

Transit Supportive Development in New York State

A GUIDE FOR COMMUNITIES



Summer 2009

Acknowledgements

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Introduction

The purpose of the initiative is to identify land-use approaches that support transit use and to demonstrate that the obstacles to transit supportive development (TSD) can be overcome. This undertaking consists of both policy research and the initiation and completion of three pilot projects that demonstrate the feasibility of linking transit services and land-use planning, and which can serve as prototypes for other communities. These were some of the key questions that created the direction of this effort:

- **How can local land-use development decisions in New York State be better integrated with regional transit networks?**
- **What kinds of public policies and transportation investments can encourage transit supportive land-use patterns?**
- **What role can Metropolitan Planning Organizations (MPOs) play in working toward such outcomes? What are the transferable lessons?**

This initiative has three principal components:

1. **A comprehensive literature search and bibliography**
This literature search is not meant to be an all-inclusive list as much as a guide to the literature and the kinds of documents that are available. The bibliography can be seen in the appendix of this report.
2. **Two panel discussions on Transit Supportive Development (TSD)**
These were given at MPO Association events at West Point and in Rochester. These events were also used to promote the program. Some of the Power-Point presentations for these events are available at www.nysmpo.org.
3. **Three case study demonstration projects**
Three locations throughout the state were competitively selected. These are the centerpiece of the initiative and broad lessons were drawn from them. The case studies are summarized in this report. The full reports are available at www.nysmpo.com.

This project was funded by and guided by the NYSMPO Association which formed an Advisory Committee to review the progress of the project and to help select the case study communities. Members of the Advisory Committee included:

Larry McAuliffe, Transit-Supportive Development Project Manager, New York Metropolitan Transportation Council (NYMTC)

Kealy Salomon, Transportation Program Administrator, Poughkeepsie-Dutchess County Transportation Council (PDCTC)

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The Role of the Metropolitan Planning Organizations

In addition to the New York State Metropolitan Planning Organizations (NYSMPOs) banding together to fund this demonstration program, the staff of the MPOs in the selected demonstration project areas guided the case studies and the subsequent advances that occurred in planning transportation and land use together, that will be fully described in the demonstration reports and this guidebook.

In providing funding, the NYSMPOs recognized that the TSD concept is one that is gaining momentum, brought about by the emergence of macro scale challenges such as climate change, increasing energy costs and potential peaking of traditional resources, a growing backlog of capital needs for transportation infrastructure, increasing congestion and travel times, and the need for a more efficient pattern of development. Douglas Foy of Serrafix Corporation, speaking at a conference on TOD jointly sponsored by the New York Metropolitan Transportation Council and New York University's Rudin Center in November, 2008, pointed out that this confluence of issues and concerns is resulting in a growing focus on vehicle miles of travel and its impact on climate and economic vitality. NYMTC Executive Director Joel Ettinger, in his address, highlighted the need to integrate land use and transportation

planning in developing strategic transportation plans that address the needs of the region. A number of the conference speakers underscored the connection between TSD, pedestrian and bicycle friendly design, and creation of a sense of place in redeveloping active community centers. Still others emphasized the importance of creating a coherent network of TSD locations to help make transit services work efficiently.

The Case Study Selection Process

The centerpiece of this initiative was to identify demonstration projects for transit supportive development and to develop case studies that can serve as prototypes for other communities. The goal was to select three different kinds of communities - a large city or its suburb, a medium city and a small city - geographically distributed across New York State.

In varying degrees, the case study work detailed facility design, site planning or market studies, at least to a conceptual level as the scope of the initiative allowed. The consultant team also suggested a locally-developed action plan that each pilot community could implement to create a more supportive atmosphere for transit services in that community or specific location. The case studies are meant to be instructive and include recommendations that can apply to a broad array of contexts and locations.

The funding for this initiative was limited and so the MPO Association was interested in projects where a short-term, one-time intervention could have strategic value. It was important to select projects with a capable local partner or partners; that were at the right stage in their overall development; and that had a need for the particular skills that the consultant team brought to the case studies. The consultant team's strengths included urban design, transit feasibility assessment, and mobility, including parking issues and alternative modes of access. The team also brought extensive experience in community-based planning and community design workshops.

The program was promoted through the MPO web sites, and at two conferences - one downstate and one upstate - that described transit supportive development. A Request for Expressions of Interest was distributed which asked that prospective communities submit a brief overall description of their project, as well as the following information:

Planning Context: Description of support for the TSD initiative in the community as well as an explanation of the current stage of the project.

Nature of Transit Service: Description of the kind of existing or anticipated transit service involved in the case study, any planned changes to that service, and funding.

Description of Potential Transit Supportive Development Area: Land uses that characterize the area within a half-mile, any anticipated changes in land use and development, and any anticipated changes in zoning.

Technical Resources: Any technical studies involving data collection required to advance this project at this time.

Applicant Organization and Funding: Involvement of any other government or civic organizations and any resources to match the NYSMPO commitment.

Nine communities responded to the Request for Expressions of Interest: Albany, Buffalo, Harriman, Rochester, Ithaca, Poughkeepsie, Niagara Falls, Croton-on Hudson and Dover. These were evaluated by the consultant team as well as the NYSMPO Advisory Committee according to the criteria above. The most important considerations were the level of community support and the match between the scope of the problem and the resources and expertise of the consultant team. Ultimately three were selected: Albany, Buffalo, and Harriman. In addition to the summaries of these case studies that appear in this report, each of the three case study communities was given its own more comprehensive report. These are available at www.nysmpos.org.

Executive Summary

What is Transit Supportive Development?

At its core, TSD is characterized by the following:

1 Makes the transit station a community destination

Transit stations can serve as a focal point for civic identity, and can serve as an amenity to the community by functioning as venues for a wide range of community activities and events, and as anchors for local businesses.



2 Creates a pedestrian-oriented environment

Transit-supportive developments may vary in scale and density, but they always create an environment that is scaled to pedestrian activity. Buildings, especially at the ground floor where they define streets and other public spaces, create visual interest and relate to human scale.



3 Creates strong linkages between the transit facility and the surrounding context

A robust network of streets, sidewalks and, where possible, trails and greenways, provides seamless connections from the facility.



4 Prioritizes non-auto forms of transportation while accommodating the car

A hallmark of TSD is that it ensures people are able to access transit on foot, by bicycle and on other non-auto modes. Providing safe, attractive pedestrian and bicycle linkages is essential. While parking will still be necessary in a TSD, it must balance regional parking needs with the community's development goals. Parking facilities must be designed in a way that doesn't detract from the pedestrian experience.



5 Supports place-making uses and activities

Whether residential, retail or office uses – or a mix of these - transit-supportive uses create pedestrian activity at different times of the day and contribute to transit ridership.



The Challenge of Transit Supportive Development

This initiative focused on transit-supportive development, also known as transit-oriented development (TOD), because of its potential to drive economic growth in New York State, create equitable communities, and reduce the environmental impacts of development. Across the country, municipalities, developers, and individuals are realizing that TSD can lower personal transportation costs, reduce greenhouse gas emissions to prevent climate change, protect undeveloped land from sprawl, and provide for changing demographics which have demonstrated a renewed interest in living in urban, walkable neighborhoods. Despite the attraction of TSD, however, developing new neighborhoods around transit is not free from challenges. Existing (often low-scale industrial) development along rail lines complicates the assemblage of developable properties and presents potential land-use conflicts. Zoning crafted with an emphasis on accommodating automobiles raises regulatory hurdles for developers who seek TSD permits, and updating these regulations requires time and public support. Significant public and private investments are needed to build the transit infrastructure and surrounding mixed-use neighborhoods to accommodate demand. As the case studies presented in this report show, competing interests among stakeholders and neighboring municipalities can be difficult to overcome.

Despite these challenges, success stories of developments such as Yonkers' Hudson Park and new residential projects in Stamford, as well as national examples from Portland, Oregon, Boston, and Washington, D.C., show that pursuing TSD can be worthwhile as a means for building vibrant and sustainable new communities that compete in a twenty-first century economy.

Leveraging TSD resources can pay huge dividends. Consider the potential impacts on property values. While there was a time when being closer to rail lines and other transit corridors was considered a detractor, recent data has shown the significant positive impacts on property values of being closer to transit. When a new connection enabled a one-seat ride to Penn Station on the Morris and Essex Line in New Jersey (as opposed to the transfer that was required to the ferry in Hoboken), property values within a half-mile of the train station increased up to 200% more than those properties that were beyond the half-mile mark. Proximity to transit has value. This is being recognized by progressive lenders who allow "transit-efficient mortgages" for properties near stations: the advantageous mortgage reflects the fact that owning a car or two cars is a burden, and a family that does not have that burden has more income to devote to a mortgage.

There are other favorable trends that speak to the increasing importance of transit-supportive planning and development. While in many parts of the country, sprawl development continues, many urban and suburban locations that are supported by transit are experiencing new growth. Rebecca Sohmer and Robert Lang demonstrated that in the 1990s there was significant growth in downtowns. RPA's research in the NY Metro region showed a similar trend: while in absolute numbers sprawl development continues, in the last decade the percentage of development within walking distance of train stations is greater than the percentage of growth outside of centers. Transit is an essential component of these places.

Consider also these findings from *Hidden in Plain Sight: Capturing the Demand for Housing Near Transit* (Center for Transit-Oriented Development, 2005):

- **A 2001 study by the Federal Highway Administration found that 57% of so-called "Echo Boomers" (aged 24-34) preferred small-lot housing and 53% felt that the ability to walk to shopping was a significant factor in location choice.**
- **AARP reports that 71% of older households want to live within walking distance of transit**
- **Professional Builder magazine reports that 37% of all households want small lots and clustered development.**
- **Transit zones are generally more affordable, a significant benefit for the many communities that are wrestling with housing affordability issues.**
- **Households in transit-accessible zones own, on average, 0.98 cars, compared to an average of 1.6 cars in metro regions overall.**
- **Only 54% of residents living in transit zones commute by car, compared with 83% in the regions as a whole.**

Strong coordination between new transportation investments and regional development plans have been a key to success for a number of cities throughout the United States. Coordinated land use and transportation planning, while still new, is gaining momentum nationally. The three demonstration projects undertaken by this study at Albany, Harriman, and Buffalo illustrate that now is the time for New York's municipal governments, metropolitan planning organizations, and state agencies to forge ahead to promote transit-supportive development.

Transit-Supportive Development (TSD) in New York State

Recognizing the huge untapped potential of New York State's transportation infrastructure, the New York State Association of MPOs launched this "Transit-Supportive Development" (TSD) initiative. While Transit-Supportive Development shares many of the same characteristics as the more familiar Transit-Oriented Development or "TOD", Transit Supportive Development is meant to be a broader concept that captures not just development around a one-quarter or one-half mile radius of train station, but strategies for dealing with a larger physical context and a larger social context that includes the planning process itself. In other words, TSD is both a physical planning idea and a process idea.

This TSD initiative had multiple components: a research project to create a TSD bibliography; an advocacy effort that consisted of two presentations at MPO conferences; and, at the center, three demonstration projects that represented the range of TSD initiatives across the state. The case study approach was meant to bring into relief not only what works, but what the obstacles there are to effectively implementing Transit-Supportive Development across the state.

The Case Studies

The three demonstration case studies are the centerpiece of this TSD initiative. To identify up to three demonstration projects, a Request for Expressions of Interest was distributed which asked that interested communities submit a brief overall description of a project that they felt would make a suitable TSD Case Study. As funding was very limited, a selection committee used a variety of criteria to select three demonstration projects from among the nine that were submitted:

Albany: Incorporating Intermodal Transportation into the New Downtown Albany Convention Center. Link Convention Center site planning and design to new Bus Rapid Transit (BRT) service.

Buffalo: Strategic Land Use and Transportation in the Buffalo-Amherst Corridor. Link transportation planning to university expansion and town revitalization.

Harriman: Harriman Station TOD. Develop new TSD on vacant land at the Harriman Station on the Port Jervis Line of Metro-North Railroad.



The World Trade Center station and TSD adjacent to the Silver Line BRT in Boston, MA



Suburban infill TSD in Maryland



A new TSD in Addison, Texas



Repurposed residential buildings and a BRT-style bus in downtown San Diego



BRT and suburban infill TSD in Eugene, Oregon



A new TSD in Westchester, New York

There is no single template for what a transit-supportive development should look like. Rather, TSDs work best when planned and tailored to respond to an area's specific location and situation. In fact, the three case studies in this report represent three distinct situations, each requiring different, though all transit-supportive, solutions.

In Albany, the study area included a neglected area of an urban downtown with excellent, and soon to be improved, bus access. In this case, TSD involves infill development on underutilized and vacant land, designed in a way that promotes mixed-use and pedestrian activity. Buffalo presented a somewhat similar case in that it also involved an already built-up place. However, TSD in Buffalo would most likely consist of transitioning an auto-centric suburban arterial into a more pedestrian-friendly, transit-accessible corridor. Finally, the Harri-man case study focused on imagining an entirely new, transit-supportive neighborhood in an area adjacent to a commuter rail station that is currently undeveloped. Illustrations of these differing forms of TSD are shown on the facing page.

The particular outcomes of these case studies are summarized in Part II of this report.

While this effort focused on these three case studies, the nine communities from across the state that submitted proposals collectively present an interesting snapshot of TSD activity in New York State. (The full list of submissions and criteria can be found on page 14.)

Lessons Learned

There is a new interest in buses

This reflects the growing awareness that the bus, especially state-of-the-art bus rapid transit systems, can be repositioned as a first-class form of transportation and can also be an effective alternative to much more capital-intensive fixed guide way systems.

Transit facilities are being re-thought as mixed-use developments

In many cases, the terminal facilities, whether for train or bus, can include housing, retail and office uses that support overall redevelopment objectives.

TSD planning is taking in a larger context

Comprehensive TSD planning is extending beyond the boundaries of the facility's site to include the larger urban or suburban context.

TSD planning is being linked to larger smart-growth objectives

Transit-supportive development is increasingly understood as a way to capture growth at a transit node that would otherwise sprawl out into the landscape.

Getting the right data

Good data is essential for creating support for policies. Unfortunately, the standard sources of data rarely support the particular objectives of TSD planning initiatives. For example, census data can provide an idea about how people get to work, but it is very coarse because it only asks for the dominant mode choice and so it leaves little room for planning around the secondary aspects of the journey-to-work, such as walking, biking, parking, drop offs, or transit feeder service to the station area. Similarly, origin-destination surveys can provide a lot of information about non journey-to-work trips, but this is compromised by inaccuracies in sampling and the fact that most origin and destination studies do not accurately profile biking and walking trips. Our experience with the case studies, and with the Buffalo case study in particular, is that depending on the stage of the initiative, it is not possible to move forward without complete data. There is ultimately no substitute for collecting the particular data that is most relevant to the project objectives.

Explaining density

Communities react negatively to the idea of density, and this was an issue in two of the three case studies – Harriman and Buffalo. Concerns include threats to neighborhood character, increased traffic, and net impact on municipal finances, particularly around school children. Education is the essential strategy for dealing with these issues. Communities rarely understand what density thresholds, usually expressed in “dwelling units per acre,” actually look like or what the implications are for community character. One important strategy is to analyze and describe to residents the actual densities of their neighborhoods, which are often higher than what is being proposed. Finally, it is important to educate the public about misconceptions regarding the net fiscal impact of higher-density residential mixed-use developments, because compact mixed-use station area developments that do not attract families with children can be positive net ratable for the municipal finances.

Resolving competing agendas and conflicting interests

The civic and political landscape can be complicated by conflicts and competition among stakeholder organizations within a single jurisdiction. Both the Albany and Buffalo case studies demonstrated this issue. Different entities may have different short and medium term agendas that need to be reconciled as their initiatives move forward. Beyond a kind of “shuttle diplomacy” orchestrated by the Capital District Transportation Authority (see description in report) the strategy should be to calibrate the level of specificity of designs and recommendations to the level of consensus needed to move the project forward at any particular time and in that way set up a flexible framework that goes a good distance towards optimizing the different agendas but is still open-ended enough to work even if the environment changes.

The role of non-profit and non-governmental agencies

This initiative highlighted the strategic role that non-profit organizations and non-governmental agencies can play in advancing Transit Supportive Development. As the case studies revealed, TSD initiatives inevitably tread upon the sensitive issues of community intensification, impacts on local services, impact on municipal finances, traffic impacts, inter-municipal cooperation, and long-term governance, among others. While private developers and professional technical consultants are obviously essential players in TSD initiatives, private actors are not equipped to tackle civic issues, nor is appropriate for them to do so. At the core, TSD projects are public-private partnerships, and so public actors must be involved in a symmetrical way with the private interests.

The featured case studies demonstrated this. It was essential for the project team to be able to present itself not as consultants to private development interests, but as independent advocates whose ultimate interests were to advance the communities’ own goals for development and quality of life.

Promoting inter-municipal cooperation

Inter-municipal cooperation is essential because the impacts of new TSD development, whether traffic and environmental, are felt well beyond the boundaries of the TSD itself. This was especially the case in Harriman. This does make TSD planning more complex, but it is possible to leverage this complexity for its potential benefits. In particular, if a truly inclusive planning process is put in place, more interested stakeholders can be engaged in a way where these people and entities become interested partners rather than opponents, bringing their own resources and energy to bear on a positive outcome.

Promoting TSD in the Future

While the role of smart growth in transportation planning is emerging, questions arise about the role of the MPOs in making desired changes. What are some actions that MPOs can take now to promote TSD as an action strategy for the future? Here are some possible steps for the MPOs to consider.

- *Develop a new regional vision that includes planning transportation and land-use projects together.*
- *Fund planning for inclusion of TSD when planning new transportation infrastructure in order to maximize the impact of the transportation investments.*
- *Develop guidelines for inclusion of TSD in community planning, and reward municipalities that meet the criteria.*
- *Promote residential density near transit stations and along commuter routes.*
- *Provide funding and expertise for community visioning workshops that include focus on attractive pedestrian and biking facilities and parking management strategies.*

Process issues and lessons learned

The three featured case studies represent a range of processes that varied greatly in terms of the kinds of engagement that were called. This ranged from large-scale engagement of the public (Harriman), to a strategic inter-agency coordination effort (Albany). Between these two ends of the spectrum was the Buffalo initiative, where the public participation effort was directed at a selected group of interested stakeholders. The range of processes was an asset to this initiative because they are representative of various conditions across the state.

This TSD experience supports a finding that is as essential as it is familiar: the process needs to be calibrated to the particular kind of TSD initiative. Not only is there not a “one-size-fits-all” template for a good TSD process, but the real spirit of TSD is that the process itself needs to be designed with the community. The local stakeholders are the only ones who really know where all of the political sensitivities are and how to do effective outreach to different actors in the community. Most importantly, in partnership with the MPO, the local stakeholders must become the stewards of what will almost certainly be a long-term process and this will not happen if they have not been involved in designing the process.

Having said that, collectively the case studies support the following findings about TSD planning processes:

- *Empower and engage stakeholders by ensuring active, hands-on participation in the design process.*
- *Use a wide variety of media products to communicate with diverse stakeholder groups.*
- *Create a flexible framework for redevelopment is essential.*
- *Enable stakeholder participation at several levels, from small technical working groups to the general public.*
- *The process must be iterative.*
- *Technical studies are part of the public process: make them graphic.*

PART I: Background Research

The literature available on the subject of transit-oriented development (TOD) is large and growing rapidly. The purpose of the literature review was to give the reader a head-start in locating information of interest in the field. The items in the review were organized by topic to allow the user to efficiently target and access the areas of greatest interest.

In total over 60 publications were reviewed, each described in one to three paragraphs. Although the terms transit-oriented-development (TOD), transit-friendly development (TFD), and transit-supportive-development (TSD) are used largely interchangeably, the literature review attempts to distinguish between these terminologies, and addresses also the differences between transit-oriented and transit-adjacent developments. A key purpose of the review was to identify the reasons why certain TODs were successful or were not. Bus issues were in general not addressed very extensively.

The numbers of references and available websites are listed for each publication. The full literature review is in the appendix of this report.

The topic areas are the following:

- **General:** these are reports that discuss general topics of TODs and give overviews of TOD best practices and general principles. This category also includes documents with extensive bibliographies.
- **Defining TOD:** these reports present and explain different typologies or categories of TODs.
- **Making the Case for TOD:** these reports present the success stories of TODs and explain the major benefits.
- **TOD Case Studies:** this category includes reports that have extensive data on case studies, including parking, transportation and economic impacts.
- **Transit Issues:** reports and papers focusing on the functions of transit and addressing the roles of transit agencies at TODs.
- **Bus Issues:** articles or reports addressing bus transit at TODs more specifically.
- **Parking Issues:** articles and reports that discuss parking policies and strategies from the point of view of the municipalities and the developers, addressing parking ratios, regulations and programs, as well as shared parking.
- **Land Uses and Design:** This category addresses and evaluates more specific land-use and design issues, such as densities, mixes of uses and types of uses (residential, employment, non-work uses). Design principles are also addressed.
- **Implementation** - Required Actions and Responsibilities. These publications focus on implementation strategies and actions that either the municipalities or transit agencies need to take to make TODs economically feasible.

The work program included two workshop presentations on the subject of Transit Supportive Development. A decision was made early on to take advantage of the large state-wide conferences, enabling the team to reach wider audiences. The first presentation was held on June 6, 2007, in Rochester, in conjunction with the 2007 New York State Public Transit Industry Spring Conference, and the second was held on June 14, 2007, in West Point as part of the Annual Meeting of the New York State Association of MPOs. At both venues, the consultant team gave a presentation explaining the principles and benefits of TSD, showing examples of projects that were implemented and addressing the issues that are raised regarding TSDs. The presentation showed examples of various levels of densities in different town or village settings, presented information related to fiscal impacts of TSDs, including information on school children ratios in TSDs and compared traffic and parking impacts of typical suburban developments to TSD. A panel of industry experts (planners, lawyers, developers and transit agency officials) was invited to the West Point conference to address various technical issues.

Each session was followed by a question-and-answer period. The team used these sessions to start recruiting candidates for the three case study pilot projects. The purpose of the demonstration projects was explained, as well as the selection criteria. The consultants met with representatives of agencies and municipalities to discuss candidate projects.

Ultimately, there were nine responses to the Request for Expressions of Interest:

Albany

Incorporating Intermodal Transportation into the New Downtown Albany Convention Center. Link Convention Center site planning and design to new Bus Rapid Transit (BRT) service.

Buffalo

Strategic Land Use and Transportation in the Buffalo-Amherst Corridor. Link transportation planning to university expansion and town revitalization.

Harriman

Harriman Station TSD. Develop new TSD on vacant land at the Harriman Station on the Port Jervis Line.

Rochester

Renaissance Square Downtown Revitalization. Investigate the impacts on downtown Rochester of major new mixed-use development that has, as a feature, a new intermodal bus facility.

Ithaca

Southwest Area TOD Study. Recommend transit improvements to new mixed-use development in southwest Ithaca. This project is an attempt to link redevelopment and transit (bus) in the suburban environment of a small city.

Poughkeepsie

Station Area TOD Study. To investigate new waterfront development and parking anticipated around the train station.

Niagara Falls

Multi-modal International Transportation Center. Model mixed-use development around revitalized train station.

Croton-On-Hudson

Station Access Study. Resolve car access issues to a very large park-and-ride facility on the Metro-North Hudson Line.

Dover

Station Area TOD: Help resolve land-use dispute between municipality and developer for a new TOD.

Together, these nine case studies create a profile of the ways in which transit and land use are being reconsidered across New York State and suggest the four findings which follow:

A New Interest in Buses

Many of the case studies focus on the potential of the bus to leverage the benefits of TSD. In part, this reflects the growing awareness that the bus can be repositioned as a first-class form of transportation. The proliferation of Bus Rapid Transit (BRT) systems across the country (the National Bus Rapid Transit Institute lists over 18 systems either in place or under construction nationwide) is the evidence for this. To some extent, this reflects the reality that fixed guide way systems are much more capital-intensive. But it also reflects the benefits of the flexibility that a bus offers in a suburban/exurban landscape. Most importantly, it reflects a gradual destigmatization of the buses.

In **Albany**, the CDTA is committed to a new BRT system that will link the heavily travelled Route 5 corridor to downtown Albany and the new convention center district there.

In **Buffalo**, the University is investigating ways to link its three campuses. While light rail is one of the alternatives being considered, a competitive strategy is to replace or reposition the existing bus service between the campuses (the “Stampede”), which is a private concession.

In **Ithaca**, a new bus route will link a new mixed-use development on the fringe of the downtown to central Ithaca and the rest of the Ithaca transit network.

In **Rochester**, the new mixed-use development includes an intermodal facility that features bus and BRT connections.

Rethinking Transit Facilities as Mixed-Use Developments

In many of the cases, the terminal facilities, whether for train or bus, are being rethought as mixed-use facilities.

In **Albany**, the solution for the BRT facility was to create a new mixed-use building that could include retail, office and even housing to breathe life into the larger redevelopment area and downtown.

In **Niagara Falls**, the plan for the train station and intermodal facility includes using the older building as a museum and visitor center.

In **Rochester**, the new intermodal facility is being designed as an integral part of a larger mixed-use development.

Taking in the Larger Context

A corollary to the notion that transportation facilities can be mixed-use developments is that comprehensive TSD planning extends beyond the boundaries of the facility's site to include the larger urban or suburban context.

In **Albany**, the study area ultimately included an area extending from the waterfront to State Street in order to understand the potential linkages – physical and economic – from the future mixed-use facility to the rest of downtown.

In **Niagara Falls**, several drawings locate the new mixed-use facility in the context of not just the Main Street corridor to downtown, but the entire Niagara River waterfront plan.

In **Rochester**, the MPO wanted to understand how the new intermodal facility, together with the larger Renaissance Center redevelopment program, could impact the rest of the downtown.

In **Buffalo**, the analysis of the various transit alternatives for linking the three campuses included not only the potential benefits for the students, but for several other populations in the larger context including workers not affiliated with the University and residents in the surrounding neighborhoods.

In **Poughkeepsie**, the challenge is to leverage transit facility improvements in off-site waterfront revitalization.

Leveraging TSD for Smart Growth.

For several of the projects, “smart growth” objectives were central; in particular, the goal of capturing growth at a transit node that would otherwise sprawl out into the landscape.

In **Dover**, located in an area of rural Dutchess County that is wrestling with sprawl, a new TSD node has been designed as several compact neighborhoods around a new mixed-use station area. This project has the explicit goal of capturing half of the population and job growth projected for the area within 3/4 of a mile from the train station, development that would otherwise sprawl out over 7,000 acres.

In **Harriman**, new residential mixed-use development at the train station has the potential to capture anywhere from 250 to 800 dwelling units at a station that is currently only surface parking. The context for this project is the larger Southeast Orange County Land Use and Transportation Study and a subsequent study, Smart Growth for SEOC, both of which call for employing transit-supportive development strategies wherever possible and, in particular, at Harriman Station, as a way to combat sprawl.

In **Buffalo**, strategies for linking the two suburban university campuses to each other and to downtown must be evaluated in the context of the Greater Buffalo-Niagara Regional Transportation Council's transit planning for a much larger geography that takes in areas of sprawling suburban growth. Ultimately the feasibility of new transit in the three-campus corridor will depend on the ability to promote smart growth land-use patterns in this larger context.

In **Ithaca**, the challenge is how to link mid-to-lower density auto-oriented places now at the edge of the city to the downtown core.

In **Rochester**, as in Albany, there is the opportunity to integrate a new intermodal bus facility into a larger redevelopment plan, in this case, the mixed-use Renaissance Center which is part of a redevelopment strategy for the entire downtown.

PART II: The Case Studies

Albany

Problem Statement and Overview

The Albany TSD case study consisted of two separate but related design questions: how to integrate Bus-Rapid Transit (BRT) along the busy State Street corridor in downtown Albany, and how to reconfigure the hub of bus activity to capitalize on redevelopment efforts in the area of downtown where a convention center is planned. The client for this case study, the Capital District Transportation Authority (CDTA), is the main public transit provider in Albany and the surrounding cities and suburbs. Through extensive research and design studies, the RPA/BFJ team was able to present to the client preferred alternatives and specific recommendations for Bus-Rapid Transit along State Street and for the siting and design of a new intermodal facility, key components in CDTA's plan for vastly improved transit service throughout the greater Albany area.

Case Study Description

Downtown Albany is well served by bus transit, with over twenty routes radiating out from the existing hub adjacent to the Greyhound/Adirondack Trailways bus station to the surrounding cities and suburbs. Despite healthy gains in ridership in recent years, CDTA is still plagued by many of the issues that affect other bus transit operators: its buses are beholden to traffic conditions, as they run in mixed traffic; its central hub is presently located in an undesirable corner of the downtown; and it struggles with a public that has generally negative views of buses.

In order to address these concerns, CDTA is exploring two strategies. The first, currently underway, is a Bus-Rapid Transit (BRT) line along Route 5, its busiest corridor. When completed in 2009/2010, the Route 5 BRT line will feature redesigned stations with longer spacing, distinctively styled vehicles, and faster, more frequent and more reliable service. It is hoped that these features will make transit more appealing to those who presently drive, and that the Route 5 line will be the first of several BRT routes throughout the region. While the route travels in a fairly wide right-of-way in outlying areas, an issue arises when it enters the downtown. Through the downtown, the BRT, along with many other CDTA lines, travels down State Street, a busy thoroughfare. The high level of bus traffic along the route led CDTA to seek out options for providing an exclusive right-of-way for buses.

Another major component of the new BRT route is the construction of a new multi-modal facility to serve as the line's hub. CDTA's existing Albany hub, tucked into a corner of downtown adjacent to two elevated highways, is outdated and isolated. Ironically, for a transit hub, it does not even have robust pedestrian connec-



State Street in Downtown Albany

tions to the most walkable and active parts of downtown Albany. A new, state-of-the-art facility would aim to address these weaknesses by streamlining bus operations across all routes, providing a more pleasant environment for transit riders, and giving transit a strong presence as the immediate area is redeveloped.

This forgotten section of downtown, currently dominated by surface parking and empty lots, is set to change in the near future with the construction of a brand new convention center in the redevelopment area, which is bounded by Hudson Avenue to the north, Broadway to the east and Liberty and Green Streets to the south and west. As the convention center is currently in the planning stages, an unprecedented opportunity was seen to coordinate the design and construction of a multi-modal facility with it, potentially providing a host of benefits, among them maximizing non-automobile access to the center and wider downtown and, thus, enhancing the potential for TSD in the redevelopment area.

Our Approach/Process

The first task was an in-depth survey of downtown Albany, with a focus on the bus station/future convention center and State Street corridor areas. The main objective was to understand how these areas, and the pedestrian, bus and automobile traffic that pass through them, function.

A survey of existing BRT systems and stations and convention centers from across the country and world revealed very few examples where bus was the primary form of public transportation to a convention center. In fact, where it was available, it was often found to carry a relatively low share of travelers to the center. However, there are several examples where significant investment has been made in bus transit, notably at the McCormick Center in Chicago and at the World Trade Center site in Boston. These were used as best-practice precedents when thinking about incorporating a multi-modal bus terminal into the convention center's design.

Following that survey, an analysis of the plans for the convention center, as they exist today, was conducted. Using these plans as a base, and drawing upon the first-hand research done at the site, four design alternatives were created. These alternatives incorporated transit into the new convention center to varying degrees and in various ways. These options were then evaluated by stakeholders to determine their strengths and weaknesses.

BFJ examined previous research efforts of the existing conditions along State Street undertaken by the NY Route 5 BRT consultant team of TranSystems and Creighton Manning Engineers. Using data collected on traffic volumes, bus operations and pedestrian activity along the corridor, BFJ produced sketches of two alternatives for Bus Rapid Transit along State Street.

Recommendations

An Intermodal Facility for Albany

The four design alternatives differed mainly in their placement of the bus facility vis-à-vis the convention center, which had implications for bus circulation as well as pedestrian and vehicular access and loading/unloading for the convention center. The site where the convention center and multi-modal facility would be located is roughly bounded by Hudson Avenue on the north, Broadway to the east, and I-787 and the South Mall Arterial to the south and west. Primary frontages for both of the buildings would likely be either along Broadway or Hudson Avenue. Hudson Avenue is currently dominated by parking lots and backs of buildings,



The preferred design concept for the Albany Convention Center area

and would require a comprehensive redesign to become an active, pedestrian-friendly thoroughfare. In contrast, Broadway retains many historic buildings which offer interesting opportunities for adaptive re-use and infill development.

The first alternative placed the two facilities adjacent to each other, essentially joining their entrances. While this configuration allows for an unencumbered expansion area for the convention center, it also creates conflicts between bus circulation and loading areas and requires a significant reconfiguration of current convention center plans.

The second placed the terminal farther east, separating the entrances to the two facilities, but also taking away from the intermodal facility's visibility from the central portion of downtown. This configuration would constrain any expansion plans for the convention center.

The third alternative imagined a rebuilt bus facility on the existing site. Though optimal in terms of bus circulation and highway access, a rebuilt facility in that location would be completely hidden behind the new convention center.

The fourth, recommended, alternative, tries to balance all of the above concerns and places the intermodal bus facility in a new location fronting along Broadway, near Division Street. This location enables a convention center expansion, avoids conflicts between bus circulation and convention center traffic, and is optimal in terms of inter-modal potential, with good access for pedestrians, buses, private automobiles, and taxis.

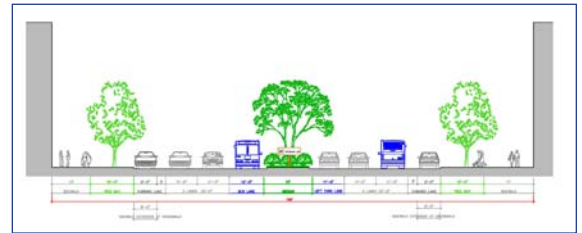
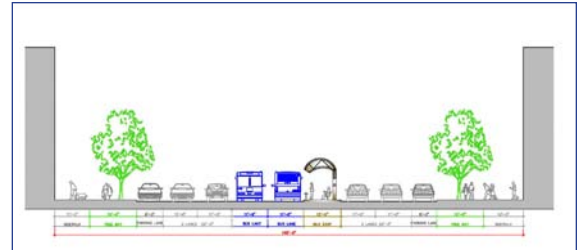
In addition to these alternatives, specific recommendations were made concerning the new facility's integration and interaction with the larger downtown. In keeping with TSD principles, infill and mixed-use development were recommended for vacant and under-utilized parcels in the redevelopment area, to ensure that it becomes a vibrant, walkable extension of the most active sections of downtown Albany. Two renderings of potential infill opportunities along Broadway and Liberty Street (on page 20) illustrate how such development can enhance the neighborhood's existing historic character while enlivening presently blank streetscapes and encouraging a variety of uses.

State Street BRT

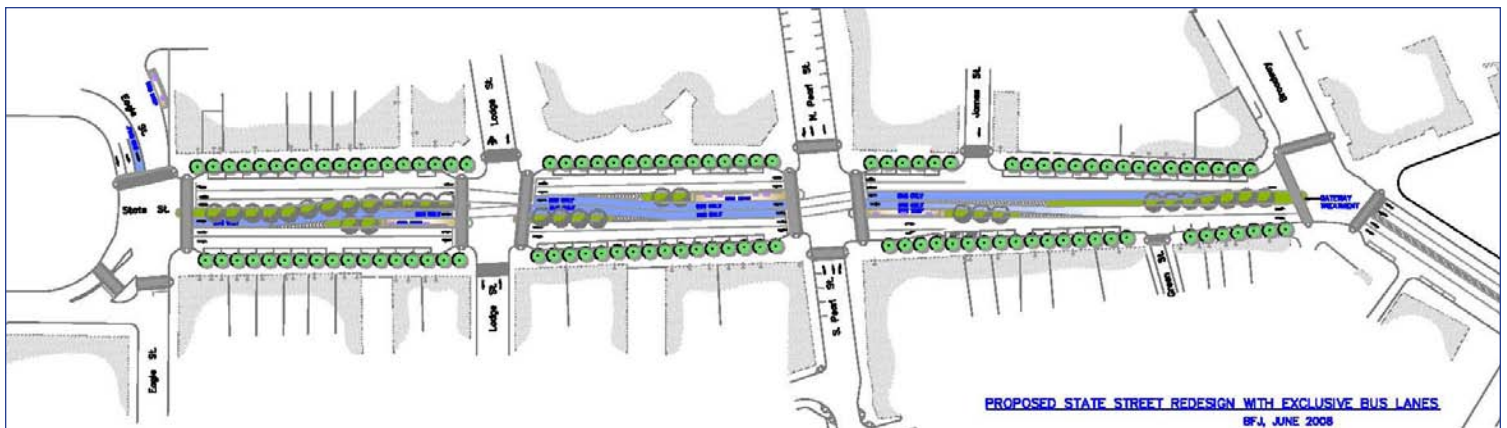
Alternative 1 placed bus lanes on the outer edges of State Street, while Alternative 2 placed them in the center of the roadway. In Alternative 1, bus stops are placed along the curb, while in Alternative 2, they are placed in the median of the roadway, at alternating intersections.

Alternative 1 had the advantage of allowing passengers easy access to bus stops, as placement along the curb would mean that pedestrians would not have to cross traffic lanes to board buses. However, this placement would also force the elimination of a significant number of on-street parking spaces and interfere with pickup/drop-off, deliveries, and curbside loading and unloading for businesses and residences along State Street.

Alternative 2, it was found, did not present the same problems, and would guarantee greater reliability and speed for BRT service. The placement of exclusive bus lanes in the center of the roadway would eliminate potential conflicts with double-parked vehicles and vehicles entering and leaving on-street parking spaces. Finally, it was determined that bus passengers having to cross traffic lanes was not a significant problem, as crossings would occur at signalized intersections and overall crossing distances would remain the same. With outer bus lanes, a typical bus passenger would have to cross all of State Street once a day, while with the center lanes, passengers would cross half of State Street twice a day.



Cross-section Diagrams of the Preferred Alternative



The Preferred Alternative (Alternative 2) places bus lanes in the center of State Street

Next Steps and Immediate Outcomes

Continue to Explore New Facility along Broadway and Adaptive Re-use of Existing Buildings

The recommended alternative for the multi-modal center layout involves the adaptive reuse of the ground floor of the historic building on the south side of Hudson Street. (See renderings on next page.) The upper floors could be some mix of offices and apartments. The design concept also suggests that a new mixed-use building just to the south of the historic building could be part of the new facility.

These ideas need to be tested from a technical perspective to determine whether the old building can be converted into a modern facility. Also, the current owners must be approached to better understand their receptivity to these ideas.

Determine Consistency with Other Policies and Regulations

The redevelopment zone regulations should be checked to make sure that they can support the land uses and configurations in this proposal. Possible issues include: limitations on mixed-uses; off-street parking requirements; historic district regulations. The ideas presented in this study should be checked for consistency with other policies and regulations. This includes the city's Master Plan, zoning regulations and the regulations and bylaws specific to the convention center redevelopment plans.

District-wide Pedestrian Plan

As described earlier, there is an opportunity to link the new intermodal facility and the larger redevelopment area to the rest of the downtown and the waterfront. This involves a variety of pedestrian improvements that extend beyond the redevelopment area and include the pedestrianization of the gateway intersection of Broadway and Water Street and pedestrian linkages to State Street and the new BRT corridor along State Street and Broadway. A full pedestrian/bicycle study should be undertaken to identify streetscape improvements, intersection improvements and other strategies. A comprehensive streetscape plan is also another way to create a comprehensive and unifying design for the district and its integration into the rest of the downtown.

Engage Private Carriers on Facilities and Operations

The study team believes that the benefits of the proposed configuration far exceed what are comparatively minor compromises around operations. Nevertheless, the private carriers should be engaged in order to better understand their operational priorities with the goal of making adjustments to the plan.

Coordinate with City-Sponsored Streetscape Project

There is a significant opportunity for the City, CDTA, the Downtown Albany Business Improvement District (BID) and others to work together on a complete State Street boulevard project.



Broadway existing conditions



Broadway with new infill development
Note the preserved historic building



Liberty Street existing conditions



Liberty Street with new infill development

Harriman



Harriman Station

Problem Statement and Overview

The Harriman TSD case study involved planning for transit-supportive development at an existing commuter rail station. The Harriman Metro-North station, currently surrounded by vacant and underutilized land, represents one of the region's relatively few opportunities to envision and create a transit-supportive development from scratch. The case involved an in-depth look at the opportunities and constraints of the study area as well as a collaborative stakeholder meeting process, which culminated in an interactive design workshop. Throughout the process, RPA and the study team presented TSD concepts to a local stakeholder group consisting of municipal officials, planners, and land owners. At the design workshop, stakeholders were given the opportunity to apply those concepts while designing a future neighborhood around the Harriman train station.

Case Study Description

The Harriman Metro-North train station in southeastern Orange County, presently surrounded by a large commuter parking lot, has been identified as a potential site for transit-supportive development in several previous studies. Its location in a rapidly developing corner of the New York metropolitan region, availability of open, developable land, and commuter rail access to employment centers in northern New Jersey and New York City combine to make Harriman an ideal TSD case study.

Southeastern Orange County is at the edge of New York City's ever-expanding commuter-shed. Relatively affordable housing prices and the availability of open, developable land have transformed this once-rural area into a rapidly developing exurb. That development, however, has been almost exclusively auto-oriented, dominated by single-family detached housing and big-box, large scale commercial and industrial development located

in strip malls and office parks. With that development have come negative externalities: increased pressure on public schools, loss of open space, and traffic congestion. Traffic congestion, in particular, has become a pressing issue, with the roadways around Woodbury Common and the surrounding retail area north of the train station currently dangerously over-capacity at peak times. This case study offers an opportunity to address all of those issues by presenting a transit-supportive alternative to prevailing development patterns in the county.

While always keeping the larger study area in context, the primary focus of the case study, referred to in the report as "the site," was an area of roughly 330 acres with the greatest potential for transit-supportive development. A large, crescent-shaped piece of land consisting of three distinct parcels closest to the train station, the site is largely vacant at the moment. The one major ecological constraint on the site is the wetlands that occupy the center of the site, dividing it into fairly equal southern and northern halves.



Stakeholder Workshop Participants in Harriman

Our Approach and the Process

The applicant for this case study, Orange County Planning Department, has partnered with RPA on various planning efforts over the past several years. The department was able to bring together a diverse and active stakeholder group, consisting of elected officials, municipal planning staff, property owners, and other interested parties. The case study kicked off with a site visit, in which RPA and the stakeholder group toured the area surrounding the Metro North station in Harriman. Following that, RPA and its consultants gathered information on the area's geography, zoning, traffic, and real estate market, arriving at the first stakeholder meeting with a set of base conditions and an analysis of the main issues and opportunities for the site. Stakeholders were asked to critique that research and offer their

insights on what kinds of development would be feasible for the site. Taking this information into account, the study team returned for a second meeting, this time with a physical model showing how various development scenarios might play out.

The meetings culminated in an interactive design workshop, held in June of 2008, at which stakeholders were presented with the opportunity to plan and design the site. Building on planning and land-use concepts developed at earlier meetings, the three stakeholder groups each came up with a concept sketch for the site, which included land-use, street network and open space recommendations. The three groups' sketches were then analyzed for common themes. The result was a series of synthesis diagrams, which provide a framework to guide future planning and development efforts.

Recommendations

The results of the workshop, pictured here, lay out both specific and general recommendations on the future land use, street network, and open space of the site.

Road Network

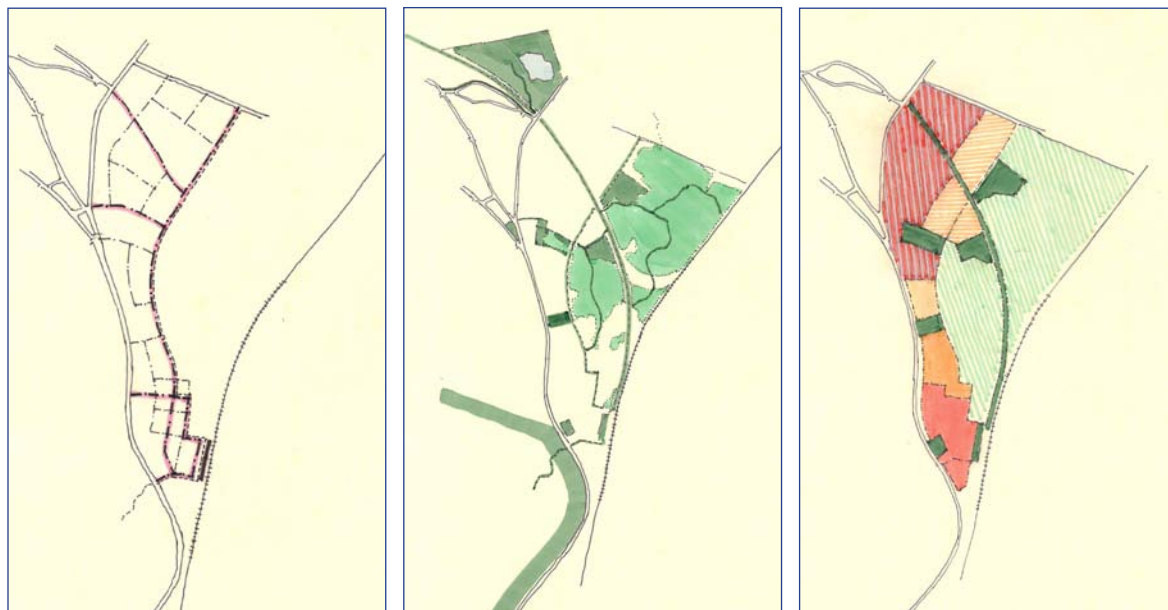
The stakeholder group, in its street network diagram, placed heavy emphasis on connectivity. Allowing for a high level of connectivity ensures that traffic will be spread among several alternative routes, rather than concentrated along one arterial road. It also promotes walkability, by offering pedestrians the most direct route to their destinations (in this case, the train station).

Connectivity within the site is achieved by creating street-and-block networks with compact, mixed-use blocks as opposed to cul-de-sacs.

Stakeholders came to consensus on several new roads through the site. The recommended centerpiece of the road network is a north-south roadway parallel to Route 17, which would provide access through the interior of the site and front on the protected wetland areas in its eastern portion. Stakeholder concerns that this new road, nicknamed the 'wetlands parkway,' might become a high-speed cut-through were addressed through design and traffic-calming features.

Currently, connectivity to the study area from surrounding development is limited to the station access road, so additional access points between the site and surrounding communities were studied. One potential access point identified during the workshop was the area where South Main Street and Route 17M intersect with Route 17. Currently, these two roads intersect Route 17 separately at acute angles, and, if reconfigured, could line up with a primary entrance point to the site and serve as a gateway to both the station area development and Harriman's village center. Other connections were considered along Route 17, and parallel to the Heritage Trail alignment.

In all cases, stakeholders recommended that steps be taken to ensure that new and existing streets be designed to be as pedestrian- and bicycle-friendly as possible.



Road Network, Open Space, and Land Use Recommendations

Open Space

In their open space recommendations, stakeholders emphasized connectivity among new open spaces and to existing resources, as well as to established resources such as Harriman State Park and Mary Harriman Memorial Park.

A significant portion of the site is covered with a wetlands complex that includes several streams and stands of mature trees. Often considered obstacles to development, wetlands can, in fact, be re-positioned as an asset and amenity, providing passive open space while also serving their natural functions of drainage and as habitats for wildlife. In order for this to happen, the preserved wetlands would need to be made publicly accessible, with trails and playing fields placed strategically to minimize ecological impact.

The centerpiece of the trail network will be the Heritage Trail, which is planned to run like a spine between the properties on the site and which can link the destinations beyond the site that are within biking distance to the train station.

Finally, the open space plan should include establishment of the “urban forest;” this is the aggressive greening of the built open spaces, including a new rail station plaza. New open spaces should serve as the principal gateways to the site, and neighborhood-scale open spaces should be located within the development areas. All streets should include robust landscaping both for shade and to retain water.

Land Use

Differences in proximity to Route 17 and to the train station, ecological constraints and market conditions resulted in distinct land-use programs for the northern and southern halves of the site.

South Area

Overall, there was consensus on a vision of a compact, mixed-use, transit-supportive development around the immediate station area. Any site plan would include the signature TSD use – housing. It would predominantly consist of small apartments, condominiums, and townhouses that would be marketed to young couples without children, or empty nesters.

Residential densities would be tiered. The highest densities would be in the core of the station area and the lower densities towards the edges of the ¼ mile walking radius. To achieve this vision of a compact, mixed-use station area, the current surface parking would have to be replaced with structured parking. New development should always be sited and oriented in ways that support the public open space network.

In addition to housing, the TSD district could include a variety of other uses as part of a mixed-use environment. The ground floors of the buildings in the immediate station area would include small-scale retail, with perhaps one or two stores of intermediate size (~40,000 sf). Some professional office space could be located here as well in mixed-use buildings.

North Area

While there wasn’t complete consensus about the land uses on the northern portion of the site, stakeholders agreed on several fundamental ideas concerning the area. The group felt that the site could accommodate larger-scale uses and have more of a commercial, industrial, or recreational character than a residential character.

For the purposes of the synthesis framework diagram, two principal land uses categories are indicated: mixed commercial/light industrial and residential. A commercial/light industrial area represents a flexible zone where uses such as a moderately sized grocery store, indoor recreational uses, or light industrial buildings might be located. The residential portions of the northern area would feature lower densities than the area closer to the train station, and stakeholders expressed support for age-restricted communities there to minimize impacts on the public school system.

It is important to note that even if this part of the site were to be developed in a more suburban way, basic urban design principles would apply: buildings and their entrances should be oriented towards the streets; buildings should be sited so that they frame well-defined spaces; to the greatest extent possible, parking should be to the sides and behind buildings, and large, uninterrupted fields of parking should be subdivided into smaller, well-landscaped areas.

Next Steps and Immediate Outcomes

The village of Woodbury has received a grant from the Orange County Planning Department to turn the recommendations of the TSD report into zoning text. As part of this effort, RPA will work with the municipality to achieve consensus on land-use planning concepts for the site and come up with specific recommendations which will be turned into zoning text by the municipal land-use lawyer. In addition, the following actions are logical next steps.

Map Major Elements of the New Roadway Network

The major points of entry to the site should be located and designed in coordination with New York State DOT as well as with the relevant parts of the municipal transportation/mobility plans. Special attention should be paid to the potential gateway at the intersections of Routes 17, 17M and South Main Street. Basic design standards for these roads, including sidewalks, bike lanes, traffic calming, and design speed, should be coordinated among all three municipalities.

Map Major Elements of Pedestrian, Bicycle and Greenway Network

This is the non-automobile corollary to what is described above; new bicycle and pedestrian corridors should be located and easements created. Special considerations should be given to crossing points on the Route 17 to Harriman Park and Harriman State Park; the Heritage Greenway should be completed from the station area through the Village of Harriman.

Implement Study Area-Wide Pedestrian Improvements

A fundamental concept of the plan is that the multiple sites are linked to the larger context. This includes improved pedestrian and bicycle connections to the Village of Harriman. These streetscape and traffic-calming improvements, particularly along South Main Street and Grove Street, should be implemented now, as these have quality-of-life benefits for the residents of Harriman in the short term. In fact, alternative temporary pedestrian and bicycle linkages to the station should be considered – the Heritage Trail is the best immediate opportunity – as this will add to the property values in the existing neighborhoods in Harriman.

Continue to Work with Metro-North

Obviously, the TSD vision depends entirely on the redevelopment of Metro-North property. In particular, the large expanses of surface parking must be replaced by buildings and public spaces and the Metro-North property must be completely integrated with the rest of the plan. An essential question will be whether it is possible to finance structured parking. This is an almost prohibitively expensive proposition, and some creative combination of public and private financing will be necessary. Structured parking would enable the kind of compact, mixed-use, pedestrian-oriented environment that is associated with the best village and town centers that historically grew up along the rail lines throughout the region.

Buffalo

Problem statement and overview

The Buffalo case study addressed the question of how best to link two campuses of the University of Buffalo to each other, as well as to surrounding neighborhoods and downtown Buffalo. The primary analysis revolved around what specific mode of transit would be most effective at accomplishing the goals laid out by the client, the University of Buffalo. This analysis included data and on-the-ground research into local ridership characteristics and travel demand as well as a stakeholder workshop, in which photo-simulations of various transit modes were presented for discussion.

Case Study Description

The University of Buffalo (UB), the largest school in the New York State's SUNY system, occupies three campuses in the Buffalo area. The Downtown Campus and the South Campus are in Buffalo, the latter at its northern border, and the third, the North Campus, is about 3 ½ miles north of the City's border in the Town of Amherst. The two Buffalo campuses are connected by public transit by the Niagara Frontier Transportation Authority's (NFTA) light rail line, which opened in 1971. The 6.6 mile line has 15 stations and runs on or under Main Street. During the original planning for the light rail line and later in the 1970s and 1980s, studies were done for extensions of the system to the north on several alternative alignments, all serving the then-new North Campus. UB has plans to grow by over 40 percent in the next ten years. The original thinking on the allocation of this growth would put most of it on the Downtown Campus. This scenario would put still more pressure on both the NFTA and UB bus systems, which currently connect the campus with the end of the light rail line, on local traffic and on the parking supply on campus. Some 8,000 more daily bus riders can be expected, and with added traffic the bus system is likely to become slower and less efficient.

Our Approach and the Process

RPA completed an in-depth analysis of existing ridership characteristics, travel patterns, and roadway conditions of the study area. Using that information as a base, the following two products were prepared in anticipation of a final stakeholder workshop.

Corridor Concept Designs

Without focusing on a specific location along potential future transit corridors, the team illustrated land-use changes and design interventions that are characteristic of transit supportive development. These included photo-simulations that showed what a typical area corridor would look like with a transit line running along it, and with transit-supportive infill development in appropriate places.

Transit Alternatives Evaluation

The team evaluated transit alignment and mode options for two separate UB growth allocation scenarios. The modes were:

- a) *Bus-Rapid Transit (BRT)*
- b) *Light Rail Transit (LRT)*

Within each mode, varying levels of intensity (surface, underground, etc) were considered. These alternatives were then qualitatively evaluated with respect to the positive and negative impacts, operating and capital costs, and which stakeholders would be affected. A matrix, presented in the Buffalo Case Study report, was created to simplify the qualitative assessment criteria.

On February 27, 2009, the Greater Buffalo-Niagara Regional Transportation Council (GBNRTC) convened a workshop session in Buffalo. The objective on the meeting was to share with a select group of stakeholders the initial evaluation of the transit alternatives in the UB three-campus corridor and to begin a discussion about the potential for transit-supportive development and its relationship to community character. GBNRTC gave a brief presentation outlining the history of land use change in the corridor, the growth of the North Campus, and the projections for future growth of UB on all three campuses. Jeff Zupan from RPA then presented the matrix mentioned above, and Rob Lane (also from RPA) gave a brief presentation on the benefits of TSD and introduced the photo-simulations.

Following the presentations, the attendees were assigned to three groups composed in a way that brought together people with different perspectives. The groups were asked to answer four questions. Two of these related to the overall challenges of improving mobility in the corridor:

1. **What are the three biggest obstacles to implementing transit in the university corridor study area and how can these best be addressed?**
2. **What would be the most important benefits to implementing more transit in the university corridor study area (e.g., traffic mitigation, redevelopment of marginal areas)?**

And two of the questions related to the vehicle choice, community character, and redevelopment:

1. **What are the things that appeal to you in these images?**
2. **What concerns you about this images?**

The groups reported back during a plenary session for open discussion.



Neighborhood Commercial Corner - Existing



A corridor concept design showing what BRT in that area would look like

Recommendations

It was agreed that future growth within the University of Buffalo system would create significant travel demand among its three campuses, and in the corridor in general, in the coming decade. The following conclusions were reached with respect to the alternatives to dealing with that added demand:

1. The extension of the Metro light rail from the terminus at the University Station at the South Campus has the potential to provide significant travel benefits, by offering a direct one-seat ride between points south of that station, including to the Downtown Campus and to the University at Buffalo's North Campus.
2. The light rail alternatives can benefit from the use of a vehicle that has features less like the existing Metro and tend toward the features associated with streetcars, with narrower widths. Such vehicles could be phased in at time when the existing Metro cars need to be replaced. This would require establishing platforms at the new stations to eliminate stairs for climbing on and off vehicles, thus speeding loading and making the vehicles more accessible.
3. Among the rail extension alternatives, the one that shows the most promise is an extension that transitions from the underground Metro station to the surface and then continues along street rights-of-way. This alternative, while slower in the segment between the two campuses than an underground alignment, would be less disruptive during construction than the below grade alternatives.
4. Bus Rapid Transit (BRT) is an alternative that shows promise, but would require riders to transfer at the Metro station for travel between northern locations and the Downtown area. Although it would be less disruptive than the underground rail alternatives, it would be less likely to generate development interest near station stops than the rail alternatives.

Next Steps and Immediate Outcomes

Continue Dialogue and Cooperation Between the University and the Town of Amherst

Since the value of any of these alternatives would accrue to both the University at Buffalo and the town of Amherst, and since any of the alternatives would pass through the town, the two entities must engage in a full and frank conversation about the advantages and disadvantages of each alternative.

Grow the Outreach Effort

Because this initial work was done by a selected group of interested and supportive stakeholders, much was accomplished in a very compressed time period. But this group agreed that going forward it would be necessary to reach out to additional stakeholders, especially the citizens of Amherst who would be most affected, but who would also have the most to gain from a new transit initiative. Part of the outreach needs to be an education effort that is targeted to an aging population that has little first-hand experience with transit and potentially has the most to gain. A robust outreach effort would also create the platform for a more robust and positive dialog between the University and the town. Other groups that should be targeted include the business community and real estate interests.

Quantify the Impacts

This analysis was also constrained by the lack of data. There is a need for a fuller explanation of both the costs and the benefits - of how it will be paid for and what the larger economic benefits are likely to be. This would help address the concern that the traffic impacts of the transit improvement need to be quantified in a realistic way.

PART III: Lessons Learned

The case studies reveal a great deal about TSD planning in New York State and beyond. The challenges and opportunities summarized below are an amalgam of the experience of both these case studies and the resource team's longer combined history with transit-supportive development. The findings are organized in two broad categories: Technical Challenges; and Process Challenges and Opportunities. Clearly, it is the process challenges that are the most important. There will almost always be satisfactory solutions to technical problems but technical solutions will never be a sufficient condition for successful TSD planning. In the end, it is the planning process that is most important because, as described below, a good process addresses the technical issues in an integral way that is informed by stakeholder priorities and understanding.

Technical Challenges

TSD can be leveraged to support development beyond the station area

All of the case studies illustrate the degree to which TSD, whether based on bus or fixed-guideway systems, can be leveraged for redevelopment in an area that extends well beyond the immediate station area. In Albany, the new BRT facility was made part of a larger area-wide downtown redevelopment plan that included linkages to new facilities as well as the adaptive re-use of existing buildings. In Harriman, the new station area is the catalytic investment for a multi-municipal strategy that extends beyond the station area to new commercial areas, including a former industrial brownfield site that will be reclaimed.

Pedestrian connections in the larger study area are essential for successful TSD

Merely placing development adjacent to a new bus or rail facility will not accomplish TSD goals. If the pedestrian linkages to the station are uncomfortable, potential riders will not use it. Conversely, if the pedestrian connections to the facility are safe, interesting, and well-designed, riders will walk well beyond the one quarter mile radius that is often used as the walking-shed benchmark. For example, in the Albany case study, the facility is nested in a much more expansive pedestrian plan that includes linkages to the waterfront, to State Street and to the larger convention center district. In Harriman, the compact sidewalk network around the immediate station area links to sidewalks in the neighborhoods to the north as well as to a county-wide rail-trail network.

Parking can be handled creatively

The case studies illustrate how TSD planning can be an opportunity to re-think the suburban model of laying out huge expanses of surface parking. Dealing creatively with parking can be thought of in two ways: First,

overall parking demand can be reduced, not only by shifting trips away from the automobile, but by taking advantage of the mixed-use environment to apply lower, shared parking ratios. In addition, by creating connectivity between developments and encouraging cross-access, it is possible to further reduce parking ratios.

The second way of dealing with parking creatively is in the design of the parking itself. The case studies demonstrate that even surface parking lots can be designed in a way that is visually pleasing and pedestrian-friendly through landscaping, design of pedestrian amenities, and by dividing parking lots into sections that are not too large. Structured parking can also be designed in a way that contributes to the physical character of a place. The parking decks themselves can be treated architecturally. Even more ambitious, the parking decks can be wrapped with other uses – retail or even housing, so that the streets and other public spaces are not lined with parking garages.

Gathering Data for Planning TSDs

There is a variety of travel data that can be helpful in planning for, designing and implementing transit supportive development. After all, data begets policy, and good data can beget good policy. However, data seldom comes easy; it is often difficult or expensive to collect or doesn't quite tell you what you need to know. A good example is the data collected every ten years by the U.S. Census Bureau. It asks respondents about their travel to work, including their mode of travel and the location of their work place. This data is important because a high share of all trips made are for travel to and from work. Unfortunately, the Census Bureau asks the respondent for only the dominant mode used for their trip, leaving no room to indicate a secondary mode, such as access to a train station or bus stop. Without this it is impossible to use this data for planning for walking, biking, parking, drop offs, or transit feeder service to the station area.

Origin-destination surveys based on home interviews, mostly done by telephone, are another potential source of travel data. The benefit of this approach is that information is gathered for all trip purposes, not just for commuting trips. For cost reasons, these surveys are only done on a sample basis, and even then they are expensive. The accuracy of sampling can also be called into question, since it relies on capturing an unbiased sample, which may difficult to get on the telephone for many reasons. This point will be emphasized below.

Because trips on foot are so critical to understanding how TSDs work, data for walking trips, either where walking is the only mode used or where it is part of a multimodal trip, are important to collect. Yet, most

origin-destination surveys don't ask about walk trips, and even when they do, respondents often forget to report them since they are thought of as incidental to daily activities rather than part of a travel experience. The same issues apply to bicycle trips.

Field surveys are another source of finding out about travel habits. They can be effective tools, but usually must rely on short questionnaires administered to people on the move. This method also can suffer from sample biases since higher percentages of some segments of the population could be more wary of being approached in a public setting.

The experience in the use of data for the Buffalo portion of this work has a number of data related lessons. Initially, the study team secured the detailed origin-destination survey results of a sample of all the trips made in the metro area from the metropolitan planning organization, the Greater Buffalo-Niagara Regional Transportation Council. Unfortunately, the sample did not include students who lived on campus, which constitute a large majority of all students and a large majority of those who might take advantage of a new transit line connecting the South Campus with the Amherst Campus to the north.

To overcome this problem a field survey was organized to see how many people appeared to be transferring from other modes to or from the rail station. Almost 5,000 individuals were observed walking between the University at Buffalo buses (Buffalo Stampede), the local buses, the park and ride, and the Metro rail station. From this it was possible to estimate the likely users of an extended service and the relative value and benefits of different configurations of extensions of the service.

Explaining density

It is axiomatic that communities react negatively to the idea of density, and it was an issue in two of the three case studies – Harriman and Buffalo. In Harriman, community stakeholders present at the working sessions articulated their anxieties about increased density. In part it is a matter of community character, but even more is the fear that the added housing density will have an adverse impact on the municipal finances. At the Buffalo workshop, there were no neighborhood residents in attendance who were not otherwise interested in some new transit solution. But there were stakeholders from organizations who articulated concerns about density and community character.

The issues are familiar: threats to neighborhood character, increased traffic, and net impact on municipal finances, particularly around school children. For both of these case studies, it was not an objective of these

case study initiatives to come to closure on this issue, but it was important to explain density. Our experience with these two case studies supported our experience elsewhere.

Education is the best strategy to overcome community resistance. Planning staff, professional developers and interested citizens who follow land-use issues tend to learn to articulate density in the zoning terms of “dwelling units per acre.” The problem is that, within a pretty broad range, dwelling units per acre as a benchmark does not tell you anything about community character, visual impact, or place-making. In fact, as the book *Visualizing Density* (Campoli and MacLean, 2007) dramatically illustrates, neighborhoods and developments with the same numbers of dwelling units per acre can look completely different and create completely different experiences on the ground. If poorly designed and sited, a development with less density than its neighborhood context can create the impression that it is much larger and out of scale. And the inverse is true as well – a denser development can look completely in place. It is important to use photo comparisons like those in *Visualizing Density* to demonstrate this to stakeholders.

The other important component to education is to describe to residents the actual densities of their neighborhoods. Often the existing neighborhoods are actually denser than the proposed development, despite what the zoning indicates. This is often true of the places which the community indicates it likes best, including historic town centers. And these are the same places which could not be re-built under the existing zoning regulations, but which new mixed-use TSD zoning could promote.

Finally, it is important to educate the public about misconceptions regarding the net fiscal impact of higher-density residential mixed-use developments. There is now well-established literature, based on experience with real developments, that compact mixed-use station area developments do not attract families with children and so can be positive net ratable for the municipal bottom line.

The Process - What We Did

The three case studies represent a range of formats for stakeholder participation. And together, this range of formats is representative of the levels of interactions one might find in any TSD planning process except for one caveat: the scope of work, in terms of timing, funding, and expected products, was such that a model public engagement process - one that would involve multiple meetings of varying formats over the length of a comprehensible TSD planning exercise - was not possible.

The Harriman Process

In terms of public outreach, the Harriman case study was the most robust. Two preparatory meetings were convened in anticipation of the workshop. At the first, the stakeholders convened to walk the site and to share first impressions. The second meeting was an evening-long stakeholder meeting where the consultant team presented research and several “test schemes” representing a range of strategies and land-use patterns and configurations. The test schemes were presented both as drawings and as study models on a large site model. A draft statement of goals and objectives was developed. This meeting was important because it set the stage for the design workshop to follow. It insured that the stakeholders at the design workshop would be starting with a shared understanding of the technical issues. As important, the draft statement of goals and objectives was another essential point of departure.

The centerpiece of our process was a day-long design workshop which was attended by approximately sixty people. Background technical information, as well as the draft list of goals and objectives derived from the previous meetings, were presented to the workshop attendees. The stakeholders then broke out into groups of 8 to 10 people, and formulated their own vision with the assistance of a planner and a designer. These “instant plans,” discussed during the plenary session at the end, became the basis for the report findings.

This kind of public process has the benefit of building a broader base of support for an on-going initiative. And indeed, the County has subsequently funded an effort to draft a TSD overlay zone for the entire site, encompassing all three municipalities. The disadvantage is time and cost, and it is unlikely that an initiative of this scale could have been mounted without the additional resources of Orange County which is its own MPO.

The Albany Process

If the Harriman case study was the most robust in terms of public process, the Albany Case study was the most robust in terms of another approach: coalition building among various selected stakeholders. Under the stewardship of the CDTA, the research and design work was developed in phases and presented in stages to different key players. This was not so much the typical public outreach model as the “shuttle diplomacy” model, building support gradually and keeping decision makers out of confrontational situations where they would have to “dig in” around a particular position.

This approach has the advantage of enabling a variety of more intimate discussions where people are more comfortable sharing their insights and instincts. This kind of process can work where there isn’t a large resident population as is sometimes the case in the commercial core of a CBD. It has the disadvantage that it may disguise certain differences in point of view that need to be resolved through face-to-face discussion.

The Buffalo Process

Between these two is the Buffalo case study. This was the case study with the largest technical component - the evaluation of alternative transportation connections in the UB three-campus corridor. For this reason, a large public outreach component was not called for. However, the GBNRT did want to engage a select group of stakeholders to review the research and discuss the issues as a way of building understanding and as a way of getting a more nuanced sense of people’s concerns, beyond what had sometimes in the past been a highly polarized discussion. To this end, a half-day workshop was convened. After a brief presentation of the preliminary findings three focus groups - intentionally composed of people with different interests - convened to answer four strategic questions. A plenary session followed where the groups shared their findings and participated in an open discussion.

This model has the advantage of bringing together pre-selected groups of knowledgeable and open-minded people who are interested in a constructive dialog, and for this reason, a lot can be accomplished in a very short time. It can also be the seed for a stakeholder group or a coalition that can begin to expand the effort. It has the disadvantage, however, of not engaging other constituents who may not be supportive and who have valuable insights of their own. This needs to be done sooner rather than later in a subsequent phase.

The Process - Lessons Learned

Inter-municipal Cooperation

Both the Harriman and Buffalo case studies are representative of the complex political and jurisdictional environment for TSD initiatives. In Harriman, for example, three municipalities, each with different land-use regulations, separate and independent planning boards, zoning boards, and elected officials, control portions of the larger study area. In fact, there were different forms of government – a village (Harriman), a town (Monroe) and a co-terminus town and village (Woodbury) – which in New York State has implications for governance and land use.

In this case, the traffic impacts were greatest for the municipality with the least to gain in terms of ratable development – Harriman. But Harriman also had the most to gain in terms of proximity to the new station area with positive impacts on its own local property values as well as the potential to mitigate traffic impacts from development on the site by promoting transit-supportive uses.

It is important to acknowledge this, because the impacts of new TSD development are felt well beyond the boundaries of the TSD site. Traffic impacts are never confined to the immediate study area of the host municipality. Similarly, environmental issues need to be addressed on a larger scale. Watershed boundaries, open space networks and species habitats almost never coincide with municipal boundaries. To succeed, TSD initiatives need to create a larger study area and an even larger secondary impacts area.

This does make TSD planning more complex. But the experience at Harriman and elsewhere suggests that smart TSD planning will leverage this complexity for its potential benefits. In particular, if a truly inclusive planning process is put in place, more interested stakeholders can be engaged in a way where these people and entities become interested partners rather than opponents, bringing their own resources and energy to bear on a positive outcome.

For example, in Harriman and Monroe, the mobility issues in the larger study area include greenway connections to the train station. By making the Heritage Trail part of that network, greenway advocates will have an interest in the station-area TSD. Similarly, environmentalists concerned with water quality and habitat will support a TSD initiative that includes wetland protection and best-practice storm water management.

As of this writing, there is a positive outcome to this case study process: Orange County is funding an inter-municipal planning grant to create a TSD overlay zone for all three municipalities.

Competing Agendas and Conflicting Interests

Inter-municipal cooperation, as described above for the Harriman case study, is one significant challenge for TSD planning. But there are others ways in which the civic and political landscape can get very complicated, including conflicts and competition among stakeholder organizations within a single jurisdiction. Both the Albany and Buffalo case studies demonstrated this issue.

In Albany, several different entities had somewhat different, though ultimately complementary, agendas. Obviously, all of these entities are interested in the long-term health of downtown Albany, but they have different short- and medium-term agendas that need to be reconciled as their initiatives move forward.

The city's primary interest is in the overall revitalization of the downtown. From that perspective, the convention center is a means to an end. As interested as the city is in a new convention center, it is also concerned with the larger objectives for the district and for the rest of the downtown. The Albany Convention Center Redevelopment Corporation has a narrower agenda: with the major policy direction set – the decision to use convention center development to revitalize downtown Albany – the ACCA is primarily concerned with getting it built. The surrounding district is important, but not primary. The transit connections are important as well, but of secondary importance, and the re-building of the bus terminal is a challenge to be dealt with, not embraced as an opportunity. The CDTA is interested in ridership, mobility and the system-wide implications of completing a robust BRT network with a signature facility within the convention center redevelopment area. All of this is in addition to the entanglements with the private bus carriers, who have their own leasing and operational priorities. This was raised during the workshop and, in fact, the workshop helped diffuse some of those tensions. The stakeholders at the meeting agreed that an on-going and open dialog about all of the planning issues was a prerequisite for successful transit planning in the corridor.

As described below, the CDTA orchestrated a kind of “shuttle diplomacy,” in which presentations were made to each of these stakeholders separately so that they could voice their honest concerns in a non-confrontational way. (Ultimately, of course, these groups need to be brought together, but that was beyond the scope of this initiative). But beyond that, our strategy was to calibrate the level of specificity of our designs and recommendations to the level of consensus needed to move the project forward at this time: that is, we set up a flexible framework that went a good distance towards

optimizing the different agendas but was still open-ended enough to work even if the environment changes. For example, our strategy for the new bus terminal, as well as our suggestions for the larger pedestrian network, do not actually depend on completion of the convention center. We identified district-wide strategies that should be acted on regardless of the final outcome of the transit facility reconstruction.

If in Albany the challenge is to reconcile potentially competing agendas, in Buffalo the challenge is to resolve what seem to be conflicting interests. The political context for implementing transit improvements between the UB campuses is complex. These are often bundled together under the bumper sticker “town and gown,” but these are the kinds of conflicts that can arise between any large institution – a hospital, government office complex – and the host community. Issues inevitably come up regarding the space needs of a successful and growing institution, impacts on traffic, conflicts over land-use compatibility, impacts on local services, and tax status.

At the moment, these underlying tensions are condensed on controversy over the rezoning and re-use of a parcel of land adjacent to the University. This issue has nothing directly to do with the analysis of transit alternatives between the campuses that is the focus of the case study. But it has created an atmosphere of distrust that needs to be dispelled before the transit arrives.

Process Challenges

The Role of the MPOs

Not surprisingly, many of the challenges faced during the case studies centered on issues of jurisdiction. At the broadest level, this initiative demonstrates the important role that higher levels of government – both elected and agency-based – need to play in comprehensive TSD planning.

These are of course short-term political considerations that these entities need to respond to. But in general, branches of civic government that operate at a regional or multi-municipal scale, play an essential role in moving the TSD planning process past the most narrow and short-term local political agendas. This was true in all three case studies in the roles played by the MPOs as conveners, technicians, and facilitators within a complex landscape of sometimes competing or contradictory agendas. In fact, for TSD to really succeed, the governance of the MPOs should be made even more independent and robust.

Empower and engage stakeholders by ensuring active, hands-on participation in the design process. Interactive community design workshops help build consensus on new plans

This format brings together community stakeholders, decision makers, agency representatives and business interests for an intensive retreat facilitated by planners, architects and urban designers. In a compressed time-frame, visualizations are developed which help describe the consequences of alternative development patterns and the guidelines and regulations needed to implement the desired program. Facilitators help create a problem-solving environment in which participants are encouraged to think out of the box, share their different perspectives, and ultimately, come to agreement on a planning and design framework.

There are a number of models for community design workshops, but there is no cookie cutter format. Different constituencies respond to different approaches and the final design of the workshop needs to reflect the specific problem and study area, and this emerges through interactions.

However, one format that has been consistently successful is one in which groups of between eight and ten stakeholders with different points of view (not so-called affinity groups with a single agenda) work at a table with two facilitators: a planner to manage the discussion and a designer who can quickly represent design ideas to the group.

Develop a flexible framework for redevelopment

The plans and implementation strategies must be able to accommodate changes in the development marketplace and be able to exploit opportunities for visible short-term successes. The journey from original vision to selection of a redeveloper is illustrative of a fundamental characteristic truth about these processes: while the integrity of the fundamental design framework must be maintained, the level of specificity in the redevelopment plan must be calibrated to the realities of the market and the capabilities of the local municipality to manage the redevelopment process. In fact, if the development team is capable, a plan that balances specificity and flexibility may enable some good ideas the project team had not thought of.

Use a wide variety of media products to communicate with diverse stakeholder groups

Stakeholders' grasp of planning and design issues varies widely and they exhibit different levels of comfort with drawings, models and text. Because it is axiomatic that in all planning projects different ways of communicating will resonate with different stakeholders, diversity of media, both virtual and physical, and presentation techniques is essential. Some groups will respond to architectural and urban design sketches; other groups will respond to PowerPoint presentations. We have found that all groups respond to a physical model and we have now made that an essential feature of all of our projects. Expect to use the full range of techniques – from maps and diagrams, to narrative scenarios for alternative futures, to photo simulations.

As the Harriman case study reaffirms, the public responds best to interactive physical models that are not static, but interactive. For example, models can be designed to show progressive or phased redevelopment as a way to mitigate the reflex anxiety about increased density. Models can enable the public to test densities and design. It is possible to educate the public about density, building typologies, parking and road networks by inviting the public to play with a “kit of parts” – buildings, parking decks, parking lots, streets – that are both to scale and annotated with statistical information.

Enable stakeholder participation at several levels

As in any planning process, stakeholder commitment will range from ongoing participation to nothing more than attendance at final meetings. The process must be transparent and assure maximum communication among these groups. The process must create multiple layers of interaction – from small technical working groups to the general public.

One way to conceptualize this is to think in terms of at least three levels of interaction:

Steering Committee

The constituents of a Steering Committee are usually the most important stakeholders including representatives of the transit provider, key town stakeholders such as the mayor, and chairs of key boards or other civic representatives.

This group, approximately 10 or 12 in number, would meet throughout the project, perhaps as often as once a month. They are responsible for the week-to-week management of the project, planning of the larger public events, previewing all documents and presentations. They also help establish the direction for the technical studies.

Stakeholder Group

This group is drawn from a larger base and may consist of, among others, civic leaders who represent a constituency (head of the local business association, leaders of community-based organizations, major land owners, county and state agencies) as well as citizen activists.

This group would be expected to meet three or four times in the course of the project. Their charge should be to respond to early draft products and provide additional input. This group is also important as the principal bridge to the general public.

General Public

This is the broadest and largest constituency. In the course of this project, we anticipate convening two major working sessions with the general public, probably evening-long events. We will also convene an event that has typically been the centerpiece of the public process: community design workshops.

Create an iterative process

The process must be a dialogue and loop back between technical research and community input. It is important that the research conducted by the technicians is informed along the way by meaningful stakeholder input on the important questions that really need to be answered. This will also be the most efficient use of resources. One way to create this iterative process is to create test schemes. These can then be critiqued at a community meeting, leading to a more detailed synthesis plan which can be the platform for subsequent meetings.

Make technical studies graphic

Technical studies should be integral to the public process and in keeping with the essential characteristic of a truly robust public process, they must be subject to iterative reviews throughout the process. As the vision plan evolves, it should be expected to loop back to the technical studies to reexamine earlier findings or discover new ones. Emphasis should be placed on presenting all of the technical work and site analysis in graphic formats that are readily understood by the stakeholder public.

PART IV: Appendix

TRANSIT SUPPORTIVE DEVELOPMENT LITERATURE REVIEW

The literature available on the subject of transit-supportive development (TSD) is large and growing rapidly.¹ This compendium cannot be exhaustive or even comprehensive, but each entry is viewed as an important addition to the literature in the topic areas to which they are assigned. The review's purpose is to give the user a head start in locating information of interest in the field. The items in this literature review are organized by topic areas to allow the user to efficiently target and access the areas of greatest interest. Many of the entries are repeated where they are germane to more than one topic area. The topic areas are presented below.

Topic Areas

- General
- Defining TSD
- Making the Case for TSD
- TSD Case Studies
- Transit Issues
- Bus Issues
- Parking Issues
- Land-Uses and Design: What Features Support TSDs Best
- Implementation - Required Actions and Responsibilities

Useful Websites

<http://www.reconnectingamerica.org/>

<http://www.vtpi.org>

http://www.apta.com/research/info/briefings/briefing_8.cfm

<http://www.transitorienteddevelopment.org/>

<http://www.walkable.org/>

<http://www.itdp.org/>

<http://www.newtrains.org/pages/354054/index.htm>

<http://www.transitvillages.org/>

<http://www.todadvocate.com/>

¹ The phase transit-supportive development (TSD) used for this project is most often referred to as transit-oriented development (TOD) in the literature, and occasionally as transit-supportive development or transit-focused development. In this literature search the phases are used interchangeably.

GENERAL

The New Transit Town: Best Practices in TOD

Dittmar and Ohland (editors) – Island Press – November 2003.

This book is a compendium of articles by experts and practitioners on a wide variety of TOD subjects including the taxonomy of TODs, features of successful projects, obstacles to financing, traffic and parking issues, players, and performance measures.

Transit Oriented Development: Using Public Transit to Create More Accessible and Livable Neighborhoods – TDM Encyclopedia – Victoria Transport Policy Institute – March 31, 2007.

This report, available at (<http://www.vtpi.org/tdm/tdm45.htm>), is a wide-ranging discussion of TODs. It includes many references on a variety of related topics, including definitions of TODs, density requirements in wider areas beyond stations for various transit modes, factors that work toward reinforcing successful TOD and higher transit use, travel impacts of TODs. The travel impacts discussion is particularly useful in highlighting reports that show the impacts of residential and non-residential and mixed land uses in station areas and corridors. The report discussed other costs and benefits of TODs, including congestion reduction, auto use and cost savings, safety, environmental impacts, community livability, and equity impacts. The report relates TODs to TDM actions. The report has some two dozen examples or case studies and has 100 references, many which are also sighted in the this literature review. The report, while written with a decidedly advocacy tone, is nonetheless a must read for anyone interested in TODs.

Transit Oriented Development: Moving from Rhetoric to Reality – Dena Belzer and Gerald Autler – Strategic Economics – A Discussion Paper Prepared for the Brookings Institution Center on Urban Metropolitan Policy and the Great American Station Foundation – June 2002.

This report traces the historical context of TODs, outlining the recent trends of downtown renewal, suburban maturity and interest in transit investments, and how these trends suggest a robust future for TODs. However, the report shows that the potential for TODs has not been realized with development being transit-adjacent rather than transit-oriented. Single-family housing patterns, conventional parking policies, unfriendly zoning codes and parking ordinances have led to this lack of success, which has fed the criticism among opponents of TODs.

The report suggests a performance-oriented definition to define the success of TODs rather than measures such as density in dwellings per acre, which do not necessarily describe how a project performs. The report suggests six performance criteria: 1) location efficiency, which describes the ease of avoiding auto use, 2) value recapture from the perspective of the resident or user of TODs, 3) livability, while difficult to measure, includes such quality of life features as less air pollution, less congestion, and more mobility, 4) financial return to the investors, 5) choice of housing type, retail opportunities, and travel modes, and 6) efficient regional land-use patterns that reduce land consumption, housing and job balance and traffic generation.

The report spells out six challenges that must be met to advance the concept of TODs. These include lack of agreed to definition of TODs, conflicts between the transit station

and the surrounding neighborhoods, lack of certainty as to which features of TODs really matter to make them work, the complexity in making the features of TODs work together, fragmented regulatory and policy environment, and unsupportive market conditions.

The report recommends a series of actions to allow the various stakeholders to work together. These include the creation of an education and advocacy capability, establishment of a TOD fund, provision of technical assistance, cataloguing of a typology of TOD types to measure performance and success in various contexts, develop “showcase” materials, develop parking standards, and standardization of lending strategies. The report goes on to recommend specific actions for each of the major stakeholders, including transit agencies, local governments, and developers and lending institutions. There are 37 references cited, organized around topics, and annotation for some are included.

NJ Transit, Planning for Transit-Friendly Land Use, A Handbook for New Jersey Communities, New Jersey Department of Transportation, June 1994.

This handbook describes strategies, techniques and tools to improve the relationship between land-use planning and transit toward the creation of more pedestrian and transit supportive communities. The book features practical examples and implementation tools addressing all modes of transportation for transit supportive development in New Jersey (annotated bibliography: 114 references)

Transit-Oriented Development in the United States: Experiences, Challenges, and Prospects, TCRP Report 102, January 2004.

The report provides a comprehensive assessment of the state of practice and benefits of TOD and joint development throughout the United States. It provides 10 case studies and assesses the level of collaboration between various partners, the impact of TOD on land values, the potential benefits of TOD and successful design principles and characteristics. It also analyzes TOD from the private sector perspective and the obstacles to implementing TOD (41 references)

Transit-Oriented Development and Joint Development in the United States: a Literature Review. Robert Cervero, October 2002.

This comprehensive review is organized into chapters that cover: definitions; institutional issues such as collaboration, government and transit agency roles and community outreach; supportive public policies, including tax policies, zoning, and long range planning; successful design characteristics; and evaluation of impacts and benefits.

Source: TCRP Research Results Digest 52:

http://gulliver.trb.org/publications/tcrp/tcrp_rrd_52.pdf

Transit-Focused Development -- TCRP Synthesis 20 -- Douglas R. Porter, 1997.

This summary report on TOD issues discusses the transit/land use connection, the importance of government support for TOD, and the experiences to date with station-area development.

<http://gulliver.trb.org/publications/tcrp/tsyn20.pdf>

DEFINING TSDs

CATS Systems Plan - Land Use Program – Station Types Report Charlotte-Mecklenburg Planning Commission -- January 2005.

This report presents a useful typology for five station types for TODs, recognizing the station's role in place-making and area development. The report describes the features that define five station area types – multi-modal, urban, neighborhood, community, and regional and goes on to recommend the appropriate strategies for each type to achieve transportation, place-making and land development objectives.

TOD Planning by Type – Gloria Ohland, Reconnecting America – Urban Land, September 2006.

This short article suggests the creation of TOD typology for a rail corridor to characterize the development objectives of each station to allow a more comprehensive approach to planning in a corridor.

MAKING THE CASE FOR TSDs

Transit Oriented Development: Using Public Transit to Create More Accessible and Livable Neighborhoods – TDM Encyclopedia – Victoria Transport Policy Institute – March 31, 2007.

This report, available at (<http://www.vtpi.org/tdm/tdm45.htm>), is a wide-ranging discussion of TODs. It includes many references on a variety of related topics, including definitions of TODs, density requirements in wider areas beyond stations for various transit modes, factors that work toward reinforcing successful TOD and higher transit use, travel impacts of TODs. The travel impacts discussion is particularly useful in highlighting reports that show the impacts of residential and non-residential and mixed land uses in station areas and corridors. The report discussed other costs and benefits of TODs, including congestion reduction, auto use and cost savings, safety, environmental impacts, community livability, and equity impacts. The report relates TODs to TDM actions. The report has some two dozen examples or case studies and has 100 references, many which are also sighted in the this literature review. The report, while written with a decidedly advocacy tone, is nonetheless a must read for anyone interested in TODs.

Gloria Ohland and Cali Golewitz, Reconnecting America, Jan Wells and Martin Robins, Voorhees Transportation Center, and Carrie Makarewicz and Albert Benedict, Center for Neighborhood Technology.

This report describes the largely successful redevelopment efforts and impacts in Jersey City and Hoboken along the Hudson-Bergen Light Rail line and in Evanston, all three existing and heavily built up urban places. It describes the reasons for their success. Nine references are cited.

Statewide Transit-Oriented Development (TOD) Study, Factors for Success in California, Parking and TOD, Challenges and Opportunities, (Special Report); California Department of Transportation, February 2002.

This report provides an overview of available information regarding the extent to which parking for various uses can be reduced at transit stations, including bus, light rail transit and commuter rail stations. The report identifies the benefits gained from reduced parking supplies and addresses the following parking management strategies: Shared parking, district parking, in-lieu fees, satellite parking, carpool parking, transit pass programs, unbundling housing and parking, car sharing, and robotic garages. It also assesses various municipal and regional approaches to providing parking. (24 references)

TSD CASE STUDIES

NJ Transit, Planning for Transit-Friendly Land Use, A Handbook for New Jersey Communities, New Jersey Department of Transportation, June 1994.

This handbook describes strategies, techniques and tools to improve the relationship between land use planning and transit toward the creation of more pedestrian and transit supportive communities. The book features practical examples and implementation tools addressing all modes of transportation for transit supportive development in New Jersey (annotated bibliography: 114 references)

Transit Oriented Development Implementation, Community Choices, Quality Growth Toolkit, Atlanta Regional Commission.

This report offers guidance for TOD implementation and highlights the role of TOD in achieving smart growth. It analyzes the relationship of the TOD with the comprehensive plan and its legal and administrative issues. The paper provides 5 case studies throughout the United States and three model ordinances for different TOD conditions. (14 references)

Transit-Oriented Development in the United States: Experiences, Challenges, and Prospects, TCRP Report 102, January 2004.

The report provides a comprehensive assessment of the state of practice and benefits of TOD and joint development throughout the United States. It provides 10 case studies and assesses the level of collaboration between various partners, the impact of TOD on land values, the potential benefits of TOD and successful design principles and characteristics. It also analyzes TOD from the private sector perspective and the obstacles to implementing TOD (41 references)

Making the Connection: Transit-Oriented Development and Jobs. Good Jobs First, March 2006

Examines 25 TOD projects around the country that incorporate significant amount of affordable housing and/or make a substantial attempt to create good jobs that can be filled by people from working families.

<http://www.goodjobsfirst.org/pdf/makingtheconnection.pdf>

Transit-Focused Development -- TCRP Synthesis 20 -- Douglas R. Porter, 1997.

This summary report on TOD issues discusses the transit/land use connection, the importance of government support for TOD, and the experiences to date with station-area development.

<http://gulliver.trb.org/publications/tcrp/tsyn20.pdf>

Transit-Oriented Development in the United States: Experiences, Challenges, and Prospects. Robert Cervero, G.B. Arrington, Jane Smith-Heimer, Robert Dunphy et al., 2004.

This report details the TOD institutional landscape, implementation tools, funding and barriers to TOD, as well as the impacts on ridership and real estate markets. It provided in depth case studies of TOD in 10 urban areas in the US.

http://gulliver.trb.org/publications/tcrp/tcrp_rpt_102.pdf

The Transit Metropolis: A Global Inquiry. Robert Cervero, Island Press. 1998.

The book discusses transportation and land use policies in 12 metropolitan areas organized around four metro area types: 1) adaptive cities; creating a transit-oriented built form, 2) the hybrids; adaptive cities and adaptive transit, 3) strong-core cities: transit and central city revitalization, and 4) adaptive transit; tailoring transit to serve cities. The book concludes by describing the lessons that have been learned in these 12 metro areas. Among them are the need for a vision and visionaries, strong leadership, efficient government institutions, pro-active planning, viable centers, people-oriented urban design geared, and “auto-equalizers” to pay more attention to transit and pedestrian needs. Considerable attention is paid to the role of bus transit in metropolitan areas.

Transit Agency Partnering in Supporting Development Around Rail Transit Stations. Roderick Diaz & Christopher Porter, 1999.

This report presents seven case studies along with lessons learned that highlight transit agency partnering to promote TOD. Findings reveal that transit agencies support TODs through two primary activities - development implementation and station area planning. <http://www.apta.com/research/info/briefings/documents/porterc.pdf>

Measuring the Success for Transit-Oriented Development: Retail Market Dynamics and Other Key Determinants. John Niles & Dick Nelson, American Planning Association 1999 National Planning Conference Outlines 16 key factors that need to be understood and weighed before significant new transit investments are made. Among them are transit quality and technology, employment and housing density, retail siting criteria, regional market structure, <http://www.asu.edu/caed/proceedings99/NILES/NILES.HTM>

Parking Spaces / Community Places. Finding the Balance Through Smart Growth Solutions, U.S. Environmental Protection Agency.

The report reviews parking demand relating to land use and transportation factors, discusses the cost of parking in financial and environmental terms, and presents a selection of policies for flexible parking requirements. 6 case studies (89 references)

Transit Friendly Streets: Design and Traffic Management Strategies to Support Livable Communities. Project for Public Spaces. TCRP Report 33, Transportation Research Board. 1998.

Using a case study approach this report describes five instances where streets were redesigned to better accommodate the needs of transit vehicles, transit users, and pedestrians. Four of the five examples relate to bus transit. The report summarizes five transferable strategies based on the case studies including adequate sized sidewalks, amenities for pedestrians and transit riders, priority lanes for transit vehicles, traffic calming, signalization and intersection redesign.

TRANSIT ISSUES

Transit Oriented Development: Using Public Transit to Create More Accessible and Livable Neighborhoods – TDM Encyclopedia – Victoria Transport Policy Institute – March 31, 2007.

This report, available at (<http://www.vtpi.org/tdm/tdm45.htm>), is a wide-ranging discussion of TODs. It includes many references on a variety of related topics, including definitions of TODs, density requirements in wider areas beyond stations for various transit modes, factors that work toward reinforcing successful TOD and higher transit use, travel impacts of TODs. The travel impacts discussion is particularly useful in highlighting reports that show the impacts of residential and non-residential and mixed land uses in station areas and corridors. The report discussed other costs and benefits of TODs, including congestion reduction, auto use and cost savings, safety, environmental impacts, community livability, and equity impacts. The report relates TODs to TDM actions. The report has some two dozen examples or case studies and has 100 references, many which are also sighted in the this literature review. The report, while written with a decidedly advocacy tone, is nonetheless a must read for anyone interested in TODs.

NJ Transit, Planning for Transit-Friendly Land Use, A Handbook for New Jersey Communities, New Jersey Department of Transportation, June 1994.

This handbook describes strategies, techniques and tools to improve the relationship between land use planning and transit toward the creation of more pedestrian and transit supportive communities. The book features practical examples and implementation tools addressing all modes of transportation for transit supportive development in New Jersey (annotated bibliography: 114 references)

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The Transit Metropolis: A Global Inquiry. Robert Cervero, Island Press. 1998.

The book discusses transportation and land use policies in 12 metropolitan areas organized around four metro area types: 1) adaptive cities; creating a transit-oriented built form, 2) the hybrids; adaptive cities and adaptive transit, 3) strong-core cities: transit and central city revitalization, and 4) adaptive transit; tailoring transit to serve cities. The book concludes by describing the lessons that have been learned in these 12 metro areas. Among them are the need for a vision and visionaries, strong leadership, efficient government institutions, pro-active planning, viable centers, people-oriented urban design geared, and “auto-equalizers” to pay more attention to transit and pedestrian needs. Considerable attention is paid to the role of bus transit in metropolitan areas.

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BUS ISSUES

Bus Transit Oriented Development – Strengths and Challenges Relative to Rail – Graham Currie – Journal of Public Transportation, Vol. 9, No. 4, 2006.

This article discusses planning for transit-oriented development for bus service, using the experiences in Australia. It highlights the difficulties bus transit faces, including the issues of stigmatization of bus service, noise and pollution, and permanence. The article distinguishes among local bus and bus rapid transit and for the latter, between good and poor bus rapid transit design.

The Transit Metropolis: A Global Inquiry. Robert Cervero, Island Press. 1998.

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PARKING ISSUES

Parking Policy for Transit-oriented Development: Lessons for Cities, Transit Agencies, Developers – Richard Willson, California State Polytechnic University.

This report discusses how California communities addressed parking supply and pricing at stations and relationship to travel behavior and mode choice. It concludes that excessive supply of parking brought on by parking regulations that mandate high parking ratios, work against transit use and other TOD objectives. It makes recommendations for Cities, transit agencies, and developers. For cities it recommends a more nuance approach to parking requirements tied to travel demand, shared parking, partnerships between transit agencies, other agencies and land owners, unbundling of parking charges with lease agreements, cash-out of parking in office developments, management of on-street parking, and more consideration of the impact of parking requirements on housing affordability in station areas. For transit agencies it recommends the design of stations so that housing and mixed use developments are in proximity to stations, considering the reduction of surface parking through shared use, partnering with local jurisdictions and employers to support other than auto access modes. The report cites 27 references.

NJ Transit, Planning for Transit-Friendly Land Use, A Handbook for New Jersey Communities, New Jersey Department of Transportation, June 1994.

This handbook describes strategies, techniques and tools to improve the relationship between land use planning and transit toward the creation of more pedestrian and transit supportive communities. The book features practical examples and implementation tools addressing all modes of transportation for transit supportive development in New Jersey (annotated bibliography: 114 references)

Parking Alternatives: Making Way for Urban Infill and Brownfield Redevelopment, US EPA, EPA 231-K-99-001, November 1999.

This guide reviews the costs of generic parking requirements, generally established as minimum ratios and based on suburban standards, and proposes alternative strategies that enable a reduction in needed parking spaces. The report discusses the following innovative parking alternatives: In-lieu parking fees, shared parking, centralized parking, maximum limits, parking freezes, and demand reduction. (59 references, and 24 pages with examples of innovative parking ordinances and programs)

Transit Friendly Parking Structure Guidelines: Planning, Design and Stewardship, Darius Sollohub, New Jersey Institute of Technology (FHWA-NJ-2003-30), Draft April 2007, this report was published as a first draft entitled Parking Matters: Designing, Operating and Financing Structured Parking in Smart Growth Communities July 2006.

This study addresses the issues and opportunities associated with the conversion of surface parking lots to structured parking, structured around three main sections: planning, designing and stewardship. It addresses community concerns and processes, alternative parking strategies, design and engineering aspects of parking structures, as well as financing options. New Jersey examples are cited. A literature search section is included.

Statewide Transit-Oriented Development (TOD) Study, Factors for Success in California, Parking and TOD, Challenges and Opportunities, (Special Report); California Department of Transportation, February 2002.

This report provides an overview of available information regarding the extent to which parking for various uses can be reduced at transit stations, including bus, light rail transit and commuter rail stations. The report identifies the benefits gained from reduced parking supplies and addresses the following parking management strategies: Shared parking, district parking, in-lieu fees, satellite parking, carpool parking, transit pass programs, unbundling housing and parking, car sharing, and robotic garages. It also assesses various municipal and regional approaches to providing parking. (24 references)

Parking and TOD: Challenges and Opportunities. John Boroski & Topaz Faulkner, Caltrans Special Report – February 2002.

This report indicates that TODs offer significant opportunities to reduce the number of parking spaces by 12% to 60% below conventional parking requirements for retail, office and residential land uses. A generalized process for developing a local parking program for TOD projects is offered.

http://www.dot.ca.gov/hq/MassTrans/doc_pdf/TOD/Parking%20and%20TOD%20%20Report.pdf

Todd Litman, Parking Management. Strategies, Evaluation and Planning, Victoria Transport Policy Institute, February 2006.

The report describes in detail 21 different parking management strategies using several examples and providing guidance on how to develop an integrated parking plan and how to implement the parking program. The report summarizes the book “Parking Management Best Practices,” published by Planner Press in 2006. (75 references)

Parking Spaces / Community Places. Finding the Balance Through Smart Growth Solutions, U.S. Environmental Protection Agency.

The report reviews parking demand relating to land use and transportation factors, discusses the cost of parking in financial and environmental terms, and presents a selection of policies for flexible parking requirements. 6 case studies (89 references)

Robin Zimble, Driving Urban Environments: Smart Growth Parking Best Practices, Governor’s Office of Smart Growth, Maryland.

The study presents an overview of parking strategies in the context of smart growth, looking at managing parking demand and supply, designing parking facilities that fit the smart growth concepts, and financing for both private and public parking structures. (28 references and 20 websites.)

LAND USES AND DESIGN: WHAT FEATURES SUPPORT TSDs BEST

Influence of Land Use Mix and Neighborhood Design on Transit Demand, TCRP Project H-1 – Transit and Urban Form – Parsons, Brinckerhoff, Quade and Douglas, Inc. Dr. Robert Cervero, Howard/Stein-Hudson Associates, and Jeffrey Zupan – March 1996.

This report, one of a number for the project, examines the relationship of the residential built environment on transit patronage. The report concludes that density explains more of the variability in transit use than land use mix or urban design. It concludes that land use mix does, to some extent, have an impact on transit use and that density and land use mix are interrelated. It concludes that it is difficult to isolate specific design features, but when bundled as traditional and non-traditional neighborhoods, they do influence the choice of non-work trips.

Hidden in Plain Sight: Capturing the Demand for Housing Near Transit – Reconnecting America and Center for Transit-Oriented Development- September 2004.

This report documents the huge potential for residential development near America's 3,400 rail stations. The report acknowledges that achieving this goal will depend on the ability to deliver attractive and affordable housing, and on public policies that encourage such development, including parking, zoning, and place-making.

Travel and Transit Use at Portland Area Transit-Oriented Development (TODs) – Final Technical Report TransNow Budget No. 821528-4 -- Jennifer Dill, Portland State University – May 2006.

This report presents finding of a travel survey given to residents living near four stations along Portland's MAX light rail line. The findings generally support the idea that TODs encourage more transit riding, that distance to the station influences the choice of access mode, that a pleasant walking environment increases the likelihood of walking longer distances, and that a greater mix of non-work locations near the stations increases the likelihood of walking to such destinations. (eight references)

Marc Schlossberg and Asha Weinstein – How Far, by Which Route, and Why? A Spatial Analysis of Pedestrian Preference – paper presented to 2007 Transportation Research Board Annual Conference.

This paper determined that people are willing to walk farther to reach light rail stations than previously assumed, and that time and distance are the most important factors in determining willingness to walk, and secondarily the amenities along the way, safety and avoidance of red lights are factors.

Realizing the Potential: Expanding Housing Opportunities Near Transit - Reconnecting America's Center for Transit-Oriented Development -- Report for the FTA and HUD – 2007.

This report, based on study of five regions – Boston, Charlotte, Denver, Minneapolis, and Portland – documents that households living near transit have lower transportation costs,

only 9 percent of their budgets, while those in auto-oriented environments spend 25 percent of their household budget on transportation.

The report makes five major recommendations

- Identify and utilize TOD opportunities in the region and along transit corridors;
- Provide incentives that help catalyze the market for mixed-income TOD;
- Remove regulatory barriers to higher-density mixed-income development.
- Coordinate housing and transportation plans and investments;
- Improve local capacity, partnerships and data collection.

The full report is available at www.reconnectingamerica.org

TOD's Evil Twin: Transit Adjacent Development – Tim Halbur, Reconnecting America – Sustainability Concepts: A Supplement to Mass Transit, June 2007.

This article argues that the limited successes of some TODs are a result of the vestiges of auto-oriented development that inhibited the features most necessary to make TODs work.

NJ Transit, Planning for Transit-Friendly Land Use, A Handbook for New Jersey Communities, New Jersey Department of Transportation, June 1994

This handbook describes strategies, techniques and tools to improve the relationship between land use planning and transit toward the creation of more pedestrian and transit supportive communities. The book features practical examples and implementation tools addressing all modes of transportation for transit supportive development in New Jersey (annotated bibliography: 114 references)

Transit-Oriented Development in the United States: Experiences, Challenges, and Prospects, TCRP Report 102, January 2004.

The report provides a comprehensive assessment of the state of practice and benefits of TOD and joint development throughout the United States. It provides 10 case studies and assesses the level of collaboration between various partners, the impact of TOD on land values, the potential benefits of TOD and successful design principles and characteristics. It also analyzes TOD from the private sector perspective and the obstacles to implementing TOD (41 references)

Travel Characteristics of Transit-Oriented Development in California. Hollie Lund, Robert Cervero & Richard Willson, January 2004.

Data were collected from sites along light, heavy, and commuter rail lines in California's four major regions. Findings demonstrated that TOD residents, TOD office workers, and hotel patrons in TODs all use rail transit more frequently than average for the same cities. The report provides information on station characteristics, demographics, employment characteristics, residential location, commuting cost and transportation incentives for TOD sites.

<http://www.csupomona.edu/~rwillson/tod/Pictures/TOD2.pdf>

http://www.csupomona.edu/~rwillson/tod/APApres_files/frame.htm

Transit Access and Land Value, Modeling the Relationship in the New York Metropolitan Area, US Department of Transportation, Federal Transit Administration, September 1993.

This report presents the findings of a study on the relationship between land value and transit access in the New York Metropolitan area as a precursor for policy and financing recommendations, service characteristics and density settings. This study was the input for the third Regional Plan undertaken by the Regional Plan Association (17 references)

IMPLEMENTATION - REQUIRED ACTIONS AND RESPONSIBILITIES

Value Capture: How to Get a Return on the Investment in Transit and TOD -Gloria Ohland, Reconnecting America.

This paper presents examples of successful value capture programs including the traditional approach of direct charges in the form of property and sales taxes, lease and sales revenues, and fees from parking. The paper then discusses more specialized tools such as tax-increment financing, special assessment districts, equity participation, and public private partnerships. It gives numerous examples of the implementation of these strategies. The paper concludes with the presentation of some added ideas that have not yet been tried in the value capture arena.

MTC Resolution 3434 TOD Policy for Regional Transit Expansion Projects.

This resolution adopted by the regional transportation agency of the San Francisco Bay Area establishes requirements that transit corridors and station areas must meet with respect to the number of housing units in their respective areas as a condition of funding. The resolution also established requirements for design, parking policies, and corridor working groups. This is the only known government requirement regarding land use tied to transit. See MTC website www.mtc.ca.gov for more information.

BART Statement on TOD Policy – Adopted July 14, 2005.

This is a succinct two page statement from the BART Board of Directors listing the goals of TODs, and the land use, process, and financial strategies necessary to achieve them.

Building a Transit-Friendly Community – NJ TRANSIT with support from Project for Public Spaces, Regional Plan Association et al.

This report discussed the lessons learned while working with communities in New Jersey with commuter rail and light rail stations to create more transit-oriented development and place-making environments. The lessons are organized around the topics of place-making, access, development, parking and community partnerships. The report is useful in suggesting approaches to take (and/or avoid) in working with local communities.

FY 2008 New Starts and Small Starts Evaluation and Rating Process – Federal Transit Administration.

http://www.fta.dot.gov/documents/appenix_b_08_New_Starts_Eval_and_Rating-SS_Included.doc

This report describes the criteria that the FTA will use to evaluate projects for “new starts” funding. One of the more critical categories for evaluation is *Transit-Supportive Existing Land Use and Future Patterns* which explicitly includes consideration of existing land uses, transit supportive plans and policies, and performance and impacts of these policies near transit stations. Furthermore, the evaluation process for “small starts,” which includes bus rapid transit, emphasizes these land use criteria even more. This document is supplemented by *Guidelines and Standards for Assessing Transit-Supportive Land Use*, which provides additional detail on the process FTA uses to evaluate these land use. This document is posted on FTA’s website under *New Starts Project Planning and Development*:

http://www.fta.dot.gov/planning/newstarts/planning_environment_2620.html.

William Henderson, Ellyn Shannon, Karyl Berger, Where is the Metropolitan Transportation Authority on Transit Oriented Development?, Permanent Citizen Advisory Committee to the MTA, October 2006.

This report analyzes New York State, the New York Metropolitan Transportation Council's (NYMTC) and MTA policies and actions related to Transit Oriented Development. Inter-agency coordination and performance evaluation are lacking in New York State and the report, after analyzing approach and effectiveness of agency actions toward TOD project, offers recommendations to further the growth of TOD in New York State and the MTA region and to allow local communities and the MTA to share the benefits of TOD. The recommendations detail roles and strategies for each of the operating agencies of the MTA (10 references).

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Transit Oriented Development Implementation, Community Choices, Quality Growth Toolkit, Atlanta Regional Commission.

This report offers guidance for TOD implementation and highlights the role of TOD in achieving smart growth. It analyzes the relationship of the TOD with the comprehensive plan and its legal and administrative issues. The paper provides 5 case studies throughout the United States and three model ordinances for different TOD conditions. (14 references)

Transit-Oriented Development in the United States: Experiences, Challenges, and Prospects, TCRP Report 102, January 2004.

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Ten Principles for Successful Development Around Transit. Robert Dunphy, Deborah Myerson, & Michael Pawlukiewicz, 2003.

This report stresses the importance of developing partnerships, establishing market-driven retail, place-making, getting the parking right, varying residential options, incorporating buses, attracting corporate participation, etc.

Urban Land Institute web site under Policy Papers: <http://www.uli.org>

Transit-Oriented Development in the United States: Experiences, Challenges, and Prospects. Robert Cervero, G.B. Arrington, Jane Smith-Heimer, Robert Dunphy et al., 2004.

This report details the TOD institutional landscape, implementation tools, funding and barriers to TOD, as well as the impacts on ridership and real estate markets. It provides in depth case studies of TOD in 10 urban areas in the US.

http://gulliver.trb.org/publications/tcrp/tcrp_rpt_102.pdf

Zoning and Real Estate Implications of Transit-Oriented Development. TCRP Legal Research Digest 12 - 1999.

This digest covers both the legal elements of TOD policies such as density and use regulations, transfer of development rights, and procedures for implementing TOD, as well as the legal basis for TOD, zoning authority, takings, environmental impact statements, intergovernmental agreements.

http://gulliver.trb.org/publications/tcrp/tcrp_lrd_12.pdf

Parking Spaces / Community Places. Finding the Balance Trough Smart Growth Solutions, U.S. Environmental Protection Agency.

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Through information sharing, research and training programs, the NYSMPOs help each MPO address federal and state transportation policies and programs. The directors of all thirteen MPOs in the state meet regularly throughout the year. By convening, the association enables each individual MPO to better serve its own region by sharing information. In addition, working groups on topics such as safety, air quality and geographic information systems (GIS) meet periodically. Pooling financial resources, the association also conducts research and training programs, known as Shared Cost Initiatives. The NYSMPO's paid for the three Transit Supportive Demonstration projects and the a Statewide TSD guidebook presented here, using this common fund source.



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Regional Plan Association (RPA) is an independent, not-for-profit regional planning organization that improves the quality of life and the economic competitiveness of the 31-county New York-New Jersey-Connecticut region through research, planning, and advocacy. For more than 80 years, RPA has been shaping transportation systems, protecting open spaces, and promoting better community design for the region's continued growth. We anticipate the challenges the region will face in the years to come, and we mobilize the region's civic, business, and government sectors to take action.

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BFJ Planning (BFJ) is a multi-disciplinary consulting firm providing professional expertise in urban planning and design, transportation planning, real estate consulting, and environmental analysis. The firm's work is distinguished by a high degree of participation by its principals in the technical work of each project, exceptional capabilities in graphic design (including GIS) and presentation, and a strong commitment to participatory planning. BFJ has successfully completed more than 1,000 projects in the U.S., East Asia, Europe, and South America.

