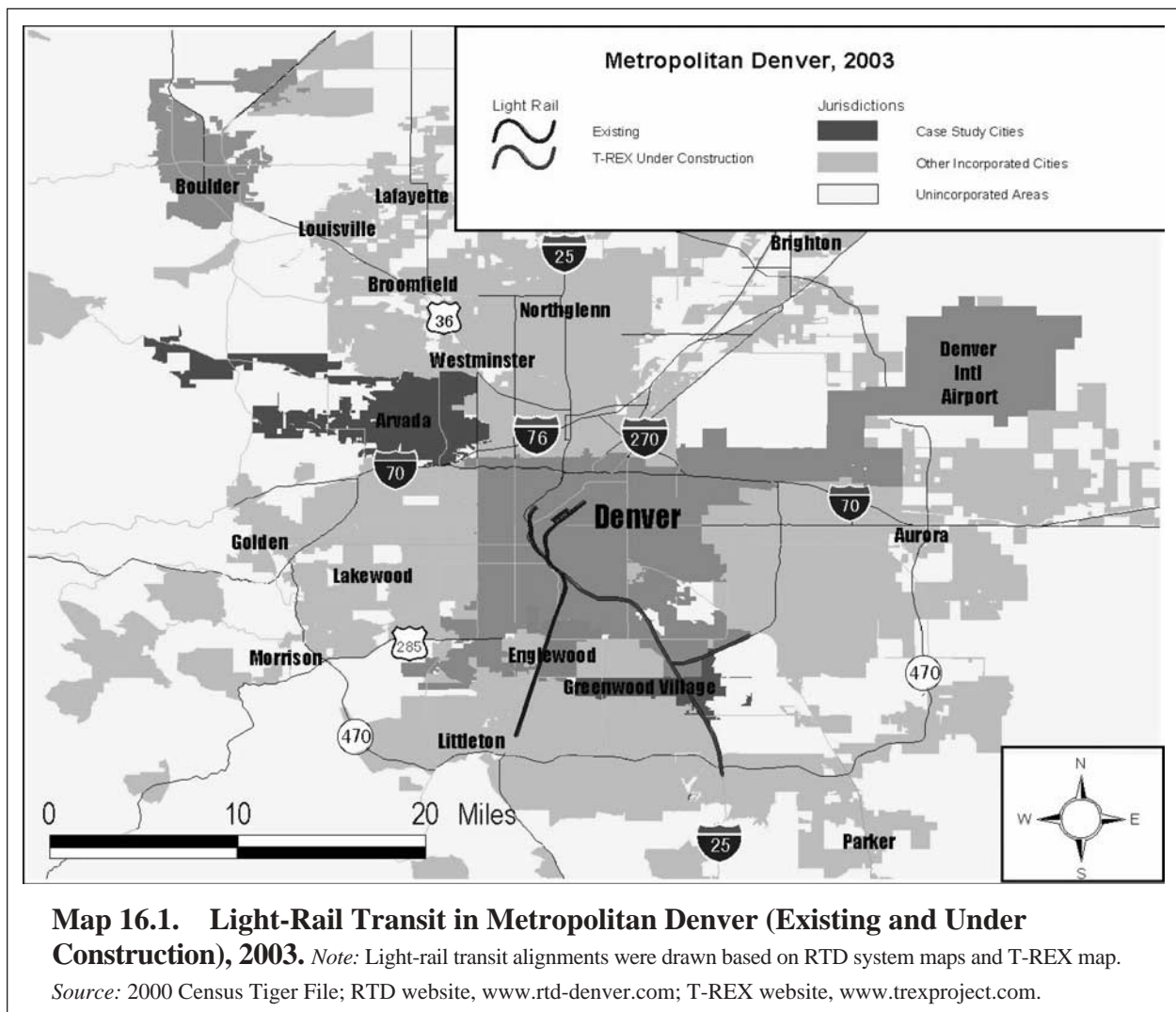
From the state capital, across the Front Range, and into Rocky Mountain communities, TOD is gaining a steady foothold in a variety of Colorado settings. In a state that has grown up around the automobile for the last 60 years, TOD has not been a product of happenstance. Rather it is a result of careful planning on the part of public, nonprofit, and for-profit interests, all sensitive to the mounting disaffection with growth as usual. This case study looks at the practice of TOD across Colorado, exploring its implementation and the factors leading to its successes and limitations in three distinct settings:

big-city Denver and its environs, the medium-sized city of Boulder, and the semi-rural Roaring Fork Valley.

Transit-Oriented Redevelopment in Metropolitan Denver

Against a backdrop of escalating congestion and sprawl, jurisdictions throughout the Denver area are turning to TOD as a tool for managing growth. (Map 16.1 provides a map of metropolitan Denver that highlights jurisdictions featured in this case study. Text Box 16.1 documents Denver’s

concerns about growth.) TOD’s rising popularity is perhaps best seen in the city of Denver, where it is the organizing concept of the city’s new long-range plan, *Blueprint Denver*. It is also being embraced in suburban communities, such as Englewood and Greenwood Village, where substantial funds have been contributed to TOD. TOD is being pursued most actively by jurisdictions vying for light-rail extensions. Aurora and Arvada are two examples. These localities see transit-served nodes and corridors as sensible places to direct growth; moreover, they see TOD as an



Denver Resident Concerns About Growth, Development, and Traffic

In October 1999, the Pew Center for Civic Journalism conducted a national survey of 1,000 people and four regional surveys of 500 people each in Denver, Philadelphia, San Francisco, and Tampa. The survey was intended to measure American's top concerns leading up to the presidential election in 2000.

Denver residents topped respondents nationally, as well as in the three other regions surveyed, with regard to their frustrations over growth and traffic, an indication of the fast pace of growth.

Is traffic congestion a problem in the community where you live?

	Denver	Nation
Big Problem	73%	65%
Small Problem	17%	22%
No Problem	10%	13%

Is too much growth and development a problem in the community where you live?

	Denver	Nation
Big Problem	35%	28%
Small Problem	30%	27%
No Problem	34%	43%

Despite a strong consensus about growth-related problems, residents are divided over how government should respond.

How should local government use its power to focus growth?

	Denver	Nation
Allow growth to occur in all areas	39%	52%
Limit growth to areas already built up	51%	40%

Source: Pew Center for Civic Journalism, *Straight Talk from Americans* (conducted by Princeton Survey Research Associates, 2000). See http://www.pewcenter.org/doingcj/research/r_ST2000.html.

Text Box 16.1

economic development tool, providing natural settings for vibrant, pedestrian-friendly districts, such as those found throughout the region a century ago.

Metro Denver's Transportation Eras

The Transportation Hub of the Rockies. While it was gold miners who founded Denver in the mid-1800s, it was civic leaders, bent on obtaining a rail link for their city, who transformed Denver

into an up-and-coming metropolis. Following the discovery of gold in the area, Denver grew from a small Native American settlement to a town of almost 4,750 residents by 1860. The city's star appeared to be fading, however, when the transcontinental railroad, completed in 1869, skipped Denver in favor of Cheyenne, 100 miles to the north. From 1860 to 1870, the city hardly grew. Faced with the prospect of governing an unconnected backwater, civic leaders

persuaded voters to pass a bond measure to pay for the construction of the Denver Pacific Railroad. Completed in 1870, this railway breathed new life into the city by connecting it to the nation's rail network. By 1900, Denver—not Cheyenne—had emerged as the transportation hub of the region, with one hundred trains a day arriving in Lower Downtown.⁵ Today, the Denver area continues to benefit from the foresight of early voters who brought railroad service to their city; rail rights-of-way remain—some actively used for freight and transit and others under study as potential alignments for light-rail extensions. Moreover, the city's trendy Lower Downtown—known as LoDo—is anchored by Union Station, a beautiful turn-of-the-century facility surrounded by open parcels that offer tremendous redevelopment potential.

Streetcar Suburbs. While heavy rail has played an important role in connecting the region to the nation, the electric streetcar, introduced in 1886, indelibly shaped Denver's early cityscape. Today, a number of walkable suburbs exist along former streetcar alignments, including South Denver and the Curtis Park and Five Points neighborhoods. With their historically transit-oriented land-use patterns, these neighborhoods are naturals for enhanced transit service. Although they offer little opportunity for large-scale TOD, experiences from neighborhoods such as Five Points suggest that other streetcar suburbs could benefit from reuse and revitalization spurred by improved transit service.

Growth in the Automobile Age. Following World War II, Denver's population exploded. The metropolitan population has grown at an average of

30% per decade since the 1950s. In a metropolis with 65 cities and towns and over 300 special jurisdictions, growth has unfolded in a piecemeal, uncoordinated fashion, partly a product of fierce competition for sales tax revenues.⁶

The following section examines the implementation of TOD in metropolitan Denver, where, for the most part, transit has become integral to community revitalization. As forms of redevelopment and adaptive reuse, these TODs are, by nature, more complicated than greenfield development. The intent here is to outline the confluence of factors that has encouraged TODs, including robust population growth, market dynamics, supportive public policies, local political leadership, education and outreach efforts, and strategic expansions of transit, and to take stock of the challenges that have hampered implementation.

Planning Framework

Regional Planning. Concerned that the region was not on a smart-growth trajectory, in the mid-1990s the area's MPO, the Denver Regional Council of Governments (DRCOG), prepared *Metro Vision 2020*, a regional land-use and transportation plan. At the core of *Metro Vision 2020* is a major expansion of the region's transit system, calling for 55 miles of rail transit service with 54 new stations over the next two decades.⁷ These and other transit capital investments total \$3.95 billion, accounting for slightly more than half of the region's planned public expenditures on major transportation improvements.

Metro Vision 2020 also calls for transit-supportive development. This goal is particularly important when one

considers the build-out potential of local zoning ordinances. In 2000, the region contained approximately 2.4 million people living in an urbanized area of approximately 500 square miles. By 2020, the population is expected to grow to 3.2 million, or by 33%. Collectively, the long-range plans of local jurisdictions would allow an aggregate build out of some 1,100 square miles, a 120% increase in the amount of urbanized land.⁸ To contain sprawl, *Metro Vision 2020* proposes a 747-square-mile urban growth limit.

Metro Vision 2020 further calls for channeling a major portion of growth into urban centers. These areas are envisioned as high-intensity, pedestrian-friendly, mixed-use locations that serve as transit origins and destinations. This goal is as much about creating “a sense of place and community identity” as it is about transportation benefits.⁹

The lofty goals of the plan, requiring major changes to existing plans and ordinances, has meant that major questions about the implementation of *Metro Vision 2020* still loom. To give this regional plan “teeth,” DRCOG has asked jurisdictions to voluntarily sign an intergovernmental agreement—the *Mile High Compact*. In so doing, jurisdictions agree to abide by the planning principles of the regional plan.

The process had a hopeful beginning, with jurisdictions representing more than 70% of the metropolitan area population signing on. However, two of the fastest growing counties, Adams and Arapahoe, and one of the most populous, Jefferson, have refused to sign, citing concern over “property rights.”¹⁰ This unwillingness seriously constrains the *Compact’s*

potential effectiveness. As is true of MPOs nationwide, DRCOG has significant leverage to influence regional planning through its control of federal transportation funds. Nonetheless, as an organization composed of local jurisdictions, there has been limited political will to wield this authority. As a result, TOD remains the purview of local jurisdictions, without the support of a fully embraced regional land-use plan.¹¹

Local Comprehensive Planning. For many communities TOD is a one-off phenomenon, involving a single stop along a light-rail line. However, in other communities, transit corridors are of greater interest. This is true in the city of Denver, where the city council recently adopted *Blueprint Denver*, a plan that points out:

The [current] zoning scenario reveals a haphazard and unfocused potential land use pattern that does not correlate with major transportation corridors, transit station areas or the neighborhoods near downtown. It also predicts large amounts of new housing scattered among existing neighborhoods, more costly infill housing, higher traffic flows in neighborhoods and only a nominal increase in transit ridership.¹²

Blueprint Denver offers a roadmap to revamp the city’s current land-use ordinance. It divides the city into “areas of stability,” which are primarily established residential neighborhoods, and “areas of change,” including the city’s urban centers and transit corridors. The document was the product of a lengthy public process that has been widely credited with forging a common vision for growth in the city. Among the

early signs of its success is the recent adoption of two changes to the zoning ordinance: one change downzones established residential neighborhoods to preserve historic character, and the other change creates a TMU-30 zone, which substantially increases allowable

densities along rail transit corridors. (See Text Box 16.2.)

Denver TOD Coalition. The Denver TOD Coalition is a recently formed partnership among the city and county of Denver, RTD, and the Denver Urban Renewal

Transit Mixed-Use Zoning

In conjunction with the ongoing expansion of light-rail service into the Southeast Corridor, the city of Denver has introduced a new transit-mixed use zoning district (TMU-30). Its most notable features are the following:

Density. Developers may build up to 220 feet in height, with a maximum FAR of five to one for their overall master plan. Previously the city would not allow heights greater than 140 feet within mixed-use districts outside of the central business district.

Flexibility. The zone provides a fair amount of latitude in how a project is designed. Developers are encouraged to aggregate their required open space into a unified area around the transit station to create a functional public plaza.

Parking. Developers are entitled to a 25% parking reduction vis-à-vis the city's standard of one off-street space per residential bedroom and two spaces per 1,000 square feet of office space. Further reductions up to 50% are possible depending on shared parking and transportation demand management strategies.

The TMU-30 zone may be thought of as a type of planned unit development district. Property owners may apply if their site covers at least 12 acres and is within 1,500 feet of a rail transit stop. A master plan for development is not required at the time of rezoning, but owners must have an approved master plan before proceeding with development.

Since the adoption of the TMU-30 zoning district near the end of 2002, three property owners have rezoned their properties to TMU-30 standards: Cherokee Denver LLC, which is redeveloping the Gates Rubber Factory; the Union Station Alliance, a public-private partnership which is redeveloping Denver Union Station; and the owners of the Belleview site, a 54-acre golf course next to the Southeast Business District.

The city's decision to have property owners voluntarily opt into the zone, rather than the city undertaking a rezoning process, reflects a view that light rail creates the necessary impetus toward higher-density development. As one developer noted, the time and effort associated with seeking a change in zoning is only justified when there is a large potential return associated with a major development.

Text Box 16.2

Agency (DURA). Its primary charge is to “link land use and redevelopment with the expanding rapid transit system.”¹³ The Coalition’s agenda is to

- Establish a clearinghouse for TOD site information, technical support, project review and feedback;
- Facilitate interagency cooperation to maximize TOD opportunity;
- Develop educational material on TOD and local opportunities;
- Conduct station-area planning and assessments;
- Conduct outreach to property owners, developers, lenders, politicians, community advocates, policymakers, and consultants;
- Establish a TOD fund;
- Write and issue RFQs/RFPs for TOD sites;

- Identify funding and grant sources; and
- Develop implementation strategy.¹⁴

While the Coalition is less than a year old, the agencies involved have been collaborating closely on a number of ongoing developments such as the Cherokee/Gates site and the Colorado Street Station.

Implementing TOD

The cumulative payoff of the many pro-TOD initiatives in metropolitan Denver is best reflected by action “on the ground.”

Market-Driven TOD in Lower

Downtown. The 16th Street Transit Mall lies in the heart of downtown Denver and forms the backbone of the regional transit system (see Photo 16.1). Closed to private automobiles, the 16-block mall forms an active pedestrian spine. Average weekday transit ridership along



Photo 16.1. 16th Street Transit Mall. Stretching approximately 15 blocks through the heart of downtown Denver, the Transit Mall is integral to the success of downtown retail. Quiet, compressed-natural-gas-powered, low-floor buses share the street with pedestrians. In the photos above, the “Free Mall Ride” glides past the Denver Pavilions, a 350,000-square-foot retail center that opened in 1998.

the bus-served Mall is 60,000, which accounts for 21% of the region's transit trips, compared with 13% for the entire light-rail system.¹⁵ Regional bus transfer stations at both ends of the Mall serve as gateways to downtown. These stations were RTD's first joint development projects and continue to bring in a steady stream of ground-lease revenue. Rent premiums along the Mall reflect the accessibility benefits conferred by transit.

After an office boom in the late 1970s and early 1980s, downtown Denver saw very little commercial development and essentially no office growth from early 1983 until the end of the 1990s. In 1999, this began to change; a number of projects were built, including three mixed-use buildings in close proximity to the Market Street Station. Each of these buildings is located in LoDo, a vibrant district of renovated buildings filled with loft-conversion projects, book stores, coffee shops, restaurants, and bars. Located in the same neighborhood and completed within months of one another, these buildings provide a good opportunity to do a "comparables analysis." Each building contains ground-floor retail with offices above; one building contains residential condominiums on the top two floors. Figure 16.1 presents the relevant market data for each of the three buildings. As might be expected of high-quality, new construction in a trendy part of town, each of these buildings is performing well relative to the overall downtown market, although two of the projects have had some difficulty in leasing retail space.

For all of Denver's CBD, the retail vacancy rate was 7.1%, and weighted average rents were \$19.50 per square

foot as of the end of 2002.¹⁶ By comparison, rents at 16 Market Square commanded a substantial premium at \$31.24 per square foot. For the office market, the vacancy rate was 13% in late 2002, and weighted average rents were \$21.85 per square foot per year.¹⁷ In contrast, office space in the three subject buildings is fully leased and commands a substantial market premium. Offices at 16 Market Street leased for \$30.20 per square foot, a substantially higher price than its comparables—16.8% higher than the Millennium Financial Center¹⁸ and 8.4% higher than 1899 Wynkoop.

Transit-Ready Development in Arvada. Arvada seems an unlikely place to find some of the Denver area's most ardent TOD supporters. From westbound Interstate 70, Arvada appears to be a massive big-box power center. Yet, this impression belies a community with a charming and well-preserved historic core and a very entrepreneurial and committed group of civic leaders. In anticipation of the expansion of light-rail service to Arvada, these leaders have been working diligently to create a framework of transit-supportive land uses (See Text Box 16.3).

The story of TOD in Arvada is a nascent one. Light-rail service is several years away by the most optimistic estimates. Nonetheless, this community has made great strides in creating a pedestrian-friendly and transit-oriented core. An 800-unit residential development near Olde Town recently broke ground within ¼ mile of the bus park-and-ride facility and planned light-rail stop. A number of new businesses have also recently opened in Olde Town, and several buildings have been substantially

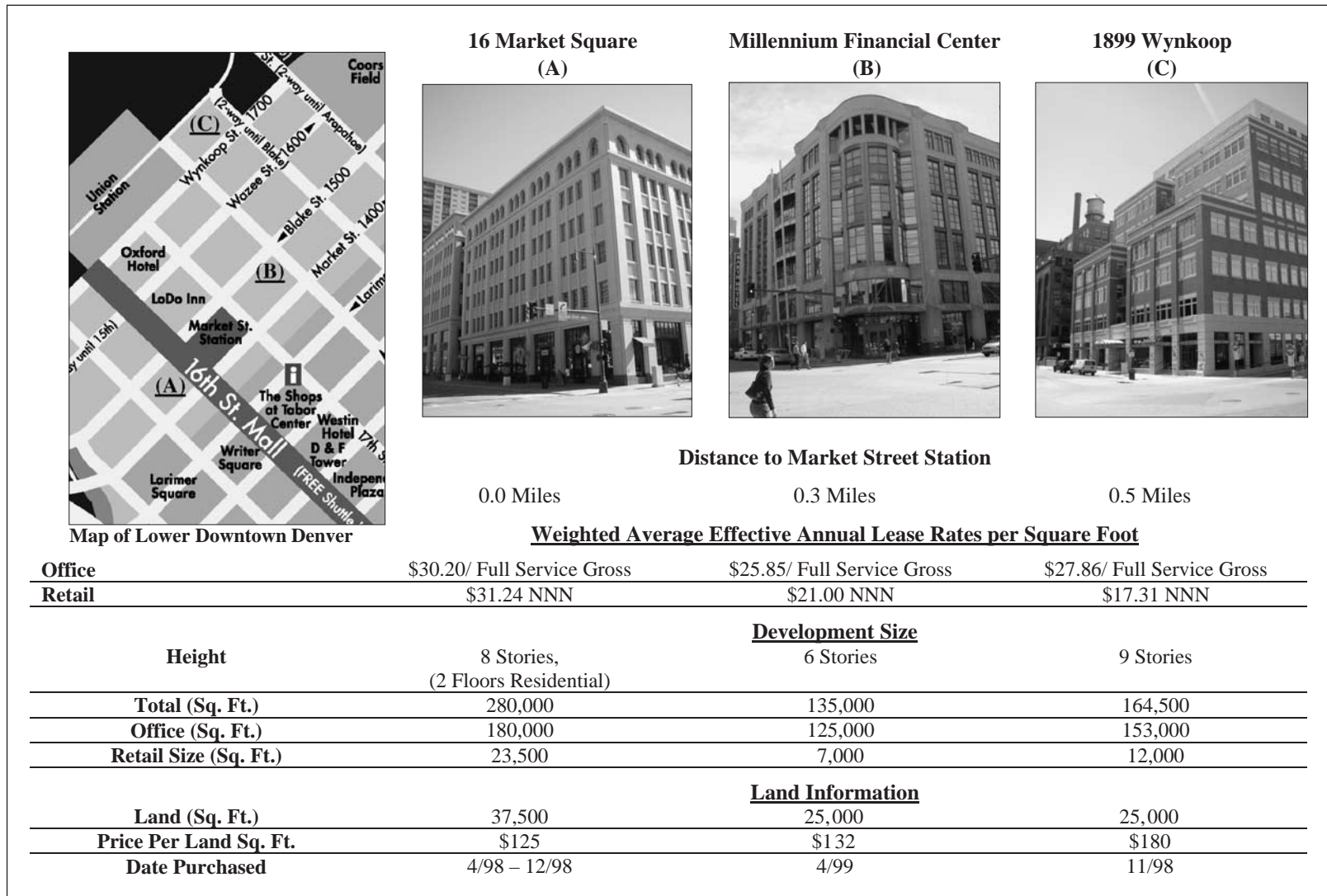


Figure 16.1. Comparables Analysis, Lower Downtown Denver

Note: Map adapted from Downtown Denver Partnership, www.downtowndenver.com. NNN = “triple net” lease

Source: Will Fleissing, Continuum Partners, March 2003.

“Transit-Ready” Development in Arvada

In a 2002 report, *Arvada Intermodal Transit Village Concept Plan*, prepared for the city of Arvada and RTD, the authors explain the concept of “transit-ready” development: it “anticipates transit, rather than using transit as a catalyst for change.” The report further states that in “some cases appropriate developments enhance a community’s opportunity to attract transit to an area, or influence the station location.” In Arvada, city leaders are banking on this, hoping that RTD will not be able to ignore the city’s efforts to establish a framework of transit-ready land uses when the next round of light-rail expansion moves forward.

As it is currently conceived, the RTD FasTracks plan would build out the entire metro-wide light-rail system by 2010. This is contingent on voter approval of a sales-tax levy. In the meantime, four corridors are in various stages of planning and environmental work, including the Gold Line through Arvada. None of these lines has yet been funded. With many in the community convinced that the emergence of a vibrant downtown hinges on light rail, Arvada’s civic leaders want to be ready for FasTracks, if it arrives, and be poised to proceed using alternative sources of funding if it does not.

Source: RTD and City of Arvada, *Arvada Intermodal Transit Village Concept Plan* (prepared for the city of Arvada and the Regional Transportation District, March 2002). See [http://www.vmw.com/urban/urban_projects/Arvada/Final_ArvadaPlan\(screen\).pdf](http://www.vmw.com/urban/urban_projects/Arvada/Final_ArvadaPlan(screen).pdf).

Text Box 16.3

upgraded (see Photo 16.2). Encouraged by its success in Olde Town, the city plans to form a new urban renewal district on Arvada’s western edge to facilitate the transformation of a former state institutional facility into a TOD (see Text Box 16.4).

Early efforts to revitalize Olde Town (e.g. streetscape improvements) did little to arrest the area’s decline and can best be described as piecemeal. While some were focused on Olde Town’s revitalization, others, such as the Arvada Urban Renewal Authority (AURA), were moving ahead with a distinct mission.

In 1998, the Arvada City Manager’s office spearheaded a planning process called “The Olde Town Renaissance Project” to coordinate the efforts of various groups and establish a common vision for revitalization. A number of

key policy outcomes emerged from the process: AURA adopted Olde Town’s revitalization as its highest priority; the county agreed to locate a new library in Olde Town; the city council agreed to support a housing renewal project in an area adjacent to Olde Town; and all stakeholders agreed that

continuing participation with RTD and DRCOG to secure the Gold Line commuter connection to Metro Denver is an all-important commitment for Arvada, probably its most important key to the future.¹⁹

An Olde Town Renaissance seems to be underway, with a dozen new retailers opening up in a single month during 2002. These included antique and collectible shops, which are the primary space users in Olde Town; an art gallery; two wine merchants; and a deli. Maro



Photo 16.2. Olde Town Arvada. The planned extension of light rail to Olde Town Arvada is the centerpiece of the Olde Town Arvada Renaissance plan. In the top picture, the future site of the Arvada Intermodal Transit Station is shown. Urban renewal funds have been used to facilitate façade renovations and streetscape improvements throughout the area. In the photos below, New Town Arvada is juxtaposed with Olde Town. A challenge for the area’s revitalization plans is the physical disconnect between the areas. In the photo at left, a movie theater turns a blank wall toward Olde Town.

Dimmer, the president of the Historic Downtown Association, believes businesses are relocating to Olde Town because the area is perceived as up and coming. She attributes this in part to an expectation that TOD will help Olde

Town in a way that the adjacent big-box development never did.

The Water Tower Project. Across the railroad tracks from Olde Town Arvada, at the western edge of the AURA project

Colorado's Urban Renewal Authorities

Colorado state law allows the creation of Urban Renewal Authorities (URAs) for the purpose of revitalizing blighted areas. Known as redevelopment agencies in other states, these authorities operate as separate entities from the localities that create them. The primary tools of URAs are TIF and eminent domain. URA project areas have a lifetime of 25 years, after which the project area dissolves and tax increment revenue returns to the establishing locality's general fund. In Colorado, URAs are able to collect a tax increment on both property and sales tax. In recent years, URAs have been essential partners in leveraging TODs in greater Denver. Even so, in the absence of a clear community-planning vision, these agencies have tended to focus on the bottom line, supporting highest and best-use development from a tax-base perspective rather than from a transit perspective.

What can happen when using URAs to foment TOD without a clear community-planning vision is exemplified in the case of the Alameda light-rail station: the Denver Urban Renewal Authority (DURA) helped to establish a major big-box retail center that turns a blank back wall toward the station. DURA is today more cognizant of the benefits of TOD, though it will be some years before the oversight at this station might be reversed.

Today, many URAs in the Denver area are full partners in efforts to encourage TOD. In the case of Arvada, this results from a community-planning process, jointly conducted by AURA and the city of Arvada. In Denver, the relationships between DURA, RTD, and the city have recently been formalized through a partnership known as the Denver TOD Coalition.

Text Box 16.4

area, lies a 29-acre site known as the Water Tower District. The site, formerly occupied by an excavating company and 200 single- and multifamily units, is slated for reuse as a TOD. It lies only a few hundred yards from a planned light-rail intermodal station as well as the existing bus park-and-ride facility; AURA expects transit connections to the development to be further strengthened by the creation of local nonprofit bus service that will connect the development to Olde and New Towns. The new development will consist of 800 condominium and apartment units, including some limited re-use of rehabilitated multifamily buildings.

AURA has spearheaded the Water Tower Village project. The agency issued an RFP to select a developer, assembled land, created a master plan for the site, and obtained necessary approvals from the city. Initially, the site consisted of 48 separate lots with multiple owners. AURA spent \$20 million to assemble and clear the land, in some instances exercising eminent domain. The land is in turn being sold to private developers at a cost of approximately \$13,500 per residential unit developed, for an overall price of approximately \$10 million. While AURA will be losing money in the short run, the agency believes that in the long

term the investment will pay off by bringing additional residents to the area, growing the tax base, and encouraging the extension of rail service to the area.

Ridge Home Property. Another potential TOD site in Arvada is the Ridge Home property, located on the western edge of Arvada, near the proposed alignment for the RTD Gold Line.

In 1995, the city of Arvada, the adjoining jurisdiction of Wheat Ridge, and the primary landowner (the Colorado Board of Land Commissioners) completed a master plan for development of the site. The plan focused on industrial, warehouse, and office development, proposing separated land uses and a super-block street pattern.

When DRCOG proposed extending rapid transit to Arvada, the city re-examined the Ridge Home Property in 1997 with the assistance of a Denver-area nonprofit organization, the Center for Regional and Neighborhood Action (CRNA). The new plan called for concentrating development near the proposed light-rail stop and introduced a block street grid to create a pedestrian-friendly environment. With the city moving toward the adoption of an urban renewal plan for the Ridge property, prospects are good for a transit-oriented redevelopment of the site in the next few years.

Lessons. While the city does not yet have light rail, Arvada's civic leaders have embraced TOD as a central component in the city's revitalization efforts. TOD has emerged as the unifying concept for revitalization. Arvada's experiences underscore the tremendous importance of political

leadership in forging a common goal. In addition, Arvada's experiences highlight the importance of public-sector financial participation in suburban redevelopment.

The private real-estate market is not likely to justify the costs of assembling, clearing, and preparing land, even transit-accessible land, when other undeveloped properties are readily available elsewhere. Instead, AURA and the city are taking the long view, making near-term investments in hopes of a long-term payoff.

Public-Private Partnerships in Englewood. A widely cited example of TOD in Colorado and one of the nation's foremost examples of transit-oriented redevelopment is Englewood's CityCenter.²⁰ (See Photo 16.3.) Located 6 miles south of Denver, CityCenter sits at the site of a failed shopping mall. When it opened in 1968, Cinderella City, with more than 1.3 million square feet of space, was the largest mall west of the Mississippi. For more than two decades,



Photo 16.3. Englewood CityCenter. Office, retail, and residential space have performed well in the Englewood CityCenter, a public-private redevelopment, which combines attractive urban design with big-box retail.

it generated approximately half of Englewood's sales-tax revenue.²¹ The mall's fortunes began to decline during the 1980s, as competing properties entered the marketplace. The last effort to renovate and reposition the mall was in 1984; this proved to be too little, too late, and sales dropped precipitously during the 1990s: from \$54 per square foot at the start of the decade to \$8 per square foot by 1995.²²

Planning Process. Concerned about municipal finances and Englewood's image, city leaders eventually acquired the site. Through an RFP process, the city chose a local retail developer, Miller-Wingate, which planned to replace the mall with a big-box power center.

In 1995, RTD finalized plans for its Southwest light-rail extension, including a stop at the backdoor of the proposed big-box center. In light of the announcement by RTD, Mayor Tom Burns and Community Development Director Robert Simpson felt that a big-box proposal was shortsighted. In an interview with *Grid Magazine*, Simpson remarked, "It would have been dead in ten years."²³ Instead, he pointed out, the redeveloped site should provide a sense of place for a community that lacked a strong center as well as one that would "stimulate and sustain new jobs."²⁴ The city brought in TOD planner Peter Calthorpe to develop a master plan, which was adopted by the city council in 1998.

Implementation and Financing. To leverage TOD, the following year the city mustered \$18.5 million to redevelop the property. Approximately \$7 million came from general funds (\$2.5 million went toward cleanup, an amount matched

by the former property owners, and the remainder went toward demolition, structured parking, roads, and park space). Over \$11 million were raised to convert an existing department store into a civic center using a certificate of participation, a financing mechanism in which someone buys a share of the lease revenues from a lease agreement made by a governmental entity, rather than bonds secured by those revenues.

In light of its substantial investment, the city decided to rescind its agreement with Miller-Wingate and to act as the master developer through a city-created nonprofit, the Englewood Environmental Foundation.

Miller-Wingate was retained to act as a broker for the city and sold a 12-acre parcel to Wal-Mart for \$3.4 million; Wal-Mart in turn opened a 134,000-square-foot store in 2000. The inclusion of a general merchandiser on the site was a deliberate part of the master plan, based in part on a survey of community interests and on the potential of a general merchandiser to generate sales-tax revenue. The city negotiated a "go-dark" provision with Wal-Mart so that if the store closes for more than 12 consecutive months, the city can re-acquire the property at fair market price. The Community Development Director views this as instrumental to CityCenter's long-term health and foresees a time when Wal-Mart will no longer be the site's highest and best use. Miller-Wingate signed a \$4.2-million ground lease for 15 acres to build retail and office space. Finally, the Trammell Crow Company purchased 10 acres for \$5 million to develop 438 apartments, including ground-floor retail. Table 16.1 presents the site's development program.

Table 16.1. Development Summary, Englewood CityCenter

<u>Development Program</u>		<u>Land Deal</u>	<u>in millions</u>
Retail	380,000 sq. ft.	City of Englewood	\$18.5
Civic	145,000 sq. ft.	RTD	\$5.7
Office	50,000 sq. ft.	Trammel Crow	\$5.0
<u>Housing</u>	<u>325, 00 sq. ft.</u>	Miller-Wingate	\$4.2
Total	900,000 sq. ft.	<u>Wal-Mart</u>	<u>\$3.4</u>
		Total	\$36.8

<u>Parking</u>	<u>spaces</u>	<u>Benefits</u>
Surface	1968	Leveraged \$150 million in onsite public and private investment.
<u>Structured</u>	<u>767</u>	Brought 750 new jobs to the city.
Total*	2735	Estimated annual sales tax revenue of \$2.5 per year.

*Includes 910 park-and-ride spaces
 Source: R. Simpson, “CityCenter Englewood: Transit Oriented Development by Design” (presentation at the APA National Conference 2003, Denver, Colorado, March 31, 2003).

Outcomes. As of June 2002, CityCenter was performing quite favorably across all market segments. Office space was nearly 100% leased at gross annual rates of \$21 to \$25 per square foot; in comparison, the vacancy rate for the Denver area was 89.9%. Annual office lease rates in the city of Englewood, which has a limited amount of Class A space, ranged from \$13.50 to \$17 per square foot.²⁵ Annual retail rents for CityCenter averaged \$18 to \$20 per square foot, with occupancy of 90% (compared with citywide gross retail rents of \$8 to \$14 per square foot, with occupancy of 80%).²⁶ Residential rents had the most marked difference. CityCenter apartments rented at an average of between \$1,005 and \$1,735 per month in June 2002, more than double the \$500 to \$700 per month elsewhere in Englewood.²⁷ As further evidence of the strength of the CityCenter development, in April 2003, Trammel Crow sold its 438-unit apartment building for \$52 million. According to Jeff Hawks, an experienced broker in the Denver area who handled the sale, Trammel Crow received about

\$5,000 to \$10,000 more per unit because of the proximity of light rail.²⁸

Lessons. The CityCenter development exemplifies several important strategies for implementing TOD. First, the public sector was willing to invest substantial public resources and was focused on the goals of reinvigorating the community and establishing a development with long-term financial viability. Interestingly, Englewood managed to redevelop Cinderella City without the benefit of support from its urban renewal agency. The Englewood Urban Renewal Agency had defaulted on a bond issued in the early 1990s and was therefore unable to provide assistance with land assemblage or financing for practical and political reasons. This necessitated the city’s use of a certificate of participation in lieu of bond financing. Second, the city made a strategic investment to relocate civic facilities to the CityCenter area, helping to encourage private-sector investment. Third, the important role of political and nonprofit sector leadership is highlighted by Englewood’s experience. The mayor was a tireless supporter of

TOD. A group of experts from real estate, finance, banking, urban design, and transportation was formed to study the site, assess its potential for TOD, and offer suggestions for implementation. These outside perspectives proved instrumental in winning support from the city council for TOD on the site.

Finally, CityCenter serves as an example of how big-box development can be melded into TOD—something perhaps demanded by municipal finances in regions without sales-tax revenue sharing. In contrast to examples where big-box retail backs up to transit, creating an abysmal pedestrian environment, CityCenter greets transit patrons with a landscaped plaza and pedestrian-friendly “Main Street.” The big-box retailer is placed at the end of the main street near a major arterial road. Most parking in the CityCenter development is shared, with time limits placed on valuable spaces in front of retailers to ensure that commuters do not park there. One criticism of the master plan layout is that most all-day park-and-ride spaces are situated so that transit patrons do not pass by retail en route to the train, which weakens the project’s retail performance.

The city of Englewood is pleased with the success of CityCenter. It has recently been in negotiations with RTD to include a second light-rail stop in the city in conjunction with a light-rail maintenance facility that RTD is planning.

Future Plans

TOD in the T-REX Corridor. At a cost of \$1.67 billion, T-REX is the largest

transportation project in Colorado’s history. It involves rebuilding or widening 17 miles of Interstate highway and adding 19 miles of double-track light rail, along with 13 new transit stations. T-REX is a unique partnership among RTD, the Colorado Department of Transportation (CDOT), the FTA and FHWA. The light-rail component of the project will cost \$880 million. The project was awarded in 2001 and is slated for completion in 2006.

More than doubling the length of the light-rail system in the Denver area, T-REX will provide unprecedented opportunities for TOD in the region. Of its 13 new transit stations, T-REX project managers believe that at least 5 have immediate TOD potential. Twelve stations will have park-and-ride lots so that even where TOD does not occur in the short-run, RTD will have land banked for future joint development possibilities. While T-REX is enormously important for TOD, its design-build contract and rapid implementation schedule have also posed challenges. With a tight schedule and tight-fisted budget, the contractor has refrained from reconfiguring station areas in response to developer proposals.

The largest of the TOD projects slated along the T-REX line is at the Cherokee/Gates site. Situated at the confluence of three light-rail lines, between the two largest employment centers in Colorado—the Southeast Business District and downtown Denver—the site occupies a strategic location. Cherokee LLC, a company specializing in brownfield redevelopment, acquired 50 acres of the former industrial site in 2001. With 3 years of remediation ahead, full build out is still some years away. The developers are envisioning

7 million square feet of residential, office, hotel, entertainment, civic, and retail space.

Cherokee has received support from the members of the Denver TOD Coalition. RTD has acted as a co-applicant in Cherokee's request for rezoning to TMU-30. Moreover, DURA has proposed the creation of an urban renewal district at the site, which would allow public investment in the property's redevelopment.

Another 50-acre development site is located at the Belleview Station, to the south of the Cherokee/Gates site. Here a golf course sits adjacent to the Southeast Business Center, which has 120,000 employees. The project is being driven by the presence of light rail; site owners are pursuing a rezone to TMU-30 and expect to develop approximately 2,000 residential units, 2 million square feet of office space, 250,000 square feet of retail space, and a 150,000-square-foot hotel. Current plans envision mixed-use development oriented around a pedestrian plaza immediately adjacent to the light-rail platform.

Further south along the corridor is the Arapahoe Station in the city of Greenwood Village. Original plans for this station had an 820-automobile park-and-ride garage on the station area's prime site—a parcel directly connected to the light-rail platform by a pedestrian bridge spanning Interstate 25. Behind the park-and-ride garage and tucked away from the light-rail station, a CDOT highway maintenance facility was planned. Rather than lose the opportunity to create a town center for this enclave of 12,000 inhabitants, the city began

discussion with T-REX managers about combining the park-and-ride and maintenance facility on the CDOT parcel and freeing the other site for TOD. After some negotiation, the necessary parties agreed, and the city contributed a substantial sum of \$6.9 million toward the redesign and construction of the parking structure, which will house the maintenance facility on its ground floor. This maneuvering has freed approximately 3 acres of prime land, which the city plans to develop as a TOD.

At the far south end of the T-REX line is Lincoln Station, situated in Douglas County. As the only station outside of the RTD district and consequently beyond the reach of eminent domain authority, Lincoln Station offers insights into the process of planning for TOD as part of an enormous public works project. Out of necessity, T-REX managers worked very proactively with the owners, Bradbury Properties, to craft a station-area configuration that would maximize opportunities for a transit village. After agreeing to a suitable station-area configuration, Bradbury sold 6.5 acres to RTD for a park-and-ride facility and is in turn contributing \$2.63 million to add two additional floors to the structure. The deal with Bradbury represents the only situation in which a T-REX station-area configuration was significantly modified in response to private-sector interest in TOD.

Bradbury, which had originally planned a suburban office park at the location, now plans a transit village to include 800 multifamily residential units, 200,000 square feet of retail space, and up to 1 million square feet of office space. As with each of the

large-scale TOD projects along the T-REX line, build out is expected to occur over the course of years, most likely by around 2015.

Metropolitan Denver's Experience in Summary

In greater Denver, there is a growing understanding of TOD on the part of public and private stakeholders. This is supported by efforts such as the CRNA planning process and the education and outreach efforts of RTD, which have had limited success with actual joint development deal making, but have stirred interest in TOD by preparing and supporting station-area plans. Greater Denver also offers evidence about the market advantages of TOD. Experiences in Englewood and LoDo suggest that whether TOD is a short-term ploy by a developer or part of a long-term hold strategy, there is a monetary premium to be reaped from a transit-accessible location. Still, experiences from the Denver area continue to suggest that in suburban locations, redevelopment around transit stations requires substantial public participation so long as other developable parcels are available. In Englewood and Arvada, this has meant that municipalities have had to take a long view of their investments, contributing substantial resources up front with the aim of recapturing value over the ensuing decades. In Boulder, which is approaching the edges of its UGB, developable land is less readily available, and, consequently, less public financial participation has been required to incentivize favored types of development. Nonetheless, developing TOD in Boulder has involved its own unique set of challenges, a topic to which we now turn.

Bus-Based TOD in Boulder

Boulder flanks the foothills of the Rocky Mountains, 25 miles northwest of Denver. The city is home to more than 100,000 residents, as well as the state's largest university and several federal research labs. Identified as one of three "free-standing communities" in the Denver metropolitan area, Boulder is ringed by protected open space totaling 33,000 acres.²⁹ This buffers the city from the sprawling development extending westward from Denver along U.S. Highway 36.

While Boulder is known for its proactive growth management strategies, including one of the nation's first urban growth boundaries and an ambitious open space preservation program, until recently, little in the way of TOD has taken form. (Recent TOD in Boulder is shown in Photos 16.4 and 16.5.) In 1994, the city launched its Community Transit Network (CTN) using a fleet of small, colorful buses operating at high frequencies (see Text Box 16.5). Transit ridership benefited from a milieu of dense and diverse uses within the city core. Over the years, the CTN has expanded beyond the city center into less urbanized areas, opening possibilities for TOD farther afield. Recently a number of mixed-use developments have been completed along CTN bus lines. While not fundamentally shaped by the presence of bus service, these developments support transit ridership and provide evidence that a well-conceived bus network can support the incremental advance of compact, walkable corridors beyond a city core.

While TOD has largely flown below the radar of policymakers, evolving



Photo 16.4. Transit-Oriented Development in Downtown Boulder. Located adjacent to the downtown Boulder transit station, condominiums at One Boulder Plaza have sold exceptionally well.

Photo 16.5. Mixed-Use Parking Structures in Downtown Boulder. City-owned parking structures in downtown Boulder are “wrapped” with ground-floor retail uses to promote active street frontages conducive to transit ridership.



as a result of broader land-use and transportation policies and a favorable real-estate market, this is about to change. The city is currently partnering with RTD to create an intermodal transit center, accommodating current bus and future commuter-rail and BRT services. The project, known as the Boulder Transit Village, will be a joint development that integrates housing and commercial uses. The Boulder Transit Village is supported by a strong financial commitment and marks the city’s first foray into proactive TOD planning.

The Market for Mixed Use

Over the past several years, the market for transit-supportive land uses, particularly residential mixed use, has been strong in Boulder, and developers have found a banking community familiar with these product types and willing to lend. Much of the mixed-use

development has occurred in the city’s high, walkable, and transit-accessible downtown. As of mid-2001, 10 new mixed-use developments were planned in downtown Boulder. These included 250,000 square feet of new office space, 150,000 square feet of retail space, and 91 residential units. Developments such as One Boulder Plaza, immediately adjacent to the downtown transit station, have sold exceptionally well at prices in the mid-\$400s per square foot or between \$540,000 and \$1.35 million.³⁰ These prices are as high as any in the metropolitan area, including prices in the trendy LoDo area of Denver. Even in an economic downturn, the residential market has held firm in Boulder.

Outside of downtown, mixed-use developments are commanding less of a premium; still, prices are comparable to areas surrounding downtown Denver. Residential units in the Dakota Ridge

Hop, Skip, and Jump

In 1989, the city of Boulder adopted its first transportation master plan, establishing a policy that directed transportation staff to develop a demonstration transit service for Boulder. From this was born the Community Transit Network (CTN). The central concept of the CTN is to provide a convenient alternative to the single-occupancy vehicle, using neighborhood-scaled buses that fit into the local context. CTN has worked to craft a unique brand for its routes, naming each—Hop, Skip, Jump, Leap, Bound, etc.—and painting buses with colorful images and words meant to reflect the people and areas they serve. In addition to skillful marketing, CTN brought enhanced service. Redundant routes were combined, allowing for increased frequencies along key corridors. In the case of the Skip route, when CTN replaced the existing RTD service, service increased by 90% along the Broadway corridor. By 1998, Skip ridership had increased two and a half times above the ridership of its predecessor route.



The Hop Bus

CTN has been a boon to transit ridership. In 2000, 9% of Boulder residents rode transit to work compared with 4% in 1990. Crucial to the success of CTN is the Eco Pass program. This program allows employers to purchase discounted transit passes for their employees, sometimes as a required transportation demand management (TDM) measure. Moreover, it guarantees a free taxi ride home in the event of an emergency or when workers unexpectedly need to stay late. There is also a neighborhood version that allows groups of 100 or more households to purchase discounted passes.

Sources: T. Winfree and P. Puskarich, “Boulder Redefines Urban Transit,” *Community Transportation* (November/December 1998) <http://www.ctaa.org/ct/novdec98/boulder.asp>; City of Boulder, Transportation Division, *Transportation Annual Report of Progress: Toward the Goals and Objectives of the Transportation Master Plan for the Years 1999–2000* (January 2000), http://www.ci.boulder.co.us/publicworks/depts/transportation/pdf_documents/2000annual_report.pdf.

Text Box 16.5

development have been selling for between \$210 and \$260 per square foot. As a comparison, the neighborhood average asking price for residential units in the popular Ballpark neighborhood in downtown Denver was \$257 per square foot as of January 2003.³¹ Residential units at the Steel Yards development have been selling for between \$260 and

\$335 per square foot. This is comparable to LoDo, where the neighborhood average asking price was \$329 per square foot as of December 2002.³²

In Boulder, demand is driven by scarcity. According to the city’s Job-Housing Study, 122,000 people live and 104,000 people work in the Boulder

planning area. Up to 115,000 jobs are projected in the future, compared with 5,800 additional housing units, based on current zoning (see http://www.ci.boulder.co.us/buildingservices/jobs_to_pop/index.htm). The city hopes to redress this imbalance through more mixed-use zoning.

Planning Framework

Speaking at the 1998 American Planning Association conference, Peter Pollock, Director of Community Planning for the City, noted, “Land-use planning is a major fixation for Boulder, and [the] issues are continuously analyzed, discussed, and often hotly debated” (see <http://www.asu.edu/caed/proceedings98/Pollock/pollock.html>). He might also have added transportation planning to his comments. For more than 20 years, there have been a number of interesting and evolving planning efforts underway in Boulder that help to shape the current framework for TOD.

Transportation Master Plan. In the 1980s, the city council established an ad hoc subcommittee on transportation, which articulated a policy calling for, among other goals, a 15% reduction in the mode share of single-occupancy vehicles.³³ The city council formally adopted this policy in its 1989 transportation master plan. In 1996, faced with projections showing that even in meeting its mode share goal the city would still experience significant increases in congestion, the council revised the goal to focus as well on VMT, establishing 1994 as the benchmark year and setting a goal of 0% VMT growth within the Boulder Valley.³⁴ Since 1989, the city has taken a number of steps to implement and

monitor its progress toward these goals. Foremost among these initiatives have been the efforts of the Transportation Division’s Go Boulder Program, which has implemented the CTN and worked to establish a number of transportation demand management (TDM) measures.

Current Planning. In an environment where development pressures are high and land supply is constrained, a locality has considerable leverage through the regulatory process to shape the face of development. The city of Boulder has aggressively used the development review process to constrain the presence of the private automobile. Often, the city mandates some level of TDM from projects going through discretionary review. This sometimes involves an employer purchasing transit passes for employees, but it may also include site design modifications.

One example of the use of development review to promote more transit-friendly design was in the city’s approval of a CompUSA development along the Bound bus line on 30th Street. The city hopes to see 30th Street redevelop as a pedestrian-friendly corridor and is preparing a detailed area plan to expound its vision. After a year of negotiations surrounding development approvals for the CompUSA facility, the large floorplate was designed with parking in the rear and a minimal setback from the street. An attractive pedestrian plaza fronts the building. However, the development’s street-facing front door is presently kept locked. People arriving by foot or transit must walk 250 feet around the building to enter through doors that front onto a parking lot. Thus, while the building was

designed to be transit-friendly, its operation is automobile-oriented. This wrinkle points to the risks of using ad hoc requirements imposed through development review to “force” more transit-friendly land uses, particularly in the absence of an area plan to provide design guidelines.

Development review has proved more successful in promoting transit-supportive design in other locations. In North Boulder, the city had prepared a subcommunity plan, including language about the design character that it hoped to achieve:

This area should be developed with all the qualities of an attractive, established neighborhood: beautiful and walkable streets . . . convenient transit and neighborhood services, and proximity to a neighborhood park.³⁵

In this case, the city worked with the homebuilder through the entitlement process to create a development that feels

like a village rather than a subdivision. Currently under construction, the Dakota Ridge project is platted with a New Urbanist street grid, featuring alleyways to access parking behind buildings (see Photo 16.6). The result is a pleasant pedestrian environment replete with sidewalks, pathways, civic and open space, and the screening of parking and utility areas.

Dakota Ridge contains a mixture of housing types—condominiums, townhouses, and single-family detached houses—with higher-density units clustered near the village center and planned transit stops. At build out, the project will consist of 390 residential units and 24,000 square feet of civic and retail space.

Mixed-Use Zoning. Related to the city’s transportation goals are efforts to address a growing jobs-housing imbalance. Over the past few decades, Boulder has emerged as a regional employment center, with more people



Photo 16.6. Transit-Oriented Development on the Urban Fringe. Working within the confines of a subcommunity plan developed for the area known as North Boulder, the city helped to reconfigure the site plan for Dakota Ridge to ensure that it would support the extension of bus service into the project. The city also required that the developer purchase transit passes for each household as a TDM measure. At 55 acres, Dakota Ridge was one of the last large-scale development opportunities within the Boulder Urban Growth Boundary.

commuting into the city than leaving to work elsewhere. At present, the city has a jobs-to-housing ratio of 0.96 to 1, compared to a ratio of 0.57 to 1 for the region as a whole.³⁶ Officials have drawn a direct link between this worsening jobs-housing imbalance and increases in traffic impacts, noting that those who “in-commute” make longer trips than Boulder residents and are more likely to arrive in a single-occupancy vehicle. Since 1993, the city has been looking for mixed-use development opportunities, hoping to stem the rise in in-commuting. In 1997, the council adopted a number of new mixed-use zones and rezoned a number

of properties, giving rise to transit-supportive projects like the Steel Yards (see Photo 16.7).

Boulder Transit Village

Most construction along Boulder’s transit corridors has been developer-initiated and market-driven. In a community with limited land, developers have readily submitted to an arduous development review process that expects transit-friendly design as a condition of approval. The Boulder Transit Village is a bold departure from this mold, with the city playing an entrepreneurial role, undertaking joint development to control



Photo 16.7. Mixed-Use Redevelopment Along Transit Corridors. Located along 30th Street, a corridor of industrial and automobile-oriented retail uses, the Steel Yards is precisely the type of redevelopment the city of Boulder hopes will reshape the area over coming decades. The \$27-million project is being developed in phases and will total 22 buildings, including 90 residential units and 137,000 square feet of office and retail space, when completed. After rejecting earlier proposals for big-box retail on the site, the city rezoned the property in 1997 to allow for mixed-use development. The city views the Steel Yards as an example of the area’s redevelopment potential and is studying similar opportunities along 30th Street. The photo shows a view of the Steel Yards, with mixed-use commercial buildings fronting onto 30th Street and parking and additional residential uses tucked behind.

the timing, orientation, and mix of uses around a new intermodal transit center.

As a result of transportation studies to evaluate mobility, the city identified a need for an intermodal transit center to integrate regional and local buses as well as future commuter-rail and BRT connections along U.S. Highway 36 to Denver. The choice of an intermodal center over expanded park-and-ride facilities reflects the long-term thinking of the city's Transportation Division, which has long been concerned with the land-use impacts of investment decisions. In a new intermodal center, the city's planners saw an opportunity to advance two of the city's top priorities—multimodal transportation and affordable housing—through TOD.

Planning for the Boulder Transit Village began in earnest in 2001 with a site-selection process. The intermodal center team identified site evaluation criteria, including the ability to efficiently accommodate the transit center, the ability to provide for TOD and affordable-housing opportunities, and the presence of necessary infrastructure. The team selected a site along an existing rail alignment that best met its criteria. The process has not always been smooth. Property acquisition has taken longer than expected. So far, a major hurdle has been assembling funds for the \$7-million price tag for site acquisition. These funds have been parsed together from a number of sources, including a \$2.5-million commitment from RTD's general funds, \$1.25 million from the sale of an existing park-and-ride lot, and \$3 million from the Department of Housing and Human Services. Ultimately, bundling together the housing funds required borrowing against future departmental revenues

using a low-interest loan provided by Fannie Mae. While it appears likely that negotiations with the property owner will lead to an open market sale, a city ordinance has authorized the use of eminent domain to acquire the site, something that the city staff described as important in advancing negotiations for sale of the property.

The next step in the process will be to finalize design plans and issue an RFP for development. The city expects the housing and commercial portions of the project to be financed by the developer. The development will consist of 300 affordable and market-rate rental and ownership housing units and auxiliary commercial uses oriented around a transit station with 100 park-and-ride spaces.

Completing the station will still require additional funds, and the city has brought on board some influential allies. In 2003, a U.S. congressional delegation including Boulder's representative, Mark Udall, and James Oberstar of Minnesota, the ranking Democrat on the House Transportation and Infrastructure Committee, visited the site. Speaking to the local newspaper about his tour along U.S. Highway 36, Representative Oberstar observed, "This is the finest example of community cooperation I've seen anywhere in America."³⁷

In addition to serving as an example of staff leadership, The Boulder Transit Village provides insights into when and how RTD best responds to local planning efforts. In the case of Boulder, timing appears to have been everything. The city's plans to develop the intermodal transit center are years ahead of the extension of commuter-rail and

BRT service to the area. As a result, the city has found a flexible agency, ultimately willing to back away from plans to develop another park-and-ride facility on U.S. Highway 36 and to direct funds toward the intermodal center. Experience suggests that when cities convince RTD to adjust its capital spending plans, requests tend to come years ahead of planned expenditures. Moreover, RTD seems much more responsive to the concerns of local jurisdictions than to developers. By playing a lead role, the city has been able to establish a mutually rewarding partnership with RTD.

Boulder's Experience in Summary

To date, Boulder's land-use pattern has affected transit more than vice versa. High-frequency transit is relatively new and has had relatively little time to affect real-estate development. On the other hand, Boulder's increasing transit ridership stems from a long-standing commitment to compact development. In the past, the city's emphasis on walkability and dense, diverse land uses has largely focused on its downtown. More recently, market dynamics have opened the potential for transit-oriented mixed-use redevelopment along bus-served corridors. As infill development continues, transit-supportive corridors are beginning to take form.

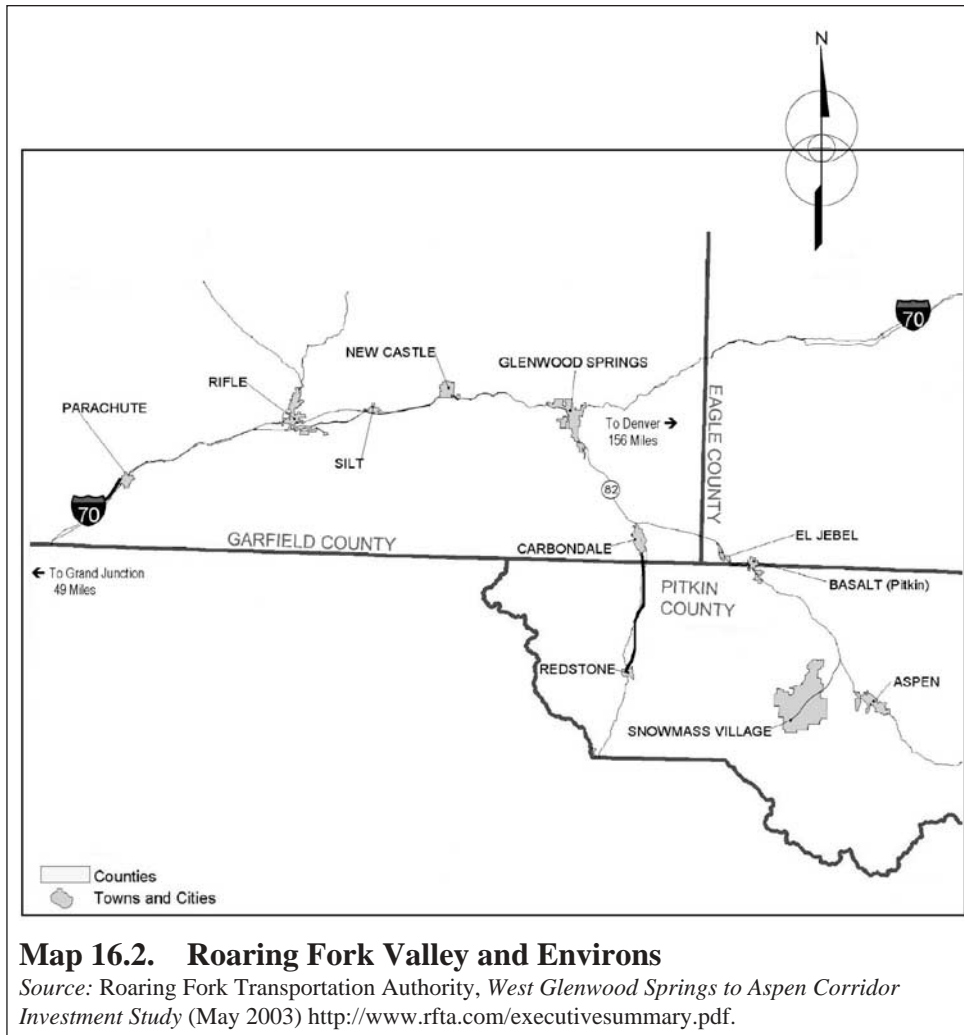
Resort-Based TOD in the Roaring Fork Valley

While a commute of 1 hour or more each way to work may sound like a distinctly metropolitan phenomenon, it is also the reality for many people living in the Roaring Fork Valley of Colorado. Hardly a metropolis, the

Valley is home to only around 60,000 people, most of whom live in several small towns dotted along a 40-mile stretch of State Highway 82 (see Map 16.2). In the Valley, which has traffic congestion and some of the nation's least affordable housing, discussions are underway about expanded transit service and "small town" TOD. While at this point, TOD in the Valley is still largely on the drawing board, there are examples of transit-supportive projects already on the ground, and at least one large-scale, resort-based TOD is moving through the final stages of the entitlement process.

Traffic congestion in the Valley is driven by a number of factors, not the least of which is the city of Aspen's cachet as an international destination. This world-renowned resort is home to fewer than 6,500 people, but, with an average daytime population of over 20,000, it generates millions of vehicle trips per year.³⁸ Most are made by workers, traveling into the city from "down valley" where housing is more affordable. Aspen's average home price today exceeds \$2 million. Also contributing to traffic congestion is the area's geography. The main activity centers are located at either end of this narrow, mountain valley. There is only one route in and one route out, Highway 82. Even with two big-ticket projects planned over the next 10 years, conditions on Highway 82 are expected to deteriorate to level of service F by 2015 unless radical changes are introduced.³⁹

Alarm that the Valley's traffic is getting as bad as Denver's or that of any big city has contributed to a slowly building consensus around the importance of



transit to the region’s future. Beginning as a local bus service in Aspen and Pitkin County, the Roaring Fork Transit Agency grew “down valley” as a means of bringing workers to jobs in Aspen and Snowmass. In 1997, with assistance from CDOT and Great Outdoors Colorado, Valley jurisdictions joined together as the Roaring Fork Railroad Holding Authority (RFRHA) to purchase the Denver and Rio Grande Western Rail line between Glenwood Springs and Aspen. This action has preserved a Valley-wide corridor for transit and trail development. In 2000, Valley residents across seven jurisdictions approved the creation of the Roaring Fork Transportation Authority

(RFTA). Established under enabling legislation passed by the state legislature in 1997, this was Colorado’s first Rural Transportation Authority. With its creation, the operation of regional and local bus service throughout the region and the duties of RFRHA were subsumed under RFTA. Today, RFTA operates bus service from Aspen to Rifle, a distance of 70 miles, which extends 30 miles along the I-70 corridor. RFTA’s main line is its Roaring Fork Valley service, which operates on approximately 15-minute peak-hour headways. Since its creation, RFTA has emerged as the state’s second largest transit operator, serving almost 4 million riders annually.⁴⁰

RFTA recently completed a corridor investment study exploring long-range transportation alternatives in the Valley. Options include BRT, light rail, and commuter rail.

An integral part of the planning process to expand transit service has been the exploration of TOD potential in the Valley. As part of this process, RFRHA commissioned a study in 2000 to illustrate “potential town planning and transit-oriented design solutions and considerations for the Roaring Fork Valley.”⁴¹ This study examines two basic transit options: enhanced bus service or rail service. The study found that substantial percentages of people live and work in the would-be service area of an improved bus or new rail system. Looking at the ability of transit service to impact future land uses, the study projects the percentages of Valley population and employment that would be contained within ¼-mile rings of station areas in the years 2003 and 2020. These projections assume compact, mixed-use infill around each station by 2020 and do not necessarily reflect current zoning ordinances. Projected station-area population and employment percentages are shown in Table 16.2.

The study estimates that percentages of people likely to use mainline transit service would be quite high under either an improved bus or new rail system scenario, thanks in large measure to geography, which has channeled development along the narrow Valley floor. Even so, shares of trip origins and destinations within close proximity to transit are expected to decline over time. According to the study, “These findings may suggest that communities in the Valley review their land-use plans with a goal of intensifying use adjacent to station areas.”⁴² This recommendation is particularly important, given that in many instances the report has assumed development will occur at levels of density not supported by current zoning. The study’s findings, many believe, are a warning that traffic congestion and environmental degradation will be a lot worse if TOD is not aggressively pursued.

A number of Valley communities have begun to explore the idea of intensifying land uses around transit stops through community plan updates. Of the “down valley” communities, Basalt has made the most progress in this regard. In 1999, the town of Basalt adopted language in

Table 16.2. Planned Station-Area Population and Employment as a Share of Total Population and Employment in the Roaring Fork Valley, Current (2003) and Projected (2020)

Transit Option	Population		Employment	
	2003	2020	2003	2020
Improved Bus	20%	18%	31%	25%
Rail	42%	37%	60%	48%

Note: Population is permanent resident population, and employment is winter employment. Bus station areas are based on a 0.25-mile radius, and rail station areas are based on a 0.5-mile radius.

Source: Roaring Fork Railroad Holding Authority, *Glenwood Springs to Aspen/Pitkin County Airport Corridor Investment Study, Transit Oriented Community Design Report* (February 2000).

its master plan calling for TOD planning principles to be utilized in the design and layout of areas surrounding transit stations.⁴³ It also made modifications that were informed by expectations about future transit service to its Future Land Use Map.⁴⁴ These policies are reflected in a recently adopted PUD for the Willits Town Center, which features a commercial core that uses a small-block gridded street pattern and includes a transit center for use by RFTA's regional buses.

Even before recent discussions about BRT and rail transit, Basalt had begun planning for TOD. In 1997, the town approved the Ute Center (see Photo 16.8). The development plan was shaped in large measure through a town design charrette and reflects an interest in supporting a vibrant downtown through the addition of more residential and commercial uses to the area. The Ute Center contains a mix of residential, office, and retail uses with a pedestrian



Photo 16.8. Small Town TOD.

Located in Basalt, Colorado, a town of 2,700 people, the Ute Center combines retail, residential, and office uses across the street from an RFTA bus stop.

orientation that complements the town's historic past. The largest development in downtown Basalt, the Ute Center contains 48,000 square feet of office and retail space and 42 residential units. All parking is below grade and accessed through a single driveway. Located immediately across the street from a bus stop, the Ute Center is both an origin and a destination along RFTA's route from Glenwood Springs to Aspen.

Another community that has been planning for TOD is Snowmass Village. With more than 700,000 people arriving by bus each winter, Snowmass Village is clearly not your average small town. It is home to some of Colorado's best skiing and served by a free skier shuttle, operated by RFTA and paid for by the Aspen Skiing Company to the tune of more than \$1 million per year.⁴⁵ The community expressly favors maintaining "the character of its small-scale, two-lane road system," and has adopted the following policy language in its comprehensive plan to support transit:

Snowmass Village shall make land use decisions, which result in a reduction of automobile traffic, better use of transit, more effective parking management and more linkage of pedestrian/bicycle trails. Public transit service and access to transit will be required of all future development. Impact assessments on development should cover both capital and operating costs.⁴⁶

Such policies are as progressive as any to be found in the United States, not only requiring a transit connection for new development, but also requiring that it pay the capital and operating costs of service delivery. Snowmass Village's commitment to transit and alternative

modes of transportation is shared by the city of Aspen. Both jurisdictions, along with Pitkin County, have adopted a policy goal of “limiting vehicles in 2015 to levels at or below those of 1994.”⁴⁷ As resort communities, both are aware that their economic well-being is closely tied to an efficient and uncongested transportation system, which not only delivers visitors to their destinations, but also helps to secure those areas as vibrant, pedestrian-friendly places.

Snowmass Village is currently working out the details of transit-supportive policies as it reviews a development application to create a new base village. This development, known by the town’s name, Snowmass Village, is to include 635 condominiums and 184,000 square feet of nonresidential space comprising a children’s center, conference space, restaurants, and shops. Current plans show buses arriving at a new central transit and check-in center that sports seven bus pullouts. This is in keeping with the city’s policies and the developers’ vision of a quaint pedestrian village.

While there is a growing appreciation of transit’s role in the region’s future, there is still much to be done by way of land-use planning and interjurisdictional coordination if transit is to significantly alter the Valley’s land-use character. As the RFRHA’s study from the year 2000 notes, localities in the Roaring Fork Valley need to review land-use ordinances to intensify development around transit stations.⁴⁸ Without a comprehensive plan for how growth will be managed, the Valley is more likely to fill with low-density development, unconnected to transit, than to develop as

a necklace of compact, transit-served communities. It is a daunting challenge for any region to coordinate land-use planning efforts; however, more than most places, the Roaring Fork Valley has a shared economic interest in sustainable, transit-served development. This is true from the perspective of the resort communities, dependent on the area’s idyllic charm, as well as the “down valley” residents who in-commute to jobs, which are inextricably linked to the tourist industry’s economic well-being.

A number of efforts are underway to strengthen the Roaring Fork Valley’s institutional capacity to coordinate transit and land use. These include the “Community Economics and Land Use in the Mountain Rural Resort Communities Project,” an effort sponsored by the Northwest Colorado Council of Governments and a local nonprofit, Healthy Mountain Communities. The purpose of this planning effort is to “develop an approach for integrating demographic, economic, and land use information into a decision making tool for community leaders and policy makers.”⁴⁹ One product of the effort is a GIS-based tool to help decision-makers and community members visualize the impacts of various land-use policies and transportation investments. Another effort is the Affordable Housing Initiative, sponsored by Healthy Mountain Communities. The initiative has led to the development of a regional affordable-housing needs analysis and a framework for regional collaboration, as well as a model affordable-housing ordinance, which has been adopted by two jurisdictions to date.⁵⁰ Placing affordable units near transit stops is a key element of the initiative. These efforts should provide a solid foundation

for land-use planning cooperation around the issue of TOD.

Conclusions and Lessons

In Colorado, TOD is occurring across a broad array of landscapes. Numerous implementation tools are being used to bring about TOD, suited to each area's political and economic realities. Even so, the motivations for TOD are quite similar. Coloradans are displeased with the current face of their state's physical growth, and, while opinions are mixed about how best to proceed, TOD is gaining traction in a number of jurisdictions.

In the Denver area, rail transit investments are opening up unprecedented TOD opportunities, although they will not necessarily translate into TOD over the short term, particularly in redevelopment contexts. Where TOD has occurred in the Denver metropolitan area, public entities have generally stepped forward to make long-term investments in station-area development. These public-sector investments have been rooted as much in "placing making" as in transportation benefits. They reflect long-term thinking and dedicated political leadership to translate the ever more familiar idea of TOD into a shared vision for community revitalization.

In Boulder, TOD has evolved under a policy framework that is distinct from other communities in the Denver region. There, land supply is tightly constrained as a matter of public policy. As a result, TOD has not required the same level of public participation and has instead been guided by a regulatory process that emphasizes compact, pedestrian-

friendly, bus-oriented development. This has come with its own set of challenges, including limited control over the pace of redevelopment along transit corridors. As the city prepares for the arrival of a rail transit connection to Denver, it has assumed a more proactive role, familiar to other TOD-friendly communities in the Denver area such as Englewood and Arvada. A particularly important lesson from Boulder is that transit-supportive development is not necessarily dependent on steel-wheel technology. High-quality bus-based services, introduced under the CTN initiative, highlighted by the popular and colorful Hop-Skip-Jump "brand," and backed by proactive planning, Boulder shows, can spur moderately dense, mixed-use growth along major routes, even in moderate-size communities.

In the Roaring Fork Valley, TOD offers a potential solution to a pattern of land consumption that threatens the region's tourism-based economy while increasing commute distances and traffic tie-ups. A worsening jobs-housing imbalance, owing in large part to service-industry workers being priced out of local housing markets, has catapulted transportation and land-use integration toward the top of the list of local concerns. Even in rural-like Pitkin and Garfield Counties, TOD is being seized on as one of the more viable means of better integrating transportation and land development. While hard and fast lessons about the implementation of TOD in the Valley may still be some years away, the ongoing execution of comprehensive plan policies that encourage a fine-grained connection between development and transit services has begun to yield promising results. In many ways, Colorado's Rocky Mountains stand as a

test bed for the viability of TOD in a non-urban setting.

Notes

- ¹ Pew Center for Civic Journalism, *Straight Talk from Americans* (2000). See http://www.pewcenter.org/doingcj/research/r_ST2000denver1.html.
- ² T. Lomax and D. Schrank, *2002 Urban Mobility Report* (College Station, Texas: Texas Transportation Institute, 2003).
- ³ K. Schneider, "Five Commutes That Make You Feel Better About Yours," *New York Times*, October 20, 1999. Retrieved from archives, <http://www.nytimes.com>.
- ⁴ Healthy Mountain Communities, *Local and Regional Travel Pattern Study (1997–1998)*, (Carbondale, Colorado, 1998). See <http://www.hmccolorado.org/travelpatterns.htm>
- ⁵ Noel, T. J., *Mile High City: An Illustrated History of Denver* (Carlsbad, California: Heritage Media Corporation, 1997).
- ⁶ Ibid. Noel explains this problem, noting the example of Federal Heights, a blue-collar town, "caught in between two much larger and more aggressive Adams County neighbors. Westminster and Thornton used tax breaks and other ploys to persuade giant K-Mart and King Soopers stores to move out of Federal Heights, leaving that town with giant empty stores—and a loss of 30% of its sales tax revenues."
- ⁷ Denver Regional Council of Governments, *Metro Vision 2025 Interim Regional Transportation Plan: The Fiscally Constrained Element* (April 17, 2002).
- ⁸ Denver Regional Council of Governments, *Metro Vision 2020 Plan* (July 2002). See http://www.drcog.org/downloads/2002_Metro_Vision_Plan-1.pdf.
- ⁹ Ibid., p. 27.
- ¹⁰ A. Rhines, "Mile High Compact Seeks Regional Planning," *The Boulder County Business Report*, August 25, 2000.
- ¹¹ Shortly after *Metro Vision 2020* was adopted, DRCOG produced a checklist for consistency

with the regional plan, asking each member jurisdiction to complete an assessment of its local comprehensive plans. Only 4 of the 50 member jurisdictions bothered with the process. DRCOG has since ratcheted up its incentives for local jurisdictions to take note of the regional plan by assigning points in the TIP for compliance with certain aspects of *Metro Vision 2020*. Thus far, these points have been targeted largely at establishing a UGB; transportation projects submitted as part of the TIP process, which come from jurisdictions that have adopted a UGB in conformance with *Metro Vision 2020*, receive an additional 20 points out of 125 possible points, making these projects more likely to receive funding. This initiative has been relatively effective, with 26 of the member jurisdictions adopting UGBs thus far, representing more than 80% of the metropolitan area's population. Other *Metro Vision* elements have been assigned little or no consideration in the allocation of transportation funds. As an example, DRCOG assigns only a single point in the TIP process for transportation projects that are located in a defined "urban center"; as a result, only a handful of jurisdictions have gone through the process of designation. Staff members at DRCOG indicate that they are considering a reallocation of points within the TIP system to attempt to affect other elements of the *Metro Vision* plan. It remains to be seen whether this will be an outcome of the *Metro Vision 2030* planning process.

- ¹² City and County of Denver, "Chapter 2," in *Blueprint Denver* (2002), 14.
- ¹³ City and County of Denver, "Denver TOD Coalition," Unpublished program description.
- ¹⁴ Ibid.
- ¹⁵ Regional Transportation District, *Fast Facts and Figures*, Updated May 11, 2003. See <http://www.rtd-denver.com/History>.
- ¹⁶ Fredrick Ross Company, *View: Commercial Real Estate Quarterly*, Vol. 8, No. 1 (January 2003).
- ¹⁷ Cushman and Wakefield, *Denver Colorado, Office Market Fourth Quarter 2002*. See http://www.cushmanwakefield.com/flyers/Den_Off4Q02.pdf.

- ¹⁸ Lower office rents at the Millennium Financial Center reflect a discount given to a single large user, who rents three floors of the building for \$24.75 per square foot. Otherwise, office rents in the project average \$27.50 per square foot.
- ¹⁹ City of Arvada and Arvada Urban Renewal Authority, *Olde Town Renaissance Plan* (August 1999).
- ²⁰ See Caltrans, *Statewide Transit Oriented Development Study Factors for Success in California, Technical Appendix* (September 2002), pp. 25–27, <http://www.dot.ca.gov/hq/MassTrans/tod.htm>; D. Sokol, “Glass Slipper Redux,” *Grid Magazine* (December 2001); C. Lockwood, “Town Centers Ascendant,” *Grid Magazine* (December 2001). *Grid Magazine* was hosted at <http://www.gridsite.com/dec2001-reduxhtm>, but is no longer available.
- ²¹ Sokol, December 2001, op. cit. (See Note 20.)
- ²² E. Payne and R. Simpson, “Memorandum from Office of Neighborhood and Business Development to Department of Finance, City of Englewood” (December 11, 1996).
- ²³ Sokol, December 2001, op. cit.
- ²⁴ Ibid.
- ²⁵ C. Lockwood, “Raising the Bar,” *Urban Land*, Vol. 62, No. 2 (February 2003).
- ²⁶ Ibid.
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- ³² J. Myslik, Distinctive Properties LLC, Unpublished market data (December 2002).
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- ³⁷ T. Neff, “Officials Show Off Transit Plans,” *The Daily Camera*, April 23, 2003. See <http://www.thedailycamera.com>.
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- ⁴¹ Roaring Fork Railroad Holding Authority, *Glenwood Springs to Aspen/Pitkin County Airport Corridor Investment Study, Transit Oriented Community Design Report* (February 2002), 6.
- ⁴² Ibid, p. 5.
- ⁴³ Town of Basalt, *Town of Basalt Master Plan* (August 1999), 100.
- ⁴⁴ Ibid. The *Town of Basalt Master Plan* notes “There are several factors that have influenced the decisions incorporated in the Future Land Use Map. One of the most significant of these is the proposed valley-wide transportation system between Aspen and Glenwood Springs. . . . Trustees believe the transit corridor should be located along Alignment C (Highway 82 right-of-way)

through the Three Mile Planning Area. This belief drives many elements of the Future Land Use Map, including the location of the potential transit stations, limits of the urban growth and urban services area boundaries, and the development pattern around the potential transit station area” (p. 108).

- ⁴⁵ Roaring Fork Transit Agency, *Economic White Paper: Mobility and Economic Interdependence RTA Action Plan* (February 1999).
- ⁴⁶ Town of Snowmass Village, Chapter 7, *Comprehensive Plan* (January 1999), 1.
- ⁴⁷ Roaring Fork Transportation Authority, May 2003, op. cit., p. S-22.
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⁴⁹ G. Severson, Memorandum from Executive Director to the Executive Committee and Board of the Northwest Colorado Council of Governments (December 7, 2000). See <http://www.nwc.cog.co.us/Executive%20Director%20Reports/2000/12-2000.pdf>.

⁵⁰ See Healthy Mountain Communities website: <http://www.hmccolorado.org>.

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Chapter 17

Portland's TODs: Building Community on a Regional Scale

The Portland region has the most aggressive TOD program in the United States. In Portland, TOD is linked to many goals and has been broadly implemented. Nearly every one of the region's light-rail stops has witnessed TOD activity to some degree. At the same time, Portland has very high expectations of its TODs, and thus its experiences may not be easily transferable to other cities and regions. Notwithstanding government's strong role in promoting TOD and "shaping" growth, market forces still matter, as some of the TODs profiled in this case study illustrate. While other studies of Portland's TOD have only focused on its most successful light-rail examples (e.g., Orenco Station), this case study highlights TODs that have received less attention in the past and describes two projects (The Round and Central Commons) that experienced difficulties when governments pushed the envelope of what could be expected from TOD.¹ Although these projects are now on course for long-term success, they nevertheless provide lessons for other regions and developers attempting to achieve multiple objectives in building TOD. This study also takes a look at development activity presently occurring along the Portland Streetcar line.

Portland's experiences with TOD have evolved over 25 years, from being largely an afterthought to becoming one of the primary considerations in rail-facility planning. The next section

describes how TOD planning has evolved over time and describes the "toolbox" used by various jurisdictions to facilitate TOD. This is followed by profiles of three TODs that illustrate some of the opportunities and constraints of pursuing TOD in different settings, even in a favorable setting like Portland. The concluding sections speculate on the future of TOD in Portland (e.g., whether it is trying to do too much and whether it can succeed on all fronts) and summarize lessons learned.

The Regional Policy Framework for TOD

Over the past 25 years, TOD has become part of the underlying policy framework of Portland's comprehensive growth management at a community and regional scale. TOD has become one of the primary policy and implementation tools that the state, the region, and local governments regularly call on to help maintain a compact urban form, reduce dependence on the automobile, and support reinvestment in centers and corridors. Over time, sophisticated developers have learned that sites adjacent to transit are more likely to come with incentives for development than sites that are not near transit.

The greatest attention to TOD is focused on the stations of the Portland Streetcar and the region's three light-rail lines. For example, legally binding station-area plans were funded by TriMet, the

regional transit agency, and adopted by local governments before the Eastside and Westside light-rail lines opened for service. Minimum densities, parking maximums, design requirements and prohibition of automobile-oriented uses (through interim zoning overlays) are features of the plans for areas within walking distance of the stations. Local governments along the corridors participated in these coordinated multi-jurisdictional planning programs because they saw light rail as a means to implement their comprehensive plans.

The core objectives of station-area planning in Portland have remained fairly constant over the years. They include the following:

- Reinforcing the public’s investment in light rail by ensuring (via rezoning) that only transit-friendly development occurs near stations;
- Recognizing that station areas are special places and the balance of the region is available for traditional development;
- Seizing the opportunity afforded by rail transit to promote TOD as part of a broader growth management strategy;
- Rezoning the influence area around stations to allow only transit-supportive uses;
- Focusing public agency investment and planning efforts at stations with the greatest development opportunity;
- Building a broad-based core of support for TOD with elected

officials, local government staff, land owners, and neighborhoods; and

- Setting up a self-sustaining framework to promote TOD once the planning is complete.²

TriMet’s involvement in TOD has been as an advocate, an educator, and a funder. The agency has been willing to provide substantial time and resources to further the implementation of TOD and the region’s vision of “growing up, not out.” At the same time, TriMet has been a major beneficiary of those regional policies. By focusing growth next to transit stops, the policies help to fill TriMet’s trains and buses. Since 1990, ridership on buses and light rail has grown at a rate significantly higher than both population and vehicle miles traveled (see Figure 17.1).³

Station-area plans are just one slice of a larger pie. The Portland region arguably has the nation’s most aggressive TOD program, but it has also placed the highest stakes on what it expects from

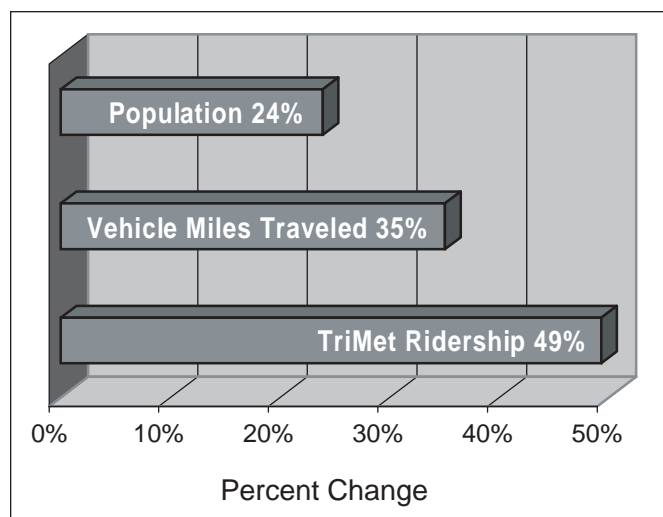


Figure 17.1. TriMet’s Comparative Ridership Growth, 1990–2000.

TOD. The region's vaunted growth management strategy is built around transit. The 2040 Growth Management Strategy ("build up, not out") features a tight UGB, focusing growth in existing built-up areas and requiring local governments to limit parking and adopt zoning and comprehensive plan changes that are consistent with the growth management strategy. By 2040, two-thirds of jobs and 40% of households are to be located in and around centers and corridors served by buses and light-rail transit.⁴

Over more than two decades, the Portland region has raised the bar of what it expects from TOD, and along with this it has continued to add new regulatory and financial tools to its TOD implementation toolbox—tools that are not generally available in other communities (see Table 17.1). The breadth of regulations and incentives directed at TOD naturally raises the question of what the region is getting in exchange. Is TOD overly subsidized and loaded with incentives, as some critics argue? Is TOD something the market would not produce on its own?

Portland's TOD planners answer these questions by saying that financial incentives, such as tax abatements, are provided to push the private market further than it would otherwise go with respect to features and amenities desired by public policy, achieving higher densities, better urban design, reduced parking, cleaner air, and greater housing affordability. The cities of Portland and Gresham are currently granting TOD tax exemptions. The cities of Hillsboro and Beaverton, and Washington County along the Westside light-rail line, however, have opted not to grant tax

abatements. Nonetheless, nearly 8,000 housing units have been permitted in the Westside Station areas in those three communities (see Map 17.1). This includes the National Association of Homebuilders' 1999 Planned Community of the Year, Orenco Station.

Evolution in Transit to Encourage TOD

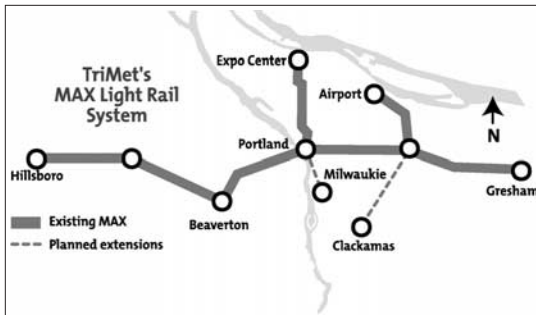
The Portland region's approach to TOD has evolved over the past 30 years as bus and rail systems have grown. Moreover, transit development strategies have evolved to reflect the region's growing interest in using transit as a community-building tool. The result is that today, transit and TOD planning are linked inextricably.

The roots of the region's progressive approach to land use and transportation integration can be found in Portland's celebrated 1973 Downtown Plan. The Plan envisioned a transit mall as the centerpiece of the downtown revitalization strategy. When the Transit Mall opened in 1978, it was the region's first major improvement in transit and the first installment in a signature strategy that would repeat itself over and over across the region—using transit infrastructure investments to achieve broader community objectives.

The evolution of the region's strategy has changed from TOD being largely an afterthought (with Portland's first rail line) to proactively expanding transit to build new communities (a primary rationale for building the Portland Streetcar). As local decision-makers gained experience using rail investments to achieve broader community objectives, the design, financing,

Table 17.1. Portland TOD Toolbox Snapshot

TOOL	BRIEF DESCRIPTION
<i>Statewide Tools</i>	
Urban Growth Boundary (UGB), 1979	A central tenet of Oregon’s Land-Use Planning Program. Ensures a 20-year land supply inside and preserves rural areas outside the UGB. Portland’s UGB includes 254,000 acres.
Transportation Planning Rule, 1991	Requires metro areas to set targets and adopt actions to reduce reliance on the automobile. Directs metro areas to implement land-use changes to promote pedestrian-friendly, compact, mixed-use development.
Transportation & Growth Management Program, 1993	Promotes high-quality community planning by providing local governments grants, Quick Response Teams, and Smart Development Code Assistance. Over \$6.7 million in grants from federal transportation funds were provided between 1993 and 2002.
TOD Tax Exemption, 1995	Allows eligible projects to be exempt from residential property taxation for up to 10 years. The cities of Portland and Gresham have utilized this program.
<i>Regional Tools</i>	
Regional Growth Management, 1994	The region’s 2040 Growth Concept focuses growth on transit centers and corridors inside a tight UGB. Local governments must comply with Regional Functional Plan requirements by adopting growth targets, parking maximums, minimum densities, and street connectivity standards.
TOD Implementation Program, 1998	Uses a combination of local and federal transportation funds to spur the construction of TOD. The level of involvement in 12 TODs has ranged from \$50,000 to \$2 million. The primary use of funds has been for site acquisition and TOD easements.
Metropolitan Transportation Improvement Program	Regionally controlled transportation funds targeted to implement the 2040 Growth Concept. Since 1996, the region has been flexing, on average, \$46 million annually in federal transportation funds in support of the growth concept.
<i>Local Tools</i>	
Westside Station-Area Planning, 1993–1997	TriMet, Metro and ODOT funded preparation and adoption of plans by local governments for the area within ½ mile of LRT stations. Plans included minimum densities, parking maximums, a design overlay for building orientation to transit, and prohibition of automobile-oriented uses.
Joint Development, 1997	TriMet has written down the value of project land reflecting “highest and best transit use” to leverage three innovative infill projects along the Westside LRT
TOD Tax and Fee Exemptions	The city of Gresham provides 10-year TOD tax exemptions and a 26.9% discount on traffic impact fees as an incentive to locate development in TOD districts.



Map 17.1. TriMet's MAX Light-Rail System, 2003. *Source:* TriMet.

and rationale behind Portland's growing rail network changed. Some milestones include the following:

- TOD was a novelty when Portland's *Eastside light-rail line* was designed in the mid-1970s. Consideration of TOD did not occur until after the alignment and station locations were fixed.⁵
- Informed by the Eastside experience, the approach for the *Westside light rail* was markedly different. In the late 1980s, the Westside alignment and station locations were designed specifically with future development in mind. As *Newsweek* put it in 1995, Portland is "building transit first, literally in fields, in the hope development will follow."⁶
- Planning for the *Portland Streetcar* in the early 1990s focused on spurring housing construction in the Central City, particularly in undeveloped areas like the River District. The Streetcar, which opened for service in 2001, has been described as a housing and redevelopment tool as much as a transportation project.
- TOD was a central feature in the financing of the *airport light-rail*

extension when planning for the line commenced in 1996. Bechtel Enterprises contributed \$28.2 million toward the \$125-million light-rail project. In return, Bechtel, in partnership with Trammell Crow, is to develop a 120-acre TOD at the entrance to the airport.⁷ To date, none of the expected 10,000 jobs and \$400 million in development has occurred since the line opened in 2001. A soft economy and the events of 9/11 are cited as reasons for the delay.

- Community revitalization and reinvestment have been guiding principles in the planning and implementation of the *Interstate light-rail line* (opened in May 2004). As part of the city of Portland's "Community Livability Implementation Strategy," the Interstate Corridor Urban Renewal Area will provide \$30 million of the \$350-million project cost.
- For the planned *I-205 light-rail segment* in east Portland, the region has again incorporated real-estate development into the design, construction, and financial strategy. TriMet's recent RFP seeks a contractor/developer to "effectively integrate land development opportunities into the final design and construction of the project."⁸

TOD in Portland

TOD implementation has accelerated since the opening of the region's second light-rail line (Westside) in September 1998. By TriMet's estimate, more than \$3 billion in new development has occurred within walking distance of the stations along the 38-mile system.⁹

Reflecting the role of TOD as a fundamental city-shaping tool in the Portland region, TOD planning and implementation is today being pursued at multiple levels. Agencies actively working on TOD include the state of Oregon’s Community Solutions Team, TriMet, Metro (the regional government), the Portland Development Commission (Portland’s urban renewal agency), and the cities of Portland, Gresham, Beaverton, and Hillsboro. A product of these collective efforts has been three new TODs—Center Commons, The Round, and the Pearl District. As discussed in this section, the path to becoming a TOD has at times been rocky, but as lessons are learned and put to good use, the region is poised to be both smarter and more measured as it pursues the next generation of TODs.

Center Commons

The Center Commons is a mixed-use, primarily residential community with 314 housing units located 5 miles east of downtown Portland (see Photo 17.1). The project is immediately adjacent to the south side of the Banfield (I-84) Freeway, about ¼ mile from the 60th-Avenue MAX light-rail station, which abuts the north side of the freeway.¹⁰ It is also within ⅓ mile of three Tri-Met bus routes (#19, #71, and #20). Downtown Portland is just 19 minutes away by light rail.

The Center Commons is notable in the Portland region for having gone the farthest in developing mixed-income and for-sale housing on a single site. In addition, it is the first major infill

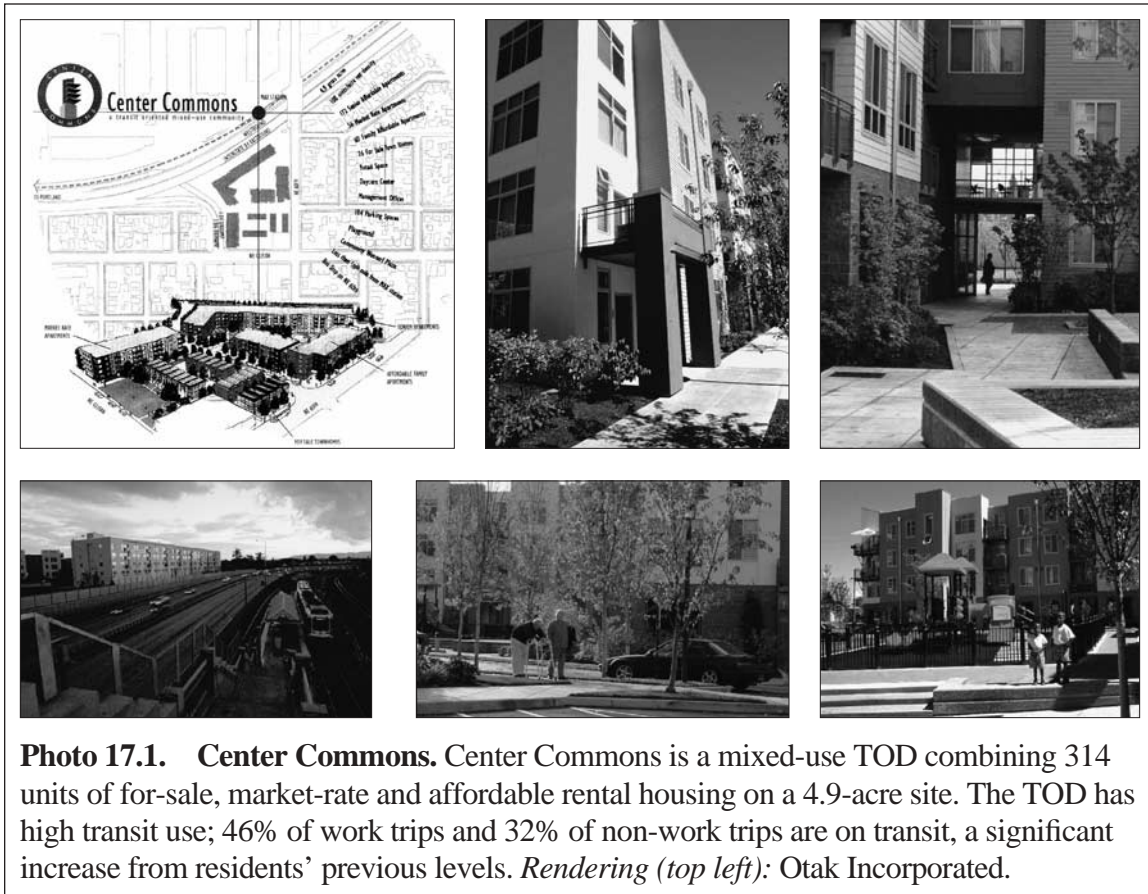


Photo 17.1. Center Commons. Center Commons is a mixed-use TOD combining 314 units of for-sale, market-rate and affordable rental housing on a 4.9-acre site. The TOD has high transit use; 46% of work trips and 32% of non-work trips are on transit, a significant increase from residents’ previous levels. *Rendering (top left):* Otak Incorporated.

TOD along the freeway section of light rail in the city of Portland. This section of the Eastside MAX parallels the freeway for 4.5 miles and was never given much TOD consideration. Thus, the project illustrates the challenges of trying to serve physically constrained light-rail alignments. Finally, this project introduced mixed-use infill to a neighborhood that is not well connected to other major activity centers and that has no recent precedent for mixed uses or infill.

Planning for a potential TOD project began in 1994, when the city of Portland and the local neighborhood convened meetings to discuss how the site could be developed. The Oregon Department of Transportation (ODOT) owned the site, but had ceased operations in the early 1990s. In the end, the neighborhood was receptive to the idea of building a TOD so long as it met the following conditions: pedestrian safety and access to MAX would be improved, the project would include open/recreation space, building heights would be compatible with the neighborhood, and the large oak trees on the site would be preserved.

In 1995, the Portland Development Commission (PDC), the city's redevelopment agency, conducted a feasibility study on developing the 4.9-acre parcel using Transportation Growth Management funds from the state. At the time, the parcel contained a vacant one-story office building and a large surface parking lot (used informally by MAX park-and-riders, and weekend carpoolers to regional recreation destinations). The study determined that a TOD project would fit well with Portland's growth management objectives: density near light rail, a mix of housing products,

housing affordability (part of the project would be earmarked for low-income housing), and, in redeveloping an old Department of Motor Vehicles lot, neighborhood revitalization. PDC purchased the site for fair market value from the ODOT in 1996.

There were no significant zoning obstacles to overcome, as the site was located in a designated Light-Rail Station Area in Metro's 2040 Plan. Transit-supportive zoning for the area had been adopted as part of the Transit Station-Area Planning Program in the early 1980s. Under the city's code, the site could include up to 500 housing units and had a 100-foot height limit. Off-street parking would be required. Other "assets" included proximity to a large local grocery store, a hospital, and a MAX station; a "stable" surrounding neighborhood; a relatively large site; and mature trees.

On the constraints side of the ledger, the site area had narrow sidewalks, congested arterial access, industrial uses on the other side of the freeway, and no precedent for high density or mixed uses in the neighborhood. In addition, local commercial rents were too low for new construction. Finally, access to light rail in the freeway median is not ideal, and the freeway generates lots of noise.

PDC held a development offering in 1996 and selected a proposal from Lennar Affordable Communities (LAC), who would become the master developer of the project. PDC selected LAC's proposal because LAC offered to construct more affordable housing than the preliminary development plan required, within the budget established for the project. PDC required that at least

40% of the constructed units be affordable, and the LAC proposal reserved 75% of the project's 288 rental units for residents making less than the area's median income.

As the final development program began to take shape, market-driven cost cutting and engineering considerations were threatening to reduce some of the transit-supportive elements of the project (e.g., mix of housing types and high-quality pedestrian connections). In February 1999, the Metro TOD program (see Text Box 17.1) purchased the site from PDC for about \$1 million (the appraisal value), subdivided the parcel, and established TOD easements, covenants and restrictions to ensure that local residents could use on-site pedestrian paths to access the nearby MAX station.¹¹ The property was then sold to three different development entities constituting the LAC team after the land value was reduced to \$250,000 to reflect changing market conditions.¹²

Environmental remediation on the site occurred shortly thereafter and included removing surface soil contamination to a highway roadbed, removing asbestos, and recycling the old concrete building as site fill. The developer paid for the remediation with assistance from ODOT, and project construction started in April 1999.

The Center Commons was completed in early 2001 and consists of four separate buildings, each serving a different clientele. Table 17.2 describes the buildings and their target markets.

In the words of project architects, "the focal point for Center Commons is a 'woonerf' space that congregates cars,

pedestrians, a playground, a bosque of trees, parking, drop-off zones, and generous sidewalks that are short-cuts to transit."¹³ In addition, mature oak trees were preserved by using context-sensitive design to set some buildings back from street. The master plan masses the largest buildings on the edges of the property facing the freeway and a freeway off-ramp. The design gives a sense of modest density, using the largest buildings on the edge as a "town wall" to act as a sound and visual buffer. The townhouses are particularly appealing and include three levels, two bedrooms, bonus rooms, birch and stained concrete floors, wood-frame windows, open metal stairs, glazed doors, metal decks, balconies, patios, and single-automobile garages.

Development costs for the Center Commons TOD totaled \$30 million. Funding sources included low-income housing tax credits, state of Oregon tax-exempt bonds, a PDC loan, a Fannie Mae loan, general partner equity, and an FTA TOD grant. Additionally, the project received a 10-year property-tax exemption.

The Center Commons project is one of the few Portland-area TODs in which "before-and-after" travel behavior has been systematically measured. A survey of the 288 rental apartments found that transit mode share increased nearly 50% for work trips (from 31% before to 46% after moving into the Center Commons) and by 60% for non-work trips (from 20% to 32%).¹⁴ By comparison, transit work-trip mode share for the city of Portland was 12.3% in 2000 according to Census 2000. While the high number of low-income households is a major reason for the high mode share in general (76% of

Metro TOD Implementation Program

To help simulate the construction of transit villages, Portland's regional government, Metro, operates the innovative TOD Implementation Program using federal transportation funds. The TOD Program operates through a series of cooperative agreements between Metro and local jurisdictions, and it utilizes development agreements with private developers. The primary use of TOD-Program funds is site acquisition. Operating with two full-time staff members, the Program has been directly involved in the funding of 12 different TOD projects with a level of involvement ranging from \$50,000 to \$2 million in site control and direct financial participation in TODs. Another Portland program is the CMAQ TOD Program run by the Portland Development Commission. This program was funded with \$3.5 million in CMAQ funds; the money is used to acquire land and design and construct transit amenities as part of TODs. A total of nine projects received funding.

According to Metro's Marc Guichard, "Real-estate development economics often make the dense mixed-use TODs sought in local plans infeasible in much of the region. A development rule-of-thumb is buildings should be constructed over parking and uses should be stacked when land is more expensive than a parking structure. In the Portland region, this rarely occurs if market dynamics are generating land values less than \$50 to \$60 per square foot. In fact, parcels near most of the transit stations in the region, outside downtown Portland, generate land values of only \$6 to \$10 per square foot."

"Metro's TOD Program pushes the development envelope by using public-private partnership techniques to secure more TOD-like projects than would otherwise be developed on a given site. For example, on a site where the free market would likely produce three-story apartments with surface parking and no retail, the TOD Program would push for five-stories with podium parking and ground-floor retail that may have four to five times more dwelling units and induce significantly more transit ridership."

Property is acquired, re-parceled, and planned, then sold with conditions to private developers for constructing TOD and/or dedicated to local governments for streets, plazas, and other public facilities where appropriate. In many cases, the land value is written down to cover the high development costs required to construct a specific TOD project. In such cases, a "highest and best transit use" appraisal is used to establish the sale price.

The program is the first of its kind in the United States to use flexible federal transportation funds for TOD implementation and has been instrumental in helping shape the joint development policies of the Federal Transit Administration.

Text Box 17.1

Table 17.2. Center Commons Buildings

BUILDING	UNITS AND USES	MARKET DESIGNATION
Center Village	60 apartments Leasing office Grandma's Place Daycare	Families at or below the median income (20% of units available to households below 30% of the area's median)
The Commons	172 apartments	Available to seniors making 55% of the median income or lower
5819 Building	56 apartments Ground-floor commercial (H&R Block)	Modified market rate (income restrictions)
Center Townhouses	26 for-sale townhouses	Market rate

respondents had an annual household income of \$25,000 or less), transit use has still increased significantly among new residents of Center Commons. The survey also found that the top reasons for moving to the project were new buildings, nice designs, and proximity to transit.

The project is parked at 0.6 spaces per unit, and parking in and around the project has been problematic. The tight ratios were justified in part by the high proportion of senior units in the project. The aforementioned survey found that almost 30% of respondents own fewer automobiles now than they did at their previous residence. Nevertheless, the project appears to be generally under-parked, and parking often spills into the adjacent neighborhood. Residents complain there is not enough visitor parking. All of the parking is above ground (some is located in podiums), which, according to some residents, makes the development feel denser than it actually is.

While the project is meeting or exceeding its transportation objectives, it has struggled financially. The lease-up for the market-rate apartments happened quickly and experienced no problems. One year after the 26 townhomes went

on the market, however, 12 remained unsold. The developer, Innovative Housing, Inc., was spending nearly \$20,000 per month covering mortgage costs. This practically destroyed the company. Virtually all parties agree that the townhomes are relatively inexpensive, given their high quality compared with other townhouse/condominium locations. Several reasons have been offered for the poor absorption, including

- *Location:* For its location, the project's density and design may be ahead of the market. The neighborhood and the distance from downtown—5 miles—may not be attractive to younger buyers. Also, the townhomes face two busy streets.
- *Market:* According to Innovative Housing, Inc., too many townhomes were built. This was a concession to neighbors who wanted more owner-occupied units in the project.
- *Tenant mix:* Proximity to the affordable units may have been a deterrent to attracting home buyers.
- *Price:* The goal was to make the townhomes affordable to first-time

buyers, but costs escalated rapidly because of a changing regulatory environment (i.e., building code changes; separate design reviews by the city, PDC, and the state; slow final permitting; construction delays; and construction cost overruns).

- *Design:* The contemporary design, while awarding-winning, may not be appealing to everyone. Two levels of stairs may be difficult for seniors, and some contend that the project is not “kid friendly.”
- *Project management:* A developer agreement was entered into between PDC and Lennar Company. Innovative Housing, Inc., which contracted with Lennar, did not have enough control over the designs and costs and bore the brunt of the financial problems.

The last townhouses were finally sold for prices from \$165,000 to \$175,000, below the initial level of \$200,000.

The initial lease-up of the senior-designated apartments was also problematic, as many seniors indicated that they disliked living in proximity to families with children. The apartment units closest to the highway and farthest from the play areas were the first to rent. The units facing the play area do rent out, but senior turnover has been high, and non-seniors are now filling these units (as allowed in the development agreement). This change in resident mix may have exacerbated the parking problems. As the project mix included fewer seniors, the assumed lower parking ratios did not match the changing reality of the project.

In closing, the overall goals set for the Center Commons have been largely met or exceeded. The neighborhood got an attractive development where there had previously been an empty eyesore, the project met the increased density targets for the site, transit use for work and non-work trips has increased markedly, the project has helped to revitalize the immediate neighborhood, and the project provides a range of affordable-housing opportunities. The project also incorporates attractive designs.

At the same time, the project has fallen short of its financial targets. According to one of the development partners, the private developers have struggled financially, and only PDC has not lost money on the project so far. Financially, the project may have tried to accomplish too much on a small site.

Regardless, at the end of the day, the community has a well-performing, well-designed mixed-income TOD. Whether others can afford to copy Center Commons without large subsidies remains to be seen.

The Round

The city of Beaverton, located 5 miles west of downtown Portland, is in the midst of building an entire community and high-density town center around the Beaverton Central light-rail station. Called “The Round” for the crescent-shaped buildings that enclose the station area, the project experienced significant early setbacks and has been a long time in the making. Now, however, it is on course to be the most intensively developed station on the Westside MAX line and is widely anticipated to become “the heart of downtown Beaverton.”

Located 23 minutes from downtown Portland on light rail, The Round is a pioneering project in a city with no precedent for mixed-use infill development (see Photo 17.2). On completion, the project will include 240 market-rate housing units, upscale restaurants, 125,000 square feet of retail uses, 375,000 square feet of Class A office space, and an 860-space parking garage.¹⁵ Its extensive public plaza, located between crescent-shaped buildings and the station platform, gives the project a distinctively European design flavor. The plaza, which includes an amphitheater and water fountain, offers views of Mt. Hood and serves as the focal point of the TOD. Covering 8.5 acres, 4 acres of which are buildable, The Round will be one of the largest building complexes in Beaverton.

The project was initiated by the city of Beaverton, which owned the site, formerly a sewage treatment plant. Downtown Beaverton is designated to become a Regional Center in Metro's 2040 Plan, and development on this key parcel was envisioned to create the city's highest-density node within the Center. A significant TOD project would also strengthen the connection between light rail and the city's traditional downtown, which is also part of the Regional Center, but is planned to remain a lower-density special district.

The city released an RFP to develop a project in 1997. The winning developer proposed to build a mixed-use project with 230,000 square feet of office and retail space, 100 to 150 townhouses and apartments, an 800-space parking



Photo 17.2. The Round. The Round stands out as a pioneering suburban downtown mixed-use infill project.

garage, a 50,000-square-foot theater center, and a 100-room hotel. The entire project was initially valued at \$50 million, and the first phase was expected to open in the fall of 1998. From the outset, the project was expected to be costly because of relatively high densities, high-quality pedestrian amenities, parking structures, large foundations and stem walls, and fire sprinklers.

To facilitate the project, TriMet relocated its light-rail station from a nearby arterial road to the center of the site to enhance access to the TOD, even though this made the station somewhat more isolated from existing development. Federal funds of \$800,000 were secured for site improvements, new road access into the site, and construction of a public plaza. An additional \$440,000 in CMAQ funds was used for pedestrian improvements.

The developer was expected to build infrastructure for the site and turn it over to the city. The city tried to expedite development approvals, dedicating a full-time staff inspector to the project. The city's most significant contribution was to provide tax abatements totaling \$3 million over 10 years. This was to reimburse the developer, who unexpectedly had to invest \$3 million of his own capital to stabilize subsurface soils consisting primarily of "industrial muck."¹⁶

The developer began construction using his own equity, but was subsequently unable to secure take-out and permanent financing. Construction stopped completely in 1998 when the developer went bankrupt, owing \$7 million to creditors. Two partially constructed buildings sat dormant for more than 3 years.

The primary reasons for the initial project failure were the following:

- The cost to completely stabilize the ground for dense development was significantly higher than expected.
- The developer became overly attached to his comprehensive program and tried to finance the whole development at once, rather than finance individual phases, which is more typical (but adds the risk of lender-required changes). The rules of mixed-use finance make this funding approach virtually impossible to pull off.
- The city did not realize that the developer had not lined up financing, but rather had only secured letters of credit. In retrospect, it may not have selected the developer.
- To get cash into the project, plans for very dense apartments were changed to more expensive condominiums. At the time, there was no market precedent for high-end condominiums, and only a limited regional precedent (the Pearl District in downtown Portland was only beginning to emerge). In addition, the site is surrounded by automobile-dealer parking lots, which appealed to few prospective condominium buyers. In the end, this last-gasp effort turned out to be a losing strategy.

In 2001, the city and Microclimates, Inc., bought the property out of bankruptcy court. The property was sold to a new developer, Dorn Platz Properties, in 2002, for \$2.3 million.¹⁷ Dorn Platz, experienced in building high-quality commercial projects in Southern

California, completed construction of the buildings, but also changed the overall development program to create more intensity around the station. The new developer is getting no subsidies from the city.

The Round is being constructed in phases, and a “fluid” development program will determine what gets built when and where on the basis of changing market opportunities and tenant preferences. On completion, however, the development must meet the overall program goals described earlier.

Buildings and structures open for use are listed below by location:

- South of the station platform: A 5-story, 120,000-square-foot office building with 21,000 square feet of ground-floor retail space is 90% leased. To meet program goals, housing may be added later to the top of the building.
- North of the station platform: The Crescent and Promenade buildings have 65 condominium units situated above 10,000 square feet of ground-floor retail space. Forty units are open in the two buildings, and 10 have sold thus far. The condominiums are priced at \$170 to \$200 per square foot and include a mix of traditional and “loft” units with two-story ceilings.
- North of the station platform: There is public plaza with wide walkways, seating areas, landscaping, and small waterfalls.

The city has also made streetscape improvements to enhance pedestrian

connections between the buildings and the station. Over time, improvements to local streets will better connect the project to the traditional downtown and to Canyon Boulevard, a major arterial nearby.

Under construction (south of the station) are a 24-Hour Fitness Center that will be topped with 54 condominiums and a four- to five-story, single-use parking garage. Other buildings planned for the site include another office building behind the Crescent/Promenade buildings and a five-story office building across the tracks from the existing five-story office building. Both office buildings may include housing on top. South of the tracks will be two more six- to seven-story office buildings with ground-floor retail space. Both the theater and hotel have been dropped from the original developer’s plan due to lagging markets. At full build out, The Round will be an \$80- to \$100-million development.¹⁸

While the overall development program has intensified significantly since the initial groundbreaking, the amount of total parking is not likely to increase proportionately, making the project even more “transit-friendly.” Like the entire development program, the parking requirements are a work in progress, and the developer is actively seeking to reduce the amount of structured parking provided.¹⁹ The parking plan is still in the approvals process, but the developer has proposed implementing shared parking, valet parking, and reduced parking ratios.

To conclude, Beaverton is in the midst of building an “urban island in a suburban sea,” and a reborn TOD is

moving forward. Even while the regional development market is weak, the market for TOD in Portland is now established and strong, benefiting The Round and other planned TOD projects.

In retrospect, it appears that early project setbacks were due primarily to the inexperience of the initial developer and the city and poor execution by the developer. The initial developer had never completed a project as large or complex, and the city should have known the status of the developer's financing. In addition, the city could have advocated for program changes to move the project forward or contributed subsidies.²⁰

Why is The Round likely to become successful? Since groundbreaking in 1998, both the Pearl District in downtown Portland and Orenco Station in suburban Hillsboro have established markets for "urban" condominium living and have demonstrated the success of mixed-use communities. The Round is no longer an urban pioneer and is positioning itself to become an "edgy" Pearl District (at about half the price per square foot). In addition, the new developer is more experienced, sophisticated, and patient and thus is more likely to construct a successful project, albeit over a longer time frame.

The Pearl District

The creation of the Pearl District is the most dramatic transformation of downtown Portland in the last 20 years. "The Pearl" is 90 city blocks bounded by I-405 to the west, West Burnside Street to the south, NW Broadway Street to the east, and the Willamette River to the north (it is north of and adjacent to Portland's COB). Once an "incubator" for start-up

businesses in abandoned warehouses, and home to a large artist community, the Pearl District is now an emerging mixed-use neighborhood of upscale loft housing, parks, art galleries, boutiques, cafes, and restaurants. In early 2001, 1,600 condominiums and apartments were under construction or permitted—a pace that has continued unabated.²¹ The district is one of Portland's hottest neighborhoods and has fueled the downtown's largest housing boom since the 1905 Lewis and Clark Centennial Exposition.

A major catalyst to the transformation of the Pearl District was the construction of the Portland Streetcar, the first modern streetcar system to be built in the United States. As in many cities, streetcars were a fixture in Portland in the 1950s. In the Pearl District, the streetcar investment has been strategically used to leverage large-scale redevelopment of a functionally obsolete warehouse and industrial district, as well as brownfields formerly owned by Burlington Northern Railway. In this case, the streetcar has been equal parts housing and transportation tool, as streetcar construction was explicitly linked to high-density development via an innovative developer agreement. As a result of this agreement, the average density of the Pearl District is now 120 housing units per acre, the highest in the city. The Pearl District had only a handful of residents in 1990 and 1,300 in 2000. At build out, it will be home to over 10,000 residents in 5,500 housing units, and 21,000 jobs. The area will also have 1 million square feet of new commercial and retail space.

Table 17.3 provides a snapshot of some of the buildings and projects that have been built to date. In this section, the

Table 17.3. Snapshot of Pearl District Development Along Portland Streetcar Line²⁴

Project Name	Value (000's)	Year Completed	Residential Units	Commercial Sq. ft	Description
Pearl Court	\$10,000	1997	199		Apartments
Pearl Townhomes	\$4,000	1997	10		Townhouses
McKenzie Lofts	\$15,500	1997	67	11,500	Condo & ground-floor retail
Riverstone	\$25,000	1998	123	10,000	Condo & ground-floor retail
Pacific Northwest College of Art	\$1,000	1998		40,000	Renovation—art college
Powell's Books	\$5,000	1999		50,000	Expansion & renovation
Wieden and Kennedy	\$20,000	1999		200,000	Full block renovation
North Park Lofts	N/A	1999	66		Condo
Johnson Townhouses	\$7,000	2000	13		Townhouses
Park Northwest	N/A	2000	18		Condo
Pearl Townhouses	N/A	2000	10		Townhouses
River Tec	\$10,000	2000		35,000	Office renovation
Tanner Place	\$31,000	2000	121	12,000	Condo & ground-floor retail
Lovejoy Station	\$13,500	2001	181		Apartments
Vollum Natural Cap. Ctr.	\$8,000	2001		70,000	Office/retail renovation
Workspace Lofts	\$1,100	2001	N/A	N/A	Workspace Lofts
The Gregory	\$29,500	2002	145	47,000	Condo/Retail/Office
Streetcar Lofts	\$28,000	2002	139	9,000	Condo & ground-floor retail
Marshall Wells Lofts	\$34,000	2002	164		Condo
Mazana Restaurant	\$1,950	2002		N/A	Building renovation
9th & Hoyt Bldg	N/A	2002		N/A	Office
Brewery Blocks	\$300,000	2002–04	367	673,000	Multi-phase mixed-use housing, office, retail
Bridgeport Condos	\$35,000	2003	123	8,000	Condo & ground-floor retail
Park 13	\$20,000	2003	139	N/A	Apartments & retail
The Edge / REI	\$27,000	2003	126	35,000	Condo & ground-floor retail
Park Place	\$47,000	2004	124	15,000	Condo & ground-floor retail
10th & Hoyt Apts.	\$20,300	2004	178	15,000	Apartments & retail
Burlington Tower	\$22,000	2004	163	10,000	Condo & ground-floor retail
Elizabeth Lofts	\$38,000	2004	172	14,500	Condo & ground-floor retail
<i>Total</i>	<i>\$753,850</i>		<i>2648</i>	<i>1,255,000</i>	

planning and build out of the Pearl District as a whole is discussed. Readers should refer to other sources for detailed descriptions of individual projects within the Pearl District.²²

Historically, the Pearl District was marshland along the Willamette River, north of an emerging downtown Portland. The area was filled to create land for expanding railroad yards and warehousing, and, by the early 1900s it had become the transportation hub of the city. Transit, storage, manufacturing, and ancillary uses proliferated, and the area prospered as a warehouse and industrial district for 50 years.

Beginning in the 1950s, the area began to reflect central-city dynamics witnessed in many other places. Transport shifted away from rail and water to highways and air, resulting in an industrial district that was increasingly vacant and marginalized. Low rents attracted artists and start-up businesses, and dwelling units were created legally and illegally. Over time, the area became an eclectic mix of automobile shops, specialty outlets, and art galleries.

Planning for the area began with the 1972 Downtown Plan. The Downtown Plan recognized the important supporting role of the north downtown area as an industrial and distribution center. At the same time, the Plan also acknowledged changing development patterns and recommended replacing some industrial uses with mixed-use development. The Plan advised that density limits and height and bulk restrictions (throughout the downtown generally) should enhance skylines, protect views and vistas, and avoid

adverse environmental impacts.²³ Finally, the Plan called for a new transit “circulator,” to facilitate short downtown trips, and new incentives to increase downtown housing, safeguard historic buildings, provide covered walkways, and preserve open space.

In the early 1980s, a series of city and consultant reports documented the changing character of the industrial area, speculated on alternative futures, and called for the city to undertake a concerted planning effort for the area. These reports generally noted that in the rail yards and warehouse area redevelopment was likely, and they suggested that a broad economic/market analysis be undertaken prior to re-use for industrial or commercial purposes.

The 1988 Central City Plan built on the work of the Downtown Plan, extending its geographic scope and expanding its range of policy concerns. It established the Central City Plan District, which includes the Pearl District. The Central City Plan illustrated the intended changes for the industrial area from rail yards to a residential/commercial area. To facilitate this transformation, the Plan

- retained existing industrial zoning but allowed central employment zoning when services could be provided;²⁵
- adopted residential district zoning regulations; and
- allowed use of FAR residential bonus provisions.

How the actual transformation would take place, however, was unclear.

In the early 1990s, private citizens and landowners in the area convened to craft a vision statement for the River District. (At the time, the Pearl District was not officially recognized as such and rather was part of a large River District, which generally shared the same boundaries, except that it extended further east to the Willamette river.) The vision statement noted that the River District should become a vital urban community of connected, diverse, and mixed-use neighborhoods. The vision statement also called for the District to accommodate a significant portion of Portland's expected future population growth. The Portland City Council acknowledged the River District vision statement in 1992 and asked the city agencies and the community to craft strategies for its implementation.

The resulting River District Development Plan, which provides a development and public finance framework for the area, was endorsed by the Council in 1994. The Council then directed various city offices to undertake specific actions toward implementing the Development Plan. The Bureau of Planning, for instance, revised land-use regulations to support the Plan and adopted special River District design guidelines.

To execute the plan, in 1997 an innovative Master Development Agreement was entered into by the city and Hoyt Street Properties (HSP), the owners of 40 acres of contaminated rail yards in the heart of the River District.²⁶ This area (the western part of the River District) officially became known as the Pearl District. With the Hoyt Street Yards under single ownership, the city recognized a unique opportunity to pursue large-scale

redevelopment. In entering into the agreement, the city's main goals were to preserve historic buildings, increase density to create vibrancy and attract business, promote transit use, and support existing and new arts organizations. The essential elements of the Development Agreement were

1. *Housing:* Proposed housing densities were significantly higher than for anything built previously. The developer agreed to increase the minimum density from 15 to 87 units per acre when the city commenced removal of the Lovejoy Viaduct that crossed the abandoned rail yards. Also, on completion of the Portland Streetcar, minimum densities would increase to 109 units per acre. Finally, when construction commenced on the Pearl District's first park, density would rise further, to 131 units per acre.

In addition to meeting density requirements, the developer also agreed to help meet the city's housing-affordability goals. At least 15% of all rental units and 10% of all for-sale units must be 700 square feet or smaller. And at least 15% of the total housing units must be affordable to families earning up to 50% of the area's median family income (MFI), and 20% of the units must be affordable to families earning up to 80% of the area's MFI. HSP's commitment is predicated on the availability of public financial assistance, recognizing that these units typically require public subsidies. If HSP does not build affordable housing, the city can purchase up to three ½ blocks of property for that purpose.

2. *Parks:* HSP agreed to donate 1.5 acres of land for new parks in exchange for the city's commitment to build them. In addition, the city has the option to acquire up to 4 acres for public open space.
3. *Infrastructure:* Transportation improvements were essential to develop the area. The agreement stipulated that HSP would donate the right-of-way for all local streets, sidewalks, and utilities (6 acres) at no cost. HSP also paid \$121,000 to remove the Lovejoy Viaduct and \$700,000 towards the Portland Streetcar.

To fund the city's obligations, an urban renewal district was formed in 1998, allowing for tax-increment financing. In the first 5 years of its existence, over \$70 million have been spent for removal of the Lovejoy Viaduct, construction of the Portland Streetcar, construction of affordable housing, and the development of Jamison Park and other amenities.²⁷ A prime reason for being able to spend public funds quickly was that public expenditure plans had already been agreed on in previous planning efforts. Since 1998, the assessed value of the area has doubled to \$719 million, \$200 million more than the city anticipated.

Finally, many affordable housing projects in Portland get 10-year property-tax abatements. While the abatements are loosely related to projected price levels and affordability, their primary purpose is to ensure denser development than the market would otherwise support. In this case, when the density requirements were established in the developer agreement, some parties fully expected HSP to "lose its shirt,"

prompting two of the original partners to back out of the agreement.

Two major public works projects proved to be the kindling that sparked major redevelopment: the Portland Streetcar and the Lovejoy Viaduct removal. The main goals of the Streetcar were to attract downtown housing and ease parking and traffic hassles. The Streetcar began service in 2001, running 2.4 miles through downtown Portland and the heart of the Pearl District. The Streetcar connects the Pearl District to downtown offices, the cultural/arts district, Portland State University, and other upscale neighborhoods. Today, ridership exceeds 5,000 daily passengers. Most of the route lies in a fareless zone; otherwise, trips cost \$1.25 per ride.

The cost of constructing the Streetcar was \$57 million (for seven cars, track and stations). It was financed using non-traditional, non-FTA sources, including bonds backed by city parking revenues, TIF funds, and one-time payments from property owners along the route who voted to "tax" themselves (i.e., a benefit assessment). The Streetcar is currently being expanded three-quarters of a mile to the south, to RiverPlace, a mixed-use development on the bank of the Willamette River. Eventually it will go to the planned South Waterfront District.²⁸

Several Pearl District developers and real-estate brokers have praised the Streetcar for transforming the area.²⁹ According to Debbie Thomas, the Pearl District's most successful broker, the Streetcar

is quieter, more predictable, and creates less pollution than buses on the same route. The Streetcar has helped solidify the connection

between Northwest Portland and downtown. It's friendly, easy, and not super fast, but I don't think it was intended to be.

Pat Prendergrast, a one-time HSP partner, calls the Streetcar one of the most significant public projects that shaped the Pearl District. And Homer Williams of HSP says,

I think the streetcar is key, because in reality you don't have to do everything—school, library, parks. If you buy into the Streetcar, you're never 10 or 12 minutes away from anything. That's true urban thought process, but you have to buy into the Streetcar.³⁰

Since 1998, about 2,700 housing units and over 1.2 million square feet of commercial space have been built in the Pearl District. Rather quickly, the Pearl

District has evolved into a trendy, urban area replete with restaurants, bookstores, art galleries, boutiques, and other specialty shops with attractive street presence. The area has “gentle” walking blocks (e.g., short distances, street furniture, plantings, and awnings) that make it easy to get around and an inviting place to linger. Notable amenities are Jamison Park (with a programmable fountain), “modernist” totem poles that support the Streetcar catenary wires (public art), several small pocket parks, a community center, and space for a public market. (Views of the Pearl District are shown in Photo 17.3.)

Four progressive developers have been active in the Pearl District. The first was Al Solheim, who noticed that the architecture of the existing warehouses was well suited for the kinds of loft spaces found in New York and Chicago.



Photo 17.3. The Pearl District. The Pearl District is fast becoming the Portland region's densest and most successful TOD. Planned around the Portland Streetcar, over \$750 million in transit-supportive projects have been leveraged along the line in the Pearl District since 1997.

Solheim completed several historic loft renovations (e.g., the Chown Pella Lofts) and established the market for urban living that other developers later built on. Solheim also renovated an industrial building so that the Pacific Northwest College of Art could move to the Pearl District in 1998, energizing the arts scene.

HSP has the most at stake. HSP has developed five blocks of new apartments, condominiums, and retail space, and three more are under construction. HSP also owns 12 additional blocks that will be built as market conditions warrant. As called for in its agreement with the city, HSP project densities have changed over time. An example of an early low-density project (about 20 units per acre) is the Johnson Street Rowhomes. Middle-phase projects (about 110 units per acre) are Tanner Place and the Riverstone Condominiums. More recent projects are the Park Place Condominiums and Bridgeport Condominiums (more than 130 units per acre). Currently, the “Block 16” project is slated at 150 units per acre.

Building on the success of HSP, John Carroll, an original HSP partner who withdrew from the developer agreement, is pursuing several projects on his own. These are south of Hoyt Street, where bigger, bulkier buildings are allowed (massing of 6:1 “bonusable” to 9:1). John Carroll mixed-residential projects include the The Gregory, The Edge, and The Elizabeth.

Lastly, Gerding/Edlen is building a “mega-development” on the former site of the Blitz-Weinhard Brewery. The \$300-million Brewery Blocks project covers five blocks in the Pearl District’s

southwest quadrant, and, at build out, it will include 200,000 square feet of urban retail, 400,000 square feet of Class A office space, 200,000 square feet of residential loft space, and 1,300 parking spaces.³¹ Two historic structures, the former Brewhouse and the Armory, are being retained and integrated into the redevelopment (with buildable densities being transferred to other adjacent parcels). When complete, the project will provide a highly urban transition between the CBD and the Pearl District.³²

During the 1970s and 1980s, downtown Portland witnessed the construction of a few office towers over 20 stories, but rarely saw residential housing over 7 stories. Now, over half of the residential buildings in the Pearl District are 10 stories or higher. Densities are now exceeding those required by the developer agreement; the Pearl District is a very strong market for urban housing. Seeking to capitalize on the demand for large buildings (175 feet and higher), HSP has approached the city to change the zoning north of Hoyt Street, where the allowable massing makes it difficult to build tall buildings.³³

The Pearl District’s housing is now the most expensive in the region on a per-square-foot basis, surpassing even the lakefront trophy homes in some close-in suburbs. Loft condominiums in the Pearl District go for between \$280 and \$320 per square foot, compared with \$200 per square foot (including land) for lakefront property in other upscale neighborhoods.³⁴ Most condominium projects are sold to new owners before they open. Of the 1,200 loft condominiums in the Pearl District, only 6% are currently available for sale.

Apartment rents generally range from \$800 to \$2,000 per month.

In keeping with the city's affordable-housing target, three projects serve low- and very-low-income households (seniors and others) and are rent controlled. The Housing Authority of Portland built Pearl Court (194 units) and Lovejoy Station (177 units), in which all the units are below market rate. In addition, a new PDC project, Station Place, will include an affordable-housing component.

Residents in the Pearl District tend to fit the demographic profile found in other Portland area TODs. They are childless—either young people seeking smaller lofts, older professionals looking for an urban lifestyle with little upkeep (“downsizing boomers”), or retiring seniors. This variety of homeowner types has contributed to the depth of the market.

Some observers are now questioning how long developers will be able to find buyers who can afford to pay for cachet in a down economy. Some softening of the market for \$550,000 to \$750,000 condominiums is occurring. These units generally have 2,000 square feet of living space. Smaller units, with 600 to 800 square feet, however, are continuing to sell quickly and are appreciating 8% to 12% annually.

Most market-rate units built so far have been condominiums, and the market for expensive apartments is still relatively untested. Four buildings with 730 apartment units, currently under construction, will target the high end of the market, with rents at around \$1,000 for a one-bedroom unit. The developers are confident that there is sufficient

demand to absorb these high-end units, as “there is no other location like the Pearl in the City.” The Pearl District's major developers contend that the area, in fact, is constrained in supply, not demand. New tenants are not likely to be found in the downtown core; rather, they will be people who would otherwise locate in the suburbs. If the apartment market is not deep enough, surplus units will be converted to condominiums.

While short-term surpluses are likely and are normal in housing construction, most developers active in the area think that the “boomer” market, in particular, will be strong for at least another 10 years, when the Pearl District will largely be built out. As it now stands, the demand for downtown living seems to be insatiable.

Of all the retail markets in the urban core, the Pearl District is currently the strongest in terms of high demand and low vacancy rates. Annual triple-net rents are currently \$22 to \$40 per square foot. Some downtown retailers are adding locations in the Pearl District, and some are moving to the Pearl District from downtown and other districts.³⁵ Retailers are attracted to the fast-growing residential base, the Streetcar, and the interesting blend of new and old structures. Almost constant redevelopment is creating opportunities for retailers who have wanted to locate in the Pacific Northwest.³⁶

One potential problem could be too much planned retail space. Some investors question whether it is feasible to ring every residential building with retail on all four sides, as required by zoning. Retail space, they fear, will outstrip area population growth; already, the Pearl District is cannibalizing retail

from other shopping districts. Others argue that the liberal provision of ground floors pushes down rents and allows a more interesting and diverse set of local retailers to gain a market foothold.

Revitalization and development of the Pearl District has been a success on virtually all fronts. Underutilized land and buildings have been reclaimed, a new type of housing product has been successfully introduced, retailers have a greater variety of locations and building types from which to choose, and the Streetcar is popular among residents and visitors.

Perhaps the only “blemish” so far is housing prices that are increasingly out of reach of the working class. To date, HSP has actually exceeded its affordable housing targets, and the city has not exercised its option to buy land for this purpose. At the same time, some contend that “affordable housing” (affordable up to 80% of MFI) has been too loosely defined, and that prices for market-rate units are too high for the average consumer. High rents have displaced many of the original artists and businesses that once gave the Pearl District its “edgy” character.

PDC continues to subsidize projects in the Pearl District,³⁷ and a debate has emerged about the need to continue offering property-tax waivers to developers at the same time that condominiums sell for over \$500,000 in some buildings, and two-bedroom units rent for \$2,000. Tax-break critics have called the District an exclusive “yuppie theme park.” Others argue that incentives are necessary to increase density beyond what it would otherwise be in order to relieve growth pressure on the fringe and keep growth out of established

neighborhoods. Encouraging housing downtown and near transit, they argue, is a significant public good.³⁸ The issue is far from resolved, but it is receiving increasing attention as tax breaks are also proposed to stimulate development in the North Macadam District, where a development agreement is currently being negotiated along with planned expansion of the Streetcar.³⁹

The Future of TOD

TOD has taken center stage in the Portland region’s growth management strategy. The Portland TOD story is actually a community-building story more than it is a TOD story. The jurisdictional support TOD enjoys in the region is due to community leaders who have learned to use TOD as a tool to help achieve broader quality-of-life objectives. TOD in Portland has become a means to the end of creating a livable community, not an end in itself.

As the region has gained experience, attention has focused on crafting regulations and incentives that promote TOD. One might ask, “Have these tools and the market met the region’s expectations?” Based on the experience so far, the answer has to be “yes.” Still, projects like The Round and Center Commons reveal some of the stumbling blocks that can be encountered in raising the bar for what is expected of TOD. Not all TOD projects have gone smoothly, and the private market on its own probably could not replicate the types of TOD taking form. At the same time, planners who visit the region in search of lessons generally find Portland’s TODs to be dense, well-designed, and well-integrated with their surroundings, as well as active, vibrant places. Overall,

Portland's TODs seem to be working as well as or better than expected.

To date, Portland has experienced two major phases of TOD implementation. The first entailed building the institutional capacity to plan for TOD; that is now well established. The region is currently in a second phase of grooming sophisticated developers, lenders, and contractors to build TOD. While some initial developers have suffered setbacks (as is typical for the pioneers of any new product), current and future developers are benefiting from the experience, and TOD projects today generally proceed smoothly.

Whereas TOD is still unique in most other parts of the United States, in Portland it has become almost a way of life. Virtually every light-rail station has seen TOD activity. Together, they form a critical mass of TOD. Some are beginning to ask, however, "Is there too much TOD in the region?" and "How deep is the market for TOD?" At present, these questions are probably unanswerable. Despite occasional hiccups, today's TODs continue to enjoy healthy demand. The Pearl District commands the highest per-square-foot residential sales prices in the region. Residential sales prices at Orenco Station are running 20% to 30% above the local area average. Commercial occupancies at Orenco have been high, and rents are estimated to be roughly 10% higher than surrounding properties.⁴⁰

The success of TODs like the Pearl District and Orenco Station also has a darker side. Perhaps the most significant criticism that can be levied against Portland's TODs is that they need to do more to promote affordability. Affordable TODs such as Center Commons represent

a small part of the region's total TOD inventory. But this is hardly a problem unique to TOD; without incentives, new construction is always expensive.

That said, Portland's long-term growth management strategy depends critically on people and employers agreeing to locate in TODs for the next 30 years. It is for these markets that many TODs are being envisioned today. Thus, a final evaluation will be more appropriate in 30 years, when the region's "experiment" is nearing maturity.

In speculating on the future of TOD in the region, Portland's TOD planners observe that the real-estate demand for TOD was not created by the region's regulatory framework. The market for TOD in Portland and elsewhere is being driven by larger demographic changes and customer preferences for urban living. Portland's regulations aim to ensure that the underlying demand will be met.

The prospects for these trends to play out in the future seem encouraging. Portland is becoming a national destination for a young, creative professional class that is attracted to TOD.⁴¹ Thus, the region continues to promote TOD as part of its long-term economic development strategy. Similarly, Portland seems to have only scratched the surface of the retiring boomer market. In the end, TOD in Portland may become very prevalent and simultaneously less "visible" as it becomes more of the rule, not the exception, for new development.

Conclusions and Lessons

The Portland region is unique in the United States for its scale, extent, and

sustained commitment to TOD. While Portland's ability to create innovative planning regulations seemingly knows no bounds, planning does not create real-estate demand. The construction of Portland's suburban and urban TODs is being fueled by consumers purchasing the products built by suppliers, that is, the invisible hand of the marketplace.

Given the complexity and breadth of the undertaking, it seems unlikely that any other region will choose to replicate Portland's approach to TOD. The lessons learned from individual projects and the evolution of the Portland approach, however, continue to have application to other communities as they chart their own course for TOD. Among these are the following:

- *Leveraging transit infrastructure can help achieve broader objectives.* Since the Portland Transit Mall opened in the mid-1970s, the region has repeated its signature strategy over and over—using transit investments as a means to the end of accomplishing multiple goals. Portland's policymakers see TOD as providing a sustainable alternative to the automobile, enhancing downtown revitalization, containing sprawl, and revitalizing communities.
- *The "early bird" catches the TOD.* The earliest decisions on the planning and design of light-rail systems shape the opportunities for TOD. Portland's approach to the design, location, and planning for major transit investments has evolved with each rail line in order to leverage opportunities for TOD. TOD has evolved from being an afterthought with the first light-rail

line to the core rationale behind the Portland Streetcar.

- *Continuing to raise the bar for TOD is important.* Greater Portland's policymakers have not been content to simply channel growth next to transit. They have sought to raise the density, lower the parking, increase the quality of design, and increase the mix of uses in TODs. Whether developers will build these enhanced TODs on their own or will hold out for continued financial and regulatory incentives remains an open question.

Notes

- ¹ For information about numerous TODs throughout the Portland region, see TriMet's *Community Building Sourcebook* at <http://www.trimet.org/inside/publications/sourcebook.htm>.
- ² G. B. Arrington, 2000, "Reinventing the American Dream of a Livable Community: Light Rail and Smart Growth in Portland," (paper presented at 8th Joint Conference on Light Rail Transit Investment for the Future, Transportation Research Board and American Public Transportation Association, Dallas, Texas, November 11–15, 2000).
- ³ Portland Metro, "The Portland Region: How Are We Doing?" (report brochure) March 2003.
- ⁴ G. B. Arrington, *At Work in the Field of Dreams: Light Rail and Smart Growth in Portland*, (Portland, Oregon: TriMet, September 1998).
- ⁵ Planning for the Eastside line to Gresham started in 1975. The line opened for revenue service in September of 1986. Planning for the Westside line to Hillsboro started in the late 1980s after a lapse of many years. The project opened for service in 1998.
- ⁶ G. B. Arrington, 2000, op. cit.
- ⁷ D. Hamilton, "Three Men, One Dream," *Portland Tribune*, September 7, 2001, p. 1.

- ⁸ TriMet, “1-205 Segment Request for Proposal—Step 1” (Portland, Oregon: July 2003).
- ⁹ TriMet, “Facts 2002” (Portland, Oregon: 2002).
- ¹⁰ The station is accessed via 60th Avenue, which crosses over the depressed freeway, and has stairs going down to the platform.
- ¹¹ PDC’s primary roles were to secure the site for development, manage the project, and help secure other types of public funding. PDC did not want to invest significant funds in the project, as it is not located in a TIF district, and the agency was financially constrained.
- ¹² Construction costs throughout the region were increasing rapidly in a hot market.
- ¹³ Otak Incorporated, “Transit-Oriented Development,” brochure (Lake Oswego, Oregon n.d.).
- ¹⁴ See C. Switzer, *The Center Commons Transit Oriented Development: A Case Study*, Master’s Thesis (Portland Oregon: Portland State University, Master of Urban and Regional Planning Program, Fall 2002).
- ¹⁵ The developer agreement currently in effect only specifies the total number of housing units to be built and does not distinguish between condominiums and apartments. To date, only condominiums have been built.
- ¹⁶ At groundbreaking, neither the city nor the developer realized the extent of the soil problems. The project went bankrupt before the original developer could realize any tax savings.
- ¹⁷ The original developer claimed that the value of his investment was \$10 million. The appraisal value was reduced to \$2.3 million because no parking had been approved or built, and thus the buildings could not be occupied. The \$10-million figure was thus declared “speculatory value.” The city used all of the \$2.3 million in sale proceeds to pay off lien holders.
- ¹⁸ In addition to 24-Hour Fitness, current and prospective retail tenants include Coldwell Banker Barbara Sue Seal Properties (a residential real-estate company), two upscale restaurants, and Open Source Development Labs (headquarters for a high-tech consortium). According to Open Source Development Labs sources, “We’re funded mostly by folks in the Silicon Valley, and it’s a big deal for them to be able to hit the airport, come straight out here on light rail and turn around and go home” (GlobeSt.com, *Open Source Development Labs Moving to “The Round,”* May 6, 2003).
- ¹⁹ Dorn Platz expects that providing too much structured parking will raise lease rates to unsupportable levels in the current market.
- ²⁰ On a related note, the initial developer installed an innovative, high-performance heating/cooling plant to serve the entire planned development program. The innovative heating/cooling system has reduced noise and visual impacts compared with typical systems and is also cost-effective. The customized system design, however, required potential new developers to build a similar TOD program. While this inadvertently kept the city’s broad vision intact, it may also have delayed recruitment of a new developer.
- ²¹ Three hundred and seventy-six loft condominiums opened from January to September in 2003, and 676 units are expected to open in 2004.
- ²² For an excellent description of the Pearl District and individual projects, see *The Portland Tribune*, special section on “The New Pearl,” September, 2003. See www.hoytstreetproperties.com for projects developed by Hoyt Street Properties, the District’s major developer. See www.breweryblocks.com for detailed information about the Brewery Blocks development. For projects developed by Carroll Aspen, see www.edgelofts.com/developer/.
- ²³ As a result, dense housing in the Pearl District and the downtown, generally, more closely resembles mid-rise Florence or Paris than high-rise Vancouver, British Columbia.
- ²⁴ Portland Development Commission, “An Application for National Achievement in Smart Growth,” n.d.
- ²⁵ Central Employment (EX) zoning was established in 1988 to encourage grand, visionary thinking. It was established in response to initial redevelopment proposals for uninspired tilt-up office parks. The zoning allows almost anything and is meant to

- facilitate the transition between the industrial past and a “wide-open” future.
- ²⁶ HSP had purchased the yards in the early 1990s.
- ²⁷ The city has invested \$150 million in the district over 22 years.
- ²⁸ The South Waterfront area is planned to be Portland’s most intensively developed district. It will be connected to downtown by the Streetcar and to the city’s largest employer, Oregon Health Sciences University, by an aerial tram spanning the city’s west hills. At build out, Vancouver-style glass “point towers” are envisioned to include 3,000 housing units, and the district will be home to 10,000 new jobs.
- ²⁹ See “Focus on Real Estate,” *Business Journal of Portland*, June 20, 2003, pp. 13–29.
- ³⁰ While the Streetcar was under construction, a long viaduct that bisected the area was shortened to create land for redevelopment and improve traffic circulation. The Lovejoy Ramp, which connects to the Broadway Bridge and Portland’s Eastside neighborhoods, used to touch down at 14th Street, but now touches down at 9th Street. The new Lovejoy Ramp opened in 2002.
- ³¹ PDC helped to fund/build a three-level underground parking garage spanning 2.5 blocks.
- ³² The project includes a 15-story condominium tower, The Henry, with units ranging from 750 to 3,000 square feet (prices range from \$200,000 to \$1.2 million). Also planned is a 16-story apartment tower. Commercial tenants include Portland Energy Solutions, Whole Foods Market, Baja Fresh (restaurant), Diesel (restaurant and retail), P. F. Chang’s (restaurant), Peet’s Coffee, Sur La Table, Perkins Coie (law firm), Mio Gelato, GBD Architects, The Art Institute of Portland, M-Financial Group, and PPM Energy.
- ³³ A future study by the city will evaluate the impacts of increasing the allowable massing from 5:1 to 7:1. Pearl District residents are likely to support the density increase only if all of the three parks specified in the development agreement are built. One park has been built, and a second park should be completed by early 2004.
- ³⁴ The high prices make it feasible to construct buildings with expensive fire and safety equipment, which is required for buildings with more than seven stories.
- ³⁵ The Brewery Blocks development is so intense and successful, in fact, that it could conceivably shift the whole downtown retail core northwest from its current location (as has been mentioned in ongoing studies of downtown retail). The project has significant cachet and is rapidly leasing commercial/retail/office space in a bad market. Whole Foods has become the “flagship” for the project and has attracted many other tenants.
- ³⁶ In addition to the Brewery Blocks commercial tenants listed earlier, the district is also home to Uptown Hardware, Storables, Childpeace Montessori School, REI, 24-Hour Fitness, Patagonia, Sherman Clay Pianos, Este’s Men’s Clothing, Weiden & Kennedy (advertising), and numerous galleries and restaurants.
- ³⁷ In 2002, developers were awarded \$163 million in property-tax exemptions.
- ³⁸ Complicating the debate is an overall lack of information regarding the profitability of the projects. Apartment developers are required to submit to PDC projected rent levels with and without tax breaks; projects with returns of less than 10% are eligible for tax breaks. Projects receiving tax breaks, however, do not have any rent regulation, and rent levels are free to fluctuate with the market. PDC does not check to ensure that the lower profits projected by developers to secure tax breaks turn out to be low in the end. One exception to this is the Brewery Blocks, where the developers submit annual financial statements to substantiate the need for tax breaks.
- ³⁹ Homer Williams, owner of HSP, would also be the major developer at North Macadam.
- ⁴⁰ Parsons Brinckerhoff Quade & Douglas “Orenco Station Profile,” for Urban Land Institute (July 2001).
- ⁴¹ See R. Greg, “Destination PDX: A Youth Culture Convergence,” *The Sunday Oregonian*, December 12, 2002, p. 1.

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Chapter 18

The San Francisco Bay Area: The Challenge of Creating a Transit-Oriented Metropolis

Exurban sprawl, unaffordable housing, ever-worsening traffic congestion, and environmental degradation are just a few of the reasons that TOD is being actively embraced in the San Francisco Bay Area. Private interests, not-for-profits, and public agencies have all invested time and money in pursuing TOD projects. However, this keen interest in TOD by so many different groups has been difficult to coordinate, at times resulting in an ad hoc, fragmented regional approach to TOD. Each group has carved out its role in the TOD planning process and employed its own implementation tools and strategies. Goals and objectives of the many actors are not always aligned. Everyone is left grasping for their piece of TOD, and no one is willing or able to take a leadership role on a regional level. The result of this fragmented approach to TOD is several successful yet detached projects that have minor overall impacts on regional transportation and development patterns. TODs in the Bay Area are like individual fish swimming against the current in a stream of sprawling development. Islands of TOD in a sea of automobile-oriented development will not resolve the traffic, housing, and environmental problems that gave birth to the TOD movement. As it stands, the sum of TODs is no greater than its individual parts.

Planning a TOD in the Bay Area requires a great deal of coordination, given that there are 9 county governments, several regional agencies, more than 40 transit

agencies, 100 city governments, countless nonprofit organizations, and local and national developers. This chapter outlines the sometimes complementary and sometimes conflicting roles of various actors in the TOD planning and implementation process. Getting actors “to march to the beat of the same drummer” is no easy task, given the region’s Byzantine institutional and governance structure. Still, smart-growth principles resonate in many quarters of the region, and the MTC has taken a leadership role in incentivizing the construction of affordable housing and the design of pedestrian-friendly communities around regional transit nodes. The region’s heavy-rail transit operator, BART, has also become an active participant in leveraging development opportunities around its stations through public-private partnerships. Several Bay Area developers today specialize in mixed-use, infill development around transit nodes. In examining the efforts of organizations like the MTC and BART and a growing cadre of progressive developers, this chapter gives visibility to the challenges and unfolding opportunities of building a metropolis—not just a few stations—that is more oriented to transit.

Regional Initiatives

The Bay Area has several public agencies that work on a regional level, seeking to coordinate planning efforts across jurisdictional boundaries. However, these

regional agencies have limited and fragmented power. This lack of regional control significantly impedes the planning and implementation of TODs. As consensus-building entities with little purse-string prowess and virtually no land-use “teeth,” regional entities largely provide forums for elected officials to confront cross-border issues. In recent years, however, several important initiatives have been introduced by regional agencies that could plant the seeds for future smart growth and, more specifically, TOD. This section reviews initiatives introduced by three important regional entities—the Association of Bay Area Governments (ABAG), the MTC, and congestion management agencies (CMAs)—that provide small but important steps toward creating a future metropolis that is more transit-supportive in its design and composition.

ABAG’s Smart-Growth Initiative

ABAG, which is the region’s council of governments, guides land use, housing, economic development, and environmental planning. However, local land-use decisions and zoning are left to individual cities, and ABAG does not have the power to change land uses or density requirements. Fiscal zoning and municipal competition for tax base is as strong in the Bay Area as anywhere, a product of Proposition 13 (the 1978 statewide referendum that capped property-tax income) and the high cost of doing business, including the provision of public services like education, in the region. Jobs-housing imbalances and a disconnect between transportation investments (including transit) and large-scale urban development have been among the most visible outcomes of parochialism

and fiscal competition. Notwithstanding these and other obstacles, ABAG has in recent times sought to build a collective regional vision that places the Bay Area on a more sustainable, smart-growth pathway.

In 2000, ABAG embarked on a visioning process with five other regional agencies: the Bay Area Air Quality Management District, the Bay Conservation and Development Commission, the MTC, the Regional Water Quality Control Board, and the Bay Area Alliance for Sustainable Communities. Through a series of workshops with residents and stakeholders across the nine Bay Area counties, a series of smart-growth policies were agreed on. They included locating both housing and job centers close to transit and promoting “transit oriented and walkable communities.”¹ Although these smart-growth policies are not enforceable, they give attention to TOD and encourage individuals and agencies to consider the longer-term and spillover impacts of development decisions.

Based on the smart-growth policies, ABAG altered its methodology for making official projections of population, housing, and employment growth for the region: “The policy-based projections suggest a regional shift toward better job-housing balance, preservation of open space, and development focused in urban and transit-accessible areas.”² ABAG factored in the availability of land for development, including infill and redevelopment. Therefore, the projections are based on assumptions that growth in the Bay Area will follow smart-growth principles. Since ABAG projections are used to determine funding and priority of projects for infrastructure improvement, especially for transportation, the new

methodology may give more attention and funding to TODs.

MTC's Transportation for Livable Communities Program

In 1970, the California State Legislature separated the responsibility of regional transportation planning from ABAG and created the MTC. The MTC is the region's MPO, controlling the allocation of federal and state funding for transportation projects throughout the nine-county Bay Area.

In 1998, the MTC made a bold move for a regional transportation agency: it acknowledged that land use and transportation are indelibly linked to each other, opening the way for funds to be used for purposes other than transportation construction, such as the construction of affordable housing near transit stops. That year, the agency created the Transportation for Livable Communities (TLC) program to provide funding for projects that "strengthen the link between transportation, community goals and land use."³ The TLC program has evolved over the past 5 years to include three components: capital grants, planning grants, and the Housing Incentive Program (HIP). TLC allocates \$27 million per year (from TEA-21, and state Transportation Development Act monies) to local and county projects that meet various "smart-growth" criteria defined by the MTC. This program has materially enhanced TOD activities in the Bay Area by providing funds for strategic planning and construction of ancillary improvements around stations, including bicycle and pedestrian amenities and compact housing.

HIP, which is the housing component of TLC, was adopted from a similar

program created by the City/County Association of Governments of San Mateo County (C/CAG). With housing shortfalls and increased traffic congestion in San Mateo County, C/CAG wanted to provide incentives for governing agencies to develop housing near transit stations. For projects within 1/3 mile of a transit station and with a density of at least 40 units per residential acre, the city or county can receive up to \$2,000 per bedroom constructed. (See Text Box 18.1 for eligibility criteria.) With the "carrot" approach, the TOD Incentive Program uses transportation funds (from the State Transportation Improvement Program) to encourage smart-growth land-use decisions.⁴ With money in hand, it is expected that localities can prepare specific plans for station areas and fund various amenities, like pedestrian ways and civic spaces, that can help "spruce up" a neighborhood and leverage private investment. In recognition of this innovative program, San Mateo received the EPA's national award for "Smart Growth" in 2002.

Recognizing San Mateo County's success at spurring housing development near transit stations, the MTC added the HIP component to the TLC program in 2001. Local jurisdictions that receive awards determine how and where to spend the funds; however, the transportation projects funded through HIP must be consistent with TLC goals. Also, HIP provides supplemental funding for higher-density developments and affordable housing units. As shown in Table 18.1, MTC provided nearly \$4.7 million for HIP projects in Fiscal Year 2001–2002. The program encouraged the addition of over 1,600 bedrooms along main bus routes and rail transit stops in 2001 through

HIP Eligibility Requirements

1. The applicant must be a local city or county, and the proposed housing project must be in the initial planning stages.
2. Eligible projects must be within $\frac{1}{3}$ mile walk from the center of the development site to a trunk-line transit station. Eligible transit services are bus, ferry, or rail transit with no more than 15-minute headways during the peak commute period.
3. The density thresholds and award amounts proposed are the following:
25 units per acre: \$1,000 per bedroom
40 units per acre: \$1,500 per bedroom
60 units per acre: \$2,000 per bedroom
For all affordable units, an additional \$500 per bedroom will be awarded.
4. Standard federal match of 11.5% must be provided.
5. A pedestrian path of travel from the center of the project to the transit stop must be provided and demonstrated on a site plan and project maps.
6. Mixed-use development is encouraged but not required.

Text Box 18.1

2002—65% of which were affordable. Programs like HIP are important, if not the only, funding sources for station-area housing construction; however, while they are very much welcomed by local governments, private developers are more lukewarm in their assessment. One affordable-housing developer commented that TLC and HIP serve as “gap fillers.” Although they are helpful, they are not a decisive factor in building a project. The developer noted, “To be a more important factor, the grants would have to be larger and easier to use.” Critics also charge that HIP suffers from appeasement—essentially all submitted projects have received funds to date, eroding the amount of money that top projects would have otherwise received.

Congestion Management Agencies

Congestion management agencies (CMAs), like C/CAG, are statutorily responsible for coordinating countywide

transportation planning and funding through a Congestion management plan (CMP). The CMP is a short-range plan that dictates how gas-tax funds are spent on transportation projects. California law requires all counties with more than 50,000 inhabitants to prepare a CMP, a condition that was mandated as part of the 1991 statewide dedicated sales tax referendum.

CMAs in the Bay Area have taken various stances in their level of support for TOD. C/CAG is a fairly progressive agency, having taken a proactive approach by administering the TOD Incentive Program. Santa Clara County’s CMA has similarly sought to incentivize TOD through measures like sliding-scale impact assessments that reduce traffic-generation estimates for projects near rail stops. Other CMAs (notably those in the Contra Costa Transportation Authority and Alameda County) are more cautious, showing a willingness to promote and

Table 18.1. MTC’s HIP Projects (FY 2001–2002)

Sponsor	Transit Service	Housing Project	Units Per Acre	Total Units	Market-Rate Bedrooms	Affordable Bedrooms	HIP Funds	
Berkeley	AC Transit*	Westminster House Expansion: Multi-story dormitory rooms.	40	40	43	0	\$86,000	
Berkeley	AC Transit	Acton Courtyard Apartments: Mixed-use five-story building with ground-floor retail and housing above	1,420	71	102	40	\$304,000	
Berkeley	AC Transit	Mixed-use building with ground-floor retail and housing above	148	65	84	24	\$228,000	
Daly City	MUNI, SamTrans	Landmark Site Development: Mixed-use development	42	70	89	89	\$311,500	
East Palo Alto	SamTrans	Nugent Square: Mixed-use development	30	32	0	82	\$123,000	
East Palo Alto	SamTrans	University Avenue Apartments: Multifamily rental apartments	60	30	38	10	\$101,000	
El Cerrito	AC Transit, BART	Mill and Lumber Site: Mixed-use retail and residential development	39.5	158	208	36	\$384,000	
Richmond	BART	Richmond Transit Village: Mixed-use development	25	231	348	345	\$865,500	
San Bruno	BART, SamTrans	The Crossing/San Bruno: Four-story, 300-unit multifamily development	60	300	357	89	\$936,500	
San Mateo	SamTrans	Prometheus Project: Multifamily residential development	61.2	218	300	33	\$682,500	
Union City	AC Transit, Union City Transit	Independent Senior Housing	49	40	1	39	\$79,500	
Union City	AC Transit, Union City Transit	Assisted Living Senior Housing	60	95	66	29	\$204,500	
Vallejo	Vallejo Transit	Sereno Village Apartments: Affordable-housing adjacent to the Sereno Village Transit Center	25	125	0	255	\$382,500	
<i>Total</i>					<i>1,475</i>	<i>1,636</i>	<i>1,071</i>	<i>\$4,688,500</i>

*AC Transit = Alameda Contra Costa Transit District

invest in TODs only if the opportunity is presented to them, and the private sector shows a development interest in station sites. These and most other Bay Area CMAs serve as facilitators or mediators in the TOD planning process. Therefore,

their work is mainly on a project-by-project basis and is not regional in scope. As one CMA director commented, “TODs cannot be planned on a regional level. The market decides. Unless you’re talking about major transportation

investments, the regional coordination doesn't happen.”

Franklin Street Project

In 1999, when the San Mateo County TOD Incentive Program was approved, the first project to be awarded funding was the Franklin Street mixed-use development in Redwood City (see Photo 18.1). The project included 206 new residential units, 31 of which were affordable units, and street-level retail space. Since the project was located 0.4 miles from the Redwood City Caltrain station and had a density of 50.6 units per residential acre, the project met C/CAG's program requirements. Redwood City received \$707,000 for the 402 bedrooms that were constructed. This money went to upgrade landscaping along Roosevelt Avenue. This in turn helped to temper the resistance of some residents to the project.

The success of the Franklin Street project and C/CAG support of housing construction near transit helped to ignite interest in a TOD incentive program at the regional level. This ultimately led to



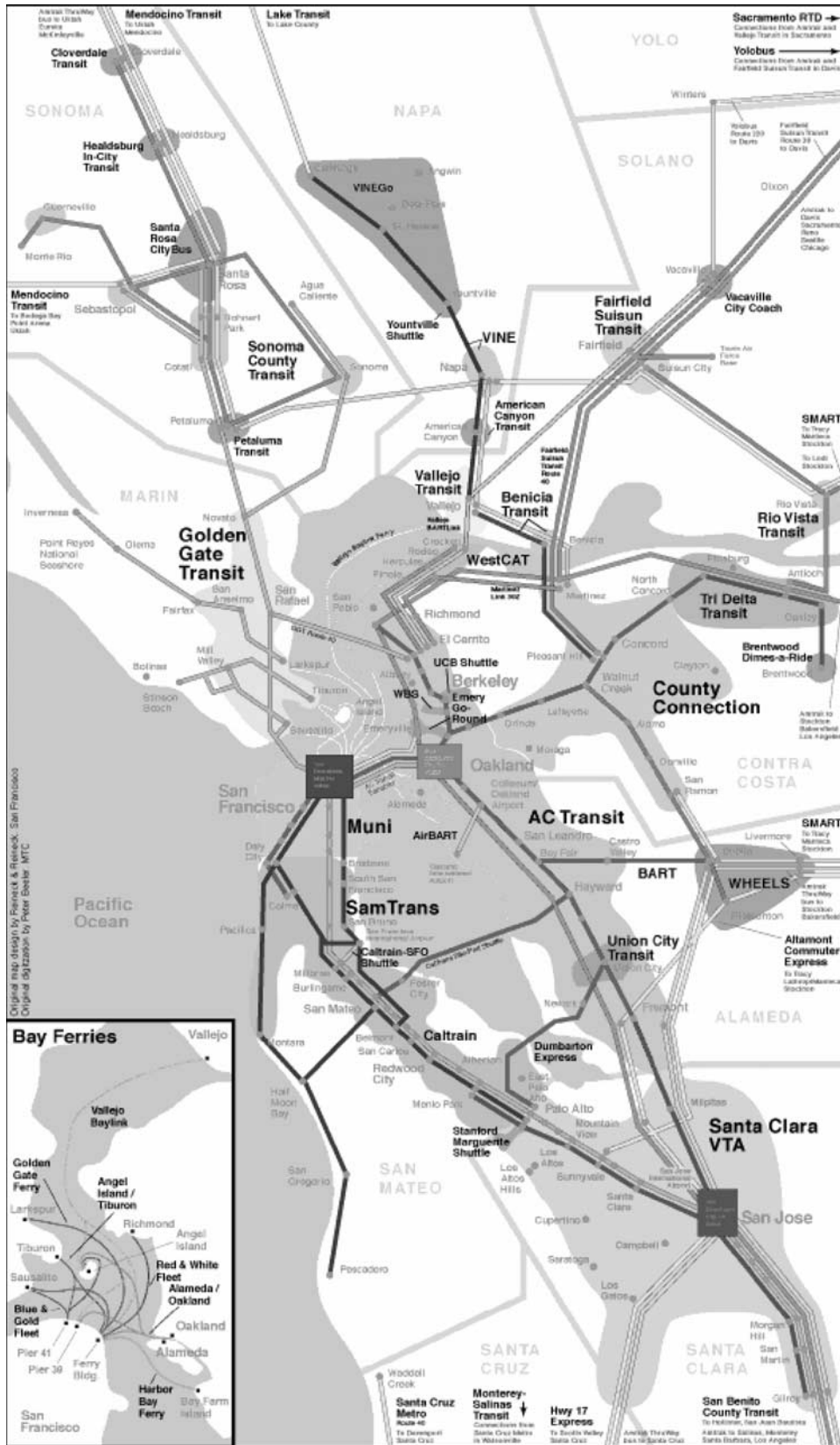
Photo 18.1. Franklin Street Project Taking Form at the Redwood City Caltrain Station.

the creation of the MTC's HIP, which is a component of their TLC program. If imitation is the strongest form of flattery, the Franklin Street project deserves credit for helping to spur local governments to zone for and promote housing near transit nodes elsewhere in the region.

Transit Agencies

The San Francisco Bay Area has over 40 transit agencies that provide bus, light-rail, cable-car, streetcar, heavy-rail, commuter-rail, and ferry service. (See Map 18.1 for the service coverage of the region's transit providers.) Unlike regions that have a single transit authority, the Bay Area is blessed and cursed with a multitude of transit agencies that provide both complementary and competing service. For example, to get across the Bay from Oakland to San Francisco, one can ride commuter rail, multiple transbay buses, or a ferry. Riders enjoy the benefit of having choices in terms of mode, time schedules, and fares. Redundancies also ensure a backup alternative in the event of a labor strike or (as demonstrated in the 1989 Loma Prieta earthquake) a natural disaster. However, transit agencies end up competing for passengers and vying for similar federal, state, and county transportation funds. Timetables, fares, and routes are not as coordinated and integrated as they could be.

In terms of TOD, having multiple transit services creates numerous opportunities for intensifying development close to bus, rail, and ferry hubs. However, the diversification of transit services complicates coordination efforts. Each agency develops its own guidelines or policies related to TOD and takes a different approach to working with local



Map 18.1. Bay Area Transit Agencies. Source: www.transitinfo.org.

governments to initiate zoning changes around stations and to attracting private developers. Two major transit agencies in the Bay Area, VTA and BART, have been most active in TOD to date. However, their TOD guidelines and joint development programs reflect the differing perspectives and priorities of two agencies, each with its own budget, professional staff, and board of directors.

VTA TOD Design Concepts

By the early 1990s, several jurisdictions within Santa Clara County had gained experience with planning, designing, and constructing TODs. Early TOD successes like Almaden Lake Village paved the way for TOD interest to ratchet up a notch as traffic congestion and the affordable-housing crisis peaked on the heels of the high-tech boom of the late 1990s. In recognition of these and other early successes, the VTA prepared a forward-looking, well-received document called *Transit-Oriented Development Design Concepts*. The goal of publishing the document was to “bring together a set of critical ideas and techniques useful for effective coordination of development patterns around major transit stops.”⁵ In the nicely illustrated *Transit-Oriented Development Design Concepts*, VTA gives particular emphasis to creating a mix of uses within walking distances of a transit station. The design guidelines define a TOD as lying within 2,000 feet or a 10-minute walk of a transit node. Densities and design patterns are recommended to intensify and diversify land uses and improve pedestrian access and circulation. VTA suggests not only ensuring a mix of land uses, but also encouraging diversity within each land use. For example, the agency

recommends a mix of housing densities, ownership patterns, costs, and building types within a TOD to reflect the varied needs and desires of residents.

Public initiatives such as VTA’s design guidelines have no doubt helped to leverage TOD in Santa Clara County, but, at least as important, if not more important, have been sheer market forces. During the late 1990s, dizzying rates of growth and traffic-clogged arteries prompted a flurry of building activities around VTA light-rail stations. Between 1997 and 1999, an estimated 4,500 housing units and some 9 million square feet of commercial-office floor space were added within walking distance of the Tasman West light-rail line serving the heart of Silicon Valley. Cities needed little coercion to revise their zoning codes to make them more supportive of transit. The city of Mountain View rezoned 40 acres of industrial land to accommodate more than 500 housing units adjacent to the Whisman light-rail station. In Sunnyvale, density bonuses were introduced to spur infill development in the Northside industrial district near the Borregas and Fair Oaks light-rail stations. At Sunnyvale’s Moffett Park Station, bonuses increased allowable FARs by 60% in return for a private developer agreeing to foot a major part of the bill for the \$2.5-million station project. Further, in the city of San Jose, the Irvine Company recently built several thousand luxury apartments within walking distance of the Guadalupe light-rail corridor, helped along by the city’s willingness to expedite the building review process. The pace of station-area development cooled off in the early 2000s in the wake of the County’s economic downturn; however, this lull is widely viewed as temporary, with quite a few

developers still believing that smart money lies in parcels within an easy walk of VTA light-rail stops.

Ohlone Chynoweth: VTA's Proactive Joint Development Program

In 1998, VTA created an in-house joint development program principally to tap the development potential of under-utilized park-and-ride lots. The original Ohlone Chynoweth light-rail station, which is located between two major highways south of downtown San Jose, had an oversupply of parking: only 20% to 25% of the spaces were utilized on a typical workday. VTA worked with the city of San Jose to develop a concept plan for a 1,100-space parking lot. An adjacent site had already been developed with 135 affordable-housing units by BRIDGE Housing. FTA's revised joint development policy that allowed transit agencies to retain proceedings from private land sales, even if land was purchased using federal funds, was instrumental in the agency moving forward with this initiative.

In 1999, VTA and the city of San Jose released an RFP to build on part of the parking lot that originally did not include affordable housing. Tepid developer interest prompted a change of focus to constructing affordable units on the site, and a not-for-profit developer, Eden Housing, was selected as master developer of the Ohlone Chynoweth site. Initially, there was considerable community opposition to this project because of the proposed concentration of affordable housing in the area. According to Eden Housing, support from interest groups as diverse as the Sierra Club, Silicon Valley Manufacturers Association, and Greenbelt Alliance helped the public

review process. These advocacy groups, representing environmental interests on one extreme and high-tech industry interests on the other, supported the link between affordable housing and transit. With such a breadth of support for TOD, NIMBY resistance was quelled.

Given a 75-year ground lease from VTA with annual payment of \$250,000 (subject to increases in Area Median Income), Eden Housing constructed 195 affordable housing units, a retail center, a community center, and a child-care facility (see Photo 18.2) on the former surface park-and-ride lot. The project's residential density comes in at 27 units per acre and just under 2 parking spaces per dwelling unit. All of the housing units were rented before construction was completed. However, the retail component is not fully occupied, and retail rents are below market value. This may be because the retail area is not easily accessible from the main street and is set back behind the main VTA park-and-ride lot. (See Chapter 6 for further discussions on the challenges of making retail work at TODs.) Another design complaint has been the poor connectivity of the "Commons"—meant to be the civic centerpiece of the TOD—to the surrounding single-family community. Although the development at Ohlone Chynoweth is not perfect, the collaborative process of the city, VTA, and Eden Housing to transform an underutilized suburban park-and-ride lot into a new transit-oriented community has been exemplary.

BART TOD Design Guidelines

Ten years after VTA's *Transit-Oriented Development Design Concepts* was published, BART released *Transit-*



Ohlone Chynoweth Commons Entrance



Courtyard Entrance



Retail Center

Photo 18.2. Ohlone Chynoweth Mixed-Use Development, San Jose. This parking-lot infill “conversion project” was one of the Bay Area’s first.

Oriented Development Guidelines. The primary goal of the guidelines in this document is to promote “vibrant and livable station areas” and “the use of BART as a primary means of transportation.”⁶ The guidelines have few regulations or standards for development. Instead, they are intended to inform planners, developers, elected officials, and individuals about the important components of TOD to take into account during the planning and site-design process. The guidelines emphasize providing good pedestrian, bus, and cycling access to stations.

BART’s TOD guidelines implicitly give pedestrians, cyclists, and buses priority

over park-and-riders in accessing stations. The document also recommends how station parking facilities should be designed so as to minimize disruptions to pedestrians. However, the guidelines do not mention how to deal with existing parking facilities and current parking policies that impede TOD at BART stations. The guidelines recommend lowering parking standards for both residential and commercial developments near BART stations. They show that providing parking has associated costs and note that “parking provisions can account for 20% of the cost of a typical apartment in Silicon Valley.”⁷ However, they do not go as far as recommending that BART’s own

parking standards should be reduced, and they ignore the fact that the high cost of providing parking is one of the major barriers to TOD at BART stations. As discussed in the next section, current BART policy of one-to-one parking ratio replacement drastically increases the cost for a developer to build on existing BART parking lots, which are prime locations for TODs. The guidelines do not address this issue and do not provide alternative methods for improving the feasibility of developing BART parking lots.

BART's TOD guidelines are also somewhat quixotic in their discussions of the pricing of parking. Also, the guidelines cite research that shows that charging for parking can reduce the demand for parking at employment centers by 7% to 30%. However, the guidelines are silent about BART's current practice of providing free parking at most BART stations, a practice that underwrites the cost of driving an automobile to transit and in so doing undercuts the market potential for TOD. Additionally, parking fees could provide an important revenue source for station-area improvements and TOD planning.

BART Joint Development and Outreach

To date, BART has approached TOD and joint development cautiously. Rather than outright deal making, the agency has opted mainly to co-participate with local and developer interests in promoting transit-supportive development in the vicinity of stations. While the agency has received funds from a downtown San Francisco retailer through a special entrance agreement (i.e., station interface), BART's income from joint

development is quite meager, especially when compared to "peer" rail agencies like WMATA. Presently, BART receives \$75,000 annually in ground-lease revenue at the Castro Valley Station. This number is expected to rise sharply in coming years, especially with mixed residential-commercial projects planned for surface parking lots at the Fruitvale and Richmond stations, among others. After two slow decades, BART's joint development activities are today taking off. In total, BART has over \$1 billion in joint development projects in the works, some still on the drawing board, and others, like the Fruitvale Transit Village, that have broken ground and are well on their way to completion.⁸

While BART welcomes lease income, the agency is just as interested in facilitating initiatives amongst other parties in hopes of shifting growth to station areas and thus increasing patronage. For example, to accommodate a joint development venture between the city of Hayward and a private developer to build a new city hall and multifamily housing close to the Hayward Station, BART swapped land with the city. One BART official notes: "This was a first for us. BART has never done such a land swap before. It turned out to be a win/win situation."⁹ The city of Hayward proceeded to sell the swapped parcel to a developer who built 77 townhomes. The city did not have to write down land costs because transit-oriented, mixed-use development added enough value and property-tax proceeds to render a subsidy unnecessary.

Notwithstanding recent progress, what has historically hampered the ability of BART to engage in joint development deals has been the agency's "one-for-one" parking replacement

policy. BART's 1984 "Station Area Development and Implementation Policy" requires that TOD projects provide a competitive rate of return for the value of agency-owned land. BART's policy is to support only those projects that can cover the cost of replacing surface parking (which today can run up to \$75 per square foot of land). This has proven to be a lofty hurdle, leaving most of BART's potential development sites as surface parking lots. As one BART planner put it, "The ability of the market to support development that includes 100-percent replacement parking, with no revenue to support that parking, has been a huge hurdle to TOD."¹⁰ For the most part, only when other government entities agree to subsidize replacement parking, as the city of Oakland did (with the help of an FTA grant) in funding the first-phase garage at the Fruitvale Transit Village, have parking-to-infill conversions occurred. Even if BART's board were to relax the one-to-one replacement requirement, parking supplies might not change, since local jurisdictions usually require that BART replace parking displaced by development on agency land out of fear that BART parkers will spill over into surrounding neighborhoods. Moreover, in cases where developers have agreed to provide replacement parking, this has been at the expense of ground-rent income due to the board's policy of providing rent credits to developers who pay for replacement parking structures.

An essential component of BART's recent joint development efforts has been outreach to local cities and other government agencies with a vested interest in seeing TOD move forward (see Text Box 18.2). BART begins joint development efforts by asking residents

living near transit stations to identify what they want to see, what services their community lacks, and what unique assets should be stressed.¹¹ Jeff Ordway, manager of property development for BART, remarks "We try to build on the existing strengths of each community, which may be cultural or physical. The only ones who can identify those strengths are the people who live there."¹² In commenting on past practices that sited BART stations in inhospitable settings, like the medians of freeways, Ordway further remarked,

Sometimes we have to heal not only the wounds left by car-oriented infrastructure, but rebuild a lost sense of trust. That's why the community visioning process is so important. You need to listen to what the citizens say—what development they want in their community—if it's ever going to work.¹³

Fruitvale BART Station: Fulfilling a Community's Vision

BART's more community-friendly approach to joint development and the importance of grass-roots leadership are underscored by experiences at the Fruitvale BART station. In 1991, when BART proposed a new parking structure at the Fruitvale Station, the community rebelled and opted to create its own plan. Although neighborhood residents recognized the need for parking, they disagreed with the location and design of the structure. Some feared the area's main street would be tarnished by outsiders coming into the neighborhood simply to park their cars. With the leadership of an active community group called the Unity Council, a mixed-use village with local retail shops, a

San Francisco BART's Interagency Initiatives

Public-agency working groups and coordinating committees have been formed at nearly half of all BART stations, providing forums for local governments, transit agencies, nonprofits, and other civic-minded groups to move TOD projects forward:

- *Pittsburg/Bay Point*: A Technical Working Group was created among three entities—BART, Contra Costa County, and the city of Pittsburg—to prepare a TOD-oriented Specific Plan for the Pittsburg/Bay Point Station. Each entity contributed funds for this effort.
- *Pleasant Hill*: The Pleasant Hill BART Station Area Steering Committee was created in the mid-1980s, composed of representatives from the cities of Walnut Creek, Pleasant Hill, and Concord. Represented as well were BART, Contra Costa County, private land owners, and home-owner associations. Most recently, at the committee's urging, the Contra Costa Board of Supervisors approved Specific Plan Amendments and certified its Environmental Impact Review.
- *MacArthur*: BART and the city of Oakland formed a Citizens Planning Committee consisting of merchants, home-owner associations, and residents to guide TOD planning. The Committee has been involved in a visioning process.
- *West Oakland, Ashby, Coliseum, Union City, Hayward, Balboa Park*: BART has entered into memorandums of understanding (MOUs) with cities to conduct station-area planning. Co-participants have included the Oakland Housing Authority (at West Oakland), Muni and Caltrans (at Balboa Park), and the Pacific Gas and Electric Company (at Union City). All entities have provided funds for TOD planning efforts.
- *Richmond*: BART and the city of Richmond joined forces to conduct a feasibility study for the station area, which led to the issuance of an RFP, the selection of a developer, and the approval of a TOD project.
- *El Cerrito del Norte, El Cerrito Plaza*: BART and the city of El Cerrito co-funded private development workshops conducted by working groups led by the City Council. Workshops have helped build community support of new development at the stations.
- *Fruitvale*: MOUs were executed between BART and the Spanish-Speaking Unity Council to create the Fruitvale Transit Village, currently under construction.
- *San Leandro*: A Technical Working Group involving BART and the city of San Leandro was formed to seek out TOD opportunities and to improve the physical connection between the BART station and the city's downtown.
- *West Dublin/Pleasanton*: A Policy Group has been formed between BART and the cities of Dublin and Pleasanton to guide private and station-infill development.
- *Glen Park*: A multi-agency effort is currently underway to conduct a charrette to guide redevelopment of the station area. BART, Caltrans, and the city of San Francisco are funding the initiative.

community center, library, housing, and new structured parking was proposed. BART accepted the idea and decided to work with the community to construct their vision. The Unity Council created the Fruitvale Development Corporation to create the mixed-use TOD.

The negotiation and planning process for the Fruitvale project was complicated because of multiple funding sources. The risks and uncertainties inherent in massively redeveloping a declining retail district from the 1950s required that costs be spread and shared among many interests and stakeholders. In the end, more than 20 different sources were used to fund the \$100-million mixed-use project. It received considerable public-sector support, including the FTA's first Livable Communities grant and funds from the city of Oakland. A new zoning classification, TOD district, was created specifically for the Fruitvale Station area to encourage balanced, mixed-use development. The zoning district permits residential, commercial, and civic (such as child-care, education, and healthcare) activities and allows the highest residential densities in the city. Fruitvale also lies within Oakland's Empowerment Zone, which provides potential tax benefits to new businesses locating there. Additionally, the city reduced the parking requirements for both residential and commercial uses in the Fruitvale district. Instead of requiring one space for every unit (the city's minimum standard), a special overlay zone was created that required one space for every two units. BART agreed to a land transfer and contributed in-kind staff support. To supplement the public funding, organizations and businesses, including the Ford Foundation, the Levi-Strauss Foundation, and PG&E Corporation,

contributed \$20 million to the transformation of the Fruitvale neighborhood.

During the first phase of construction, completed in 1998, 67 affordable senior housing units were built, and the water and sewer infrastructure was updated to prepare for later phases of large-scale development. Also, over 100 businesses have received small-business loans and grants for façade improvements since 1998. In 2002, more than 10 years after the original BART proposal, construction began on a new 300-space BART parking garage. This structured parking will replace surface parking lots, which are in turn being replaced by a new transit village (see Photo 18.3). The jury is still out as to whether the Fruitvale Transit Village, long in the making, will inject new-found vitality into the once-struggling Fruitvale district; however, the amount of planning and the number of resources put into the project are impressive by any standard, and proponents maintain very high hopes. Working on the project's side has been strong and unbending leadership. One BART staff member has remarked: "In each joint development, we've found you need a champion. In the case of Fruitvale, it was Arabella Martinez, the Unity Council's CEO. I doubt the village would be happening without her."¹⁴

The Fruitvale project brought attention to the need for proactive community input in station-area planning. Far too often in the past, community input has been an afterthought in the joint development process. In the 2003 update of the *BART Strategic Plan*, the need for community participation is explicitly stated: "In partnership with the communities it serves, BART properties will be used



View from the BART Platform



Center Courtyard



Corner Retail Near BART Station Entrance

Photo 18.3. Fruitvale Transit Village Taking Form. Since its inception in 1993, the Fruitvale Transit Village is finally taking shape as a transit-supportive inner-city redevelopment project. The decade it took to go from concept to reality reflects the many hurdles that must be overcome and the multiple funding participants who have a voice in what is done. The Fruitvale Transit Village either currently has or is slated for a number of amenities, including an internationally themed retail shopping area, a large pedestrian plaza, and various community services ranging from a state-of-the-art healthcare facility to a child-care center. In addition, the Fruitvale Transit Village is to house the Unity Council’s headquarters, a public library, several community organizations, a computer-technology center, a seniors’ center, and mixed-income housing. For residents, workers, and businesses alike, BART will be a short and convenient walk away.

in ways that first maximize transit ridership and then balance transit-oriented development goals with community desires.”¹⁵ BART is committed to seeing that communities shape the environment that takes form around the stations that directly serve them.

Local Government Initiatives

In addition to regional bodies and transit agencies, a number of municipalities

and county redevelopment agencies throughout the Bay Area have been active over the past two decades in seeking to leverage development around rail stations. Perhaps most attention has been given to efforts by the Contra Costa County Redevelopment Authority to concentrate mixed-use development around the Pleasant Hill BART station. Since the early 1980s, the County’s redevelopment agency has targeted a lot of resources at the Pleasant Hill Station

area to entice private investment: the preparation of a specific plan, TIF to pay for streetscape improvements, road widenings, and the undergrounding of utilities, mixed-use zoning, and the assembly and packaging of land into developable parcels. With over 2,000 housing units and several million square feet of commercial development within walking distance of the Pleasant Hill Station, these efforts have largely paid off. A survey in May 2003 showed that 62% of households residing near the Pleasant Hill BART station commute by transit, a share three times higher than the share of Pleasant Hill residents who live between ½ and 3 miles of the station.¹⁶ As reviewed in Chapter 9, studies also show that residential parcels—for both rental and owner-occupied dwellings—near the Pleasant Hill Station enjoy appreciable land-value premiums. Critics note that subsidies, like TIF and public assistance with land assembly, were needed to jump-start development; however, backers point out that the increased property and sales tax proceeds from the development drawn to Pleasant Hill have far exceeded public subsidies. As Pleasant Hill seeks to “reinvent itself” through residentially oriented infill development on existing surface parking lots, many hope that the station area will become a more vibrant, walking-friendly neighborhood in coming years.

In recent years, a number of East Bay cities, including El Cerrito, Walnut Creek, Richmond, and Hayward, have borrowed a chapter from Pleasant Hill’s experience, becoming proactive partners in the quest for TOD. In the mid-1990s, the city of Hayward issued an RFP for the development of the 2.8-acre Atherton Place site immediately adjacent to its downtown BART station. The aim was

to build market-rate housing that would attract professional-class residents to the downtown area. Hayward’s redevelopment agency swapped parcels of land with BART to create a buildable site. The redevelopment agency then selected a local developer, Regis Homes, to form a partnership that would bring the plan to fruition through a risk-and-reward-sharing arrangement. Regis Homes purchased the majority of the land from the redevelopment agency at an agreed-on re-use value based on the assumed use of 83 for-sale townhomes at an average density of 30 units per acre. To make the project pencil out, the redevelopment agency was repaid for the land through a note, which was subordinated to the construction loan and ultimately repaid from the sales of homes.¹⁷ When they were completed in 1997, all of the market-rate units were sold within a year at prices ranging from \$143,000 to \$180,000. Today, townhomes in Atherton Place are selling for two to three times these amounts. The project has also been a ridership success, clearly appealing to those seeking a transit-oriented residence that allows them to avoid having to drive to work. A recent survey found that an estimated 52% of Atherton Place residents take transit to work, more than seven times the share of those living ½ to 3 miles away from the Hayward BART station.¹⁸ Also, unlike some Bay Area TODs, the Atherton Place project never became a major financial drain on the city of Hayward. The city made infrastructure improvements incrementally, as pieces of the development project were completed. This more cautious approach reduced costly upfront infrastructure expenses and kept city coffers from needlessly being drawn down in the event that the

developers did not follow up on their ends of the deal.

While much of the city of San Francisco is transit-oriented, a continuing affordable-housing crisis, coupled with the elimination of freeways in the wake of the 1989 Loma Prieta earthquake, has prompted city officials to actively seek out TOD redevelopment opportunities in recent years. One of the most prominent TOD redevelopment efforts in the city is the Transbay Terminal in the recently refurbished South-of-Market neighborhood (see Text Box 18.3).

Also of note are activities underway at the Balboa Park BART station, one of the busiest transit hubs in the city, hosting BART, streetcars, trolley buses, and diesel coaches. In 2000, San Francisco's Planning Department began working with those living near the station to develop a neighborhood plan centered on the Balboa Park BART station (see Photo 18.4). Through a series of community workshops and ongoing discussion with residents and business owners, various streetscaping, pedestrian-access, and civic-space improvements are being made in hopes of leveraging private redevelopment. Parking management strategies are also being proposed. The draft station-area plan proposes that new development on city-owned land be required to "unbundle" the cost of parking from rents. According to the plan, "Currently most new ownership housing and some new rental housing has parking included in the base price of a unit."

Further, "Individuals and families who do not own or may not need a car must pay for the space anyway, needlessly driving up the cost of their housing."¹⁹ The plan also calls for neighborhood automobile sharing, as currently provided by City CarShare, to be expanded to provide on-

call mobility options to households near the rail station without automobiles.

For-Profit Developers

In expensive real-estate markets like the San Francisco Bay Area, private capital and resources are pivotal to TOD. Even with the proactive actions taken by public agencies to promote TOD, projects do not get built around the region's light-, heavy-, or commuter-rail stations unless a developer is willing to invest time, energy, and money. Developers rely heavily on market performance indicators to search out projects that are likely to be successful and profitable. In 2002, Lend Lease Real Estate Investments and PricewaterhouseCoopers issued a report that resonated with the Bay Area's development community, advising that, "Markets served with mass transportation alternatives and attractive close-in neighborhoods should be positioned to sustain better long-term prospects as people strive to make their lives more convenient."²⁰ The aging population, changes in lifestyle preferences, and worsening traffic are all trends that support walkable, higher-density, transit-oriented communities. Traffic congestion, in particular, continues to prod more and more Bay Area households to seek out housing near rail transit. The *2003 Urban Mobility Report* by the Texas Transportation Institute ranks the region as the nation's second most traffic choked, behind Los Angeles, with 41% of daily travel spent in congestion.²¹

All seven Bay Area developers interviewed for this study noted that proximity to transit gives projects a competitive edge. Even though the market seems supportive of TOD, coordinating with numerous government

Inner-City TOD: The Transbay Terminal Redevelopment Project

Not all Bay Area TOD activities are in the suburbs, nor are all spearheaded by BART and VTA. In downtown San Francisco, an interagency effort is underway to build a new Transbay Terminal on a 66-acre site created by the removal of an old freeway. The existing Caltrain terminus in downtown San Francisco will be extended to the new facility, providing something akin to a “grand central station” wherein bus and rail services interface. Working to plan and design the new terminal and development around it are the city of San Francisco and two joint powers authorities (JPAs): the Transbay JPA (a collaboration of Bay Area government and transportation bodies) and the Peninsula Corridor JPA, which operates Caltrain. San Francisco’s redevelopment authority is spearheading efforts to revitalize existing publicly owned parcels on which the freeway once stood. Money from the sale of parcels and from tax increments generated by the development will help defray the cost of the new Transbay Terminal and Caltrain extension. Among the goals set for the project are

- Develop a new downtown neighborhood to help redress the city’s affordable-housing crisis, support regional transit use, and provide financial support for the new multimodal facility;
- Establish the area as a gateway to the central city and a unique transit-oriented neighborhood in San Francisco;
- Create a livable urban community with prime access to downtown and the waterfront as well as well-designed streets, open space, and retail areas;
- Create a pedestrian-friendly urban environment that encourages walking as the primary means of circulation within the project area;
- Create a state-of-the-art, multimodal transit facility that is an integral part of the surrounding commercial and residential neighborhood; and
- Encourage the use of alternative modes of transportation by future residents, workers, and visitors, and support the new Transbay Terminal as a major transit hub while still providing local vehicular access.

Current plans call for adding some 4,500 residential units to the Transbay Terminal area over the next 20 years. Planners believe that a major residential presence will create a vibrant and safe 24-hour place, something that some major intermodal transit facilities across the United States have historically lacked.

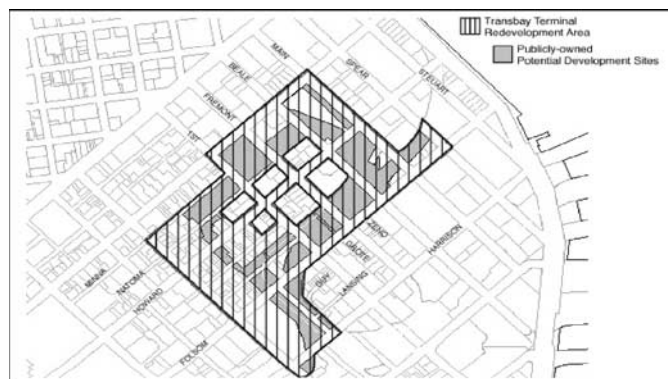
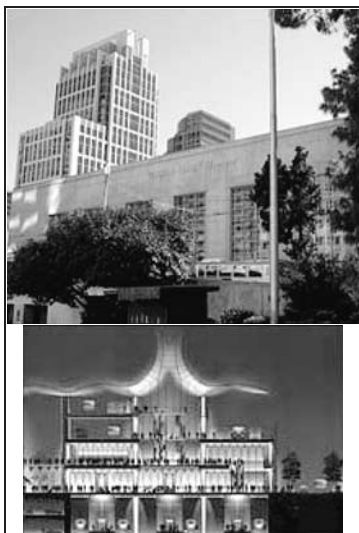




Photo 18.4. Balboa Park Plan Area. Neighborhood redevelopment efforts have focused on an area within 1/3-mile walking distance of the Balboa Park BART station.

entities adds complexity to the projects and can discourage developers from pursuing projects.

According to the recently released Caltrans statewide TOD study, the Bay Area's development community is conflicted about the role of government in TOD, calling for "less government" red tape in one breath and "more government" financial assistance and risk-taking in the other.²² In the minds of most developers, local governments, transit agencies, and regional planning organizations can both impede and facilitate the TOD planning and implementation process. Particularly bothersome to many developers is the entitlement process, which restricts the flexibility of project development. Zoning restrictions sometimes make it difficult for developers to create a project that fits into land-use regulations and is profitable. Increasing accommodations for mixed-use projects, allowing conversions from one use to another, and expediting the entitlement decision-making process would, according to the region's TOD

developers, allow them to build projects that reflect current market realities. Part of the entitlement process also includes gaining public support and approval. Some elected officials are reluctant to support TOD because of residents' concern about increased congestion caused by higher-density developments. A proposed parking garage and mixed-use development near the El Cerrito BART station was vehemently opposed by nearby residents. One member of the community commented, "I'm afraid this development is the one straw that breaks the camel's back in terms of congestion and traffic."²³ Residents of the Bay Area oppose higher-density and infill development not only in fear of increased congestion, but also for obstructions of Bay and bridge views. At several BART stations prime for TOD, communities have rejected plans for anything higher than two stories.²⁴

In addition to the entitlement process and NIMBY opposition, coordination with several government agencies can hinder and lengthen the implementation

process. For any given TOD project, a developer may end up having to work with local governments (city and/or county), redevelopment agencies, transit agencies, MPOs, CMAs, and councils of governments. Red tape adds delays, and uncertainties over whether government agencies will renege on promises or “change the rules of the game” creates impatience and distrust. Planning, designing, land leasing, fee-simple acquisitions, permitting, and funding become more complicated because each agency brings its own objectives and agendas to the negotiating table.

Although government agencies can impede developers in planning TOD, they also serve as a catalyst and important funding source for projects. The MTC’s TLC/HIP program, redevelopment agencies’ 20% affordable-housing funds, and state and federal transportation funds each provide resources for strategic station-area planning and much-welcomed pedestrian and streetscape improvements. Combinations of various funding sources make a project more feasible for a developer to build. In the statewide study, TOD developers reported needing between 20% and 100% public financing for items such as environmental remediation, infrastructure improvements, and affordable housing; otherwise TOD projects could not be built.

Developers recognize the need, appeal, and potential profits of TOD. However, given the complex coordination required and uncertainties involved, developers may avoid entering the TOD market. With fewer government restrictions, better interagency coordination, and additional financial support, Bay Area developers will be more likely to

capitalize on the existing market for TODs.

Nonprofit Affordable-Housing Developers

According to the National Association of Homebuilders, San Francisco has the least affordable housing market in the nation. Home ownership rates for San Francisco are 22.4% below the national average.²⁵ Expensive housing has pushed residents further away from job and activity centers while increasing congestion. Additionally, the demand for housing is expected to increase. According to the California Department of Finance, the population of the Bay Area will increase by over 1.5 million inhabitants over the next 20 years. Building affordable housing near transit provides a smart-growth alternative to the historic pattern of placing affordable development on less expensive greenfield land on the fringes of the metropolitan area.

California’s housing crisis has created a competitive market for affordable units. There are over 70 nonprofit affordable-housing developers that are members of the Non-Profit Housing Association of Northern California. Since additional funding and special financing are needed to make affordable housing projects feasible, developers often vie for governmental tax credits and grants to make affordable projects pencil out.

One major form of financing affordable units is federal housing tax credits, which were used to help finance affordable-housing construction around BART’s Castro Valley Station (see Photo 18.5). The federal government gives each state an allotment of housing tax credits,



Affordable Units Across from BART



Historic Stobridge House

Photo 18.5. Castro Valley BART Station: Affordable Housing for BART’s First Joint Development Project.

A truly intergenerational housing project at Castro Valley BART station has brought together residents at various stages in life and involved the construction of new housing units along with the rehabilitation of the historic Stobridge House. Bridge Housing Corporation, a nonprofit affordable-housing developer, worked with Alameda County and BART to build 96 affordable units with 66 units set aside for seniors. Remaining units are available to families. The first joint development agreement that BART entered into in its 26-year history, the project was built on land leased from BART. As part of the project, a BART police station was constructed.

The \$13-million project was financed with low-income housing tax credits, grants from MTC and the S. H. Cowell Foundation, and Alameda County predevelopment funding. After its completion, all units were rented. Today, there is a waiting list to move into the project.

and the state is responsible for allocating credits to low-income housing developers. The state of California added its own criteria to the federal requirements for affordable-housing plans and created a scoring system to evaluate potential projects. In order to encourage affordable-housing construction close to transit, points are awarded for proximity to transit services. Out of the 150-point total, 7 points can be earned for being within a TOD. To receive all seven points, the development must be located with a

transit station, rail station, commuter rail station, or bus station, or stop within a quarter mile from the project site with service at least every

20 minutes during the hours of 7–9am and 4–6pm, and the project’s density [must] exceed 25 units per acre.²⁶

Lower densities, less frequent service, and further distance from transit (up to ½ mile) reduce the number of points awarded. Whether the density and transit service frequency requirements, which were only added in January 2003, will increase the supply of affordable units near transit is unclear.

In addition to federal tax credits, HUD administers several programs to fund both low-income and special-needs housing. Support for elderly housing is granted through the HUD Section 202

Program, and housing for persons with disabilities can be funded through the HUD Section 811 Program. These grants provide construction funds and also rental assistance for residents. Similar to tax credits, Section 202 and Section 811 funds are allocated on the basis of a set of criteria. Although it is not as strong as California's tax credit stipulations, HUD does encourage and support TOD. As stated in the Section 202 and 811 handbooks, "Residents must have ready access to religious institutions, hospitals or clinics, and other community services, shopping, recreational facilities, and public transportation."²⁷ One nonprofit developer interviewed for this case study mentioned that a project was denied HUD funding partly because it did not provide adequate transportation service. However, what constitutes an "adequate" level of transportation service is not explicitly stated, so it is left largely to the judgment of HUD staff. Several nonprofit developers active in the Bay Area who were interviewed felt that Sections 202 and 811 should more clearly define the minimum thresholds for achieving "ready access."

Advocacy Groups

The San Francisco Bay and the surrounding hillscape enjoy a natural beauty that is cherished by residents and visitors alike. Many independent nonprofit groups have recognized the importance of the Bay Area's natural resources and have adopted missions of conserving and protecting the environment. Some groups are particularly focused on transportation issues and have long endorsed TODs as an effective tool for preserving open space by curbing sprawl and reducing automobile dependence. Accordingly,

the region's environmental advocacy groups have an increasingly active voice in promoting transportation and land-use coordination in general and TOD in particular.

The Surface Transportation Policy Program (STPP), a high-profile national advocacy group committed to balanced transportation solutions, has a California office. STPP has actively sought to remove barriers to smart-growth projects like TOD. For example, several Bay Area infill TOD proposals were blocked because, opponents argued, they would create significant traffic congestion, measured as "level of service" (LOS). California law, under the Congestion Management Act, requires that congestion be mitigated by supply-side improvements (like road widenings) that often have adverse impacts on pedestrian environments. In 2002, STPP sponsored a state bill (SB 1636) that changed the LOS and mitigation requirements for areas that city or county governments declare as an "infill opportunity zone." An "infill opportunity zone" must be within $\frac{1}{3}$ mile of a transit stop, with transit service having a maximum headway of 15 minutes. The streets and highways within the infill zone are exempt from CMA LOS standards. Mitigation methods for traffic congestion are flexible and can be in the form of pedestrian or transit improvements. STPP is also a leader in promoting LEMs, not only in the Bay Area, but also in other rail-served regions (see Text Box 18.4).

The Greenbelt Alliance is another nonprofit environmental group that supports TOD. The organization's broader mission is to protect open space and natural habitats from encroaching



© Institute for Location Efficiency

Another financing mechanism for TOD housing in the San Francisco Bay Area is the availability of Location Efficient Mortgages (LEMs). After housing, transportation is the second largest expenditure in the average annual budget of Bay Area households. People living in transit-rich communities are less likely to drive to work, stores, schools, or recreational activities, research from the region consistently shows. Therefore, they spend less on transportation costs, such as vehicle purchase, maintenance, insurance, and gas, and have more expendable income available. Underwriting LEMs increases the borrowing capacity of homebuyers by allowing a maximum housing-to-income ratio of 39% as opposed to the standard 28%. Ultimately, this adds buying power to the budgets of people shopping for homes in location efficient neighborhoods.

The idea of LEMs was a joint effort between the Natural Resources Defense Council, the Surface Transportation Policy Project, and the Center for Neighborhood Technology. Together, they formed the Institute for Location Efficiency and conducted research on household transportation spending and transportation patterns related to urban form. The research reported that neighborhood density and transit access have a statistically significant influence on vehicle miles traveled and vehicle ownership rates for households. From the research results, Fannie Mae, the nation's largest source of mortgages, agreed to authorize lenders to issue LEMs in four metropolitan areas, including the San Francisco Bay Area.

In determining the additional buying power for a specific location, the number of businesses within walking distance, proximity to transit stops or stations, and the frequency of transit service are all variables taken into account. The lender uses this information to predict how much money the household will spend on transportation and compares this amount to the cost of transportation for a similar suburban household. The savings of the transportation costs are then added to the purchasing power. The LEM concept is relatively new and largely unproven; the jury is still out as to whether it will significantly increase station-area living in America's rail cities. This is something that will no doubt be carefully watched in coming years.

Source: www.locationefficiency.com.

Text Box 18.4

sprawl. The Greenbelt Alliance views TOD as a critical component of smart growth, along with affordable housing, mixed uses, and flexible parking standards. The Greenbelt Alliance has established an endorsement program for new development projects, including TOD, which embraces these principles.

STPP and the Greenbelt Alliance are both members of the Transportation and Land Use Coalition (TALC). TALC is a partnership of 90 different Bay Area organizations that endorse smart growth and transportation choices. TALC's views are taken seriously by the powers-that-be in the region's transportation circles. TALC publishes reports that are often aimed at shaping policy decisions and expenditure plans for the Bay Area. In these reports, lay people and decision-makers alike are informed about the benefits of smart-growth measures like TOD. In 2003, TALC released a widely circulated report on the best and worst developments of the Bay Area (see <http://www.transcoalition.org/reports/b-w/best-worst.pdf>). For each of the nine Bay Area counties, TALC staff selected two development projects—one that captured smart-growth visions for the area and one that was poorly planned. Developments winning the “Best” awards were higher density and walkable, had affordable-housing components, and were located in close proximity to transit. TALC regularly provides success stories for public agencies and private developers to use as models for guiding future development.

Despite differing views on the specific components of TOD (such as appropriate densities or walkable distance to transit), environmental advocacy groups provide strong support for TOD in the Bay Area

through their coordinated efforts. They serve as “watchdogs” to ensure that public agencies do their part to encourage smart growth around transit agencies. They also provide a much-needed voice of support for infill development when there is community opposition. This has shielded public agencies from accusations of parochialism and unfairness. If nongovernment groups representing broader regional interests back TOD projects, local opponents face a tougher challenge in trying to block proposals.

It has not only been environmentalists and political “greens” who have coalesced to form advocacy groups that, among other things, promote TOD and other smart-growth initiatives in the Bay Area. Pro-business organizations have also entered the scene. The Silicon Valley Manufacturer's Group, which represents the interests of some of the world's leading high-tech companies, has identified “promoting transit-oriented development” as one of the organization's primary transportation goals.²⁸ Representing the larger corporate interests of the region, the Bay Area Council has gone on record as recommending that “funding incentives for transportation infrastructure should be provided to jurisdictions to accommodate . . . increased densities along transportation corridors and at transit hubs.”²⁹ Smart-growth interests have reached the level in the Bay Area where pro-environmental and pro-business factions have joined forces. The Bay Area Alliance for Sustainable Development, whose steering committee includes members from the Bay Area Council as well as the Sierra Club, recently issued a *Compact for a Sustainable Bay Area*, wherein members from the public and private spheres committed themselves to

reach out to financial institutions to encourage diverse housing types and mixed-use investments at transit-supportive densities within urban areas, near transit, which reuse underutilized or deteriorated areas; . . . [and] advocate in support of mixed-density and mixed-income residential development, including adequate affordable housing, particularly in areas with transit and other services.³⁰

Conclusions and Lessons

As a diverse region of nearly 7 million people, the San Francisco Bay Area has actively embraced TOD over the past two decades, albeit often in a piecemeal, community-by-community fashion. While many planners and professionals in the region understand the importance of building a united front to coordinate activities across jurisdictional boundaries, strong home-rule controls and the parochial instincts of localities and special districts have thwarted progress in this area. Development, whether around transit stations or freeway interchanges, continues to unfold in a largely ad hoc fashion, making the often-expressed regional goals of smart growth and coordination of transportation and land use more conceptual than real. One outside observer put it like this:

Although the Bay Area is widely known for its livability, coordination of land use and transportation planning, and the historic streetcar system in downtown San Francisco, the region has suffered its share of growing pains and serious missteps along the way to restoring a regional framework for transit.³¹

Despite a fragmented institutional landscape and a tendency for localities to

compete for rather than coordinate land use, the Bay Area has nonetheless become one of the more progressive regions of the country at seeking to incentivize TOD-like growth. The livable communities and affordable-housing initiatives of the MTC have been exemplary, as have subregional programs, such as the one introduced by the San Mateo County Council of Governments. A number of watchdog NGOs—TALC, the Greenbelt Alliance, and STPP—have also played a role in ensuring that legislative and statutory mandates regarding transportation and land-use integration are adhered to and that smart-growth principles receive plentiful airplay. And despite having the nation’s priciest housing market, numerous nonprofit housing developers have surfaced over the years, many of which have seized upon neighborhoods surrounding transit stations as the perfect settings for constructing affordable housing with “location efficiencies.” Pioneering programs introduced in the region, such as LEMs and sliding-scale impact fees, have sought to reward those residing and building projects near transit stops in financial terms.

Market conditions remain ripe for TOD in much of the Bay Area, and a growing number of real-estate developers are positioning themselves to fill the continually expanding niche for rail-oriented living. Some developers complain that red tape, institutional foot-dragging, and “too many cooks in the kitchen” still overly burden the TOD-building process. While most welcome the progressive efforts of the MTC and other institutions to fund ancillary and streetscape improvements around rail stations, what many want most is a more streamlined and efficient

station-area planning and decision-making process.

While development is being drawn to private parcels that surround Bay Area rail stations, building communities on agency-owned land, particularly strategically located surface parking lots, has been advanced more slowly. The contrast between VTA and BART policies and practices concerning joint development on agency-owned land demonstrates different agency philosophies and approaches. Without the burden of a one-to-one replacement parking policy, VTA has been able to take an entrepreneurial stance, working with private interests to build mixed-use projects on former surface parking lots. BART's more restrictive in-house policies on parking have historically tied its hands in pursuing TOD on agency-owned land. Only when an abundance of resources can be mustered to replace surface parking with fairly pricey structures, as occurred at the Fruitvale BART station, will an intimate connection between a suburban station and its surrounding community be achieved in BART's service jurisdiction. Furthermore, only when land prices are very high and shared parking possibilities are exploited, as is the case with the "second generation" TOD taking form around BART's Pleasant Hill Station, can a project that directly abuts a suburban station, like VTA's Ohlone Chynoweth, be expected. Despite this obstacle, real-estate markets remain hot enough, and smart-growth agendas have become so pervasive, that TOD on former BART-owned land is beginning to gain a foothold. The jury is still out on whether joint development efforts underway at East Dublin/Pleasanton, Walnut Creek, and Richmond will pay

off; however, proponents feel one good success story—whether Fruitvale, Pleasant Hill, or elsewhere—will be all it takes to unleash a floodgate of developer interest in TOD.

To date, some of the more successful joint development projects in the Bay Area have been spearheaded by local jurisdictions or community organizations. Historically, BART planners have had their hands tied in trying to pursue joint development, not only because of one-to-one replacement parking requirements but also because of a skeptical board that saw real-estate development as a distraction from the agency's central mission of running a rail-transit business. The board's position gradually changed as regional concerns over sprawl, traffic congestion, and affordable housing escalated. When BART staff was given the green light to work directly with private developers to build a joint development project that would potentially generate high revenues, the threat of increased densities often ignited community opposition. BART's original plans to increase ridership at the Fruitvale Station by building additional commuter parking conflicted with the community vision of a more pedestrian-oriented village that wrapped around the rail station. To its credit, BART has learned from past mistakes; in recent times, it has gone the extra distance to seek out community input in visioning the future and citizen involvement in the implementation process.

The challenges of building a metropolis, not just a handful of stations, which is supportive of transit remains an uphill struggle. Portland-style regional governance has been discussed on

numerous occasions in the Bay Area, but it has never been able to garner popular support because the political constituency for consolidating powers remains narrow. Most observers concede that regional governance is a pipedream and thus are resigned to something more modest in scope. Many applaud the efforts of the MTC and ABAG to encourage local interests to “think regionally and act locally,” whether through broad-based and inclusive regional visioning undertakings or tying purse strings to local smart-growth initiatives. The Bay Area Alliance, which works across the 110 jurisdictions of the region to promote economic and environmental sustainability, also holds promise in the minds of many. Whether such efforts will be enough to coordinate local TOD initiatives in a more holistic, integrated fashion is anyone’s guess. Regardless, steps are being made in the right direction to create a political culture that accepts and indeed embraces regional thinking. This can only help in the cause of promoting the institutional as well as physical coordination of TODs across the region’s nine counties.

Despite the region’s institutional fragmentation and the obstacle this creates for TOD, other pressures could bring about a more transit-supportive regional built form in years to come. Traffic congestion has gotten so bad that increasing numbers of communities see little recourse other than to concentrate growth around transit stops. In an interview with *Planning* magazine, Tom Margo, BART’s General Manager, remarked “We’re being courted by cities that want BART extensions,” noting that the agency’s policy of encouraging high-density growth around stations “helps us reward those communities that

make the zoning and land-use changes that we’re looking for.”³²

Notes

- ¹ Association of Bay Area Governments, *Smart Growth Preamble and Policies*. See www.abag.org/planning/smartgrowth/SG%20Policies/SG_Preamble_Policies.PDF.
- ² Association of Bay Area Governments, *Policy Based Projections*. See www.abag.org/planning/smartgrowth/projections.html.
- ³ MTC website: www.mtc.ca.gov/projects/livable_communities/lcindex.htm.
- ⁴ City/County Association of Governments of San Mateo. *2002 EPA National Award for Smart Growth Achievement Entry Package* (2002).
- ⁵ VTA, *Transit-Oriented Development Design Concepts* (1993).
- ⁶ BART, *BART Transit-Oriented Development Guidelines* (June 2003).
- ⁷ Ibid.
- ⁸ BART, *Developing the Future with Transit* (Oakland: California: Department of Real Estate Services, 2001).
- ⁹ D. Costello, R. Mendelsohn, A. Canby, and J. Bender, *The Returning City: Historic Presentation and Transit in the Age of Civic Revival* (Washington, D.C.: Federal Transit Administration, National Trust for Historic Preservation, 2003), 44.
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- ¹⁸ Lund et al., 2004, op. cit.
- ¹⁹ Tumlin and Millard-Ball, 2003, op. cit., p. 16.
- ²⁰ “Lend Lease Real Estate Investments and PricewaterhouseCoopers,” *Emerging Trends in Real Estate Markets 2002* (2002). See [http://www.lendlease.com/llweb/llc/main.nsf/images/pdf_emergingtrends_2002.pdf/\\$file/pdf_emergingtrends_2002.pdf](http://www.lendlease.com/llweb/llc/main.nsf/images/pdf_emergingtrends_2002.pdf/$file/pdf_emergingtrends_2002.pdf).
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- ²⁵ Lomax and Schrank, 2003, op. cit.
- ²⁶ California Tax Credit Allocation Committee, *A Description of California Tax Credit Allocation Committee Programs* (2001). See <http://www.treasurer.ca.gov/ctcac/programreg/062003.pdf>.
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- ²⁹ See http://www.bayareacouncil.org/ppi/tpt/51v_mtc1.html.
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- ³¹ Costello et al., 2003, op. cit., p. 38.
- ³² Tumlin and Millard-Ball, 2003, op. cit., p. 15.

Photo Credits

- 18.1 2002 EPA National Award for Smart Growth Achievement Announcement
- 18.2 N. Goguts
- 18.3 N. Goguts
- 18.4 City of San Francisco, Planning Department
- 18.5 N. Goguts

Chapter 19

Southern California: From TODs to a Region of Villages

TOD experiences in Southern California have been well documented.¹ Perhaps it is because of the challenges of building a transit-friendly landscape in a region of crisscrossing freeways, where the automobile culture is firmly entrenched, that so much research has focused on Southern California. On the other hand, perhaps it is because Los Angeles's genesis owes much to the Red Car system and interurban rail lines of a century ago that interest in modern-day TODs runs high. Regardless, the political, economic, and cultural dimensions of TOD in the nation's second-largest region continue to fascinate.

This case study summarizes past research on the impacts of TOD on transit ridership, land values, affordable-housing supplies, and overall neighborhood quality. Through field work and interviews, the effectiveness of various planning, policy, and financial tools in promoting and implementing TOD projects in Southern California is also revealed. Monetary benefits derived by public agencies from joint development projects on agency land are also documented. Under the assumption that high-quality bus services can foster TOD, this case also investigates development activities along Southern California BRT lines.

It is not just bad traffic and foul air that have sparked interest in TOD. Southern California's demographic shifts—in particular, large increases in Spanish-

speaking and Asian immigrant populations—have also drawn attention. These cohorts are thought to be more receptive to transit-oriented living because many immigrants come from cities with intensive transit services.

Southern California's Market for TOD

Interest in TOD has been propelled by ongoing rapid population growth, worsening congestion, air pollution, and an affordable-housing crunch in Los Angeles, San Diego, and other parts of Southern California. More senior citizens will also reside in Southern California in coming years. By 2030, the percentage of people age 65 or older will be higher than in Florida today. The Latino population is expected to grow from 27% to 39%.

A recent study suggests that the demand for “dense, walkable neighborhoods” in Southern California will grow substantially, in part due to an aging population and a more culturally diverse population base.² Changing tastes and exasperation with an automobile-dependent lifestyle are also increasing the demand for more urban and urbane places (e.g., “café culture”).

Due to a variety of factors—including exclusionary zoning, stringent condominium liability laws, and NIMBY activity—there is an undersupply of dense, multifamily housing in Southern California. As a consequence, the region

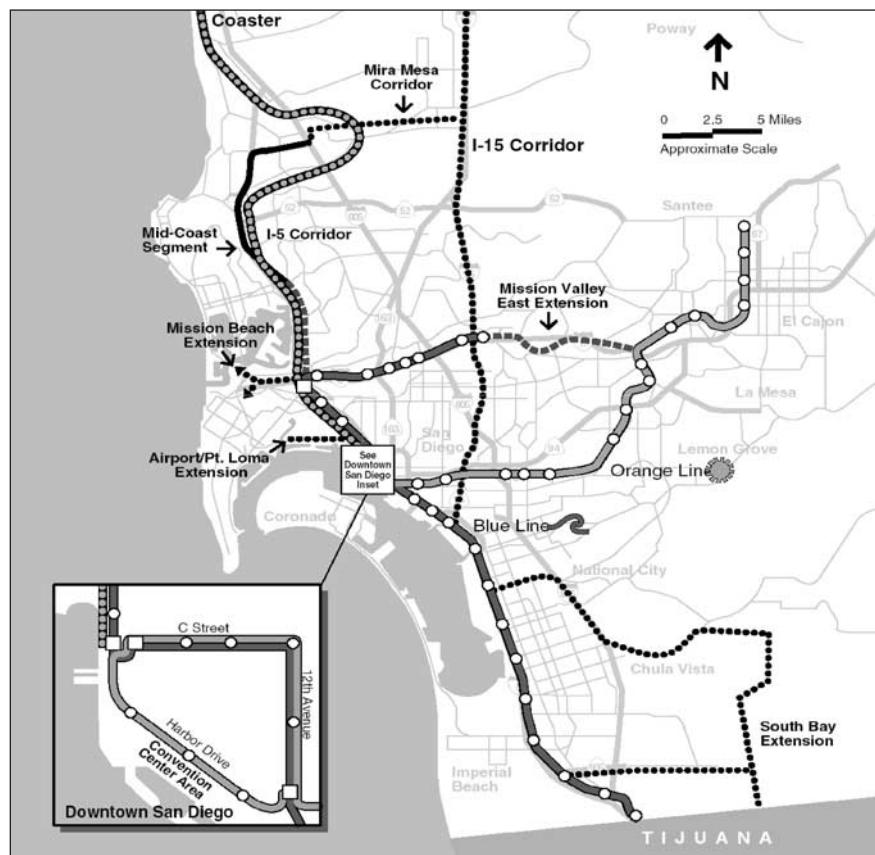
is rated as the “nation’s best multifamily market due to development constraints (Proposition 13 tax/spend limits) and investors’ flight to quality.”³ Increasingly, transit stops are being viewed as natural habitats for targeting affordable-housing production.

Other Factors Stimulating TOD

Market needs are not the only factors that have boosted the prospects for transit-supportive growth in Southern California. Rail transit—in particular, light and heavy rail—is being built and expanded at a feverish pace, providing fertile soil in which to plant TOD and joint development projects. San Diego

County currently has two light-rail lines plus a commuter-rail service (the Coaster) (see Map 19.1), and several light-rail extensions are underway. Today, Los Angeles County boasts one heavy-rail line, three light-rail lines, and an extensive network of commuter-rail services (Metrolink) (see Map 19.2).

In both San Diego and Los Angeles, growth is gravitating to transit stations in part because traffic congestion, in the minds of many, is becoming unbearable. In 2000, metropolitan Los Angeles and San Diego were ranked the first and fifth most congested regions nationwide, respectively.⁴ The opening of the Mission Valley extension of San Diego’s Blue



Map 19.1. Regional Rail Transit Network and Planned Extensions in San Diego County, 2000. *Source:* Metropolitan Transit Development Board.



Map 19.2. Metro Rail Services, Los Angeles County.

Source: Los Angeles County Metropolitan Transit Authority.

Line in 1997 sparked the development of several TODs: Hazard Center, Rio Vista West, and Fenton Market. Similarly, along the Los Angeles Red Line, several notable projects (Hollywood/Highland, Hollywood/Vine) are taking form. New TOD projects have also been proposed or are under construction along Los Angeles’s recently opened Gold Line to Pasadena (e.g., Avenue 57 and Del Mar).

Besides offering tenants and customers a chance to avoid traffic congestion, the ability to reduce parking outlays (\$30,000 per space) has further attracted developer interest in TOD.

The Hollywood/Highland project located on Los Angeles’s Red Line, where the Grauman’s Chinese Theatre (home to the Academy Awards ceremony) is located, was sited near the subway so that many of the 9 million annual visitors could patronize transit, allowing parking to be substantially downsized.

Policy Context

San Diego County

In San Diego County, a host of progressive policies and programs, introduced by municipalities and the

regional planning organization, has helped foster TOD over the past decade or so. Regional planners are increasingly looking to TOD to transform greater San Diego from a spread-out, automobile-oriented setting to a more compact, mixed-use, transit-supportive built form. To pave the way toward a more sustainable future, the region's 18 municipalities and the county government have endorsed the recent smart-growth plan developed by the San Diego Association of Governments (SANDAG).⁵ Regarded as a first step towards the implementation of regional smart growth, the plan aims to shift development to "transit focus areas."

To better integrate land use and transportation, SANDAG, MTDB, the North San Diego County Transit Development Board (NCTD), and local jurisdictions jointly prepared a Regional Transit Vision (RTV) report in November 2001. The RTV identifies transit improvements that are needed to bring about increased TOD use. SANDAG recently introduced a 5-year, \$25-million incentive program to leverage smart-growth pilot projects. These measures are expected to increase the share of jobs within ¼ mile of transit stops from 39% in 2000 to 45% in 2030. As a result, transit's share of commute trips is expected to jump from 5% to 10% over the same period.⁶

At the municipal level, the city of San Diego is one of the most TOD-supportive jurisdictions in the United States. In 1992, the city adopted TOD Design Guidelines and Council Policy 600-39 to promote TOD projects. Some of its pioneering initiatives included the enactment of reduced parking standards, a transit area overlay zone to encourage

higher residential densities, mixed land use, and a combination of the above initiatives embedded within a new Urban Village Overlay Zone.⁷

In June 2002, the city of San Diego approved its Strategic Framework Element, which updated its already transit-friendly General Plan.⁸ This nicely illustrated document proposed a "City of Villages" as the future form. The City of Villages concept is composed of five hierarchical village categories (see Figure 19.1). TOD guidelines are recommended by its accompanying Action Plan to apply to two categories—urban village centers (e.g., University Towne Center) and transit corridors.

The level of cooperation between San Diego's regional entities and local municipalities in promoting TOD is exemplary. All site plans requiring a discretionary permit from the city of San Diego are forwarded to MTDB for review and comment. Also, a senior planner from the city of San Diego works at MTDB as an agency liaison.⁹ Moreover, as part of the RTV, SANDAG and local jurisdictions work together to identify areas where future transit stations can be located and to prepare design guidelines that ensure high levels of interaction between transit facilities and neighborhood centers.

Other policies have likewise worked in favor of TOD. SANDAG has developed its own trip-generation rates for evaluating the impacts of mixed-use, high-density projects; rates are lower than Institute of Transportation Engineers standards for comparable single-use developments.¹⁰ Also, the city of San Diego has amended its street-

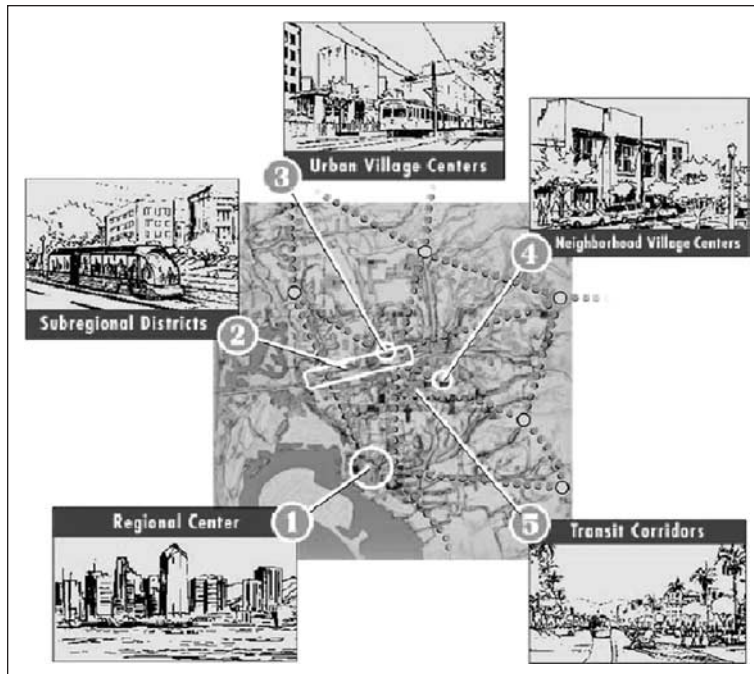


Figure 19.1. The City of San Diego's Future City of Villages. *Source:* City of San Diego.

design manual to allow narrower street widths in transit-served neighborhoods. In Chula Vista, new development proposals are reviewed against a Design Element Checklist that, among other things, promotes orientation to transit, bicycles, and pedestrians over orientation to automobiles.

The Los Angeles Region

The degree of interagency coordination to promote TOD in metropolitan Los Angeles has been equally impressive. The Southern California Association of Governments, the region's MPO, worked closely with the Los Angeles County Department of Regional Planning to prepare guidelines for development of livable communities. The core idea of livable communities, like TOD, is to promote mixed land uses in pedestrian-friendly environments so as to reduce reliance on the private automobile and,

by getting more people onto neighborhood streets, to build social capital.¹¹ The guidelines are intended not only for transit station areas but also infill and redevelopment projects.

In recent years, the Los Angeles County Department of Regional Planning has devoted considerable resources to TOD planning along unincorporated portions of the Metro Blue Line. In 1996, it formed transit-oriented districts around four Blue Line stations: Slauson, Florence, Firestone, and Imperial. Zoning ordinances were enacted to prevent land uses that are incompatible with TOD and to provide density bonuses.

TOD is also actively promoted by Los Angeles's regional transit agency for Los Angeles, the MTA. The MTA has assigned responsibility for TOD activities to its Department of Joint Development.

The department strives to exploit development opportunities around rail stations both to generate operating revenues and build a ridership base.

The city of Los Angeles promotes TOD mainly by preparing specific plans for station areas. To date, it has formed two transit-oriented districts: Avenue 57 and Vermont/Western Avenue. Zoning reforms, like mixed-use overlays and density bonuses, have been introduced in each district to leverage TOD.

Joint Development

The MTA's Department of Joint Development is in charge of the system's "property asset development and management program to promote the best use [of] MTA-owned properties at and adjacent to transit station corridors with private and/or public sector cooperation."¹² Each joint development project aims to promote transit ridership while generating financial "returns on investment" to the MTA, based on a fair market return for their properties. The MTA, with the assistance of local jurisdictions, prepares development guidelines specific to each joint development site that designate types and intensities of land uses as well as transit-oriented design features. MTA's joint development implementation procedures are shown in Text Box 19.1.

Challenges to TOD in Southern California

Southern California experiences underscore the challenges of implementing TOD, providing a cautionary tale of the promises and pitfalls of coordinating projects among multiple partners and stakeholders.

Good Planning—the Necessary but Insufficient Ingredient

The Blue Line, which runs from downtown Los Angeles to downtown Long Beach, cuts across numerous city boundaries. Much of the line traverses large swatches of unincorporated land administered by the county government. As the nation's most heavily patronized light-rail corridor, the Blue Line serves immigrant and transit-dependent populations. These populations are located mostly in economically depressed neighborhoods, which provide less-than-ideal conditions for attracting developer investments.

To overcome these obstacles, the County's Regional Planning Department (RPD) has gone the extra distance to create a welcoming environment for developers. Soren Alexenian, the planner in charge of the RPD's TOD efforts, said in an April 2003 interview that the state of California's passage of the Transit Village Act in 1991 prodded the county and its board of supervisors to think seriously about TOD around rail stations. While the Transit Village Act offered little in terms of direct financial benefits to the county to further their efforts, it put TOD "on the radar screen" and made it worthwhile to consider. Provisions like the exemption of TODs from level-of-service standards under California's Congestion Management Act were also appealing.

Throughout the conceptualization and development of the station-area plans, county planners meet with local citizens' advisory groups every week. The close working relationship between planners and citizens is a hallmark of this planning effort. According to

MTA's Joint Development Implementation Procedures

A. Project Proposals Initiation / Solicitation: MTA periodically conducts market feasibility studies of agency-owned properties at and near transit stations. These market analyses provide the basis for establishing project priorities and implementation strategies. Then MTA also prepares development guidelines for each joint development project and solicits proposals through a competitive selection process. Alternatively, projects may be initiated by a private entity, MTA, or other agencies.

B. Proposal Evaluation:

1. *Unsolicited Proposals:* Anyone wishing to propose a joint development project can submit it directly to MTA's chief executive officer (CEO). The CEO and staff, in consultation with local jurisdictions, then analyze the proposal using MTA Joint Development Implementation Procedures. (See: http://www.mta.net/trans_planning/CPD/joint_development/images/attachment_b.pdf.)

2. *Solicited Proposals:* In evaluating proposals solicited through an RFP process, the MTA utilizes an evaluation panel generally consisting of MTA personnel, consultants, academic professionals, and local jurisdiction technical staff, where appropriate.

C. Exclusive Negotiations Agreement: Upon approval of a recommended developer and authorization by the MTA Board, the CEO enters into an Exclusive Negotiations Agreement (ENA) with the developer for a period of 180 days.

D. Development Agreement: Upon satisfactory fulfillment of all the development requirements in the ENA, the MTA may enter into a Joint Development Agreement for the implementation of a project. The Development Agreement shall describe the rights and responsibilities of both parties.

E. Adjacent Construction Guidelines: These policies and procedures shall be implemented, as appropriate, in conjunction with the "Adjacent Construction Design Manual, Volume III, MTA Design Criteria and Standards, 1994." This Manual establishes the criteria and review process for all construction.

F. Statutory Basis: The MTA's joint development function acquired a statutory basis. Under California Public Utilities Code, Section 30600: "The district may by grant, purchase, gift, devise, or lease, or by condemnation, or otherwise acquire, and hold and enjoy, real and personal property of every kind within or without the district necessary or incidental to the full or convenient exercise of its powers."

Text Box 19.1

Alexenian, previous planning initiatives suffered because local communities were not involved in the planning process from the beginning. Citizens often felt excluded from the decision-making process and feared the planners were trying to impose changes upon their community. While planners may be tempted to complete planning studies first and then approach the public with a well-prepared set of recommendations, Alexenian stressed the critical importance of involving local citizens early on. In the case of the Blue Line, the RPD was able to avoid a confrontation with local residents when the station-area plan went before the Board of Supervisors for approval. Developers like public engagement, since reducing the likelihood of a community backlash against a TOD development reduces the risks inherent in a project.

Developer risks have also been reduced in other ways. The RPD, for example, has created a transparent, finite, and quick process for developers to use in proposing projects and securing approvals from the county. According to Alexenian, the most effective tools “get government out of the way” and reduce the “red tape” involved with project approvals. Expedited entitlement review is a critical component of the county’s campaign to leverage TOD. RPD consulted with local developers and found they wanted density bonuses as-of-right rather than via special variance. Efforts are presently underway to codify, de jure, higher permissible densities around transit stops.

Getting permits for mixed-use development has historically been difficult and drawn out. Typically, a

mixed-use proposal would take 6 months for approval. Developers pleaded for a more predictable and manageable entitlement review process. In response, the county has expedited entitlement reviews, reducing development fees and providing density bonuses for Blue Line station areas.

Cutting red tape does not mean that developers are given a free rein. In the case of the Blue Line station areas, the RPD placed a number of conditions on developers in return for streamlined reviews. In particular, while automobile-oriented uses (such as single-use commercial strip development and car-wash businesses) were previously permitted almost by right, revised station-area zoning codes ban automobile-oriented uses that are considered to be out of synch with TOD. Another condition of development approval is that projects include a 33% affordable- or senior-housing component.

The county’s RPD has also managed to get TOD on the “radar screens” of other county agencies. For example, the RPD successfully worked with the county public works department to install street trees, crosswalks, and other amenities next to the Florin Blue Line station (see Photo 19.1). Standards for pedestrian-friendly street designs have also been developed cooperatively among RPD, the public works department, and emergency response agencies (including county fire services).

Now that the RPD has completed station area plans and the county board of supervisors has approved them, the agency’s focus has shifted to “marketing” TOD. However, getting the word out requires staff time and resources, two



Photo 19.1. Florin Blue Line Station.

things in short supply given recent budget troubles. While the MTA has been a helpful partner in the past, staff and budget cuts in its own Department of Joint Development have limited its role in outreach. To date, while some infill and nonprofit housing developers have expressed interest, no TOD projects have broken ground, nor are any development proposals in the pipeline for any Blue Line station areas. Clearly, efforts to engage the community, streamline the entitlement process, and introduce zoning incentives are a necessary but not sufficient condition for TOD.

Impediments—Automobile-Oriented Development and Economic Stagnation

The locations where TODs are planned and built are, by definition, driven by the locations of transit stations. Often, new transit stations are sited with little regard for an area's potential to spawn TOD and more regard for where land can be acquired most cheaply, with the least amount of disruption. Since transit agencies may try to reduce their construction costs by siting stations in economically troubled areas where right-of-way is cheap, TOD undertakings in these areas are often doubly challenged—they must overcome local zoning codes and surrounding

uses that favor the automobile while struggling to revive sometimes moribund real-estate markets. In effect, TOD is forced into the position of fostering economic revitalization while simultaneously transforming the local urban fabric.

Planting the Seeds of TOD in a Sea of Automobile-Oriented Development

Metropolitan Los Angeles is in many ways a setting where islands of TOD have formed in a sea of automobile-oriented development. There, automobile-oriented uses are routinely approved by the county, almost by right.

The challenges of making TODs work in a land of automobile-oriented developments run deep in Los Angeles, particularly for nonprofit developers, who are often short on investment capital. According to Livable Places—a Los Angeles-based nonprofit housing developer—financing mixed-use projects for private and nonprofit developers in Los Angeles is difficult, if not impossible, unless a project includes structured parking. This is not so much a requirement imposed by local governments as it is a financial reality. Even in the city of Los Angeles, where the zoning codes provide a 1,500-foot buffer around transit stations that reduces parking requirements, mixed-use projects are tough sells. The need for parking is driven by the perceived requirements of the investment community. Investors and banks are so used to financing single-use, automobile-oriented development with standard code parking that they do not feel comfortable with mixed-use development unless it provides ample parking to attract motorist patrons. This

is even the case with vertically mixed projects (e.g., ground-floor retail and upper-level lofts and apartments) within easy walk of a rail station. This stance puts a huge financial strain on nonprofit developers, in particular, who struggle to obtain financing for single-use projects. The added strain of financing an expensive parking structure puts mixed-use projects out of their financial reach.

Redevelopment Agencies: Powerful but Sometimes Problematic TOD Partners

In metropolitan Los Angeles, some staff from municipal agencies and transit operators expressed a lack of self-assurance in their TOD “deal-making” abilities. They also are somewhat skeptical of each other. Local governments question the commitment of transit agencies to land-use issues, and transit agencies question the TOD implementation expertise of local governments. Moreover, local governments and transit agencies alike feel that their biggest TOD challenges stem directly from preexisting land-use patterns and their own preexisting limitations as public agencies.

Redevelopment agencies are a different story. In California, redevelopment entities are in a particularly good position to leverage TOD because of the considerable fiscal powers granted to them. However, when the organizational focus of a redevelopment agency is not on TOD, these powerful entities can easily become impediments instead of helpful partners. Livable Places’s efforts to develop TOD housing on a parcel near a Long Beach Blue Line station met with resistance from the city’s

redevelopment agency even though the project had received the whole-hearted support and financial backing of the city government. While the city’s general plan designated the project’s parcel and surrounding area for housing, the redevelopment agency had its sights on automobile-oriented commercial development. Livable Places was not helped by the development pressures in the neighborhood, which are active, but decidedly automobile-oriented. A number of projects currently under construction adjacent to and surrounding Long Beach’s Blue Line stations include a car wash and a gas station. Through drawn-out negotiations with the city, Livable Places has been able to get approval for its project despite the initial resistance from the redevelopment agency.

Since Los Angeles’s new rail lines often run through neighborhoods that were developed decades ago in an automobile-oriented fashion, there is often a lack of vacant land near stations. Where land is available, it is often in small parcels that are difficult and expensive to assemble. Here, the resources and tools available to redevelopment agencies can help. After overcoming the initial obstacle of the redevelopment agency’s plans conflicting with the city’s general plan, Livable Places was able to garner financial assistance from the city to purchase the parcels it sought to package together into a good-size housing project. Still, obstacles to this project remain. Yielding to pressures from local citizens’ groups and merchants, the city has yet to relax its parking standards for the site, insisting on 2.25 parking spaces per dwelling unit. Such standards make affordable housing difficult, especially when land constraints and high land prices require costly

podium, tuck-under, or below-grade parking.

In unincorporated parts of Los Angeles County along the Blue Line, the county's RPD has encountered similar obstacles. There, as in Long Beach, lot sizes are small, and large vacant parcels are hard to come by. The RPD suspects that this is part of why developers have shied away from TOD projects there so far, but the RPD does not have the powers of eminent domain or the resources to acquire and assemble parcels to attract developers. The future of TOD in unincorporated areas rests in RPD's ability to convince the County Board of Supervisors to nominate and back the formation of Blue Line station areas as redevelopment districts.

When a redevelopment agency is whole-heartedly "on board" with a TOD project, its organizational experience in dealing with the development community and its powerful toolkit can catapult it into a limelight role. Such was the case in Los Angeles, where the city's Community Redevelopment Agency (CRA) was a driving force behind the successful completion of the Hollywood/Highland mixed-use project along the Red Line. At this site, a retail complex was to be built partially through a joint development deal with the MTA on land they owned next to the subway station, as well as through acquisition of an occupied office building, which was to be vacated and torn down. Coordinating and negotiating these deals became the CRA's job, and they used a wide range of skills and financial incentives to accomplish the task. Interestingly, many of these skills were substituted for a tool traditionally employed by and expected of redevelopment

agencies: eminent domain property acquisitions.

First, the CRA played the role of land assembler, buying the office building and its parcel through an open-market purchase and negotiating a lease for the MTA-owned property for the developer. After buying the office building, the CRA needed to help relocate the building's tenants. One of the tenants filed a lawsuit challenging its involuntary removal from the property. The CRA took on the role of the principal defendant in this case, which they subsequently won. Kipp Rudd, the CRA's project manager for the Hollywood/Highland project, feels that by playing the role of property assembler, tenant relocater, and principal legal defender for TOD projects, redevelopment agencies can bring an important set of tools to the TOD partnership table—tools that circumvent some of the political and regulatory obstacles other entities face in using the powers of eminent domain.

With the Hollywood/Highland project, the CRA also functioned as "middleman" between the developers and the city, negotiating the terms of entitlements and approvals from the city for the developers. The CRA furthered its role as negotiator, brokering a deal with the city for the city to give \$100 million to the project (the price tag for the entire project was \$600 million), which included \$60 million in bonds to build a parking garage and \$30 million in lease revenue bonds to build the Kodak Theatre.

Financing Tools and Obstacles

In the Los Angeles area, a number of innovative financing tools are being

employed to leverage TOD. One is a partnership between private lenders and MetroLink/Southern California Regional Rail Authority that offers incentives for homebuyers to purchase transit-oriented housing. Another is a state bill to create a state infrastructure bond that favors areas designated for TOD. LEMs and various redevelopment funding tools are also being used to leverage TOD.

As in the Bay Area, an LEM is currently being pilot-tested in Los Angeles. To further increase housing affordability and promote public transit use for buyers in the high-cost housing market of Los Angeles, the developers Montage Development and American City Vista and Fannie Mae and MetroLink have developed an innovative housing-transportation partnership. American City Vista and Fannie Mae created the “LA Transit Mortgage,” with flexible credit guidelines and a down payment requirement as low as 1% or \$500 for buying a home at Montage at Village Green.¹³ In addition, MetroLink provides each new homebuyer with up to two free MetroLink monthly passes.

The city of Long Beach has also spearheaded its own affordable-housing lending program, which Livable Places is using to develop transit-based housing. Known as a “silent second” mortgage, this program provides a loan to low- or moderate-income homebuyers that covers the down payment of their home purchase. The loan is “silent” because it does not require repayment until the home is sold, allowing the homebuyer to qualify for a larger principal loan amount. This loan program helps organizations like Livable Places justify the financial viability of their projects to

lenders by increasing the population of potential buyers.

Unique sources of funding are also being used in the Los Angeles area to facilitate parcel assembly. In the case of Livable Places’s Long Beach project, the Enterprise Foundation provides funds for land acquisition; the foundation is a partnership of nonprofit organizations that provides funding and technical assistance to communities for local economic revitalization. Additional funds have been secured from the mainstream banking community. Since California requires banks to lend a fixed percentage of their portfolio to affordable-housing projects, and since there are so few affordable-housing projects in Southern California, banks are sometimes eager to find projects to lend to. This access to ready and eager funding sources makes nonprofit and affordable-housing developers potentially powerful TOD project partners.

Redevelopment agencies also represent a potential source of funding for housing. Increasingly, they are being required by the state of California to contribute a portion of their special assessment revenues (such as TIF funds) to affordable-housing projects. In the case of the city of Los Angeles’s CRA, state law requires the agency to contribute 20% of its TIF funds to a citywide affordable-housing trust fund account. The city then uses these funds to issue grants to nonprofit housing developers to build below-market-rate housing. Until recently, these funds could be used anywhere in the city. To encourage TOD in the Hollywood/Highland project area, the CRA increased its contribution to 25% and specified that TIF funds collected from

the Hollywood/Highland project be spent in close proximity to the rail stop. The city is currently in the process of expanding this requirement to all future CRA projects.

This affordable housing contribution requirement has both positive and negative implications for TOD projects. On the positive side, placing residences in redevelopment areas that would have, under normal conditions, been built out with high-revenue, high-profit uses such as office and retail space ensures that TODs are more balanced in character. The better jobs-housing balance a development provides, the less residents will travel outside their neighborhood to shop and commute. Furthermore, TODs with permanent residents instill a sense of security by supplying an area with 24-hour “eyes on the street.” Finally, on-site residents provide commercial entities with potential customers throughout the week, whereas employment centers provide potential customers just 5 days per week for only 9 hours in a day.

Nevertheless, the MTA’s joint development staff contends that the affordable-housing requirements placed on the CRA have limited their ability to facilitate deals—in particular, at two potential TOD sites: Hollywood/Vine and Vermont/Western. Developers initially approached the CRA because the land consolidation costs were too high. But due to the affordable-housing requirements of CRA projects, the projects did not financially pencil out. The MTA’s hands were tied as well. Since the public looks askance at the MTA using its funds to subsidize development, the agency is reluctant to write-down land costs for developers.

Without some form of substantial public financial assistance, these TOD opportunities will be stalled.

A serious barrier to implementing TOD in Southern California, in particular in San Diego County, has been the lack of infrastructure capable of supporting compact development in many urban and older suburban neighborhoods. Undersized water mainlines, outdated storm water runoff facilities, and an overall aging physical plan can limit how much infill and mixed-use development gets built. Proposition 13, passed in 1978, placed a ceiling on property-tax increases, limiting the amount of funding available for public infrastructure in California. The city of San Diego faces an estimated \$2.5-billion public facilities shortfall by 2020. Since TODs offer the potential for more efficient use of transportation and other public infrastructure, San Diego’s City of Villages Plan calls upon stepped-up TOD to help reduce the public facilities shortfall.

A California Assembly bill—AB 531—aims to ease this infrastructure shortfall pressure (see Text Box 19.2). The ambitious bill, sponsored by several members of the Southern California Assembly, calls for a \$10-billion “Community Infrastructure and Economic Development Bond,” in part to serve the needs of communities near transit stations and to accommodate high-density development.¹⁴

TOD Cases

San Diego Region

Over the past two decades, TOD has prospered in the San Diego region. The first wave of TOD occurred in the late

CALIFORNIA ASSEMBLY BILL 531

This bill would enact the Community Infrastructure and Economic Development Bond Act of 2004, which, if adopted, would authorize the issuance, for the purposes of financing local infrastructure and economic development projects, of bonds in the amount of \$10,000,000,000 pursuant to the State General Obligation Bond Law. Most relevant to TOD is the following:

- Establishing a sufficient source of state financing that will be made available to local governments through grants and low-interest loans through the California Infrastructure and Economic Development Bank over a 10-year period will create both public and private incentives to invest in local infrastructure. State funds will leverage local financing sources and assist communities to repair and upgrade key locally identified infrastructure and community development projects, which will enhance local quality of life and expand the local economy.
- The bank shall give a significant priority to infrastructure projects incorporating one or more of the following: an infrastructure project that will expand a community's ability to accommodate increased residential densities; and an infrastructure project that will increase residential and commercial uses within the vicinity of a rail station or a permanent transit stop served by local public ground transportation.

Text Box 19.2

1980s and early 1990s. Nine projects were completed during this period (see Table 19.1 and Map 19.3). A second wave of TOD activities occurred over the period of economic boom from 1995 to 2000 and in the wake of the opening of the Mission Valley line. Between 1995 and 2000, TOD activities were still going strong. Five notable projects were completed during this period: Hazard Center, Rio Vista West, Fenton Market

Place, Barrio Logan, and an adult education center in National City. Since 2000 and because of the region's economic downturn, only two reasonably large-scale TOD projects have been completed so far—Paseo Condominiums and City Heights Urban Village. Of the 15 TOD cases listed in Table 19.1, most are located in the cities of San Diego (8 cases) and La Mesa (5 cases). Two-thirds are located in suburban settings, and two are situated in downtown San Diego. Seven TODs were built on former industrial sites and four on vacant land. Joint development of some kind (i.e., development on MTDB-owned land) occurred in 60% of the TOD cases. Most (13 of 15) of the TODs have occurred around light-rail stations; only two are served solely by buses.

Most of the region's early TODs were concentrated in the city of La Mesa, a city that has looked on TOD as a tool to help develop vacant and under-developed downtown parcels and, in so doing, expand its tax base. With the extension of the Blue Line through Mission Valley, TOD projects began to sprout in many of the new station areas over the past 5 to 10 years.

Previous studies have documented many of these earlier projects in considerable detail.¹⁶ Two of the region's more recent TODs, which offer useful policy insights, are reviewed below.

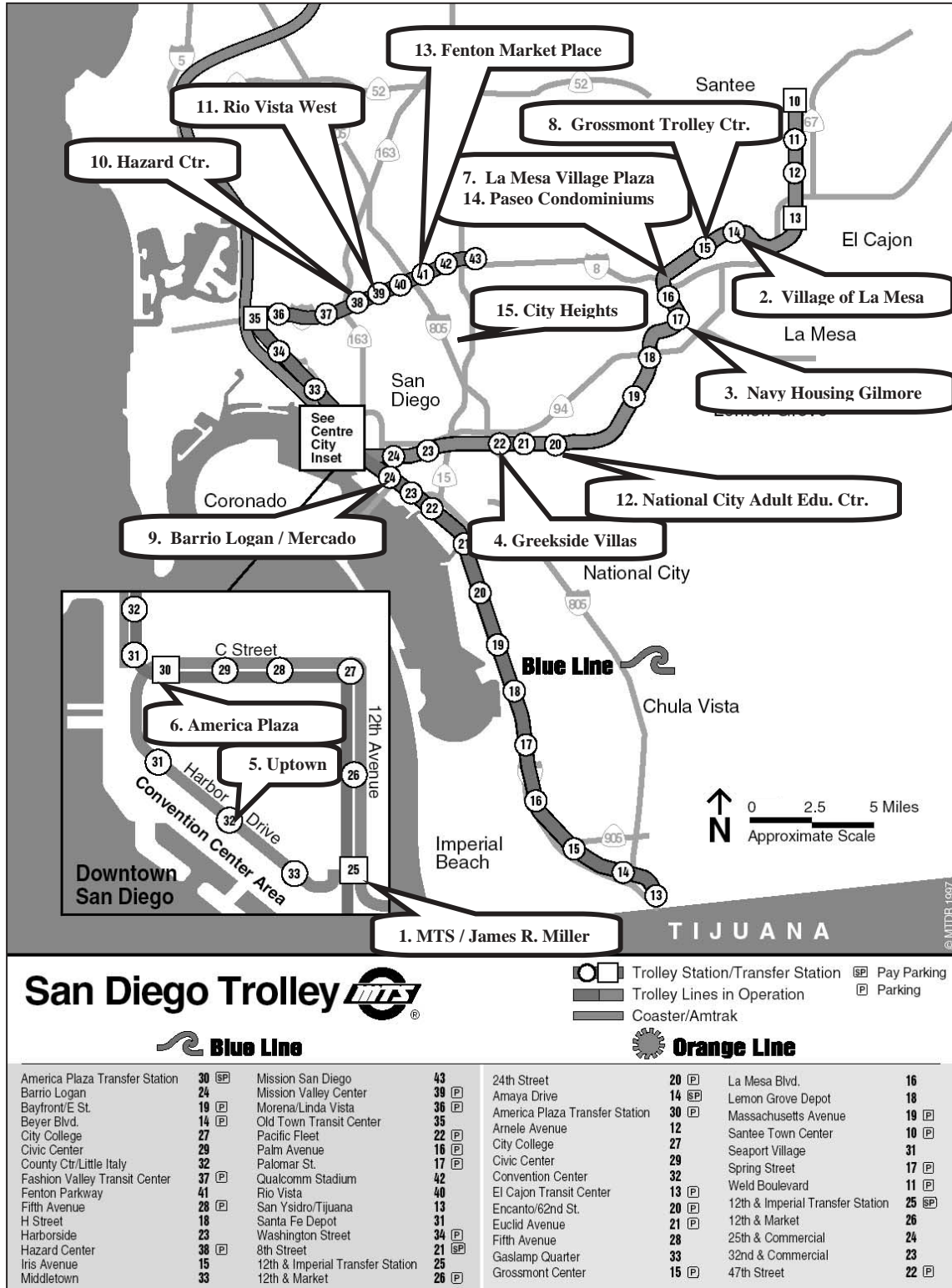
Hazard Center

Some 40 years ago, the Hazard family amassed a considerable amount of land in the city of San Diego's Mission Valley and successfully lobbied to have highways along the riverbed. When the

Table 19.1. Transit-Oriented-Development Projects in San Diego County¹⁵

Project	Project Description	Year Completed	Transit Services / Ridership	Location	Funding	Prior Land Use	Joint Development
1. MTS / James R. Miller Building	2.5 Ac; 180,000 sq. ft. office (10-story joint development)	1988	2 LRTs (Blue & Orange); 7 buses; 20,000 daily on / off	Downtown (San Diego)	MTDB & San Diego County jointly funded through tax-exempt lease revenue bonds	Industrial	Public project
2. Villages of La Mesa	20 Ac; 2- or 3-story, 384 apartments	1989	1 LRT (Orange)	Suburban (La Mesa)	Mostly private; transit agency; exchanged land for better location; redevelopment agency; city; TIF	Vacant land	Station incorporated
3. Navy Housing Gilmore Terrace	38.5 Ac; 244 low & moderate-income dwelling units (DUs).	1989	1 LRT (Orange); 4 buses	Suburban (La Mesa)	Private	Vacant land	No
4. Creekside Villas	4 Ac; 141 apartments; daycare center	1989	1 LRT (Orange); 1 bus	Suburban (San Diego)	Private	Vacant land	MTDB land
5. Uptown District	14 Ac; 320 DUs; 140,000 sq. ft. retail/commercial; 3,000 sq. ft. community center	1990	6 buses	Urban (San Diego)	Private; city: \$9 million	"Big-box" retail center	City-owned site
6. America Plaza	34-story, 555,000 sq. ft. office; 17,000 sq. ft. retail; 272-room hotel; 10,000 sq. ft. museum	1991	2 LRTs (Blue & Orange); Coaster & Amtrak; 20 buses; 9,650 daily on / off	Downtown (San Diego)	Private: \$3.78 million; MTDB: \$1.2 million; city; redevelopment agency (CCDC)	Retail	Station incorporated
7. La Mesa Village Plaza	5.6 Ac; 95 condos; 29,000 sq. ft. retail; 65,000 sq. ft. commercial	1991	1 LRT (Orange); 3 buses	Suburban (La Mesa)	Private; city; redevelopment agency; transit agency; TIF	Non-industrial	Station incorporated
8. Grossmont Trolley Center	8.8 Ac; 113,278 sq. ft. retail	1991 (JD); TOD (planning)	1 LRT (Orange); 7 buses	Suburban (La Mesa)	Private; MTDB (transit center)	Vacant land	600-car shared parking
9. Barrio Logan / Mercado	4 Ac; 144 apartments; 100,000 sq. ft. commercial / retail	1992;1996-97	1 LRT (Orange)	Urban	\$12.3 million from public and private sources, 6 equality partners involved	Industrial	No
10. Hazard Center	41 Ac; 120 condos; 136,000 sq. ft. retail; 300,000 sq. ft. office; 300-room hotel	1995	1 LRT (Blue)	Suburban (San Diego)	Private	Industrial	No
11. Rio Vista West	94 Ac; 300+ apartments; 240 condos; 970 DUs; 37,000 sq. ft. retail; K-Mart	1996-97; 1999; 2003	1 LRT (Blue)	Suburban (San Diego)	Private	Industrial (Sand/gravel operation)	No
12. National City Adult Education Center	2,000 sq. ft. commercial; 24,000 sq. ft. with 20 classrooms and administrative offices	1997	1 LRT (Blue); 2 buses	Suburban (National City)	MTDB as landowner; redevelopment agency; school district	Industrial	Equity partnership, 55-year, \$1/year ground lease
13. Fenton Market Place	725 DUs; 525,000 sq. ft. commercial / retail; Branch library	1999-2000; portions permitted	1 LRT (Blue)	Suburban (San Diego)	Private	Industrial	No
14. Paseo Condominiums	0.5 Ac; 18 condominiums (2-story townhouses over live/work space); 1 office/retail	2003	1 LRT (Orange); 3 buses	Suburban (La Mesa)	Private	Industrial / warehouse	No
15. City Heights Urban Village	37.6 Ac; 9 city blocks; 116 townhomes; 6-story, 127,000 sq. ft. office; 111,000 sq. ft. retail; city facilities;	Completed / under construction	3 buses	Urban (San Diego)	City; redevelopment agency; private	Mixed residential retail	No

Ac=acre; JD=joint development (on transit-agency land); MTDB=Metropolitan Transit Development Board; CCDC=Central City Development Corporation; TIF=Tax Increment Financing



Map 19.3. Transit-Oriented Development Projects in San Diego County, 2003.

Blue Line extension to Mission Valley was announced, the family seized the opportunity and began proposing several large-scale, mixed-use, master-planned projects for parcels strategically sited near planned rail stops. Most recently, the Hazard family built a 136,000-square-foot shopping center across from the Blue Line’s Hazard Center Station (see Photos 19.2 and 19.3).¹⁷ The retail facility features a supermarket, clothing stores, popular restaurants like Prego’s and Trophy’s,¹⁸ and a seven-screen cinema. Recently, a 300-room hotel and a 300,000-square-foot office building were added to Hazard Center. All of the non-residential land uses are north of the

station. Lying immediately to the south are 120 condominiums (see Photo 19.4). Wide sidewalks, street trees, street furniture, and zebra-crosswalks help make Hazard Center a very pedestrian-friendly environment. The high-density, mixed land uses and pedestrian-friendly environment make Hazard Center a prototype of TOD. The community is self-contained to a certain degree—people can live, work, and shop locally. Workers can also commute via the Blue Line from and to this site, improving the efficiency of the Blue Line by bringing bi-directional transit riders. (See Text Box 19.3 for a discussion of Hazard Center and three other Blue Line TODs that make up the “Mission Valley TOD Corridor.”)



Photo 19.2. Hazard Center’s Shopping Center and 300-Room Hotel. (Northwest of the Hazard Center Station)

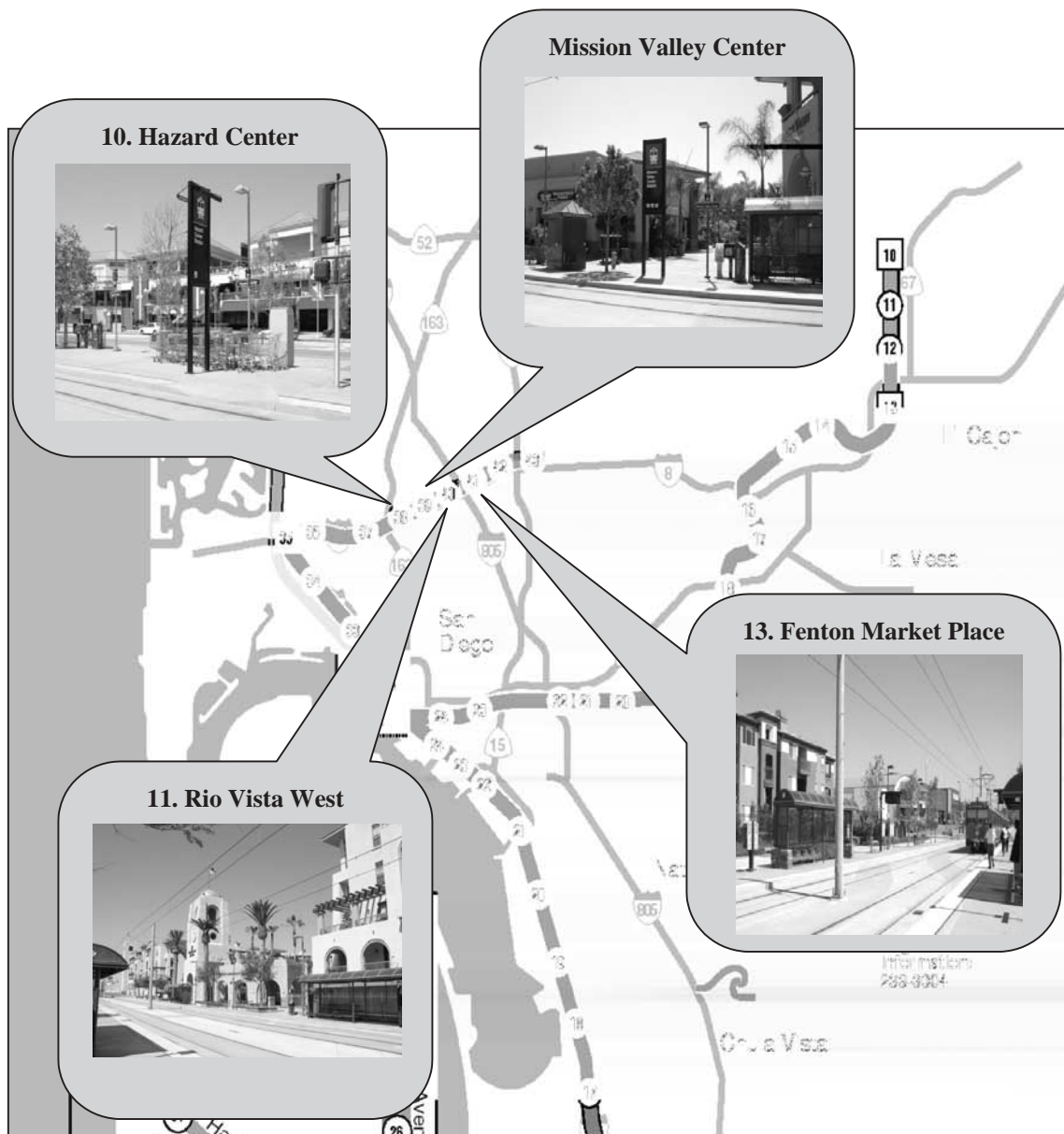
Hazard Center is a largely market-driven TOD. Relatively little government assistance was needed to build the project. While the city of San Diego’s TOD-friendly zoning and parking codes were used to the developer’s advantage, no major financial commitments were needed from the city. The combination of worsening traffic congestion, shifting demographics, and a receptive policy environment made choice parcels, like



Photo 19.3. Hazard Center’s Shopping Center and 300,000-Square-Foot Office Building. (Northeast of the Hazard Center Station)



Photo 19.4. Hazard Center’s 120 Condominiums. (South side of the Hazard Center Station)



“Mission Valley TOD Corridor”—San Diego Blue Line

Two TODs (Hazard Center and Fenton Market Place) plus a “para-TOD” together with the Mission Valley Center’s shopping mall along the Mission Valley segment of San Diego’s Blue Line constitute a “TOD corridor.” The clustering of these four master-planned projects at four consecutive stations provides great inter-station access via the convenient Trolley service. In the long run, the good inter-station access of TOD projects may increase ridership (including the all-important bi-directional flows), bring more business to stores, instill greater security through “eyes on the street,” and stimulate more development around transit stations.

Mission Valley Center is a combination of automobile-oriented development and TOD. Although it has large parking lots in front of stores, the Blue Line station is located right behind the stores (see photo above), which allows shoppers to easily access the shops via the Trolley service. The supermarket in Hazard Center not only serves residents living in the surrounding station area, but also customers from other stations. The photo above shows that customers can bring their groceries with shopping carts into the Trolley station after shopping and leave them right at the station.

Similarly, Rio Vista West is a para-TOD. While the original project, designed by Peter Calthorpe, had the densities and limited parking of a more traditional TOD, market realities prompted the developer to revise the original plan to accommodate several large floorplate retail projects. Rio Vista is today seen as a setting where transit users, pedestrians, and motorists coexist in reasonable harmony, and where the project’s cost pro forma pencil out.

the Hazard Center site, a “natural” for spawning San Diego’s newest generation of TODs.

City Heights Urban Village

Before it was ripe for urban redevelopment, City Heights (see Map 19.3) suffered from years of decline and high crime, blemishing San Diego’s reputation as a vacation and convention destination.¹⁹ While no rail lines serve the neighborhood, good-quality bus services are being considered to help jump-start an in-city TOD.

To revitalize City Heights, a redevelopment project containing three subprojects was built, one of which is the City Heights Urban Village. The Urban Village was made possible through the cooperation of several public agencies (e.g., the City Manager’s Office, San Diego’s Redevelopment Agency, the Metropolitan Transit District, and two school districts), a private enterprise (CityLink Investment Corporation, the master developer of City Heights Urban Village), and Price Charities, a nonprofit organization. The project aims to bring mixed land uses, affordable housing, and high-quality transportation to the area.

The City Heights project occupies nine blocks (37.6 acres) bounded by University Avenue, 45th Street, Landis Street, and 43rd Street. The project differs from most TOD projects, which are mostly located by light-rail stations, in being served only by three bus lines.²⁰ Together, the three lines serve significant portions of the city, providing good accessibility to downtown San Diego and burgeoning job centers to the north.

The City Heights Urban Village contains 116 townhomes, several schools, a six-story, 127,000-square-foot office building, 111,000 square feet of retail, a theater, civic facilities (such as a park and soccer fields), and a recreation center. Recently, more townhomes and office space were added (see Photo 19.5).²¹

In contrast to Hazard Center, proactive measures were needed from the public sector to make the City Heights project happen. The planning and policy tools used to leverage this project include site assembly, fee reductions, permitting assistance, off-site infrastructure improvements, and low-cost financing incentives. For example, the nonprofit organization, Price Charities, provides \$25,000 second mortgages to those who purchase homes in City Heights. It also reduces a portion of their mortgage or rent payment by providing community services.²²

Los Angeles Region

Joint development on transit-agency land is the most common form of TOD in greater Los Angeles primarily because of the limited amount of land available around transit stations. However, classical



Photo 19.5. City Heights Office and Townhomes, San Diego, California.

TOD components—such as mixed land uses and pedestrian-friendly designs—have been embedded in most joint development projects. Los Angeles’s experiences underscore the importance of targeting joint development projects in areas with strong local real-estate fundamentals.

Map 19.4 shows the TOD and joint development activities along the rail lines in Los Angeles County, where joint development denotes building activities occurring on Los Angeles County MTA’s property or air rights. Most projects are located along the Metro Red Line, where the market pressures are strong. Joint development or TOD projects have been completed or are in active negotiations at 10 of 16 stations.²³ Twelve projects are in various planning phases (e.g., Hollywood/Vine, Wilshire/Vermont). (See Table 19.2.)

Along the Blue Line, joint development/TOD activities have slowed ever since the completion of the Pacific Court TOD at Transit Mall Station. Fairly poor market performance of the redevelopment-assessed projects, combined with the region’s economic downturn, have tempered developer interest in mixed-use projects along the Blue Line corridor. The ground-floor retail components of these projects in particular have suffered, evidenced by the many vacant storefronts.

While joint development/TOD projects near Los Angeles light-rail transit may be waning near the Blue and Green Lines, this may not be the case for the recently opened Gold Line to Pasadena (see Text Box 19.4). In contrast to the Blue and Green Lines, which run through large swaths of economically

troubled neighborhoods, the Gold Line runs through neighborhoods where the market is ripe for development, and developer interest remains strong. Several joint development/TOD projects have been proposed or are under construction along the Gold Line (e.g., Del Mar and Avenue 57).

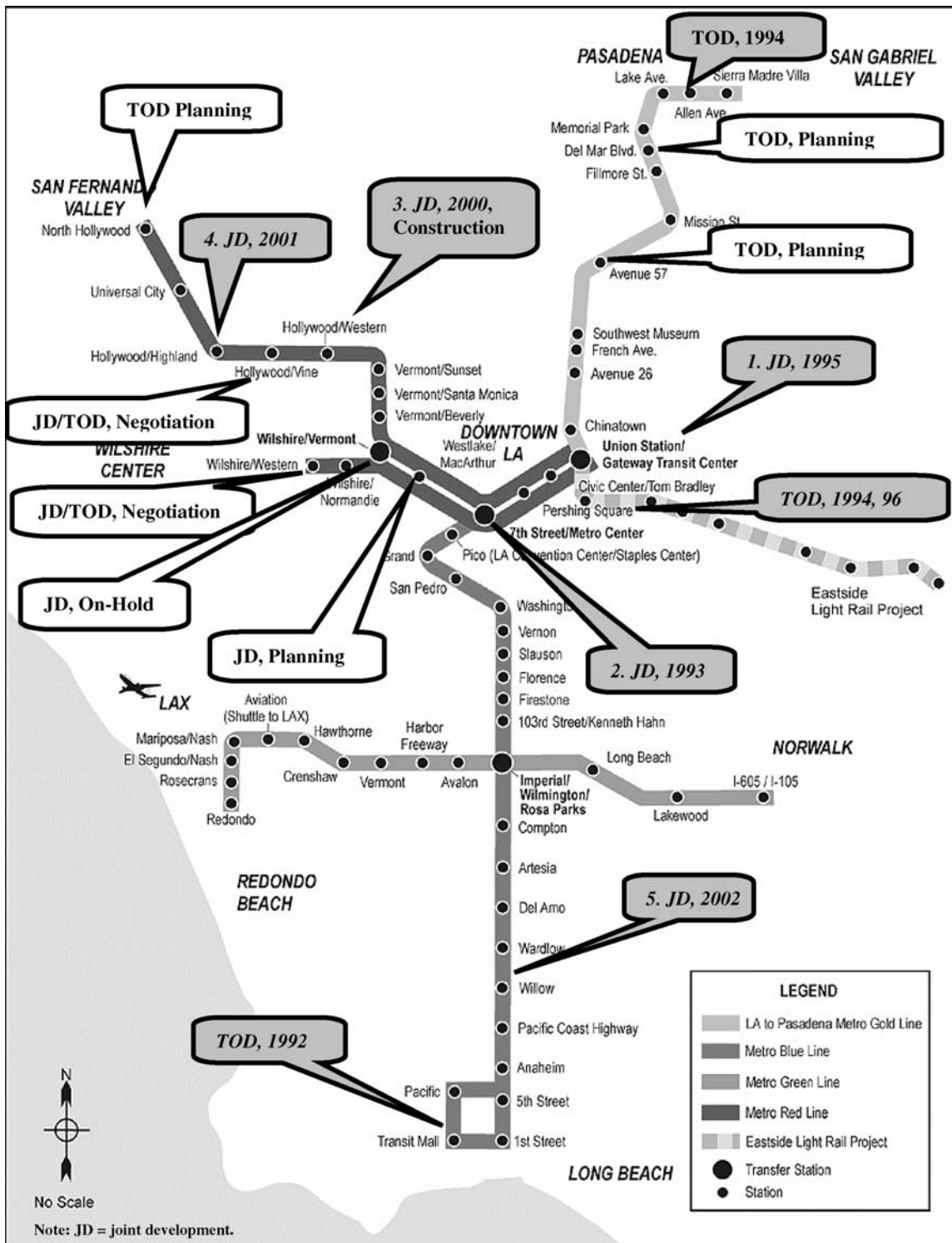
Hollywood/Western

The Hollywood/Western project lies along the Metro Red Line. It is a two-phase project with affordable housing and retail space. The first phase—composed of 60 two-story affordable units that enjoy a direct connection to the Metro rail station on the site—was opened in late 2000 (see Photo 19.6). The second phase is composed of 70 affordable-housing units, in three- to four-story wood frame construction; 10,000 square feet of neighborhood-serving retail space; and a child-care center. It also has a direct link to the Metro Red station. Redevelopment funds, including TIF, were relied on heavily to make this project a financial reality.

Joint Development and BRT— Los Angeles

Los Angeles’s Metro Rapid, one of the United States’ first BRT services, might have been expected to attract TOD because of the enhancement of surface bus services. To date, however, little development has been drawn to the BRT corridor, although this could change over time as the system matures and expands.

BRT represents a hybrid of rail transit service and bus service, sometimes called rubber-tired rail transit. The general BRT components include frequent service,



Map 19.4. Joint Development and Transit-Oriented Development Projects in Los Angeles County.

Table 19.2. Joint Development Projects in Los Angeles County

Project	Project Description	Year Completed	Station Location	Location
1. Union Station Gateway	<ul style="list-style-type: none"> • 12.3-Ac. Transit Ctr.; MTA headquarters; 2 million sq. ft. of future office and retail • Cost sharing, land lease, concession 	1995	Metro Red & upcoming Metro Gold	Downtown (City of Los Angeles)
2. 7th and Flower	<ul style="list-style-type: none"> • 3 incorporated entrance portals into office tower • Land lease 	1993	Metro Red & Blue	Urban (City of Los Angeles)
3. Hollywood / Western	<ul style="list-style-type: none"> • 1st phase: 60 affordable-housing units; 2nd phase: 70 affordable-housing units; 10,000 sq. ft. of retail; child-care ctr. • Land lease 	2000; under construction	Metro Red	Suburban (City of Los Angeles)
4. Hollywood / Highland	<ul style="list-style-type: none"> • 640,000 sq. ft.; 75 shops and restaurants, Kodak Theater, Chinese Theater, and a hotel are integrated with the MTA-owned properties • Land lease 	2001	Metro Red	Urban (City of Los Angeles)
5. Willow Street	<ul style="list-style-type: none"> • 528,000 sq. ft. mixed use with 132,000 sq. ft. of retail, 700-car transit parking structure • Land lease; developer funded the MTA parking facility; which is amortized annually by the rent credit 	2002	Metro Blue	Suburban (City of Long Beach)

bus signal priority, simple route layouts, less frequent stops than typical bus service, and level boarding and alighting. BRT components generally improve services in terms of travel time, wait time, reliability, and comfort. In the case of Los Angeles’s Metro Rapid, ridership jumped by 27% along the BRT-served corridor within 1 year of its 2000 opening. Given such performance, it seems reasonable to assume that BRT carries the potential to stimulate TOD.

Currently there are four BRT routes in the Los Angeles Basin (see Map 19.5). The east-west Metro Rapid routes, Whittier/Wilshire and Ventura, opened in 2000; the north-south Vermont and South Broadway routes began service in late 2002. Nevertheless, except for intermodal stations with the Metro Red Line, no TOD projects have broken ground or are in the planning stages.

The absence of TOD so far is likely due to several factors. One, while BRT is generally more effective at attracting riders than local bus services, BRT ridership is still relatively low compared with rail transit (i.e., 15,000 versus 110,000 passengers per day, on average). Thus, BRT stops are not as attractive to developers since they do not provide the same passenger throughput as rail transit stations. Second, BRT lines, almost by definition, do not require the same high levels of capital investment as rail transit facilities do. Most Los Angeles BRT lines are little more than local bus lines with fewer stops, aided by signal prioritization. The lack of major capital investments for these “barebones” BRT projects makes them less attractive to developers.²⁴ Lacking passenger loading platforms and dedicated busways or bus lanes, these lines have few amenities that provide long-term insurance of permanent investment to investors or

Pasadena's Transit-Oriented Redevelopment



Pasadena's Del Mar Station with Joint Development Project Under Construction

While other cities struggle over how to get the TOD ball rolling, Pasadena is one of those rare and intriguing examples of a place where TOD and joint development projects just seem to happen on their own. And Pasadena has only just recently begun to receive rail service from the just completed Gold LRT Line. Pasadena's successes over the past 10 years have come about in large part through a combination of excellent planning and a favorable local real-estate market. Excellence in planning has taken the form of an inclusive and participatory public planning process that has developed a general plan and a series of specific plans that have laid the foundation for TOD. While the local real-estate market might seem to be out of the control of local policymakers, it has, nonetheless, been nurtured and enhanced by a commitment to preserving historic structures that help to create a sense of place in the city. With the introduction of Gold Line service, Pasadena has capitalized on the development potential around the system's new stations to encourage mixed-use development that fits the character and needs of the city.

Pasadena's market has not always been favorably disposed to TOD. During the 1960s and 1970s, the city was in decline, and its downtown was particularly hard hit. Like many cities, Pasadena formed a redevelopment agency and gave it wide latitude to "remake" the downtown along the lines of suburban shopping malls—large subsidized commercial projects with ample parking. Eminent Domain and TIF were used by the redevelopment agency for several projects, including a large downtown mall called the Plaza Pasadena. According to Mayor Bogaard, the current mayor, the public reaction to this project was one of revulsion. This project, in particular, galvanized citizen opposition to the redevelopment agency and led to its dissolution in 1981. What took its place was a new agency that is directly controlled by the city and its commissions; one that does not use eminent domain or TIF tools. Instead, the city focuses on protecting the historic buildings and

Pasadena's Transit-Oriented Redevelopment

engaging the public in a planning process that sets the stage for responsible infill development. Opposition to the old redevelopment agency also gave impetus to the development of a new city general plan that was in many ways a model of citizen participation. This general plan set the stage for the infill and TOD development that followed in the 1990s and continues apace today. From this process, three community goals were codified in the 1994 general plan: (1) protect existing single-family neighborhoods, (2) make Pasadena pedestrian friendly, and (3) get more residential development in commercial areas of the city. With this mandate for building pedestrian- and transit-friendly infill projects downtown, Pasadena was able to add roughly 1,000 new dwelling units in the 1990s in a city that many would consider to be already built out. Mayor Bogaard expects that around 4,000 will be added by 2010, 95% of which should be multiple dwelling units in commercial settings. According to the mayor, the Gold Line will serve as a spine for targeting future housing and mixed-use development in the city.

Text Box 19.4 (Continued)

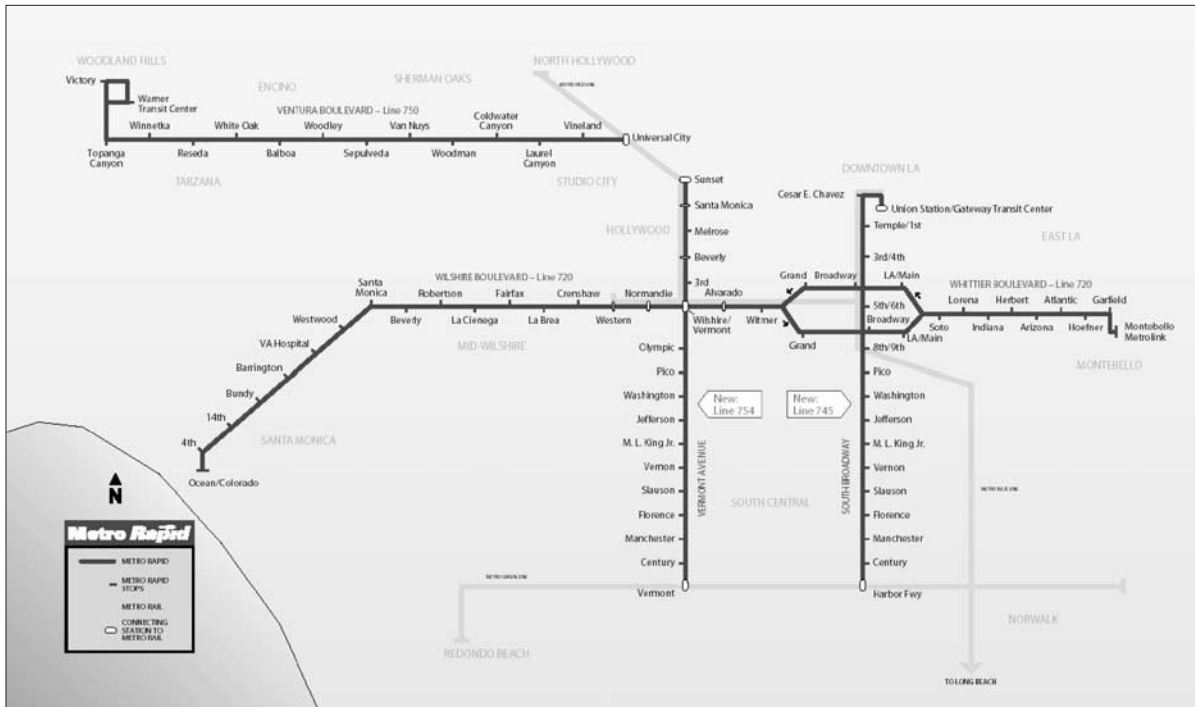
developers. Finally, there is a lack of vacant, developable land around most of the bus stops of the Ventura and Whittier/Wilshire Metro Rapid BRT routes. In fact, these routes were originally selected to connect already existing high-density areas so as to support transit ridership.

Things could be much different. The shortcomings cited in the previous paragraph are particularly prevalent along the San Fernando Valley line. This line is an exclusive busway that will run for 14 miles, served by 13 stops between the North Hollywood Red Line station and the Warner Center (a massive employment and retail center in Woodland Hills). The BRT line is projected to cost \$300 million when it is complete in 2005. These substantial capital investments, coupled with the significant travel time savings conferred by this project, may help spark TOD activities in coming years. The MTA

joint development staff is currently pursuing possibilities for a retail joint development project next to the planned Sepulveda Boulevard Metro Rapid Station, where the MTA owns 15 acres. A nearby retail mall is scheduled to be upgraded, and a number of retail establishments are under construction. The MTA has been approached by



Photo 19.6. Affordable Housing with Entrance to the Metro Red Line Incorporated into the Site, Hollywood/Western Station.



Map 19.5. Four Metro Rapid Lines in Los Angeles.

several nearby property owners who have expressed interest in building retail facilities on MTA properties.

San Diego’s TOD Tools

Because of the healthy level of TOD activities in the San Diego region over the past few decades, there is an established track record regarding which tools have been most effective in leveraging development around transit. Public agency liaisons and managers for each of San Diego’s TOD projects were asked to list the tools used for each project. Responses were compiled and compared to the effectiveness ranking of TOD tools from the nationwide survey reported in Chapter 4 (based on responses from local government officials).

Figure 19.2 shows the nationwide ratings of TOD tools (black boxes) and how frequently (white bars) each tool was

used in the San Diego region. In contrast to the national survey findings, the most effective tool, expedited entitlement review, was also the most frequently used tool in San Diego (63% of TOD projects). The second most frequently used tool—applied at half of the surveyed TOD projects—was relaxed parking standards; however, according to the national survey of local planners involved with TOD, this tool was not perceived as very effective. Zoning incentives/density bonuses were used at about one-third of San Diego’s TODs. Other frequently used tools that were also highly rated include capital funding, assistance with land assembly, and TIF.

Impacts of TOD

To date, little concerted effort has been made to measure the impacts of TOD in Southern California. This section reports

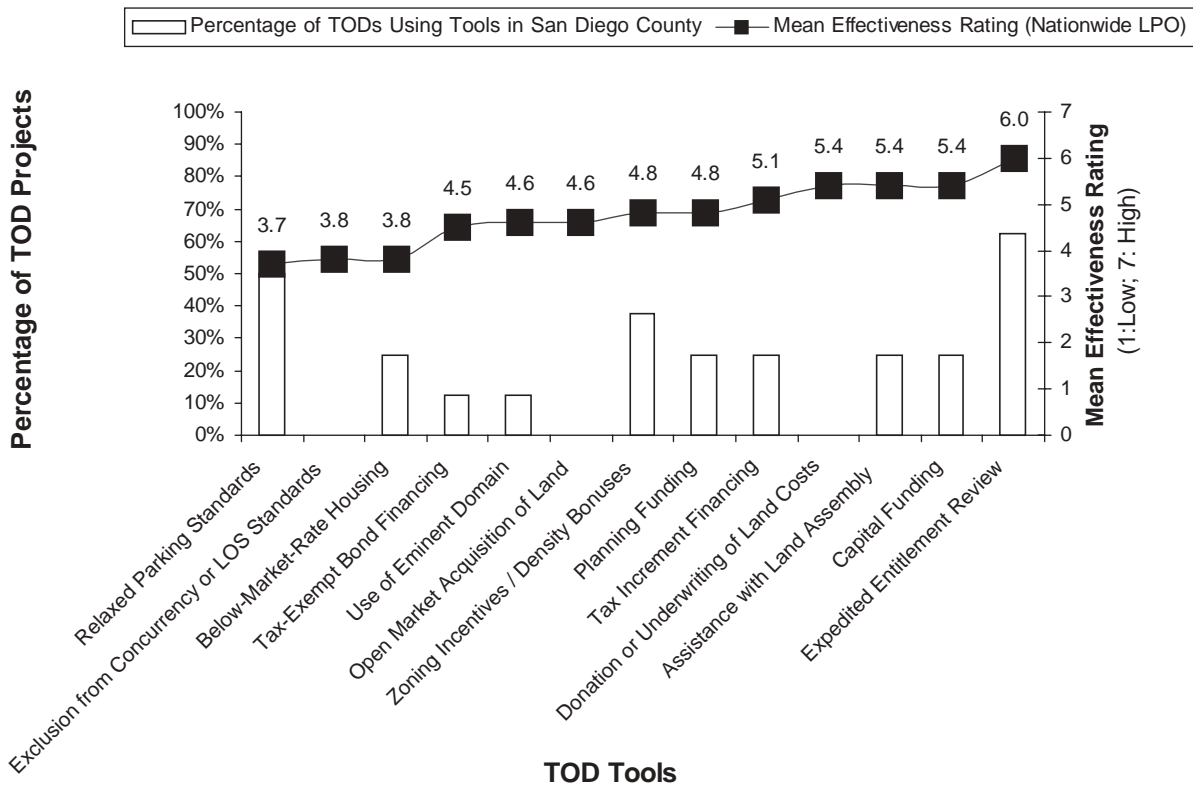


Figure 19.2. Mean Rating of Tool’s Effectiveness for Promoting TOD (Nationwide Local Planning Organizations [LPOs]) Versus Frequency of Tools Adopted in San Diego.

on San Diego planners’ perceptions of the impacts of San Diego’s TOD projects. City staff from San Diego and La Mesa, with firsthand experience with TOD projects in their respective communities, were asked to rate the impacts of TOD on various outcomes using a 1-to-7 Likert scale. While these results are based on the responses of just six individuals and on the experiences drawn from 10 projects, they are thought to be reflective of TOD’s general impacts to date in fairly built-up portions of San Diego County.

Figure 19.3 shows the perceived impacts of TODs in the San Diego region. TODs in the San Diego region are perceived as quite successful “overall,” with a mean rating of 5.6 out of 7. TODs are perceived as most successful at

improving housing choices and neighborhood quality. However, they are not viewed as effective at relieving traffic congestion. While TODs might reduce regional traffic congestion over the long run, based on San Diego’s experience, this is countered by increased “spot congestion” on roads feeding into TODs in the near term.

Monetary Benefits of Joint Development in Los Angeles

The land and concessions leases of the Los Angeles County MTA properties in joint development deals have brought significant monetary benefits to the agency. At Union Station, developers pay \$850,000 annually to MTA for leases of parking and concessions. At

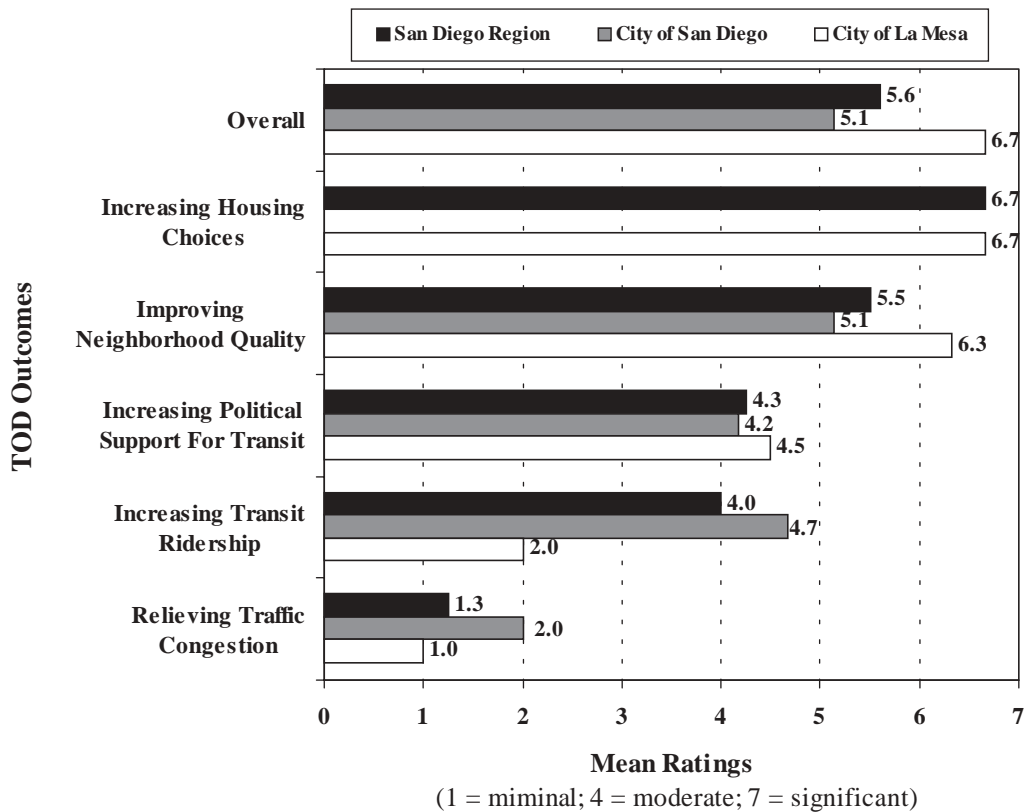


Figure 19.3. Local Planners’ Perceptions of TOD Impacts.

Willow Street Station, joint development brings MTA \$515,000 in rent credits annually. Since the developer funded the MTA parking facility to amortize the loan, the rent credit is discounted to \$51,000 until the loan is paid.

Benefit assessment has long been used as a tool to help pay for rail investments in the city of Los Angeles (see Text Box 19.5). Nine percent of the capital bonds for the first segment of the Red Line (\$130 million in total), generated to pay for capital improvements, were obtained from property owners near rail stations. While technically benefit assessments are not “joint development” because they involve no voluntary agreements between private developers and public entities, benefit assessments nonetheless have been a welcome form of financing

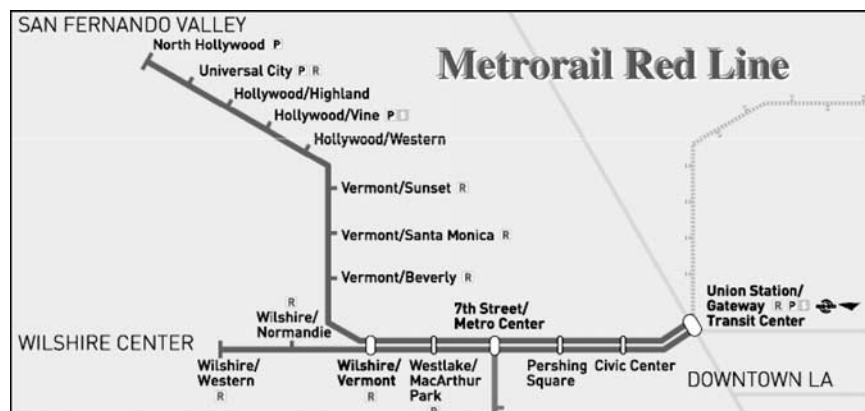
that draws on land-value increases produced, in part, by transit’s presence.

Conclusions and Suggestions

Population and employment growth, traffic congestion, and changing demographics are expected to increase the demand for high-density, mixed-use projects in Southern California. Transit stations are natural habitats to direct these projects to. To date, local governments and transit agencies in Southern California have been fairly proactive in making sure this is the case, and all signs indicate that this pro-TOD stance will continue in years to come. The policies, plans, and funding sources to promote TOD in Southern California are particularly important since the current supplies

MTA's Benefit-Assessment Program

The ability to conceive, plan, and implement innovative TOD-supportive programs is a key theme found in public agencies that have been successful at encouraging TOD in their jurisdictions. Over the past decade, the Los Angeles County Metropolitan Transportation Authority (MTA) has been a leader in this area with its benefit-assessment program. In 1985, the MTA's predecessor—the Southern California Rapid Transit District—implemented a benefit-assessment program to help fund its rail construction program. Benefit-assessment funds were used to pay off bonds for station construction for the first section of the Red Line system in downtown Los Angeles. While this funding mechanism was not implemented with the intention of encouraging TOD projects, the program was instrumental in the region's efforts to win federal rail construction funds for the first section of the Red Line and has thereby played a significant role in creating a supportive environment for TOD in the region. However, according to the current project manager for the MTA, David Sikes, the utility of benefit-assessment programs is limited. Since 1985, benefit-assessment revenues have totaled \$130 million for the MTA, paying around 9% of total construction costs for the first segment of the rail line. Mr. Sikes says that the program was much more valuable as a catalyst to rally support from the local business community for the rail construction program. During the early and middle 1980s, transit spending by the federal government was severely restricted. Los Angeles was able to secure funding from the federal government for the Red Line by showing a high degree of public and business-community support for the project. The Los Angeles Central City Association, a business advocacy group, led the fight to build the Red Line and institute the benefit-assessment plan, and roughly 90% of downtown property owners favored the benefit-assessment district when it was instituted in 1985. The willingness of the local business community to tax themselves with the benefit-assessment district was a critical political asset in the Red Line funding efforts—one that proved to the federal government and local congressional representatives that investments in the Red Line would pay off for them politically. In the words of Mr. Sikes, the benefit-assessment deal “put the project at the front of the funding line.”



Text Box 19.5

MTA's Benefit Assessment Program

However, when federal funds began to flow again for rail construction projects, the political imperative for benefit assessment programs disappeared. Based strictly on a financial analysis, MTA feels that benefit assessment districts do not generate enough revenues to justify expansion of the program—particularly in less dense areas outside of downtown Los Angeles, where fewer businesses mean lower revenues. This is particularly true now that rail systems have been built in downtown and other dense areas of the city. In these areas, without a well-organized partner like the Central City Association, MTA found winning the support of local businesses more difficult. In planning the Blue Line, which runs from downtown Los Angeles to downtown Long Beach, MTA analyzed the potential revenues from implementing a benefit assessment system along the proposed route and found that such a district would only be justified in the dense areas of downtown Long Beach. The city of Long Beach balked at the idea of having its station areas taxed at a higher rate than other station areas along the line. With the Green Line, which runs to the Los Angeles International Airport, analysts found that the airport area was the only financially viable area in which to institute a benefit assessment district. Unfortunately, at the time, the aircraft industry was the only major employer in the area, and it did not support the plan. When planning work began on the recently completed Pasadena Gold Line, MTA analyzed whether a benefit assessment program would make sense to help fund construction. MTA found that to generate enough funds to make it worthwhile, the tax burden would be so onerous for local businesses that it would risk turning the business community into a political obstacle to the project.

While benefit assessment districts have been useful tools for rallying political and funding support for the Red Line project, MTA's experience suggests that their utility is limited to areas with dense employment or for use as a political rallying point to encourage transit construction champions.



Metrorail Red Line Stations. MTA officials placed a strong emphasis on art, architecture, and interior design when conceptualizing the underground Red Line stations. Creating bright and airy spaces that are comfortable for waiting passengers adds considerable cost to subway construction, thus benefit assessment funds provide much-valued supplemental income to the transit agency. *Photo credit: E. Haas.*

of developable land within city boundaries are running out.

To date, Southern California has been a leader on the TOD front in many respects. The city of San Diego helped pioneer TOD zoning. Redevelopment law has been aggressively used to underwrite land developments in depressed inner-city station areas. Innovative housing-transportation programs are today allowing families to purchase homes at favorable rates, with minimal down payments, near MetroLink stations. Benefit-assessment financing has been introduced in Los Angeles, constituting one of the United States's few examples of transit-related value capture. Creative financing among multiple parties has given rise to successful bus-based TODs like the City Heights Urban Village in central San Diego.

Many observers hope that this culture of creative policy making will continue as the region moves forward with new light-rail extensions like the Gold Line and BRT initiatives. Still, automobile-oriented development is firmly entrenched and will not easily be altered. Nonetheless, a confluence of market forces, shifting demographics, and proactive public policies offers encouraging prospects for a future wherein more and more Southern Californians will have a choice to live, work, and shop in more transit-supportive environments.

Notes

¹ M. Bernick and R. Cervero, *Transit Villages in the 21st Century* (San Francisco: McGraw-Hill, 1997); N. Bragado, "Transit Joint Development in San Diego: Policies and Practices," *Transportation Research Record* 1669 (1999), 22–29; Seattle Department of

Transportation, *Policy, Planning, and Major Projects, Station Area Planning—Transit-Oriented Development Case Studies*, see http://www.cityofseattle.net/transportation/ppmp_sap_todstudies.htm; M. Boarnet and R. Crane, *Travel by Design: The Influence of Urban Form on Travel* (New York: Oxford University Press, 2001); California Department of Transportation, *Statewide Transit-Oriented Development Study: Factors for Success in California* (Sacramento, September, 2002), see http://www.dot.ca.gov/hq/MassTrans/doc_pdf/TOD/Divided/TOD%20Study%20Final%20Report%20-%20cover%20and%20TOC.%2002.pdf.

- ² D. Myers and E. Gearin, "Current Preferences and Future Demand for Denser Residential Environments," *Housing Policy Debate*, Vol. 12, No. 4 (2001) 633–659. See http://www.fanniemaefoundation.org/programs/hpd/pdf/HPD_1204_myers.pdf.
- ³ Lend Lease Real Estate Investments and PricewaterhouseCoopers, LLP, *Emerging Trends in Real Estate 2003* (2002), 38. See [http://www.lendlease.com.au/llweb/llc/main.nsf/images/pdf_2003emergingtrends.pdf/\\$file/pdf_2003emergingtrends.pdf](http://www.lendlease.com.au/llweb/llc/main.nsf/images/pdf_2003emergingtrends.pdf/$file/pdf_2003emergingtrends.pdf).
- ⁴ T. Lomax and D. Schrank, *Urban Mobility Report* (College Station, Texas: Texas Transportation Institute, 2000). See http://mobility.tamu.edu/ums/appendix_a/exhibit_a-19.pdf.
- ⁵ In September 2002, Governor Gray Davis signed into law a bill that transformed the regional planning body (SANDAG) into a regional transportation agency, incorporating the functions of the region's two major transit entities: MTDB and NCTD.
- ⁶ See http://www.sandag.org/programs/transportation/comprehensive_transportation_projects/2030rtp/2030_final_rtp.pdf.
- ⁷ Ibid.
- ⁸ City of San Diego, *Final Draft Strategic Framework Element—City of San Diego General Plan* (June 2002). See http://www.sandag.org/uploads/publicationid/publicationid_834_1725.pdf.
- ⁹ Ibid.
- ¹⁰ J. Faucett, "Appendix B," *Livable Communities Handbook: Land Use*

and Design Strategies for the South Bay Cities (July 2000). See <http://www.southbaycities.org/Committees/Livable/appb.pdf>.

- 11 The identified livable communities principles are local-serving activity centers, complementary mix of uses, reduced automobile dependency, multiple transportation modes, pedestrian friendly, adaptive reuse and infill development, public places, and human-scaled places. See <http://www.scag.ca.gov/livable/lctoolbox.htm>.
- 12 Los Angeles County MTA, “Joint Development Policies and Procedures” (May 2002). See http://www.mta.net/trans_planning/CPD/joint_development/images/policies_procedures.pdf.
- 13 See http://www.americacityvista.com/articles/News_and_Press_Releases/Press_Releases/PR070901.htm
- 14 See http://www.leginfo.ca.gov/pub/bill/asm/ab_0501-0550/ab_531_bill_20030218_introduced.pdf.
- 15 Sources include the following: interviews with Miriam Kirshner of MTDB, N. Bragado of the city of San Diego, and R. Hurst and R. Keightley of the city of La Mesa; Metropolitan Transit Development Board, “Transit-Oriented Development in San Diego” (May 2001); Seattle Department of Transportation, *op. cit.*; M. Bernick and R. Cervero, 1997, *op. cit.*; California Department of Transportation, *op. cit.*; Bragado, 1999, *op. cit.*; and Boarnet and Crane, 2001, *op. cit.*
- 16 *Ibid.*
- 17 See <http://www.sandiego-online.com/issues/september95/mv.shtml>.

- 18 See http://www.tripadvisor.com/Attraction_Review-g60750-d156306-Reviews-Hazard_Center-San_Diego-California.html.
- 19 See <http://www.sdccd.net/public/events/we/Online/Spring2001/sp01WE-5.html>.
- 20 Martinez + Cutri Corporation, “Urban Design Project—City Heights Urban Village” (San Diego: 2001). See http://www.mc-architects.com/port_detail.asp?ProjCategory=urban.
- 21 See <http://www.sannet.gov/redevelopment-agency/majorproj.shtml>.
- 22 See http://www.pricecharities.com/CHI_overview.shtml.
- 23 See http://www.mta.net/trans_planning/CPD/joint_development/images/program_update.pdf.
- 24 Los Angeles County MTA is scheduled to open a 14.4-mile BRT line in 2005: the San Fernando Valley Metro Rapid Transitway. This BRT service will operate on a dedicated lane between Chandler and Burbank, using the former Southern Pacific Railroad right-of-way.

Photo Credits

- 19.1 Y. Tsai
- 19.2 Y. Tsai
- 19.3 Y. Tsai
- 19.4 Y. Tsai
- 19.5 See <http://www.mc-architects.com/ConstructionPhotos.asp?ID=12>
- 19.6 Los Angeles County MTA
Metrorail Red Line

PART 5

LESSONS AND CONCLUSIONS

Combining insights and findings from the previous chapters, Chapter 20 summarizes the key policy lessons from the research. A matrix is also provided that identifies case studies that underscore each of the lessons. The concluding chapter reflects on the broader policy implications of the research and offers suggestions for future research on TODs.

Chapter 20

Research Findings and Policy Lessons

Current TOD Practices

TOD has gained and continues to gain a steady foothold in much of urban America. Surveys conducted for this research revealed that well over 100 TODs of various shapes and sizes currently exist across the United States. Most are in large rail-served cities. For bus-only places with a population under a half million, TOD is more of a concept than a reality. While TODs are generally nodal in nature, some settings, like Los Angeles, Arlington County, and Minneapolis, are pursuing TOD on a corridor or district scale or even as part of a regional strategy as in Portland.

In the United States, transit joint development, viewed in this study as project-scale TOD on a transit agency's (or other public entity's) property, is almost totally limited to rail transit systems. More than 110 joint development projects, ranging from air-rights developments to station connection fees, currently exist. The most common form of transit joint development is ground leases of agency land for commercial office development, followed by air-rights leases, operations and construction cost sharing, and station connection fees. The Washington (D.C.) Metropolitan Area is, by far, the nation's leader in transit joint development. The region presently has some 30 joint development projects, including such notable air-rights developments (and revenue generators) as Bethesda and

Ballston. Several large-scale joint development projects slated for construction, notably at the White Flint and New Carrollton Metrorail stations, are expected to become the nation's largest and, from the transit agency's perspective, most financially remunerative joint development undertakings.

Among large rail-served cities, one noteworthy trend is the conversion of park-and-ride lots to mixed-use, infill development. Almost 20% of the surveyed transit properties indicated that parking lots are in the process of being transformed into TODs, in many cases consisting of moderately dense housing. Parking-lot conversions have been encouraged by the Federal Transit Administration's new and more permissive joint development rulings, as well as the rising value of agency-owned land. One-to-one replacement parking policies, however, continue to limit parking-lot infill initiatives to urban settings where rents and land prices are sufficiently high to cover the cost of multi-level garages, which can run as high as \$30,000 per space.

From a public-sector perspective, finding funds to pay for TOD planning and implementation is often an uphill battle. Rarely, if ever, are general funds from cash-strapped local governments or transit agencies available for such purposes. Federal transportation pass-through monies, administered by MPOs, are finding their way to TOD planning

and support in some areas, such as with the Livable Communities Initiatives and Housing Incentive Program in the San Francisco Bay Area. Communities such as Sacramento, Seattle, and Portland are using federal funding from their New Starts grants to pay for strategic TOD planning. Besides intergovernmental transfers, individual investor funds and grants from private foundations have been used most frequently for TOD planning and implementation.

America's best TOD examples start with a vision and proceed to plan execution through aggressive and inclusive station-area planning, backed by supportive zoning, infrastructure enhancements, and fiscal policies that reward smart-growth investments. Often, zoning overlays are introduced to allow mixed-use projects to be built, and those projects complying with specific station-area plans are promptly issued necessary permits and allowed to build as-of-right. The principles at play are fairly simple: reward "good development" through measures like streamlining review and providing density bonuses and give developers who comply with the TOD visions and plans as much certainty, clarity, and built-in assurance as possible. Among the transit agencies surveyed for this study, nearly half indicated some kind of regional vision, policy, or plan was in place that embraced TOD principles, and 42% indicated that specific TOD plans and/or zoning existed within their regions.

Among all of the built-environment factors that influence transit ridership, density in and around transit stations is the most important. More and more U.S. cities understand this and have proceeded to ramp up permissible

densities in the vicinity of stations. In some areas of the country, such as Montgomery County, Maryland, density bonuses are provided in return for developers providing below-market-rate housing. Such inclusionary zoning enables localities to promote the twin and often reinforcing objectives of increased ridership and affordable-housing production. Through its *Blueprint Denver* plan, the city of Denver has created a new transit mixed-use zoning category (TMU-30) that allows FARs of 5 to 1. Since density-induced ridership gains reduce the need for parking, the city also slashed parking mandates for properties near light-rail stops by 25%. Studies, as well as market performance, show that urban design treatments like mixing up building façades and providing generous landscaping and streetscape enhancements can soften people's perceptions of density, making the mid- to high-rise building profiles that are often necessary to support intensive transit services more tolerable.

TOD's Multitude of Stakeholders

A wide range of views, attitudes, and opinions were expressed by the stakeholder groups surveyed and interviewed for this study, underscoring the diverse and at times complex landscape that shapes the practice of TOD and joint development in the United States. Each stakeholder group has its own motivations, "agendas," and outlooks, not all of which are consistent or compatible. Still, the many commonalities expressed by multiple interests outnumber the differences that exist. The researchers were struck by the large areas of agreement among many stakeholders involved with TOD. These areas included a belief that transit and

land use can and should be better integrated; a general dissatisfaction with automobile-dependent patterns of growth and the problems they create; a view that public-private partnerships in the transit arena is inherently a win-win proposition; and a wide acceptance of the idea that, if done well, TOD and joint development yield numerous benefits, with ridership gains and profits (to both the private and public sectors) topping the list.

The differences among stakeholder groups and institutions that are most evident have to do with contrasting goals and motivations. Among public entities, transit operators' goals and the goals of all others are different. Transit properties are primarily drawn to TOD and joint development for financial reasons—mainly to obtain much-needed income from farebox revenue gains and direct lease payments. Other public entities see the benefits of TOD in broader terms (e.g., curbing sprawl, spurring redevelopment, expanding housing choices, and creating jobs). Private entities are most interested in TOD profit-taking. It is important to keep in mind that not all interests were represented in this report. Citizen groups and politicians often have their own agendas, as highlighted by some of the case studies in Part 4. The plurality of interests surrounding TOD is not necessarily a liability and can be turned into an asset. On the one hand, conflicting interests and an unwillingness to resolve differences, if not promptly dealt with, can bring TOD projects to a grinding halt. On the other hand, diversity means stakeholders bring unique talents, insights, and capabilities to the table, which can make the difference in whether or not a complex project moves forward.

Without question, different political agendas form barriers, big and small, to successful TOD and joint development implementation. There is a general consensus that, among the antidotes, institutional building and strengthening within and (more importantly) between organizations is essential in overcoming barriers. Many stakeholder groups contacted for this research emphasized the importance of memorandums of understanding, intergovernmental agreements, task-oriented working groups, and informal as well as formal partnerships in building institutional bridges. Most stakeholders believe that before working with others, governments must first get their houses in order, dealing with issues like conflicting goals, “turf” and boundary problems, competition for shrinking budgets, and even petty institutional jealousies. The inability of transit agencies and local governments to reach an agreement on appropriate land uses around rail stops or proper parking standards is one example of how conflicts can derail projects. The insistence of local governments on following lengthy entitlement and permitting procedures and ignoring developers' and their lenders' need to get a product into the marketplace as quickly as possible, is another. Once more “harmonious” interagency relationships are built, public partners can shift their focus to reaching out to the larger public: neighborhood groups, developer associations, or environmental groups. A large number of survey respondents stressed the importance of outreach, education, and inclusive dialogue in getting views and opinions on the table, heading off confrontations, mediating disputes, building some degree of consensus, and moving forward.

Besides having differing objectives, stakeholder groups sometimes differed in their views on what could best be done to promote TOD. For the public entity, the obvious answer is more money for planning and construction. Where this money will come from, however, was rarely mentioned either in open-ended responses or via other correspondence. For the most part, there was a general sentiment that providing funding is the responsibility of higher levels of government, starting in Washington, D.C. Yet most local entities acknowledge that the benefits of TOD accrue mainly to cities and regions. This contradiction—the common view that funding should come from higher government levels despite the fact that TOD is quintessentially a local affair, with local beneficiaries—has undoubtedly impeded the ability of some stakeholders to forge a political consensus on TOD funding and support. Nevertheless, flexible funds administered by states and MPOs have become an important source of TOD funding in some parts of the country, most notably Maryland, Illinois, New Jersey, Oregon, and California.

Perhaps the most striking difference in views on what governments can do to best promote TOD is found between developers and public-sector interests. Survey respondents from transit agencies, local governments, MPOs, and state DOTs were generally of the mind that fiscal strategies mattered most and that procedural initiatives are fairly inconsequential to the development community. As an example, most of these stakeholders judged the streamlining of entitlements and the permitting process to be of marginal importance. Yet, for many of the developers that were interviewed,

initiatives that expedite the review process, clarify the “rules of the game,” and minimize uncertainties are of paramount importance in building TODs.

Reaching a consensus on how to share the risks and rewards of TOD remains the supreme challenge of building effective and enduring public-private partnerships. Getting the “math” right is especially challenging in marginal and transitional inner-city neighborhoods. As long as developers can make good money, with lower risk, building on greenfields in the automobile-friendly suburbs, and as importantly, as long as commercial banks believe this is the case, a considerable share of the risks for TOD will invariably rest with the public sector. Of course, this is less the case in buoyant and healthy real-estate markets and more the case in languishing urban districts. As long as the public sector can equally and fairly participate in the downstream rewards of TOD partnerships, government underwriting of near-term risks can make a lot of sense. In the world of TOD, this mainly takes place through redevelopment law, although not all states allow localities to set up “privileged” districts and employ TIF.

Points of Agreement and Disagreement

This section summarizes similarities and differences in views and opinions among stakeholders across topics reviewed in this report, elaborating on some of the points raised above. Emphasis is given to identifying differences that potentially stand in the way of implementing TOD in the United States and might therefore become the focus in conflict resolution and mediation.

TOD as Mixed-Use Development

Stakeholder groups have adopted fairly similar definitions as to what constitutes a TOD. Most definitions are wrapped around smart-growth principles, which call for mixed-use developments with high-quality walking environments that support transit riding. Mixed use, however, is a bone of contention. Private interests plead with TOD planners to frame mixed-use development in terms of market realities. Developers and lenders alike view vertical mixing as a risky endeavor and prefer that land-use mixing occur horizontally (i.e., mixing uses across properties within a transit-served neighborhood). However, local planners often deal with projects on a case-by-case basis through the issuance of building permits, zoning amendments, or environmental impact assessments. There is a tendency to push the mixed-use template on each and every project, regardless of market realities or whether a developer has mixed-use experience. What might be more effective is a monitoring program that tracks cumulative trends in land-use changes, thereby allowing projects to be staged and prioritized on the basis of how they contribute to mixed-use targets. A master developer approach to station-area development might also allow more horizontal mixing while also ensuring that components are phased in line with market trends.

Perceived Roles

There was general agreement among those interviewed and surveyed that TOD is chiefly a “bottom-up” undertaking. Local governments and, given their often stronger purse-string and regulatory powers, redevelopment agencies, are best

positioned among public actors to bring TOD to fruition. Transit agencies, many agree, can most effectively encourage TOD by mounting and delivering first-rate rail and bus services. Moreover, transit agencies can be effective advocates of TOD. Of course, also vital to the bottom-up planning/implementation process is the private sector, specifically developers and lenders. Views on the desirability of public-private partnerships for creating TODs were not always the same. Local governments generally prefer a joint sharing of risks and rewards through equity partnership arrangements. Most developers would prefer that the public sector attend to matters of preparing a specific plan for station areas backed by supportive zoning and infrastructure. Some developers stated that public-sector staff members, however well intentioned, lack the business acumen and entrepreneurial drive to create successful TODs. Lenders generally concurred with this view. Several lenders stated that TOD partnerships add complexity and blur lines of responsibilities.

All sides agree that higher levels of government, like MPOs, state DOTs, and federal agencies, should focus on providing a supportive financial, legislative, and institutional environment that promotes TOD. Local governments, redevelopment agencies, and transit operators, predictably, call for more planning grants and capital from higher levels of government to fund TODs. Perhaps as predictably, higher levels of government view their roles in much more modest terms, mainly seeing themselves as helping with coordination and providing outreach and technical support. Many MPOs view themselves as clearinghouses and information brokers; although there are a few exceptions

(e.g., Portland Metro, SANDAG, and the Met Council in Minneapolis-St. Paul have proactively supported TOD, including through the use of purse strings). Some MPOs have little choice but to take a fairly passive stance on TOD because of statutory limits. While MPOs often have embraced smart-growth principles, few have sought to prepare regional land-use plans that orchestrate the evolution of TOD across municipal boundaries. For most state DOTs, TOD is even further down the priority list. Four states—California, New Jersey, Oregon, and Maryland—had passed legislation or provided funding through state agencies explicitly to promote TOD as of 2004. The lack of a significant funding commitment to these programs has reduced their effectiveness in California and New Jersey. Maryland’s DOT stands out for its commitment to promoting and funding TOD planning and construction.

The federal government is in the best position of all to prod local interests to carefully coordinate TOD activities using incentives and penalties. This might be done, for example, by elevating the importance of corridor-level, cross-jurisdictional planning in assessing proposals under FTA’s New Starts Program. Surveys of transit agencies suggested, however, that New Starts criteria have not changed land-use planning practice very much, at most raising the profile of TOD among politicians and community groups. Some observers feel the federal government should explicitly embrace TOD in national legislation. While past legislation like the Intermodal Surface Transportation Efficiency Act and the Transportation Equity Act for the 21st Century spoke to the need for consistent transportation and land-use planning, so far TOD and joint

development have received little national legislative attention.

Goals

Given the differences in how they perceive their roles, it is not surprising that the goals of stakeholder groups regarding TOD tend to vary. Transit agencies view TOD and joint development mainly from a fiscal perspective (i.e., how much income it can produce, both in terms of lease revenues and higher farebox returns). Among local entities, views differed somewhat between municipalities and redevelopment agencies. Municipal planners hold fairly high hopes that TODs can redress many citywide and regional problems like sprawl, traffic congestion, and affordable-housing shortages. Staff members from redevelopment agencies generally believe that TOD is most effective at dealing with neighborhood-scale issues like enhancing pedestrian environments, revitalizing decaying districts, and increasing transit ridership. These contrasting views stem, no doubt, from differences in institutional responsibilities and geographic points of reference between the two groups.

Private-sector interests tend to align with those of transit agencies regarding the goals of TOD. Many see TOD as a potential boon to ridership and contributor to congestion relief. Some, however, see TOD as an opportunity to expand the palette of housing and lifestyle choices available to consumers.

Outreach and Education

Public-sector representatives universally agree that outreach and education—such

as marketing, neighborhood meetings, design charrettes, and interactive web sites—are vitally important in advancing the cause of TOD. Most large transit properties and cities that were surveyed engage in some level of TOD outreach.

Private-sector interests sometimes had a more cynical view on outreach. Some equated it with red tape. A number of developers felt scarce public resources would best go to improving transit services, providing supportive public infrastructure, and financing station-area land-use and zoning plans. Enough TOD developers have been blindsided by NIMBY resistance, however, that many now support a more open and proactive approach to public engagement.

Implementation Tools

To date, the chief tools employed by local governments to promote TOD have been station-area planning, the initiation of zoning incentives (e.g., density bonuses), and the relaxation of parking standards. Surprisingly, however, these tools were rated as weak to moderate by respondents from transit agencies, local governments, and redevelopment authorities in terms of their effectiveness in promoting TOD. Rated most effective by local government respondents, but used sparingly, are streamlining of the development process and assistance with land assembly. Transit agencies generally felt that tools that provide direct financial benefits, like capital funding and tax-exempt bonds, were best suited for leveraging TOD. Among respondents from redevelopment agencies, tools that are commonly used by their organizations such as TIF, assistance with land assembly, and tax-exempt bond financing received the highest effectiveness ratings. Even local

government respondents felt that the kitbag of tools available to redevelopment agencies was more potent than their own policy levers at enticing private capital to station areas.

Developers generally like non-interventionist, market-based approaches to promoting TOD such as LEMs, flexible parking standards, and enhanced public transit services. Many look favorably upon efforts to expedite the entitlement and building-review process. On this, local planners and developers agree; however, as noted, relatively few of the surveyed localities fast-track building permits for projects near transit stations. Several other incongruities exist. Density bonuses and overlays are popular tools in and around transit stations, but they generally receive low marks for their effectiveness. Outside of a few robust real-estate markets like Manhattan, Northern Virginia, and the San Francisco Bay Area, densities under existing zoning codes are widely viewed as sufficient to support market demand. Also, a tool used by the redevelopment agencies that were surveyed for this study—relaxed parking standards—received the lowest effectiveness rating by most stakeholder groups. Some observers feel more energy should be devoted to upgrading the quality of the pedestrian environment and transit services than to inhibiting automobile access and restricting parking.

Impediments

All of those surveyed were asked to identify factors that stood as impediments to TOD. Transit agencies rated automobile-dependent sprawl at the top of the list, followed by three “lacks”: lack of local expertise, lack of

market demand, and (related to both) lack of developer interest. Local government respondents felt similarly, but they disagreed about the lack of local expertise. In addition to questionable market demand, local planners felt that community opposition stood in the way of TOD. Despite the controversy surrounding park-and-ride facilities, relatively few transit agencies or local planners felt that they had much impact on the ability to form successful TODs.

Local governments wrestle with the traffic problems associated with any new development that substantially increases densities, including TODs. If traffic conditions deteriorate quickly, the TOD concept can quickly become tainted. Local elected officials, accountable to their constituents, do not always have the patience to wait until the longer-term benefits of TOD reveal themselves. Some local planners distinguish between “good” and “bad” traffic congestion (as with “good” and “bad” cholesterol). Added traffic, they reason, is a by-product of an active, rejuvenated community. This logic does not always resonate with those who must devote more time each day to driving in and out of their neighborhood because of mid-rise development around rail stops.

In many parts of the country, authorizing legislation restricts how far transit agencies can go in pursuing TOD. In some instances, statutory law outright prohibits transit agencies from engaging in any form of real-estate transaction that is not directly related to the acquisition of properties for facility construction. Similarly, regional planning organizations typically have little or no control over local land-use and zoning decisions. Such regulatory constraints coupled with

fiscal pressures and the political philosophies of transit board members have sometimes created a culture within transit agencies and regional planning entities that approaches land development in general and TOD, more specifically, with caution and even skepticism.

Private-Sector Views and Opinions

It deserves to be mentioned once more that the views and opinions of the private sector did not always align with those of the public sector. Given that TODs are principally the outcomes of many parcel-level private investment decisions, finding ways to bridge differences is vital to future TOD implementation in the United States.

Many developers view transit positively, but rarely, if ever, consider it a decisive factor in the decision to move ahead with projects. The ability to attract equity finance (e.g., pension funds and REIT investments) is governed by fundamentals, not a project’s status as a TOD. Also, lenders do not fund concepts like TOD. They might fund developers with proven track records, but they never fund a planning principle. One lender suggested dropping the TOD label altogether and casting this genre as mixed-use projects that have the added bonus of being near a transit stop. What matters is the combination of mixed use and accessible transit, not the notion of government-planned TOD.

Among the actions that local governments could take to spur private investment around transit stops, the presence of supportive land-use designations was rated the highest among developers. Once zoning is set,

developers want the ability to build as-of-right, providing a buffer against changing political whims. Many developers also feel that public infrastructure, such as under-grounding of utilities and expansion of sewerage capacity, is also crucial in leveraging TOD. Some developers go a step further and suggest public financing of structured parking as an essential piece of TOD infrastructure. Another common plea was to reduce regulations and bureaucratic hurdles. Most developers said they can make money in the TOD marketplace as long as they can avoid excessive red tape and minimize uncertainties. What often bothers them most is when governments “change the rules of the game” at the last moment. Some developers would also like public authorities, notably transit agencies and redevelopment agencies, to help with land assemblage. A lack of developable parcels was cited as one of the major obstacles to TOD, particularly parcels of sufficient size to attract large development firms with “deep pockets.”

Private lenders were generally favorably disposed to the idea of joint development, at least as much as they were to TOD. Transit joint development, however, can be problematic where there are unsubordinated ground leases, and multiple parties carry financial risks and responsibilities. To the degree that joint development produces social benefits like increased ridership and improved air quality, lenders generally believe that subordinated loans that protect the financial interests of private groups over the interests of the public sector are appropriate. Joint ventures, some lenders believe, complicate projects, blur credit risks, and require too much time to coordinate activities.

Lenders also hold the views and opinions of real-estate appraisers in high regard when making lending decisions. For the most part, appraisers weigh the standard features of comparables like building square footage and on-site amenities in arriving at an estimated property value. Few think about or seriously consider benefits that might be associated with proximity to transit. Getting appraisers to consider transit’s added value could elevate the standing of TOD in the minds of some lenders.

Benefits of TOD

Relatively little empirical research has been conducted documenting the economic benefits of TOD beyond studies showing that development near rail stations boosts ridership and increases land values. These outcomes reflect the accessibility benefits conferred by tying land development to transit investments. A host of other benefits that derive from increased ridership and land values, such as congestion relief and more sales- and property-tax income, have been assigned to TOD. However, there is little data available other than anecdotes by which to gauge these impacts, and some impacts (such as higher tax income and, in general, economic development) are actually redistributive in nature—economic resources that go from the pocketbooks of one party to those of another.

One unavoidable outcome of limited empirical research on TOD’s benefits has been to shift the debate to the realm of ideology. Different groups have turned to different studies to reach totally opposite conclusions about the benefits, or lack thereof, of TOD. This has happened even in the case of one

transit station, perhaps most notably the Portland area's Orenco Station. As discussed in Chapter 7, pro-transit observers note that 22% of Orenco's commuters regularly take transit while critics contend that 75% of Orenco's residents always drive and just one in six commuters take transit more than twice a week. Different spins cast TOD in totally different lights.

Past research shows that people living near transit in large rail-served metropolitan areas tend to ride transit five to six times as often as their counterparts who live further away from transit. Mixed land uses and pedestrian improvements can bump up these market shares even more. Recent research suggests that self-selection (i.e., people choosing to live near transit for lifestyle reasons like avoiding having to drive to work and acting upon these preferences by taking transit) accounts for as much as 40% of the ridership bonus associated with transit-oriented housing.

Original research conducted for this study points to the potential ridership payoff of TOD under favorable conditions such as those in the San Francisco Bay Area and Arlington County, Virginia, two areas that have been among the nation's highest economic performers and that have experienced significant traffic congestion problems. Census data for the Bay Area revealed that transit-commute modal shares increase with density, land-use diversity, and walking-friendly designs around rail stations. For example, every 10 additional dwelling units per gross acre was associated with a 3.7% increase in transit's commute modal share. In Arlington County, increases in the square footage of office-retail development along seven stations of the Rosslyn-Ballston

and Jefferson Davis corridors led to significant gains in Metrorail boardings and alightings. Models revealed that every 100,000 square feet of additional office and retail floor space over the 1985-to-2002 period added around 50 station daily boardings and alightings. Moreover, housing construction interacted with transit service levels to give ridership a further boost.

Some skeptics contend that U.S. cities are already so built-out and existing land-use patterns are so entrenched that TOD can only exert a modest impact on urban landscapes and travel behavior in the larger scheme of things. Evidence on residential self-selection in TOD neighborhoods being matched by exceptionally higher transit-usage rates suggests that impacts could be more substantial if and when TOD reaches a critical mass along any given corridor. Impacts of TOD no doubt vary by time and circumstances. The biggest ridership and land-value benefits accrue in areas enjoying a boom economy matched by jam-packed highways. The market for infill housing near major transit stops drives up rents and land prices when traffic woes worsen.

In small cities and towns with minimal traffic congestion, it is probably the case that TOD can bring about the most dramatic changes when created on greenfields or the exurban fringes. Therefore, some observers contend that exurban communities should not attempt to create TODs but rather to be "transit ready," that is, able to support good-quality transit if and when the market allows it. The idea is not to preclude TOD from happening, similar to interim zoning. Transit-supportive design guidelines are one way to ensure that

new suburbs and far-flung exurbs are poised to accommodate TOD if and when the market brings it their way.

Recurring Themes and Lessons

This section draws lessons on contemporary TOD practice in the United States on the basis of the body of materials presented in this report, including insights gained from the case studies. While lessons cannot always be easily transferred from one location to another and certainly are not intended to be carbon-copied, different “bits and pieces” will likely have relevance in most places. The lessons are organized by the following five categories: political and institutional factors, planning and land-use strategies, benefits and impacts, fiscal considerations and partnerships, and design challenges.

Political and Institutional Factors

- ***Political leadership is vital to TOD implementation.*** Having someone step up as the political champion of a TOD proposal is critical to marshalling resources, building a coalition, and resolving disputes that invariably crop up along the way. While it is not necessary that there be a single point person for shepherding a project along, someone in a position of power must be prepared to embrace TOD as part of his or her political platform, investing time and energy and sometimes “cashing in political chips” to usher projects forward. Of course, happenstance and serendipity have a lot to do with whether political leadership arises or not. Regardless, mixed-use TODs like the Fruitvale Transit Village in Oakland and the project in Arvada

(suburban Denver) owe a lot to the dedication and savvy of one or more leaders willing to put their careers and political futures on the line for TOD. Sometimes leadership comes from the state level, as was the case with Boston’s Liberty Tree Building and New Jersey’s Transit Village Initiative. Leadership, however, need not always lie within the public domain. In the case of Dallas’s Mockingbird Station, the developer, Kenneth Hughes, provided much of the inspiration and motivation that made the project a success, and he has since ignited efforts to emulate the Mockingbird experience in other parts of the region, such as Plano and Richardson.

- ***Inclusiveness and ongoing public input in TOD planning, design, and implementation is essential to success.*** Outreach not only helps to fend off a possible NIMBY backlash, but it also gives those who live and work in a TOD neighborhood a vested stake in ensuring that what is built is consonant with neighborhood goals, has a human-scale “feel,” and is of the highest caliber possible. Of course, market pressures might prompt developers to increase the density envelope beyond what local residents prefer. Neighborhood meetings, workshops, charrettes, and other venues offer the best hope of working out differences and finding an acceptable compromise.
- ***Institutional coordination and streamlining are especially crucial to TOD implementation where multiple agencies govern different elements of land development and transit-service delivery.*** Red tape,

institutional bickering, and multiple levels of review are sometimes enough to frighten away the hardest of developers from station locations. Places like metropolitan Baltimore, Philadelphia, San Francisco-Oakland, and Denver have formed interagency working groups and committees to streamline TOD review and coordinate decision making. In metropolitan Miami, the consolidation of decision making within the county facilitated TOD implementation by allowing developers to bypass multiple layers of bureaucracy and public process.

- ***More permissive regulatory environments and enabling legislation are often needed if transit agencies, local governments, and regional planning organizations are to proactively implement TOD.*** The absence of authorizing legislation or simple avoidance of the issue of how far transit agencies can go in pursuing land development has often muddied the issue of whether TOD is a legitimate public-sector undertaking. Without clearly articulated legislation that enables transit agencies and other local actors to assemble and bank land and enter into joint development arrangements, TOD either gets ignored or ends up on the back-burner, lost in the pressing day-to-day needs of running a transit organization. Where state governments have taken a leadership role, passing permissive authorizing legislation (such as in California in the case of the Los Angeles County MTA and through trilateral agreements that formed the Washington Metropolitan Area Transit Authority), transit agencies

have proactively pursued TOD and joint development. Political leadership in advancing TOD must often begin at the state capitol.

Planning and Land-Use Strategies

- ***Successful TODs start with shared visions that guide planning and implementation for years to come.*** To say that visions are important might be stating the obvious and no doubt sounds cliché. However, the enterprise of creating a TOD over an extended period of time is subject to so many distractions and interruptions that the ability to “keep the eyes on the ball” is pivotal to success. Of course, defining “the ball” is the first step in the process. Some areas, like Arlington County, Virginia, have adopted the Scandinavian practice of employing a metaphor to articulate the TOD vision. In Arlington County’s case, the metaphor was a “bull’s eye.” Many local observers attribute Arlington County’s success at adding over 15 million square feet of office space, 18,000 housing units, and several thousand hotel rooms to the bull’s eyes of the Rosslyn-Ballston corridor since 1970 to this early vision and the subsequent General Plan and specific station-area plans that embellished how the vision could be effected.
- ***Start TOD planning early.*** TODs are often the cumulative products of many individual development decisions, some of which unfold slowly and in fits and starts. Areas with successful TOD track records like Portland, Arlington County, and Montgomery County (Maryland) have been at it a long time. There

must be enough lead time to allow plans to be prepared, partnerships to be built, funding to be secured, and improvements to be programmed. Experiences show that developers are often willing to build projects before transit stations even open, as long as they are confident that a strong planning commitment exists to not only deliver first-rate transit services but also improve a neighborhood, strengthen institutional relationships, and supply supportive infrastructure.

- ***TOD success can hinge on rewarding developers with measures that grant more latitude in designing projects; allow mixing of uses; increase density envelopes; and offer certainty, clarity, and built-in assurances that the public sector will follow through on planning commitments.*** Because of the risks sometimes encountered in building near transit stations, especially infill and redevelopment projects, and because of the public good conferred by TOD, “business as usual” should not apply to TOD developers. Zoning must often be revised to allow higher-than-average densities and a land-use program and mix that satisfy market demands. In cities like Seattle, Portland, San Diego, and Atlanta, zoning overlays have been successfully used to increase permissible densities, prevent automobile-oriented uses from preempting TOD possibilities, and diversify uses. Developers make it abundantly clear that they want and expect specific station-area plans that define the parameters under which they must operate. In addition to advanced strategic planning, developers also want public resources

channeled into delivering good-quality transit services; ensuring the presence of safe and attractive pedestrian connections to stations; and expanding local infrastructure (including road, sewage, and water trunk-line capacities) to accommodate new development.

- ***Successful TODs emphasize “place-making”:*** *creating attractive, memorable, human-scale environs with an accent on quality-of-life and civic spaces.* Increasingly, projects built around up-and-coming transit nodes, like Dallas’s Mockingbird Station, Portland’s Pearl District, and metropolitan Chicago’s Arlington Heights, are targeted at individuals, households, and businesses seeking locations that are vibrant and interesting, usually with an assortment of restaurants, entertainment venues, art shops, cultural offerings, public plazas, and civic spaces. What all of these places have in common is high-quality walking environments with a minimal on-site automobile presence. It is often the case that settings that can accommodate a dense concentration of shops, eateries, and pedestrians without automobile dominance are near transit stations. Yet, creating walking-friendly environs at transit stations can pose special challenges because of the difficulties of accommodating not only walk-on traffic but also feeder buses, drop-off passengers, park-and-ride, and other interface functions—what has been called the “conflict of place and node.” TODs that have designed good, safe circulation systems and minimized conflict points, such as the Bethesda Station

in Maryland, and the Orenco Station in Hillsboro, Oregon, have managed to largely resolve the conflicting goals of stations as both “places and nodes.” Traffic-calmed, walking-friendly environs near popular transit stops have a cachet in the development community. The ability to moderate the presence of automobiles while attending to the complex access, circulation, and parking needs of multiple nodes can make the difference between a successful and unsuccessful TOD.

- ***TODs invite bold new policies that push conventional boundaries and acknowledge the unique market niches that are being served. Initiatives like LEMs, unbundled parking costs, flexed parking standards, and sliding-scale impact fees are good examples of “out of the box” thinking.*** Standard designs, cost pro forma, and building-code templates need to be challenged for each and every TOD project in large part because the TOD market is not “standard.” Experiences show that new housing built near rail stops often appeals to singles, professionals, childless couples, and empty-nesters who value amenities as much as the amount of living space and who often own fewer automobiles and log fewer miles on their odometers than the typical urban household. Standards for mortgage qualifications, building designs, and parking supplies need to reflect these market realities. Unbundling the provision of parking from a dwelling unit can save residents living near transit tens of thousands of dollars. Given that fewer automobiles come in and out of the driveways of transit-based

housing projects than is the norm, trip generation estimates that inform impact assessments (that in turn inform impact-fee levies) need to be adjusted accordingly. Santa Clara County and Los Angeles (California), Gresham, Oregon, and Washington D.C. have introduced sliding-scale impact fees to promote TODs. These are places that understand that smart growth requires smart calculus.

- ***Station-area plans and planning matter.*** Given the risks and uncertainties associated with TOD, developers, residents, and merchants expect, and indeed deserve, carefully crafted, forward-looking plans that orchestrate how, when, and where a TOD will evolve. Good TODs begin with good textbook planning practice. Arlington County’s success at creating two viable transit-oriented corridors owes much to a General Plan backed by station-area plans that mapped future land uses, specified overlay zones, attended to circulation needs, identified networks of open space and pedestrian ways, and defined needed changes to building and parking codes. Similarly, TOD successes in Portland are largely a product of the region having worked hard for the past several decades at tying station-area development to rail transit investments, applying the nuts and bolts of good planning practice. In the San Francisco Bay Area, sub-regional and regional planning organizations have seeded station-area planning through grants (Transportation for Livable Communities and Housing Incentive Programs) that channel federal and state transportation funds to local governments. Some cities, like

San Diego, have been particularly forward-looking in their planning and siting of rail extensions, opting to avoid railroad corridors where development opportunities are restricted in favor of settings with stronger market conditions, despite the higher costs incurred. TODs stand the best chance for success when land-use planning precedes, or at least parallels, transit development rather than being an afterthought. Experiences in Arlington County, Portland, and San Diego make this clear.

Benefits and Impacts

- ***TOD's ridership bonuses are substantially a product of residential self-selection, suggesting policy reforms should focus on allowing residents to sort themselves into transit-served neighborhoods unimpeded.*** Research continues to demonstrate that self-selection is a major factor behind higher transit ridership among those living near rail stations. It follows that public policy should focus on breaking down barriers to residential mobility and on introducing market-responsive zoning in and around transit stations. Policies like flexible parking standards, decoupled housing and parking pricing, and location-adjusted mortgages could help in this regard.
- ***TOD benefits are not automatic and generally accrue during upswings in local economies when traffic congestion worsens.*** Favorable conditions must exist for TOD to produce significant economic benefits. Experiences show that if

compact, mixed-use development around transit nodes is to attract significant enough numbers of motorists to transit so as to reduce traffic congestion and impart environmental benefits, areas need to be experiencing rapid growth, and traffic conditions need to be bad and getting worse. Since TODs increase accessibility among those living, working, and shopping near transit, an extensive transit network is also often necessary for the benefits of TOD to materialize. The absence of measurable societal benefits, however, in no way suggests that TOD projects should not move forward. As long as market demands are being satisfied, there is private benefit (between producers and consumers) in building transit-oriented housing, offices, and retail shops. Diversifying America's suburban landscapes and providing greater housing and lifestyle choices can be important benefits of TOD even if there is little evidence of congestion relief or local job creation.

- Transit's benefits, as reflected by land-value premiums, also generally increase with proactive planning, network development, and system maturation. External factors like regional economic and traffic conditions do not solely govern the potential benefits of TOD. Case experiences from Dallas, Santa Clara County, and San Diego show that land-value premiums tend to increase as a system's network expands and are generally higher in areas with stronger real-estate markets, as well as in areas where far-sighted, proactive planning has taken place.

Fiscal Considerations and Partnerships

- ***TODs benefit from recapturing some of the value conferred by transit investments to generate revenues needed for ancillary improvements.*** Recapturing some of the land-value premium conferred by transit investments provides much-needed revenues that can go to seed various station-area improvements like landscaping, pedestrian-way upgrades, and public spaces. While recapturing value is difficult in practice, Los Angeles managed to cover nearly a tenth of the cost of the first phase of the Red Line subway through special assessments levied on benefiting parcels. Entrepreneurial transit agencies, like Washington D.C.'s WMATA, have over the years recaptured value through aggressive joint development activities, including land leases and station interface programs. WMATA pegs lease revenues to the values of surrounding properties, thus ensuring that it benefits from land appreciation after a lease with a developer has been invoked.
- ***Creative financing is essential to spreading the risks, expanding the base of knowledge and experience, and tapping into the fiscal advantages of certain partners, such as local governments' superior bond ratings and guarantees, to make projects pencil out.*** Partnerships are pivotal to successful TODs. In redevelopment districts that suffer from a poor marketing and performance image, multiple partners are often necessary to raise sufficient capital to spread financial risks. Each partner can bring something unique

and of value to the table. A private developer might offer years of experience and business savvy. Private interests also offer a wide array of potential funding sources such as equity capital, conventional debt, REIT funds, and venture-capital loans. Redevelopment agencies also offer something unique. Most are empowered to condemn, acquire, and assemble parcels and to fund such ancillary improvements as sidewalk upgrades and utility relocations. Local governments are often in a position to offer revenue bonds at favorable rates, use tax-exempt fiscal instruments, and secure loan guarantees backed by the federal government. A transit agency might be in a position to contribute critical parcels through land swaps or the provision of easements. In built-up settings with small lots under multiple owners, no one party can create TOD on its own. Only through a partnership that offers each party some return on investment can a TOD project hope to gain firm financial footing. Experiences with risky mixed-use investments in marginal urban districts like Barrio Logan in San Diego, Overtown in Miami, and El Cerrito del Norte in the San Francisco Bay Area underscore the importance of creative multilateral financing.

- ***Market fundamentals, not a TOD label, govern whether private capital gets invested around transit stations.*** The availability of equity and loans to fund projects near transit is primarily driven by capital market conditions and perceived market demand, not a project's status as a TOD. Lenders involved with TOD

projects (not all of whom even realize they are funding a “TOD”) rarely adjust lending standards to reflect proximity to transit. Sometimes this translates into an unwillingness to fund projects that propose parking supplies that are below the norm. While market fundamentals rule the roost, developers believe that certain attributes of TOD can help, at the margin, with securing loans and making projects pencil out, including good-quality transit services, streetscape and ancillary public improvements, and local political support.

Design Challenges

- ***In urban settings, rationalizing parking policies in relation to TOD is essential to influencing how a TOD station will be accessed and to avoiding conflicts over whether land goes to parking or development.*** If not properly dealt with, parking can form a huge obstacle to TOD: separating a station from the neighboring community, diminishing the quality of the walking environment, and precluding station-site air rights or joint development. The issue of parking can provoke visceral reactions, often pitting constituencies against each other. Conventionally, the interests of professional-class suburbanites who park-and-ride conflict with neighborhood residents who abhor the idea of outsiders descending upon their neighborhood to park their automobiles during daylight hours. Transit boards need to rationalize parking policies beyond a carte blanche one-to-one replacement mandate. This might

take the form of siting parking more peripherally to a station or away from a community and toward an active highway corridor. Chicago’s Metra minimized the impact of parking by using a number of small lots sited away from the station as opposed to a single large lot. Where land prices are high enough, structured parking can replace surface lots, thereby freeing up land for infill development, pedestrian ways, and civic spaces. Where affordable housing is being built near stops, reduced parking quotas or at least flexible standards should be considered to reflect the tendency of many TOD households to own fewer automobiles. Unbundling the cost of parking from the cost of a dwelling can make transit-based residency all the more affordable. Furthermore, to the degree that there is interest in paring back parking supplies, transit agencies can respond by expanding feeder bus services, and localities can pitch in by upgrading pathways and bike routes that connect to a station. Parking need not always be viewed as a liability; for mixed-use TODs, shared-parking possibilities can economize on costs and land consumption. If not addressed early in the process, parking can be a TOD deal-breaker, but, if it is handled smartly, such as through shared-parking schemes, it can be a deal-maker. There is no easy formula for coping with the conflicts of parking and TOD. What is important is for local authorities to get out in front of the problem, find an appropriate and workable strategy, and build enough flexibility into the process to change course if and when circumstances warrant it. Parking policies cannot be

an afterthought; they must be carefully considered and weighed in keeping with the overall goals set for TOD and tempered by the financial realities that transit agencies face.

- ***Even though mixed land uses are a trademark of TOD, arriving at a workable program poses planning and design challenges that need to be overcome for a successful TOD.*** Quite often, finding the right formula for mixed land uses is every bit as difficult as rationalizing parking policies. Planners sometimes impose a design template of ground-floor retail and upper-level housing or offices (i.e., vertical mixing) on any and all development proposals within a TOD. Mixed-use projects are trickier to design, finance, and sometimes lease than single-use ones. Ground-floor retail is doomed to fail unless it opens onto a street with busy foot traffic and convenient automobile access. Ground-floor restaurants might be unappealing to upper-level residences seeking quiet and privacy in the evening. There are few developers who specialize in mixed-use projects and even fewer financiers who understand them. Local governments need to be sensitive to such challenges and focus on achieving a desired land-use mix within a transit station area as opposed to doing so in individual parcels (i.e., horizontal mixing). Sensitivity to retail design can also enable big-box retail to coexist with more pedestrian-oriented uses in a TOD, as shown with the CityCenter project in Englewood, Colorado, and the Rio Vista West “semi-TOD” along San Diego’s Mission Valley Trolley line.

- ***Walking access and quality of circulation and the overall pedestrian environment are critical to successful TODs; however, the conflict between stations as “nodes” and “places” often makes this difficult.*** Research shows the majority of residents living within $\frac{1}{4}$ mile of a transit station arrive by foot or bicycle; however, this share plummets markedly if there are significant physical barriers as well as symbolic and psychological barriers like wide, busy roads and incomplete sidewalk networks. Where the majority of a station’s catchment is beyond an easy walk or bus trip, “functional” priorities are apt to give greater design preference to the needs of park-and-riders than walk-and-riders or bus-and-riders. San Diego’s Mission Valley; San Mateo County, California; and suburban Denver are good examples of places where (with the help of smart-growth planning monies and pedestrian-sensitive zoning ordinances) design attention was given and resources directed to improving the quality of circulation, aesthetics, and basic provisions (e.g., crosswalks and benches) of areas surrounding rail stations.
- ***Transit service improvements and system upgrades can trigger TOD activities, especially in settings with expensive housing markets and a pent-up demand for transit-oriented living.*** “Choice” transit users are highly sensitive to service quality; thus, running frequent and reliable trains and minimizing the need to transfer can be critical to the future of TOD. In northeast New Jersey, the extension of NJ TRANSIT’s Northeast Corridor to New York

Penn Station unleashed a flurry of building activities around century-old commuter-rail stations. The elimination of a transfer offered those living near stations considerable travel-time savings, prompting many with jobs in Manhattan to seek out rail-served residences. Station enhancements also matter. In the suburbs of Chicago, new or refurbished Metra stations jump-started private real-estate investments. And it is not always rail services that catapult TOD forward. In Boulder, Colorado, the integrated CTN—known for its colorful “Hop, Skip, Jump, Leap, and Bound” buses—triggered bus-based TOD (typically second- and third-floor offices and lofts above street-level retail) along several routes.

Lessons Through Case Studies

The 10 case studies presented in this report amplify many of the lessons discussed in this chapter. As a whole, their lessons are instructive.

Metropolitan Washington D.C. is a true success story in part because shaping land use was a goal of the original transit investment. Signature TODs abound in the District of Columbia, surrounding cities, and increasingly in outlying suburbs, a result of rebounding markets for in-town housing and commercial space, unfettered market forces, and interventionist public actions. Metrorail’s ambitious joint development program adds riders to trains and revenues to public coffers, serving as a model for the nation.

Boston is a recent urban TOD success in large part because its central-city real

estate is red hot. Outside the city proper, however, TOD has failed to materialize, partly a consequence of inadequate attention to NIMBY opposition. Three areas where TODs have sprouted in suburban settings are northeast New Jersey, metropolitan Chicago, and the Dallas metroplex. Northeast New Jersey’s TOD market is sizzling thanks to major rail improvements that have dramatically shaved the amount of time it takes to rail commute into Manhattan. Its experiences remind us that the quality of transit services is often of paramount importance. Swift and direct rail connections to major urban centers that provide travel-time savings over the automobile are a sure-fire way of triggering TODs. Metropolitan Chicago’s suburban TOD successes owe much to local political leadership and careful station-area planning. In greater Dallas, TOD leadership has come mainly from the private sector, spawning compact, mixed-use development near light-rail stops in places like Plano and Richardson, development that only a decade or so ago would have been unimaginable. Metropolitan Denver has similarly witnessed suburban TOD because of community activism and an urban renaissance in and around major transit corridors.

Portland is the most extreme case of pushing the TOD envelope in the United States, courtesy of regional visioning and planning, extensive interagency agreements, regulatory controls, and incentives that encourage densities that exceed those that would be achieved through normal market forces. Portland is the best example of TOD planning and implementation at a regional scale in the United States, and like Boston and Denver, it has entered a new phase that

focuses on constructing central-city infill projects close to rail corridors.

The San Francisco Bay Area has over the years sought to adopt Portland's regional approach. The Bay Area is widely recognized as a leader in promoting good planning and transportation concepts; however, implementing TOD among a diverse group of local governments and special interests has been an uphill struggle. New partnerships that have given rise to projects like the Fruitvale Transit Village could signal a breakthrough.

Despite a consolidated government structure that has centralized planning and transit functions, Miami-Dade County has struggled in its pursuit of TOD. As a rail-served Sunbelt region collared by water and the Everglades, and given its standing as the gateway to Latin America, Miami-Dade County would seem to be ideal for TOD. In the absence of proactive public policies, however, the market has failed to spawn TOD, not only in prime real-estate locations but also in communities that are most in need of development. With several mixed-use projects finally underway near the Overtown Station and Miami-Dade Transit seeking joint development partners for strategic parcels near several prominent stations, prospects for future TOD are today looking better than ever.

Despite its international reputation as an automobile-friendly megalopolis, Southern California has made impressive headway on the TOD front in recent times. The city of San Diego has been a pioneer in crafting innovative zoning codes, targeting supportive infrastructure investments, and creating attractive walking environments in and around
















light-rail stations. TOD has failed to take hold to the same degree in Los Angeles County, although mixed-use joint development projects, such as the project at the Hollywood-Highland subway station, and a continuing commitment to build and expand BRT services are encouraging trends.

In an effort to summarize and consolidate the lessons reviewed in this chapter, Table 20.1 was prepared. The matrix identifies case-study settings that illustrate each of the key lessons. Some lessons, like "TOD as place-making," are found in all 10 case studies. Most lessons, however, are best highlighted by a few case studies.

To learn more about a particular lesson, the interested reader might want to review the relevant case-study chapters in more detail. Of course, not all case experiences with TOD in the United States were covered in this report; thus, lessons no doubt can be found, to varying degrees, elsewhere as well. Still, the case experiences reviewed in this volume are thought to provide some of the best, the most current, and the most poignant insights into both the successful and unsuccessful practice of TOD in the contemporary urban United States.

As the United States's experiences with TOD accumulate and new insights are gained, new lessons and extensions to existing ones will no doubt appear. Seeing to it that policymakers and those in positions of influence are aware of these lessons and that outcomes are carefully and critically weighed is essential to constructively advancing the practice of TOD in the United States. The concluding chapter discusses such challenges further.

Table 20.1. Matrix Summary of Case Studies that Highlight TOD Lesson

































<i>Case Study</i>	<i>Political and Institutional Factors</i>			
	<u>Leadership</u>	<u>Inclusiveness & Public Input</u>	<u>Institutional Coordination & Streamlining</u>	<u>Permissive and Enabling Legislation</u>
Boston				
New Jersey				
Washington D.C.				
Miami				
Chicago				
Dallas				
Denver				
Portland				
San Francisco				
Southern California				

 = lesson revealed through case experience

(Table continues next page)











Table 20.1. (Continued)

*Planning and
Land-Use Strategies*

<i>Case Study</i>	<u>Shared Visions</u>	<u>Progressive, Flexible Zoning</u>	<u>Start Early</u>	<u>TOD as Place-Making</u>	<u>Bold Policies Sensitive to Markets</u>	<u>Station-Area Planning</u>
Boston						
New Jersey						
Washington D.C.						
Miami						
Chicago						
Dallas						
Denver						
Portland						
San Francisco						
Southern California						

 = lesson revealed through case experience
(Table continues next page)



































Table 20.1. (Continued)

<i>Case Study</i>	<i>Benefits and Impacts</i>		
	<u>Self Selection & Market-Responsive Zoning</u>	<u>Favorable Economic Conditions</u>	<u>Proactive Planning and Network Expansion</u>
Boston			
New Jersey			
Washington D.C.			
Miami			
Chicago			
Dallas			
Denver			
Portland			
San Francisco			
Southern California			

 = lesson revealed through case experience

(Table continues next page)

Table 20.1. (Continued)

<i>Case Study</i>	<i>Fiscal Considerations and Partnerships</i>			<i>Design Challenges & Considerations</i>			
	<u>Value Recapture</u>	<u>Creative Financing</u>	<u>Market-Driven Lending</u>	<u>Parking Lot Conversions</u>	<u>Workable Mixed Uses</u>	<u>Pedestrian Needs</u>	<u>Transit System Design</u>
Boston							
New Jersey							
Washington D.C.							
Miami							
Chicago							
Dallas							
Denver							
Portland							
San Francisco							
Southern California							

 = lesson revealed through case experience

Chapter 21

Policy Reflections and Future Research Directions

Policy Reflections

The U.S. state of practice with TOD is generally a healthy one. There are many exciting examples of TOD currently on the ground and at least as many on drawing boards across the United States. Mixed-use TODs like the one in downtown Plano, Texas, and the CityCenter in Englewood, Colorado, would have been unimaginable in the 1980s when these and other suburban communities were hosting a boom in campus-style office development and automobile-oriented shopping plazas. The United States is in the midst of a sea change when it comes to linking transit and urbanism. In more and more settings once dominated by automobiles, yesterday's design templates are being discarded in favor of TOD. Atlanta's BellSouth TOD is the result of taking scattered automobile-oriented development and transforming it into a concentrated TOD. Attention has been given to every detail, like siting additional BellSouth employee parking around other MARTA stations to enable workers to rail commute for part of their trip. The company's aim is for at least 30% of its workforce to arrive by transit, a huge change from the current market share of less than 5%.

In the past, planners and policymakers felt little need to encourage development around transit facilities—the presence of high-capacity, high-quality transit

services, they felt, would act like a magnet, attracting development by its mere presence. The failure of transit by itself to spur growth around many station areas has prompted a 180-degree turn, with more and more local and regional organizations today subscribing to the view that governments must actively pursue, if not spearhead, TODs. Rather than wait and react, today's TOD mindset is one of getting out in front and shepherding land-use changes to achieve a desired built-form outcome. What also distinguishes contemporary TOD practice from past practice is its inclusiveness, signaled by public outreach, close citizen involvement in planning and design decisions throughout the process, and engagement through media like neighborhood charrettes and workshops. While in the past transit agencies were merely sideline participants, today they are often leaders in planning and implementing TODs around rail stops, fully aware of the potential ridership and lease-revenue payoff of these efforts. Transit agencies like BART, WMATA, and Metra received their fair share of criticism for slighting local citizens in the past, learned their lessons, and today are often leading the charge in changing the landscape around their train stations.

A fair amount is also occurring on the national front. The Center for Transit Oriented Development, part of *Reconnecting America*, a nongovernmental organization,

recently opened. The Center proclaimed as its mission the use of

transit investments to spur a new wave of development that improves housing affordability and choice, revitalizes downtowns and urban and suburban neighborhoods, and provides value capture and recapture for individuals, communities and transportation agencies.¹

Rail~volution, an increasingly popular annual conference devoted to “building livable communities with transit,” often runs conference sessions on TOD, offering a forum for transit professionals, developers, and other interested parties to “trade notes,” learn what others are doing, and build networks.²

Also different from the past is that it is not just public policies and interventions that are paving the way for TOD. Unfettered market forces are also having a profound impact. The less desirable features of sprawl—automobile dependence, congestion, excessive amounts of time behind the wheel, and a feeling of isolation from cultural offerings—are prompting more and more Americans to leave the suburban edge and head to transit-served subcity nodes and even the traditional inner city. The recent 2004 edition of *Emerging Trends in Real Estate* by the Urban Land Institute put it like this: “Convenience counts: walkable communities near mass-transit hubs ‘have caught on,’ and smart-growth projects—which emulate traditional town centers—enjoy increasing success.”³

Markets alone, however, cannot be relied upon to create the ideal TOD future. There always will be the need for

a proactive public-sector role as long as barriers to free-market choices exist, negative externalities and mis-pricing in the urban transportation sector exist, and society’s ideals of social equity and justice are not yet fully achieved.

Many of the lessons outlined in the previous chapter point to the kinds of initiatives that the public sector might take to foster TOD. Some observers call for an even bolder public-sector stance. One idea is to create a “TOD fund” to financially support TOD projects that cannot obtain conventional financing. A TOD fund administered by an intermediary could provide much-needed money for grants, loans, guarantees, and equity investments to seed TODs when conventional lenders are unwilling.⁴ Others have suggested extending some of the powers of redevelopment districts to TODs, such as TIF and the ability to acquire and assemble land, even if the TODs do not lie in “blighted areas.”⁵ Forming statewide infrastructure banks that give priority to transit projects linked to land development might help channel the dollar amounts necessary to leverage TOD on a grand scale. State and local governments are also in a position to provide regulatory relief for TOD projects by exempting those that comply with General Plans and station-area plans from environmental reviews and permitting requirements. Funding authorities should also consider extending the definition of transit capital projects to include not only a transit facility, but also its armature—the many elements that connect a station to its surroundings like bus staging areas; public squares; pathways and skywalks; lighting improvements; and important complementary facilities, like child-care centers and police substations (perhaps better marketed as “protection services”).

Of course, this does not guarantee that capital funds will be used for such purposes since local funding authorities and transit agencies might have little flexibility in the expenditure of capital grants.

Doing whatever is necessary to get the economics of TOD “right” is also largely a public-sector responsibility. Unbundling parking from housing costs, supporting Location Efficient Mortgage concepts, and adjusting impact fee programs to acknowledge the “trip de-generating” impacts of TOD are things that are easily within the purview of public-sector influence. Financial assistance to TOD projects might also be in the form of tax credits, abatements, and fee waivers, although these can be controversial to the degree subsidies are involved.

As long as TOD confers both public and private benefits, there is no replacement for public-private partnerships in advancing TOD implementation. Each party brings unique talents, insights, and resources to the table. Creating an in-house capability within transit agencies to pursue partnerships, hammering out fair and mutually rewarding risk- and revenue-sharing agreements, and building in contingencies that allow projects to change course as needed, experiences show, can produce win-win outcomes. Successful TOD partnerships win recognition in the marketplace and deserve recognition in other forums, such as national awards, “best practice” web sites, and high-profile special sessions at annual conferences like those sponsored by Rail~volution and the Urban Land Institute. As the joint development talent pool and knowledge base expands, lessons will be learned and put to good use on new and up-and-

coming projects. Disseminating and cross-pollinating knowledge offers the best hope of achieving future generations of TOD and joint development projects that are robust, smartly designed, and financially viable.

Future Research Directions

Considerable progress has been made in understanding TOD: what works and what does not, what preconditions are necessary to effectively leverage land development around stations, and how private developers react to different regulations and incentives. Still, knowledge gaps remain. More research is needed and perhaps will always be needed, not only to close knowledge gaps, but also to keep pace with the changing times, account for shifts in political priorities, and evaluate new programs and experiments that are introduced.

Weighing what we know and do not know about TOD, the following are promising avenues for future research:

- ***The Benefits of TOD.*** Our understanding of the net benefits of TOD, at least in a monetary sense or from a benefit-cost calculus, remains fairly fuzzy. Fertile grounds for new research lie in monetizing the benefits on the basis of outcomes like net reductions in VMT that can be attributed to TOD. This has been done as part of scenario forecasting (e.g., land-use scenarios forecast with TOD versus without TOD) for greater Sacramento. More telling might be an enumeration for a region like Portland, Oregon, which has a strong tradition of TOD, where relationships between transit and

land use are apt to be more elastic. Still, forecasts based on anticipated changes are inherently speculative. In venturing out to year 2030 and beyond, no one has a better crystal ball than anyone else. Forecasts hinge on numerous assumptions about conditions that powerfully shape travel behavior, like the future cost of gasoline and presumed technological futures, which are exogenous in nature, outside the sphere of local policy influence.

Gaining insight into the impacts of TOD on regional VMT reduction on the basis of grounded realities rather than future simulations would be helpful. One way to do this would be to look at a region that has been at the forefront of TOD and for which good longitudinal data are available, such as Portland, Oregon, or Montgomery County, Maryland. An ex post evaluation could be conducted by comparing current recorded VMT levels in the region with what would have been expected had TOD projects like Orenco Station and the Pearl District not been implemented (i.e., the “actual” versus “counterfactual”). Assuming a full social cost per vehicle mile of travel (ideally partitioned by time of day) would allow the VMT-related benefits of TOD to be imputed. External social costs of automobile use in the United States have been pegged at between 18 and 37 cents per mile (in 1998 currency); thus, VMT reductions attributable to TODs could be applied to such figures to impute an economic benefit.⁶

Over time, research that sheds light on minimum thresholds of transit

services needed to support TOD would be very useful. Ideally, research could answer such questions as whether a bus route with 15-minute frequencies on a major arterial connecting the CBD with a suburban employment center can justify a medium-scale TOD with net residential densities of 15 units per acre. To fill such knowledge gaps will require a very rich database that ties together information on transit service levels and costs, ridership elasticities, and TOD designs. While it will probably be many years before there are enough wide-ranging examples of TOD to allow such a database to be constructed, now is the time to start the process.

- ***TOD Typologies.*** Another promising line of study would involve developing typologies of TODs as they unfold and take shape. For example, TODs might be classified according to size of metropolitan area, location within a region (e.g., CBD, urban, mature suburb, new suburb, and exurban), and type of transit service (e.g., heavy rail, light rail, commuter rail, and BRT). With such a typology in place, the ability to examine differences in institutional arrangements, ridership impacts, economic benefits, and approaches to community participation across the groupings would be strengthened. There have not been enough TODs on the ground for a sufficient length of time to begin to build such a typology today (i.e., most “cells of the matrix” would probably be empty). However, given the rapid growth in TOD in some parts of the country, in 10 years’ time, or there about, there will probably be enough examples in a

variety of settings to allow such a typology to be constructed.

Developing typologies should not be confused with restricting and narrowing the definition of TOD. As of late, a number of commentators have issued calls for greater clarity and a more tightly bound definition of what constitutes a bona fide TOD (e.g., the TOD versus TAD debate). While such an undertaking might have value, it is doubtful that it could be successfully pulled off, and if it could, it is not apparent that a watertight TOD definition would matter that much. TOD clearly covers a very broad spectrum. Everything from the revamped multimodal transit center in the heart of Corpus Christi to the high-rise, mixed-use corridor along the Rosslyn-Ballston Metrorail axis has been labeled TOD. TOD, of course, is relative. In a small Midwest town, having a developer build a two-story apartment building with a few ground-floor retail shops near a major bus stop might be considered TOD, regardless of what TOD looks like elsewhere. In a large rail-served city, however, such a project might be categorized as TAD if parking codes remain unchanged, site designs place parking in the front, and few pedestrian amenities are provided. A danger of circumscribing the TOD concept is that projects that represent progressive change and a genuine departure from “business as usual” in some circumstances might not pass the “TOD acid test.” This might mean that a community pursuing what it believes to be TOD ends up not qualifying for a smart-growth grant or special bonding rates. We clearly need continuing research on

TOD, especially as it increases in numbers and scope; however, research must be sensitive to the fact that land-use changes and urban-design features are relative in nature, both within and between metropolitan areas of the country.

- ***TOD Evaluations.*** Evaluation also has a role in the future TOD research agenda. As innovative initiatives like LEMs, below-code parking policies, and BRT investments are introduced, there is a need to carefully evaluate impacts. Evaluation cannot be a rushed or at-the-last-minute undertaking. Rather it must be preplanned so that “before” and “after” data can be compiled, clinical-like controls can be introduced, and a wealth of indicators and metrics can be measured to draw a full assessment of impacts. Given the growing interest in TOD and smart-growth strategies in general, consideration should be given to resurrecting evaluation-based programs of the past, such as the Service and Methods Demonstration (SMD) program run by FTA’s predecessor organization, the Urban Mass Transportation Administration, in the 1970s. This program encouraged transit agencies to introduce service and pricing strategies, some far bolder than they would be expected to introduce on their own (like fare-free off-peak transit services), to “test the waters” and identify the most promising and productive policy reforms. Importantly, evaluation was a key component of the SMD program, with sufficient resources provided to allow carefully designed longitudinal studies to be conducted. The time seems ripe for an SMD-like program that

focuses specifically on TOD, joint development, and other multi-lateral initiatives aimed at strengthening the transit/land-use nexus.

- **Other Research Possibilities.** A number of other research areas could yield useful policy insights in coming years. Research on consumer attitudes about living and working in TODs might be useful supplements to studies on land-market impacts. Surveys might also track changes in the attitudes of local officials and citizens to TOD over time. Economic and institutional studies might be conducted that examine the costs of TOD versus the costs of sprawl (integrating and extending findings from both this study and *TCRP Report 74: Costs of Sprawl—2000*). Parking remains a controversial issue in many TOD settings; thus, studies that evaluate the impacts of parking reforms (like flexible parking standards and below-norm parking codes) could also be of great value. Similarly, empirical evidence on the trip generation rates of TOD could help advance policies that promote compact, mixed-use projects near transit stops, such as sliding-scale impact fees and streamlining project reviews. Areas like Montgomery County in Maryland and Los Angeles County and Santa Clara County in California recommend the lowering of trip generation estimates of TOD; however, empirical evidence that might be drawn upon in estimating trip rates remains scant. Developers who face the prospect of paying hefty impact fees would particularly welcome numbers that reflect the ability of TODs to “de-generate” vehicular traffic.

- **Research Dissemination.** Lastly, attention needs to be given to “getting the word out” about TOD research results. Technical reports, professional journal publications, and conference presentations are obvious channels. As important is conveying research findings over the Internet. A national TOD web site that showcases “best practices” and highlights the latest research findings would be welcomed by many professionals and practitioners.

Notes

- ¹ See <http://www.reconnectingamerica.org/html/TOD>.
- ² See <http://www.railvolution.com/>.
- ³ J. Miller, *Emerging Trends in Real Estate 2004* (Washington, D.C.: The Urban Land Institute, October 2003).
- ⁴ D. Belzer and G. Autler, *Transit Oriented Development: Moving from Rhetoric to Reality* (Washington, D.C.: The Brookings Institution Center for Urban and Metropolitan Policy, 2002).
- ⁵ R. Cervero, *Transit Villages in California: Progress, Prospects, and Policy Reforms*, Working Paper 98-08 (Berkeley: Institute of Urban and Regional Development, University of California, 1998).
- ⁶ See J. Murphy and M. Delucchi, “A Review of the Literature on the Social Costs of Motor-Vehicle Use,” *Journal of Transportation and Statistics*, Vol. 1, No. 1 (1998): 15–42; J. MacKenzie, R. Dower, and D. Chen, *The Going Rate: What It Really Costs to Drive* (Washington, D.C.: World Resource Institute, 1992); D. Lee, *Full Cost of Pricing Highways* (Cambridge, Massachusetts: John A. Volpe National Transportation Systems Center, 1995); and T. Litman, *Transportation Cost Analysis: Techniques, Estimates and Implications* (Victoria, British Columbia: Transportation Policy Institute, 1995).

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Glossary of Acronyms and Abbreviations

ABAG	Association of Bay Area Governments
AC Transit	Alameda Contra Costa Transit District
ADT	average daily traffic
AURA	Arvada Urban Renewal Authority
BART	Bay Area Rapid Transit
BCEC	Boston Convention & Exhibition Center
BG	business/government
BRT	bus rapid transit
Caltrans	California Department of Transportation
CATS	Chicago Area Transportation Study
CBD	central business district
C/CAG	City/County Association of Governments of San Mateo County
CCDC	Central City Development Corporation
CDC	community development corporation
CDMP	<i>Comprehensive Development Master Plan</i>
CDOT	Colorado Department of Transportation
CEO	chief executive officer
CITT	Citizens' Independent Transportation Trust
CMA	congestion management agency
CMAQ	Congestion Management/Air Quality
CMP	Congestion management plan
CRA	Community Redevelopment Agency
CRNA	Center for Regional and Neighborhood Action
CSG	Campaign for Sensible Growth
CTA	Chicago Transit Authority
CTN	Community Transit Network
DART	Dallas Area Regional Transit
DMU	diesel multiple unit
DOT	department of transportation
DRCOG	Denver Regional Council of Governments
DRI	development of regional impact
du/ac	dwelling units per acre
DURA	Denver Urban Renewal Authority
EIR	environmental impact report
ENA	Exclusive Negotiations Agreement
EPA	U.S. Environmental Protection Agency
FAR	floor-area ratio
FOD	ferry-oriented development
FTB	Franchise Tax Board
FTE	full-time equivalent
GFA	gross floor area
GIS	geographic information system
GLUP	general land use plan

GRTA	Georgia Regional Transportation Authority
HIP	Housing Incentive Program
HSP	Hoyt Street Properties
HUD	U.S. Department of Housing and Urban Development
IDOT	Illinois Department of Transportation
JPA	joint powers authority
LAC	Lennar Affordable Communities
LEM	Location Efficient Mortgage
LoDo	Lower Downtown
LOS	level of service
LPO	local planning organization
LRT	light-rail transit
MARTA	Metropolitan Atlanta Rapid Transit Authority
MAX	Metropolitan Area Express
MBTA	Massachusetts Bay Transportation Authority
MDT	Miami-Dade Transit
MetroLINK	Rock Island County Metropolitan Mass Transit District
MFI	median family income
MOA	memorandum of agreement
MPDU	moderately priced dwelling unit
MPO	metropolitan planning organization
MSA	metropolitan statistical area
MTA	Metropolitan Transportation Authority
MTC	Metropolitan Transportation Commission
MTDB	Metropolitan Transit Development Board
MTS	Metropolitan Transit System
MUNI	Municipal Railway
NCTCOG	North Central Texas Council of Governments
NCTD	North San Diego County Transit Development Board
NGO	nongovernmental organization
NIMBY	not in my backyard
NIPC	Northeastern Illinois Planning Commission
NJDOT	New Jersey Department of Transportation
NJ TRANSIT	New Jersey Transit Corporation
ODOT	Oregon Department of Transportation
OPTM	Office of Public Transportation Management
PATH	Port Authority Trans Hudson
PDC	Portland Development Commission
PTP	<i>People's Transportation Plan</i>
PUD	planned use development
REIT	Real Estate Investment Trust
RFP	request for proposals
RFQ	request for qualifications
RFRHA	Roaring Fork Railroad Holding Authority
RFTA	Roaring Fork Transportation Agency
RMV	Registry of Motor Vehicles

RPD	Regional Planning Department
RTA	Regional Transportation Authority
RTAP	Regional Technical Assistance Program
RTD	Regional Transportation District
RTP	Regional Transportation Plan
RTV	Regional Transit Vision
RTZ	rapid transit zone
SAHPD	Special Affordable Housing Protection District
SamTrans	San Mateo County Transit District
SANDAG	San Diego Association of Governments
SEPTA	Southeastern Pennsylvania Transportation Authority
SMD	Service and Methods Demonstration
STPP	Surface Transportation Policy Program
TAD	transit-adjacent development
TALC	Transportation and Land Use Coalition
TCSP	Transportation and Community and Systems Preservation Pilot Program
TDM	transportation demand management
TIF	tax increment financing
TIP	Transportation Improvement Program
TLC	Transportation for Livable Communities
TOD	transit-oriented development
T-REX	Transportation Expansion Project
TriMet	Tri-County Metropolitan District of Oregon
TxDOT	Texas Department of Transportation
UGB	urban growth boundary
URA	urban renewal authority
VMT	vehicle miles traveled
VTA	Santa Clara Valley Transit Authority
WMATA	Washington Metropolitan Area Transit Authority

APPENDIX A

TRANSIT AGENCY SURVEY

**NATIONAL STUDY OF TRANSIT ORIENTED DEVELOPMENT
AND JOINT DEVELOPMENT**

Survey of Transit Agencies

Agency / Jurisdiction: _____

Person Completing Survey: Name: _____

Title: _____

Phone: _____ Email: _____

This survey is divided into two sections:

- I. Transit Oriented Development (TOD) in your agency's service area
- II. Transit Joint Development (TJD) in your agency's service area

For any question that asks information that is not readily available to you, please feel free instead to provide information on individuals we can contact.

I. TRANSIT ORIENTED DEVELOPMENT (TOD)

A general definition of TOD is development concentrated around and oriented to transit stations in a manner that promotes transit-riding. Rather than a single real-estate project, it represents a collection (usually mix-use) of projects at a neighborhood scale that is oriented to a transit node.

1. Definition:

Has your agency adopted its own definition of TOD? ₁ YES ₀ NO

If YES, what is it? _____

If NO, what is your own definition? _____

2. Does your agency have a formal program designed to encourage TOD? ₁ YES ₀ NO

If YES, please elaborate and provide any materials or a web address (URL): _____

How many staff are assigned to this activity? _____ Full-time _____ Part-time

If NO, does your agency encourage TOD planning and implementation in other ways?

₁ YES ₀ NO

If YES, please elaborate: _____

If applicable, who is the contact person for either your TOD program or the other TOD assistance that your agency provides?

Name and Title: _____

Phone: _____

Email Address: _____

3. If you have a formal program to encourage TOD, please list the major features of the program and indicate the approximate percentage of the program budget dedicated to each activity. (If not, please skip to Question 7.)

Activity	% of Budget
A. _____	_____
B. _____	_____
C. _____	_____
D. _____	_____
E. _____	_____

4. Indicate the annual budget of this program over the last three fiscal years, divided into the following categories. If you know only the total budget, please provide this information. (If exact numbers are not easily available, please provide estimates and denote them with an asterisk (*) to distinguish from actual figures.)

	Administration & Planning Budget	Construction & Implementation Budget	Total Budget
2002	_____	_____	_____
2001	_____	_____	_____
2000	_____	_____	_____

5. List the major sources of funding for this program, divided into the following categories. Please specify whether these sources of funding are dedicated.

Sources	Administration & Planning	Construction & Implementation	Dedicated? (check one)	
A.	_____ _____ _____	_____ _____ _____	<input type="checkbox"/> ₁ YES	<input type="checkbox"/> ₀ NO
B.	_____ _____ _____	_____ _____ _____	<input type="checkbox"/> ₁ YES	<input type="checkbox"/> ₀ NO
C.	_____ _____ _____	_____ _____ _____	<input type="checkbox"/> ₁ YES	<input type="checkbox"/> ₀ NO
D.	_____ _____ _____	_____ _____ _____	<input type="checkbox"/> ₁ YES	<input type="checkbox"/> ₀ NO
E.	_____ _____ _____	_____ _____ _____	<input type="checkbox"/> ₁ YES	<input type="checkbox"/> ₀ NO

6. Does this program involve outreach and education? ₁ YES ₀ NO

If YES, please answer the following questions.

Who is the primary intended audience for the program? (check one)

- ₁ The public
- ₂ Local government staff
- ₃ Local government elected officials
- ₄ Developers
- ₅ Lenders
- ₀ Other: _____

What is the primary program strategy? (check one)

- ₁ To provide outreach and education in response to proposed TOD projects
- ₂ To provide outreach and education on an ongoing basis
- ₀ _____ Other: _____

What is the program focus? (check one)

- ₁ To provide technical assistance with finance
- ₂ To provide technical assistance with planning
- ₃ To provide technical assistance with legal issues
- ₄ To encourage political support for TOD
- ₀ Other: _____

How effective has this public outreach been to date in terms of:

	EFFECTIVENESS						
	Minimal	Moderate			Significant		
Increasing public awareness	1	2	3	4	5	6	7
Increasing private sector awareness	1	2	3	4	5	6	7
Engaging public dialogue on TOD	1	2	3	4	5	6	7
Resolving conflicts / tempering neighborhood opposition	1	2	3	4	5	6	7
Helping to initiate station-area projects	1	2	3	4	5	6	7

7. How does your transit agency address land use? Please check the statement that comes closest to describing your agency's position.

- ₁ Land use is not something we are concerned with
- ₂ Our agency takes the lead
- ₃ MPO takes the lead
- ₄ Local governments take the lead
- ₅ Shares responsibility with a number of players
- ₆ Provides funds to leverage land use decisions by local jurisdictions
- ₇ Has a formal relationship with other agencies in conducting studies

8. Does your agency have staff or consultants assigned to work on land use / TOD? ₁ YES ₀ NO

If YES, please indicate the percent of time / FTE devoted to land use / TOD: _____

9. Does your agency have a fixed guideway project in planning, design or construction? What comes closest to describing your situation?

Our project is in:

- ₁ System planning
- ₂ Alternatives analysis
- ₃ Early stages of preliminary engineering
- ₄ Advanced stages of preliminary engineering
- ₅ Final design
- ₆ In construction

10. Has the inclusion of land use as a factor in the federal new starts process changed your agency's interest in and its capability to undertake and implement TOD planning in your community? Please check the statement that comes closest to describing your agency's situation.

- ₁ It had no impact on our ability to undertake and implement transit-supportive planning
- ₂ It raised the profile of the transit / land-use connection in our agency, local governments and the community
- ₃ It provided the impetus to take transit-supportive land-use planning to the next level
- ₄ It led directly to changes in locally adopted land-use policies and plans for the transit corridor
- ₅ It had a significant impact on moving transit-supportive land-use planning and implementation forward in our community
- ₀ Other (please explain): _____

11. Has the presence of land use as a FTA new starts rating criterion changed how your agency approaches land use in the development of transit projects? Please check the statement that comes closest to describing your agency's situation.

- ₁ No, we have always treated land use as a key factor; we would do it anyway
- ₂ Yes, it helped to provide the impetus to more seriously address land-use issues
- ₃ Yes, it has opened the door to get the discussion going
- ₄ No, how we address land use is a local issue; having a federal criterion has had little to no impact

12. Does your state administer a grant program to promote local planning and / or implementation for TOD?

- ₁ YES ₀ NO

If YES, has your agency received any of these grant funds? ₁ YES ₀ NO

If YES, for what purposes were the grants used? _____

14. Are there any collaborative arrangements in your jurisdiction explicitly devoted to promoting TOD, in terms of:

Public-sector inter-agency committees or working groups? ₁ YES ₀ NO

If YES, please describe: _____

Private-sector committees or working groups? ₁ YES ₀ NO

If YES, please describe: _____

Public-private organizations or committees? ₁ YES ₀ NO

If YES, please describe: _____

(If it is easier, please mail or e-mail us this information)

16. List major TODs in your agency's service area (whether formally designated or not). If it is easier, please mail or e-mail us this information.

Station / Neighborhood	Description (and contact information)
A.	
B.	
C.	
D.	
E.	

(If more space is necessary, please use extra pages)

17. Indicate whether any of the following sources have been used to fund TODs in your area for pre-development (e.g., planning) and development. Check all that apply.

	Pre-development	Development
Pension funds	<input type="checkbox"/>	<input type="checkbox"/>
Union funds	<input type="checkbox"/>	<input type="checkbox"/>
REIT funds	<input type="checkbox"/>	<input type="checkbox"/>
Individual investor funds	<input type="checkbox"/>	<input type="checkbox"/>
Nonprofit / foundation funds	<input type="checkbox"/>	<input type="checkbox"/>
Other: _____	<input type="checkbox"/>	<input type="checkbox"/>

18. Did your agency play a prominent role in developing any of these projects? If not, skip to Question 19. If so, briefly list the goals your agency has set for the projects. Once listed, please rank them in order of importance from your agency's perspective, "1" being the most important.

Goals	Rank
A. _____ _____	_____ _____
B. _____ _____	_____ _____
C. _____ _____	_____ _____
D. _____ _____	_____ _____
E. _____ _____	_____ _____

(If more space is necessary, please use extra pages)

19. Have any individual cities, counties, or other entities in your agency's service area adopted a TOD plan or introduced TOD zoning? ₁ YES ₀ NO

If YES, please elaborate and / or provide contact information:

Jurisdiction	Description (and / or contact information)
A. _____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
B. _____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
C. _____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Jurisdiction

Description (and / or contact information)

D. _____

E. _____

(If more space is necessary, please use extra pages)

20. What are the statutory regulations governing your agency that have aided or inhibited its ability to promote TOD?

STATUTES

Number / Code	Name	Perceived effects on TOD activities
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

(If more space is necessary, please attach extra pages)

21. What are the internal regulations, policies, or mandates within your organization that affect the practice of TOD?

22. Within your service area, have any of the following tools been applied by your agency or another agency to promote TOD? If the tool has been applied in your service area, indicate its effectiveness toward promoting TOD. If the tool has not been applied in your service area, indicate what you believe would be its potential effectiveness toward promoting TOD in your service area.

	Tools Applied? <input type="checkbox"/> ₁ YES <input type="checkbox"/> ₀ NO	By Your Agency? <input type="checkbox"/> ₁ YES <input type="checkbox"/> ₀ NO	EFFECTIVENESS						
			Low	Moderate	High	1	2	3	4
Zoning Incentives / Density Bonuses	<input type="checkbox"/> ₁ YES <input type="checkbox"/> ₀ NO	<input type="checkbox"/> ₁ YES <input type="checkbox"/> ₀ NO	1	2	3	4	5	6	7
Relaxed Parking Standards	<input type="checkbox"/> ₁ YES <input type="checkbox"/> ₀ NO	<input type="checkbox"/> ₁ YES <input type="checkbox"/> ₀ NO	1	2	3	4	5	6	7
Expedited Entitlement Review	<input type="checkbox"/> ₁ YES <input type="checkbox"/> ₀ NO	<input type="checkbox"/> ₁ YES <input type="checkbox"/> ₀ NO	1	2	3	4	5	6	7
Exclusion of TOD from Concurrency or Level of Service Standards	<input type="checkbox"/> ₁ YES <input type="checkbox"/> ₀ NO	<input type="checkbox"/> ₁ YES <input type="checkbox"/> ₀ NO	1	2	3	4	5	6	7
Use of Eminent Domain (other than right-of-way acquisitions)	<input type="checkbox"/> ₁ YES <input type="checkbox"/> ₀ NO	<input type="checkbox"/> ₁ YES <input type="checkbox"/> ₀ NO	1	2	3	4	5	6	7
Open Market Acquisitions of Land	<input type="checkbox"/> ₁ YES <input type="checkbox"/> ₀ NO	<input type="checkbox"/> ₁ YES <input type="checkbox"/> ₀ NO	1	2	3	4	5	6	7
Donation or Underwriting of Land Costs	<input type="checkbox"/> ₁ YES <input type="checkbox"/> ₀ NO	<input type="checkbox"/> ₁ YES <input type="checkbox"/> ₀ NO	1	2	3	4	5	6	7
Assistance with Land Assembly	<input type="checkbox"/> ₁ YES <input type="checkbox"/> ₀ NO	<input type="checkbox"/> ₁ YES <input type="checkbox"/> ₀ NO	1	2	3	4	5	6	7
Tax Increment Financing	<input type="checkbox"/> ₁ YES <input type="checkbox"/> ₀ NO	<input type="checkbox"/> ₁ YES <input type="checkbox"/> ₀ NO	1	2	3	4	5	6	7
Tax-Exempt Bond Financing	<input type="checkbox"/> ₁ YES <input type="checkbox"/> ₀ NO	<input type="checkbox"/> ₁ YES <input type="checkbox"/> ₀ NO	1	2	3	4	5	6	7
Tax Abatement	<input type="checkbox"/> ₁ YES <input type="checkbox"/> ₀ NO	<input type="checkbox"/> ₁ YES <input type="checkbox"/> ₀ NO	1	2	3	4	5	6	7
Development of Below-Market-Rate Housing	<input type="checkbox"/> ₁ YES <input type="checkbox"/> ₀ NO	<input type="checkbox"/> ₁ YES <input type="checkbox"/> ₀ NO	1	2	3	4	5	6	7
Capital Funding	<input type="checkbox"/> ₁ YES <input type="checkbox"/> ₀ NO	<input type="checkbox"/> ₁ YES <input type="checkbox"/> ₀ NO	1	2	3	4	5	6	7
Planning Funding	<input type="checkbox"/> ₁ YES <input type="checkbox"/> ₀ NO	<input type="checkbox"/> ₁ YES <input type="checkbox"/> ₀ NO	1	2	3	4	5	6	7

23. Based on your agency's experience, how important is TOD toward:

	IMPORTANCE						
	Minimal	Moderate			Significant		
Increasing Transit Ridership	1	2	3	4	5	6	7
Increasing Political Support for Transit	1	2	3	4	5	6	7
Relieving Traffic Congestion	1	2	3	4	5	6	7
Reducing Sprawl	1	2	3	4	5	6	7
Increasing Housing Choices	1	2	3	4	5	6	7
Improving Neighborhood Quality	1	2	3	4	5	6	7
Other (_____)	1	2	3	4	5	6	7

24. Do any of the transit stations where TOD is being promoted along your system contain park-and-ride spaces? ₁ YES ₀ NO

If YES, please answer the following questions:

- (a). What is the approximate average number of spaces per station in your system? _____
- (b). Does your agency have a requirement for replacement parking? ₁ YES ₀ NO
- (c). To what degree has the presence of park-and-ride spaces been an obstacle to your agency's ability to successfully plan and build TOD projects? Please rate on a scale of 1 to 7.

Minimally		Moderately			Significantly	
1	2	3	4	5	6	7

(d). To what degree do these park-and-ride spaces detract from the pedestrian environment around the stations where TOD projects are being proposed, built or planned? Please rate on a scale of 1 to 7.

Minimally		Moderately			Significantly	
1	2	3	4	5	6	7

(e). Are there any plans to convert park-and-ride lots to TODs? ₁ YES ₀ NO

If YES, where? _____

25. To what degree has each of the following been an **impediment** to TOD in your service area?

	DEGREE						
	Minimal	Moderate			Major		
Lack of Market Demand	1	2	3	4	5	6	7
Community Opposition	1	2	3	4	5	6	7
Local Zoning Restrictions	1	2	3	4	5	6	7
Lack of Lender / Investor Interest and Support	1	2	3	4	5	6	7
Lack of Developer Interest	1	2	3	4	5	6	7
Skepticism Among Local Governments	1	2	3	4	5	6	7
Lack of Political Support	1	2	3	4	5	6	7
Inadequate Transit Service	1	2	3	4	5	6	7
Location of Transit Stations	1	2	3	4	5	6	7
Predominance of Auto-Oriented Land Uses	1	2	3	4	5	6	7
Lack of Local Expertise in TOD Planning or Implementation	1	2	3	4	5	6	7
Transit Agency Requirements for Replacement Parking	1	2	3	4	5	6	7
Lack of Collaboration Between Participating Governmental Agencies	1	2	3	4	5	6	7
Legal Issues (specify: _____ _____)	1	2	3	4	5	6	7
Other (_____)	1	2	3	4	5	6	7

26. How important are these initiatives introduced by higher levels of government (regional, state or federal) toward promoting TOD in your agency's service area?

	IMPORTANCE						
	Minimal	Moderate			Significant		
Planning Grants	1	2	3	4	5	6	7
Development of Regional Impacts (DRI) Requirements	1	2	3	4	5	6	7
Tying Transit Capital Grants to Local TOD Commitments	1	2	3	4	5	6	7
Smart Growth Legislation	1	2	3	4	5	6	7
Targeted Infrastructure Funding	1	2	3	4	5	6	7
Adequate Public Facility Ordinances / Concurrency Req.	1	2	3	4	5	6	7
Required Siting of Government Buildings Near Transit	1	2	3	4	5	6	7
Other (_____)	1	2	3	4	5	6	7

27. Have any of the following initiatives involving TOD taken place in your agency's service area in the past two years?

Conference or workshop open to the general public ₁ YES ₀ NO

Conference or workshop aimed at professionals ₁ YES ₀ NO

Public hearing on TOD project ₁ YES ₀ NO

Design charrette ₁ YES ₀ NO

Media coverage (e.g., special TV show) ₁ YES ₀ NO

Internet web site ₁ YES ₀ NO

Other (_____) ₁ YES ₀ NO

Please elaborate on any of these (such as the sponsor): _____

28. Redevelopment:

(a). Are there any redevelopment districts in your agency's service area? ₁ YES ₀ NO

(b). If YES, how many have been formed that include one or more transit stations? _____

29. List up to three things you feel transit agencies in the United States could do to best promote TOD.

A. _____

B. _____

C. _____

30. Please share any other ideas you have on improving the practice of transit oriented development in the United States.

II. TRANSIT JOINT DEVELOPMENT (TJD)

Transit joint development is distinguished from TOD mainly by being tied to a specific real-estate project, venture, or brokered deal and involving the direct participation of a public entity, often a transit agency, in revenue streams and sometimes ownership. Joint development often occurs on a transit agency’s property or in its air rights; however, it can also occur on nearby private land if an improvement is physically or functionally integrated with a transit facility. Joint development at transit stations includes air-rights development, ground-lease arrangements, station interface or connection-fee programs, and other initiatives that promote real-estate development at or near transit stations to the mutual benefit of public and private interests.

1. Definition:

Has your agency adopted its own definition of joint development? ₁ YES ₀ NO

If YES, what is it? _____

If NO, what is your own definition? _____

2. Transit joint development in your agency’s service area:

List major joint development projects in your agency’s service area.

Define **TYPE** of project using these codes:

- | | |
|---|--|
| A. Air-rights lease | G. Sharing of operations (e.g., sharing of parking, sharing of ventilation systems) |
| B. Ground lease | H. Incentive agreements (e.g., bonuses in exchange for rehabilitating stations) |
| C. Station connection fee (e.g., connecting retail store to station) | I. Equity Participation (e.g., sharing a percentage of project revenues) |
| D. Negotiated private contribution | J. Other (specify): _____ |
| E. Benefit assessment district to finance transit-related improvements | |
| F. Sharing of construction costs | |

Define **LAND USE** using these codes:

1. Office
2. Retail
3. Mixed Commercial (office, retail, others)
4. Hotel
5. Residential
6. Mixed Commercial-Residential
7. Other (specify): _____

Station / Project	Type	Land Use
A. _____	_____	_____
B. _____	_____	_____
C. _____	_____	_____
D. _____	_____	_____
E. _____	_____	_____

(If more than five, please use extra pages)

3. Indicate whether any of the following sources have been used to finance transit joint development in your area for pre-development (e.g., planning) and development. Check all that apply.

	Pre-development	Development
Pension funds	<input type="checkbox"/>	<input type="checkbox"/>
Union funds	<input type="checkbox"/>	<input type="checkbox"/>
REIT funds	<input type="checkbox"/>	<input type="checkbox"/>
Individual investor funds	<input type="checkbox"/>	<input type="checkbox"/>
Nonprofit / foundation funds	<input type="checkbox"/>	<input type="checkbox"/>
Other: _____	<input type="checkbox"/>	<input type="checkbox"/>

4. In a few short words or phrases, please list the goals of those joint development projects listed above for which your agency has played a lead role. Once listed, please rank them in order of importance from your agency's perspective, "1" being the most important. (If your agency's service area does not have experience with transit joint development, please skip to Question 6.)

Goals	Rank
A. _____	_____
B. _____	_____
C. _____	_____
D. _____	_____
E. _____	_____

5. Rate the following joint development impacts on scale of 1 to 7. Circle “N/A” if the impact does not apply to your agency’s service area.

	IMPACTS							
	Minimal		Moderate			Significant		
Increase revenues to public sector	1	2	3	4	5	6	7	N/A ₀
Increase transit ridership	1	2	3	4	5	6	7	N/A ₀
Promote “smart growth”	1	2	3	4	5	6	7	N/A ₀
Catalyst to redevelopment	1	2	3	4	5	6	7	N/A ₀
Enhance property values	1	2	3	4	5	6	7	N/A ₀
Improved urban design / architecture	1	2	3	4	5	6	7	N/A ₀

6. To what degree has each of the following been an **impediment** to transit joint development in your agency’s service area?

	DEGREE							
	Minimal		Moderate			Major		
Setting terms of private contributions	1	2	3	4	5	6	7	
Securing zoning changes	1	2	3	4	5	6	7	
Neighborhood opposition / resistance	1	2	3	4	5	6	7	
Lack of lending support	1	2	3	4	5	6	7	
Park-and-ride parking spaces adjacent to station	1	2	3	4	5	6	7	
Transit agency requirements for replacement parking	1	2	3	4	5	6	7	
Other (_____)	1	2	3	4	5	6	7	

7. What types of contractual arrangements were / are used for your agency’s transit joint development projects?

- Penalties for developer for finishing project phases late? ₁ YES ₀ NO
- A share of profits from project go to public agency partner? ₁ YES ₀ NO
- A share of profits from sale of property go to public agency partner? ₁ YES ₀ NO
- Minimum guaranteed rent for public agency partner from property? ₁ YES ₀ NO

APPENDIX B

DEVELOPER INTERVIEW PROTOCOL

**NATIONAL STUDY OF TRANSIT ORIENTED DEVELOPMENT
AND JOINT DEVELOPMENT**

Telephone Survey of Developers

A. INTRODUCTION

Hello, my name is _____, and I'm calling today for a study being sponsored by the Transportation Research Board through the Transit Cooperative Research Program. We're surveying developers involved in transit-oriented and joint development. We'd appreciate a few minutes of your time to help us answer some key questions. *(If not, when could I call back that you would have time?)*

Thank you for agreeing to help. First, I'd like to confirm some basic information about your firm.

1. Firm _____

2. Person Providing Information:

Name _____

Title _____

Address _____

Phone _____

E-Mail _____

Allow me to define what we mean by transit-oriented and joint development. A general definition of TOD is development concentrated around and oriented to transit stations in a manner that promotes transit riding. Rather than a single real-estate project, it represents a collection (usually mix-use) of projects at a neighborhood scale that are oriented to a transit node.

Transit joint development is distinguished from TOD mainly by being tied to a specific real-estate project, venture, or brokered deal and involving the direct participation of a public entity, often a transit agency, in revenue streams and sometimes ownership. Joint development often occurs on a transit agency's property or in its air rights; however, it can also occur on nearby private land if an improvement is physically or functionally integrated with a transit facility.

B. EXPERIENCE

Now I'd like to ask some questions about your firm's experience with transit-oriented and joint development.

3. What types of real estate development does your firm do? I'll list a number of types; please answer YES or NO to each. For each type, roughly what percentage of total activity or your portfolio does it represent?

			Percentage
Retail	<input type="checkbox"/> ₁ YES	<input type="checkbox"/> ₀ NO	_____
Shopping centers	<input type="checkbox"/> ₁ YES	<input type="checkbox"/> ₀ NO	_____
Office buildings	<input type="checkbox"/> ₁ YES	<input type="checkbox"/> ₀ NO	_____
Industrial	<input type="checkbox"/> ₁ YES	<input type="checkbox"/> ₀ NO	_____
Single family residential	<input type="checkbox"/> ₁ YES	<input type="checkbox"/> ₀ NO	_____
Condos / townhouses	<input type="checkbox"/> ₁ YES	<input type="checkbox"/> ₀ NO	_____
Multifamily residential (market-rate)	<input type="checkbox"/> ₁ YES	<input type="checkbox"/> ₀ NO	_____
Multifamily residential (below market-rate)	<input type="checkbox"/> ₁ YES	<input type="checkbox"/> ₀ NO	_____
Mixed-use development <i>(defined as combination of residential and at least one commercial use)</i>	<input type="checkbox"/> ₁ YES	<input type="checkbox"/> ₀ NO	_____
Institutional uses	<input type="checkbox"/> ₁ YES	<input type="checkbox"/> ₀ NO	_____
Other (please specify):	<input type="checkbox"/> ₁ YES	<input type="checkbox"/> ₀ NO	_____

4. What percentage of your firm's activity is in the Central Business District (CBD)?

₁ CBD ₂ Outside CBD

5. Project Experience

A. Have you been involved with either of these types of projects (TOD or TJD)?

₁ YES ₀ NO

B. If NO, then have you been involved with infill or mixed-use developments?

₁ YES ₀ NO

If your answer was NO to both of the above, please answer the following questions in terms of how you think you might approach future development of these types of projects.

6. What projects has your firm developed that are similar to what I've described as transit-oriented or joint development? We'd like to know about project type and size, setting, and when it occurred. If it is easier, please mail or e-mail this information to us.

Type	Size	CBD / Outside CBD	When?
_____	_____	<input type="checkbox"/> ₁ CBD <input type="checkbox"/> ₂ Outside CBD	_____
_____	_____	<input type="checkbox"/> ₁ CBD <input type="checkbox"/> ₂ Outside CBD	_____
_____	_____	<input type="checkbox"/> ₁ CBD <input type="checkbox"/> ₂ Outside CBD	_____
	_____	<input type="checkbox"/> ₁ CBD <input type="checkbox"/> ₂ Outside CBD	_____

C. FINANCIAL ISSUES

Next, I'd like to ask about how your firm finances transit-oriented and joint development.

7. How does your firm typically finance the debt for TOD and transit joint development?

8. Have any equity funds (e.g., pension funds, REIT funds, foundation support) gone toward TOD or joint development that your firm has been involved with? If so, please identify.

9. What characteristics of TOD or joint development have positively affected your ability to obtain equity funds?

- A. _____
- B. _____
- C. _____
- D. _____

10. What characteristics of TOD or joint development have negatively affected your ability to obtain equity funds?

- A. _____
- B. _____
- C. _____
- D. _____

11. From your perspective, how do each of the following lending standards change for transit-oriented and joint development projects versus more “standard” (e.g., auto-oriented or traditional suburban) types of real estate development? Please be as specific as possible.

Interest rate _____

Points (for securing loans) _____

Loan-to-value requirements _____

Debt coverage requirements _____

12. Please indicate whether or not each of the following factors significantly affects your firm's willingness to develop a given project, and if it does, its importance to your final decision:

	Significant? <input type="checkbox"/> ₁ YES <input type="checkbox"/> ₀ NO	IMPORTANCE TO DECISION						
		Low	Moderate			High		
Adjacent to Transit Station	<input type="checkbox"/> ₁ YES <input type="checkbox"/> ₀ NO	1	2	3	4	5	6	7
Mixed Use Development	<input type="checkbox"/> ₁ YES <input type="checkbox"/> ₀ NO	1	2	3	4	5	6	7
Unsubordinated Ground Lease with Public Agency	<input type="checkbox"/> ₁ YES <input type="checkbox"/> ₀ NO	1	2	3	4	5	6	7
Below Local Parking Standards	<input type="checkbox"/> ₁ YES <input type="checkbox"/> ₀ NO	1	2	3	4	5	6	7
Availability of Tax Incentives	<input type="checkbox"/> ₁ YES <input type="checkbox"/> ₀ NO	1	2	3	4	5	6	7
Limited Developer Experience with Proposed Project Type	<input type="checkbox"/> ₁ YES <input type="checkbox"/> ₀ NO	1	2	3	4	5	6	7
Majority of Local / Non-Credit Tenants	<input type="checkbox"/> ₁ YES <input type="checkbox"/> ₀ NO	1	2	3	4	5	6	7
Emerging Market	<input type="checkbox"/> ₁ YES <input type="checkbox"/> ₀ NO	1	2	3	4	5	6	7
Public Sector Participation	<input type="checkbox"/> ₁ YES <input type="checkbox"/> ₀ NO	1	2	3	4	5	6	7
Extent of Real Estate Investment Activity in Area or Near Site	<input type="checkbox"/> ₁ YES <input type="checkbox"/> ₀ NO	1	2	3	4	5	6	7
Brownfield Issues	<input type="checkbox"/> ₁ YES <input type="checkbox"/> ₀ NO	1	2	3	4	5	6	7
Potential Rent Premium for Superior Location / Access	<input type="checkbox"/> ₁ YES <input type="checkbox"/> ₀ NO	1	2	3	4	5	6	7
Supportive Land Use Designations	<input type="checkbox"/> ₁ YES <input type="checkbox"/> ₀ NO	1	2	3	4	5	6	7
Other (specify): _____	<input type="checkbox"/> ₁ YES <input type="checkbox"/> ₀ NO	1	2	3	4	5	6	7

13. Have there been any successful TOD or joint development projects that have influenced your decision(s) to go forward with development projects?

₁ YES ₀ NO

Identify the successful project(s) that have influenced you:

- A. _____
- B. _____
- C. _____
- D. _____

14. Based on your experiences, how would you rate the financial track record of TOD and joint development projects to date?

(Please rate on a scale of 1 to 7.)

Poor		Medium			Good	
1	2	3	4	5	6	7

15. Based on your experience as a developer, how would you characterize the role of the following public agencies and individuals in promoting TOD and joint development—as either obstacle, indifference, supporter, or partner? Choose one for each.

	Obstacle	Indifference	Supporter	Partner
Transit agency	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄
Redevelopment agency	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄
State DOT	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄
Metropolitan planning organization	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄
Local planning agency	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄
Local elected officials	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄

APPENDIX C

LENDER INTERVIEW PROTOCOL

**NATIONAL STUDY OF TRANSIT ORIENTED DEVELOPMENT
AND JOINT DEVELOPMENT**

Telephone Survey of Lenders

A. INTRODUCTION

Hello, my name is _____, and I'm calling today for a study being sponsored by the Transportation Research Board through the Transit Cooperative Research Program. We're surveying firms involved in financing real estate projects to help us understand issues and opportunities related to transit-oriented and joint development. We'd appreciate a few minutes of your time to help us answer some key questions. (*If not, when could I call back that you would have time?*)

Thank you for agreeing to help. First, I'd like to confirm some basic information about your firm.

1. Firm _____

2. Person Providing Information:

Name _____

Title _____

Address _____

Phone _____

E-Mail _____

Allow me to define what we mean by transit-oriented and joint development. A general definition of TOD is development concentrated around and oriented to transit stations in a manner that promotes transit riding. Rather than a single real-estate project, it represents a collection (usually mix-use) of projects at a neighborhood scale that are oriented to a transit node.

Transit joint development is distinguished from TOD mainly by being tied to a specific real-estate project, venture, or brokered deal and involving the direct participation of a public entity, often a transit agency, in revenue streams and sometimes ownership. Joint development often occurs on a transit agency's property or in its air rights; however, it can also occur on nearby private land if an improvement is physically or functionally integrated with a transit facility.

B. EXPERIENCE

Now I'd like to ask some questions about your firm's experience with transit-oriented and joint development.

3. What types of projects does your firm provide loans for? I'll list a number of types; please answer YES or NO to each. Roughly what percentage of your TOD loans go for each type?

			Percentage
Retail	<input type="checkbox"/> ₁ YES	<input type="checkbox"/> ₀ NO	_____
Shopping centers	<input type="checkbox"/> ₁ YES	<input type="checkbox"/> ₀ NO	_____
Office buildings	<input type="checkbox"/> ₁ YES	<input type="checkbox"/> ₀ NO	_____
Industrial	<input type="checkbox"/> ₁ YES	<input type="checkbox"/> ₀ NO	_____
Single family residential	<input type="checkbox"/> ₁ YES	<input type="checkbox"/> ₀ NO	_____
Condos / townhouses	<input type="checkbox"/> ₁ YES	<input type="checkbox"/> ₀ NO	_____
Multifamily residential (market-rate)	<input type="checkbox"/> ₁ YES	<input type="checkbox"/> ₀ NO	_____
Multifamily residential (below market-rate)	<input type="checkbox"/> ₁ YES	<input type="checkbox"/> ₀ NO	_____
Mixed-use development <i>(defined as combination of residential and at least one commercial use)</i>	<input type="checkbox"/> ₁ YES	<input type="checkbox"/> ₀ NO	_____
Institutional uses	<input type="checkbox"/> ₁ YES	<input type="checkbox"/> ₀ NO	_____
Other (please specify):	<input type="checkbox"/> ₁ YES	<input type="checkbox"/> ₀ NO	_____

4. What percentage of your firm's activity is in the Central Business District (CBD)?

₁ CBD ₂ Outside CBD

5. Project Loan Experience

A. Have you been involved in providing loans for TOD or joint development projects?

₁ YES ₀ NO

B. If NO, then have you been involved in providing loans for infill or mixed-use developments?

₁ YES ₀ NO

If your answer was NO to both of the above, please answer the following questions in terms of how you think you might approach future lending to these types of projects.

6. What projects has your firm developed that are similar to what I've described as transit-oriented or joint development? We'd like to know about project type and size, setting, and when it occurred. If it is easier, please mail or e-mail this information to us.

Type	Size	CBD / Outside CBD	When?
_____	_____	<input type="checkbox"/> ₁ CBD <input type="checkbox"/> ₂ Outside CBD	_____
_____	_____	<input type="checkbox"/> ₁ CBD <input type="checkbox"/> ₂ Outside CBD	_____
_____	_____	<input type="checkbox"/> ₁ CBD <input type="checkbox"/> ₂ Outside CBD	_____
	_____	<input type="checkbox"/> ₁ CBD <input type="checkbox"/> ₂ Outside CBD	_____

7. Besides traditional debt sources, indicate whether any of the following sources have been used to fund transit joint development in your area. Check all that apply.

- ₁ Pension funds
- ₂ Union funds
- ₃ REIT funds
- ₄ Individual investor funds
- ₅ Nonprofit / foundation funds
- ₀ Other _____

C. UNDERWRITING CRITERIA AND ISSUES

Next, I'd like to ask about how your firm's approach to underwriting relates to transit-oriented and joint development.

8. What characteristics of TOD or joint development contribute positively to a project's appraised value?

- A. _____
- B. _____
- C. _____
- D. _____

9. What characteristics of TOD or joint development contribute negatively to a project's appraised value?

- A. _____
- B. _____
- C. _____
- D. _____

10. How do each of the following underwriting standards change for transit-oriented and joint development projects versus more “standard” (e.g., auto-oriented or traditional suburban) types of real estate development? Please be as specific as possible.

LENDERS:

Pre-leasing requirement _____

Interest rate _____

Points (for securing loans) _____

Loan-to-value requirements _____

Debt coverage requirements _____

INVESTORS:

Capitalization rate _____

Leverage _____

11. Please indicate whether or not each of the following factors significantly affects your firm's willingness to lend or invest in a given project, and if it does, its importance to your final decision:

	Significant? <input type="checkbox"/> ₁ YES <input type="checkbox"/> ₀ NO	IMPORTANCE TO DECISION						
		Low	Moderate			High		
Adjacent to Transit Station	<input type="checkbox"/> ₁ YES <input type="checkbox"/> ₀ NO	1	2	3	4	5	6	7
Mixed Use Development	<input type="checkbox"/> ₁ YES <input type="checkbox"/> ₀ NO	1	2	3	4	5	6	7
Unsubordinated Ground Lease with Public Agency	<input type="checkbox"/> ₁ YES <input type="checkbox"/> ₀ NO	1	2	3	4	5	6	7
Below Local Parking Standards	<input type="checkbox"/> ₁ YES <input type="checkbox"/> ₀ NO	1	2	3	4	5	6	7
Availability of Tax Incentives	<input type="checkbox"/> ₁ YES <input type="checkbox"/> ₀ NO	1	2	3	4	5	6	7
Limited Developer Experience with Proposed Project Type	<input type="checkbox"/> ₁ YES <input type="checkbox"/> ₀ NO	1	2	3	4	5	6	7
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Emerging Market	<input type="checkbox"/> ₁ YES <input type="checkbox"/> ₀ NO	1	2	3	4	5	6	7
Public Sector Participation	<input type="checkbox"/> ₁ YES <input type="checkbox"/> ₀ NO	1	2	3	4	5	6	7
Extent of Real Estate Investment Activity in Area or Near Site	<input type="checkbox"/> ₁ YES <input type="checkbox"/> ₀ NO	1	2	3	4	5	6	7
Brownfield Issues	<input type="checkbox"/> ₁ YES <input type="checkbox"/> ₀ NO	1	2	3	4	5	6	7
Potential Rent Premium for Superior Location / Access	<input type="checkbox"/> ₁ YES <input type="checkbox"/> ₀ NO	1	2	3	4	5	6	7
Supportive Land Use Designations	<input type="checkbox"/> ₁ YES <input type="checkbox"/> ₀ NO	1	2	3	4	5	6	7
Other (specify): _____	<input type="checkbox"/> ₁ YES <input type="checkbox"/> ₀ NO	1	2	3	4	5	6	7

Abbreviations used without definitions in TRB publications:

AASHO	American Association of State Highway Officials
AASHTO	American Association of State Highway and Transportation Officials
APTA	American Public Transportation Association
ASCE	American Society of Civil Engineers
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
ATA	American Trucking Associations
CTAA	Community Transportation Association of America
CTBSSP	Commercial Truck and Bus Safety Synthesis Program
FAA	Federal Aviation Administration
FHWA	Federal Highway Administration
FMCSA	Federal Motor Carrier Safety Administration
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
IEEE	Institute of Electrical and Electronics Engineers
ITE	Institute of Transportation Engineers
NCHRP	National Cooperative Highway Research Program
NCTRP	National Cooperative Transit Research and Development Program
NHTSA	National Highway Traffic Safety Administration
NTSB	National Transportation Safety Board
SAE	Society of Automotive Engineers
TCRP	Transit Cooperative Research Program
TRB	Transportation Research Board
U.S.DOT	United States Department of Transportation