

town and village centers in places such as Greenwich, South Norwalk, New Canaan and Westport have become popular places for restaurant-goers, shoppers and visitors.

An important component of transit-friendly communities is a viable commercial district that serves the local demand for dry cleaners, groceries, shoe repair, restaurants, book stores, cafes and, in some cases, movie theaters. Towns ranging from small shopping and restaurant districts in Darien, CT, to larger downtowns of Hempstead, Long Island, are repositioning their retail not to compete directly with regional malls but to fill niches ignored by large malls and serve local needs and services. The uses themselves will not revive a village's retail street; they need to be supported with attractive and inviting public spaces, sidewalks, pedestrian-oriented streets, and well-designed and strategically placed parking. These are essential elements of a transit community. The station itself can be a catalyst for economic development in a village center.

DENSITY

Studies have shown that vehicle miles traveled per household increases as densities and access to transit, shopping and pedestrian friendliness decrease. John Holtzclaw conducted a study for the Natural Resource Defense Council to determine residential development patterns and access to transit decreased auto dependence. His study evaluates the effects of neighborhood characteristics on automobile usage and total vehicle miles traveled annually. Four key factors were considered in evaluating several communities in Northern and Southern California.

1. Residential density: the number of dwelling units per residential land area.
2. Transit accessibility: an index of transit accessibility is defined and measured for the neighborhoods under study.
3. Neighborhood shopping: an index is developed that defines the ability to perform neighborhood shopping errands with a short walking trip from a home.
4. Pedestrian accessibility: factors that encourage or discourage walking are combined into an index that is quantified for the neighborhood under study.

While looking at 28 neighborhoods in San Francisco, San Diego and Los Angeles, Holtzclaw found that the densest communities had the lowest auto usage per household. His study confirmed the results of previous studies that suggested residential density as a critical variable in explaining variations in automobile usage. As with previous studies, Holtzclaw found that a community with double the housing density will have 25%-30% less driving per family when the impacts of access to transit, to shopping, and pedestrian friendliness are included. After density, the only other variable that proved to be statistically significant in determining auto use was accessibility to transit. A point of note is that income levels proved to be insignificant.

The density levels examined here are not at the rate of monolithic high-rise developments. For example, the densities for the 11 multi-family projects built during the past five years within a quarter-mile radius of a Bay Area rail station ranged from 18-to-60 units per acre. The developments studied consisted of attached single-family homes such as row houses, duplexes or four-plexes ranging to mid-rise residential developments that were three-to-six

stories with lobbies and elevators. Appropriate residential densities would depend highly on the context of the station area, and densities would have to be adjusted to fit into the existing community. Development could also occur on vacant lots, parking lots, and other under-used land around transit stations. The pedestrian and commercial activity of these denser areas enhance their sense of community, public spaces, excitement and livability. As the areas immediately around the station improve it will cause a ripple effect that improves the outlook in the rest of the municipality. Examples of this are evident in Norwalk, CT's efforts to redevelop downtown South Norwalk, and in Elizabeth, NJ, with its efforts to develop housing and commercial activity around its station.

Although density of residential units per acre is the single most important factor in influencing transit use, built environments of higher density housing and mixed uses require careful design of public spaces such as streets, plazas, sidewalks, transit stops and ground floor uses. Designs for higher density housing, especially in suburban settings, need to be more mindful of the local architectural character and the pattern of development must be focused on creating a welcoming pedestrian environment.

PARKING

While adequate parking needs to be provided in the transit community, existing parking resources need to be intelligently managed. The allocation of parking resources should account for the fluctuating needs of the downtown area and rail commuters. Some parking could be counted as commuter parking during the week when there is higher

demand for parking for station users. Those same spots could be counted as commercial parking during evenings and weekends when visitors to the commercial district increase.

The village of Katonah in Bedford Township, NY also allocated parking around its downtown to address parking capacity and traffic congestion issues. Rather than expand parking in the downtown area and worsen traffic congestion, the Town of Bedford moved non-town commuters into a separate lot outside the commercial district which was once used as a Highway Department equipment storage area. In addition, the five-minute walk from the non-resident parking lot to the station is pleasant and clearly marked. Also, to be effectively managed to benefit visitors, shoppers and residents, it should not be provided or managed solely by individual retailers but by or in cooperation with a parking authority or the municipality.

DESIGN PRINCIPLES

The goal of transit-friendly communities is not solely to improve access to public transit ridership, but also to build communities. To successfully accomplish this, a community's essential elements must be designed to support pedestrian activity and reinforce a sense of community through design that is sensitive to human scale and activates the sidewalks with pedestrian activity. To encourage commuters to rely on alternative modes rather than the car to get to the rail station, the physical environment needs to be designed to support pedestrian and bicycle, as well as bus access. Transportation planners have long known that rider's experiences in traveling from their origin to transit or from transit to their destination weighs heavily in their choice of transit. The to/from experience, whether on foot, by bicycle, by other transit vehicle, or by auto, can be critical in gaining new riders or keeping existing ones. It can be helpful to determine the type of station so that access is created that is appropriate to the station. Not only should the rail station have pedestrian linkages to residential areas, but there should also be convenient linkages to recreation, public spaces, community facilities and local shops.

Public space design techniques such as upgrading sidewalk amenities, introducing public art and facade improvement can be applied throughout the commercial district and at the rail station to improve the comfort and attractiveness of these places for residents and visitors. Design is also critical in addressing how different uses such as commercial and retail are combined. Good design and landscaping can also handle compact residential development in a gracious manner. The following are design principles that should be incorporated to create a successful transit-friendly community.

TRAIN STATION DESIGN

Communities and transit agencies need to rethink the function and role of train stations and intermodal centers. Rail stations are not simply transit facilities where commuters catch the train. They can be economic development catalysts. Station and station parking facility improvements can create momentum for the revitalization of an adjacent commercial district or residential neighborhood. NJ TRANSIT, through its innovative Station Renewal Program, is working with local communities to improve the condition, appearance, uses, and management of its train station. The objective is to better serve its riders, encourage ridership, and act as catalysts for revitalization in the communities in which they are located.

Several stations located in urban settings, such as Bridgeport, Newark, Stamford or Jamaica, are large enough to accommodate a range of retail shops and cafes to turn them into multi-purpose facilities. Stations around the region have been converted into art centers, community centers and retail stores, providing services such as newsstand, coffee shop, dry cleaners or shoe repair that are valuable services for commuters. Stamford Station, for example, is now being redesigned so that a pedestrian access road through a parking lot under Interstate 95 is being replaced with an enclosed pedestrian arcade, lined with shops on both sides. Grand Central Terminal in New York and Union Station in Washington, DC are prime examples of larger stations that offer a mixture of uses that attract a variety of users in addition to daily commuters. Grand Central is now being renovated to provide a major expansion of commuter retail services. By introducing other uses into these stations, they have been transformed into centers of activity.

Design improvements that make stations more visible and physically integrated into the surrounding community can also

turn a station into a more positive feature. To further encourage transit ridership, services, trains and stations need to be pleasant and convenient to use. A poorly designed station often leaves transit users with a negative impression and can arouse fears of crime. The South Norwalk station in Connecticut is one example of such a case. It was an old station along the New Haven Metro North Line that was located in a crime-ridden area and was dilapidated after years of neglect. Commuters said they never felt safe at the station because it was dimly lit, dreary, and depressing.¹ The most disturbing part of the station was the tunnel that connects the eastbound and westbound platforms. This graffiti-filled tunnel was closed late at night to prevent criminal activity, forcing late night train riders to walk 800 feet out of their way to get to the other side.



Figure 12. Peekskill Station

Figure 13. Scarsdale Station



Figure 14. South Norwalk Station



¹ "Train Station Arouses Fears and a Plan to Allay Them," New York Times, Friday, January 22, 1993, Sec., B p. 5.

In the spring of 1993, the City of Norwalk, using state and federal grant money, renovated the station, built a multi-level garage on the westbound side and renovated the tunnel. Patrolled by a private security force and an electronic security system, the security presence is a critical factor in allaying commuter fears. More importantly, the design improvements contribute to the sense of security by introducing other uses into the stations such as a dry cleaner, ticket office, security office and a community center.

STREET AND PUBLIC SPACE DESIGN

Transit-friendly communities must have well designed amenities, streets and public spaces in the areas around their downtown stations. Urban designers consider streets and other public spaces to be “urban rooms,” which require as much thought and attention as the design of interior spaces. Well-designed rooms have attractive doors, walls and windows. Well-designed streets have entrances, streetwalls, and vistas that amuse, fascinate, protect, and serve people. In a room we may have furniture, such as a bed, sofa, or lamp. On a street, there is also furniture—a bench, kiosk, or streetlamp—that requires good urban design. And just as an architect will lay out the rooms in a house to provide a certain type of experience or function, so good urban design will lay out the streets and destinations of a town to reinforce certain experiences or functions.

There is no question that revised zoning, planning policies and incentives have directly contributed to transit-oriented development around rail stations in places like Pleasanton, CA, Rosslyn-Ballston, VA, and Crystal City, MD.

However, whether these are desirable places to live or work is debatable. It is not enough to have transit-oriented development; the surrounding area and the linkages to the station at the ground level have to be pedestrian-friendly rather than be dominated by expansive streets filled with cars. In this region, Bridgeport and Stamford, CT, and Newark, NJ, have major rail stations and are adjacent to commercial office districts, but the environment is dominated by traffic and the streets are pedestrian unfriendly. These are not pleasant places to be nor are they truly transit-friendly communities.



Figure 15. Public space, Katonah, NY

The streets and sidewalks should be designed to create an environment that encourages pedestrian activity. Most importantly, streets should allow not just for the flow of traffic but for safe pedestrian crossings, be pleasant to walk along, and allow for bicycle traffic. “Traffic calming” techniques can be implemented to improve the design of the

streets to make them more welcoming, safe, and attractive for bicyclists and pedestrians.

MAIN STREET DESIGN

An important component of a complete transit-friendly community is the commercial core of local shops and services. It should be anchored by a retail street with a mixture of dry cleaners, grocery store, shoe repair, bookstore, restaurants and movie theater, which allows residents to run small errands within walking distance during the weekends, on the way to work or on their way home.



Figure 16. Retail street, Scarsdale, NY

The streetwall along the sidewalk should be continuous with display windows and not interrupted by curb cuts and parking lots. In fact, parking areas should be located behind the buildings rather than in front to avoid a strip mall

atmosphere. Also, only uses that generate pedestrian activity should be placed on the ground floor.

Uses such as offices should be placed on the second level whenever possible. In Katonah, NY, property owners have located travel agents and brokerage firms on the second floor of buildings while placing active retail uses along the sidewalk. Streets with monotonous or uninspired building frontages are not appealing to the pedestrian, which makes walking in the core area less desirable. Buildings should contain street-level windows with arcades, porches, bays and balconies.

The streets themselves should be designed to cater to the needs of pedestrians and bicyclists. It is critical to create a pedestrian-friendly atmosphere while still providing access for vehicles. This can be done by providing amenities such as benches, waste receptacles, kiosks, distinctive bus stops, attractive sidewalk and street paving, lamp posts and bicycle racks. The street can be designed using “traffic calming” techniques to slow cars down to walking speed to create a safer environment for both pedestrians and bicyclists. These techniques include neckdowns, paving material and angled parking.

To make Main Street a center of activity in the community it needs to be an attractive and pleasant place to visit. It needs to be a place one would visit because they want to, not because they have to.

PARKING

Integrating parking into the transit community is a challenge. To provide adequate parking without drowning

the area around the station and commercial district in a sea of surface parking is no small task. Special design elements such as low walls and landscaping along the edges and within parking lots makes them more attractive and pleasant places. Large lots with several curb cuts are not conducive to creating a pedestrian-oriented environment. Villages like Hempstead have proposed placing some retail along the edge of parking lots to establish a streetwall. In the commuter lot adjacent to the Hempstead station there will be a small structure for a taxi dispatch. These extra activities in an otherwise empty parking lot generate some pedestrian activity, but also serve as “eyes on the street” that provides an extra sense of security.



Figure 17. Parking Facility, South Norwalk, CT

Multi-level parking garages need to be appropriately scaled to fit into its surrounding context. For large structures, the ground floor level facing the street could be filled with storefronts to create a more friendly presence on the sidewalk. Also, architectural treatment and detailing could

be used to help the structure be less intrusive and improve its appearance.

Parking garages tend to be large structures that need to be designed to fit the scale and character of its surrounding area. The Huntington, NY and South Norwalk, CT stations have large parking facilities that dwarf the historic stations. Other stations like Stamford have integrated the garage and station. A multi-level parking facility can be an asset for the adjacent commercial district by infilling the ground level with retail uses. While it could provide much-needed parking for commuters during the week, it could serve shoppers and visitors on weekends and late evenings when the facility is not often used by daily commuters. To integrate garages into the surrounding commercial district it needs to serve multiple purposes.

DESIGNING COMPACT RESIDENTIAL NEIGHBORHOODS

Compact residential neighborhoods are a critical component of a successful transit-friendly community. Research supports the notion that dense neighborhoods adjacent to retail uses and public transit actually have lower VMT totals than suburban sprawl communities. Also, well designed and thoughtfully sited clustered housing can create neighborhoods with a strong sense of community without overcrowding.

The Urban Land Institute, a national real estate industry group, has found that sales of high-density single-family detached houses and cluster developments (14 units per acre) in communities in the West have been strong for some

time, and the East Coast is just starting to see interest from the mass market.² This trend is attributed to the changing demographics of households, which are no longer conventional “Ozzie and Harriet” families. There are a growing number of singles, empty nesters, divorcees and single parents no longer interested in single family detached housing. People are also seeking convenience and low-maintenance living situations where the quarter-acre lawn that needs tending on weekends is not necessarily an amenity.

There is resistance conceptually to higher density because it is equated with lower quality and images of overcrowding. In fact, well-designed clustered developments are attractive and often priced at market rate. In order to ensure good quality developments that contribute to the pedestrian environment, municipalities need to actively review site plans and designs, since higher residential densities require higher standards of architectural design and more user friendly public spaces. Although there are cases such as Scarsdale where community concern over the scope of development and density has delayed projects, there are also cases where planning boards have worked closely with the community and the developer to ensure that local concerns are addressed and principles of high design standards are adhered to.

The Old Green Gables condominium development, built on a former 16-acre factory site, is a case in which the Town of Greenwich planning board worked closely with the developer to implement a quality transit oriented residential development with a density of 10 units per acre. The

planning board worked with both the local community and the developer to ensure that the project addressed the concerns of local citizens such as access to rail station, density, landscaping, siting and parking issues. The project, completed in 1992, has 167 market rate condominiums, of which 90%, or 151 units are occupied. Residents are mostly empty nesters and retirees, while there has been an increase in newly married couples without children. And, one reason residents cite for choosing to live in this development is its proximity to the Metro-North station and to downtown Old Greenwich.



Figure 18. Greenwich Gables, CT

² Urban Land, Urban Land Institute, February 1996, pp. 25-28.

THE STATE OF TRANSIT - FRIENDLY COMMUNITIES IN THE REGION

RPA, through research, surveys, interviews, site visits and case study charrettes, has attempted to assess the state of transit-friendly communities in this region. Although there are efforts underway by both local communities and transit agencies to implement transit-friendly improvements, there is much more to be accomplished. In other regions around San Francisco, CA, San Diego, CA and Portland, OR, local planners and transit agencies have been actively promoting and planning transit-oriented development. San Francisco's BART system views their stations as opportunities to stimulate economic development activity.

Our region, with 394 stations and one of the world's most vast commuter rail systems, has a significant number of places where transit-friendly improvements and developments could be implemented. And, the transit agencies and rail communities in this region are just beginning to catch on to the concept of transit-friendly communities. This growing awareness is evident in several places: NJ TRANSIT, with its transit-friendly land use handbook for communities, and Metro-North with its current transit-friendly efforts in Wassaic and Harrison.

There are examples of rail stations that have been more effectively integrated into the community by landscaping parking lots, introducing retail and restaurant uses into its station facilities, and working with communities to strengthen pedestrian access to the station. NJ TRANSIT with its Station Improvement Program, has worked with several communities, including Netherwood, Bradley Beach, Woodbridge and Maplewood, to upgrade station amenities and signage, introduce new uses at station buildings, and work with local communities to improve the pedestrian environment around the stations.

But there are still many more local municipalities that are not aware of how transit-friendly improvements can help revitalize the area around rail stations. Often towns with rail stations fail to identify the area around stations as special districts requiring zoning ordinances that support dense residential, mixed-use retail, and pedestrian-oriented street designs. There are also cases in which improvements made by the town in the station area are not coordinated with station facility and parking improvements made by the transit agencies. A transit agency's efforts to improve station facilities should be coordinated with adjacent downtown revitalization efforts.

At the state level, Connecticut and New Jersey have policies that encourage development along commuter rail corridors and land use patterns that will maximize public transit use. However, these policies are advisory and have no enforcement powers. Therefore, the responsibilities of implementing these policies rests with local municipalities and transit agencies.

New Jersey's state plan also recognizes the need to balance land use, transportation and open space needs in an environmentally sensitive manner. Furthermore, they recognize that transit-friendly communities can be a tool for achieving this balance and a way of managing growth. Within New York City commuting statistics are unique: 76% of the population gets to work by alternative means, such as public transportation, bicycling and walking. In contrast, in suburban counties such as Nassau, served by multiple lines of the Long Island Rail Road and Long Island Bus routes, 68% of the working population drive to work and only 13% commute by train. Even in Fairfield County in Southwestern Connecticut only five percent of the workforce commutes by train. The challenge is to increase public transit's market share of commuters in these outlying suburban counties. One strategy for increasing ridership is to provide an opportunity for more people to live within walking distance of a rail station. San Francisco's transit agency, Bay Area Rapid Transit (BART), has demonstrated that residents living in proximity of their rail stations are more likely to use public transit.

In most cases, except for Elizabeth and Hempstead, the station is not the catalyst or the center of revitalization efforts. Towns are struggling to create vibrant commercial areas rather than coming up with comprehensive strategies to create transit communities. They have the elements of pedestrian sidewalk improvements, facade improvement programs, station renovation or re-use, but rarely tied together as an overall effort to strengthen or create a transit district. Although a possible result of market forces, the creation of a concentration of residential projects is missing.

CHARRETTE

Taken from the French word for "cart," into which architecture students used to throw their work as it was collected for review in the neo-classical schools of design, charrettes are intense surveys of a community's architecture and urban design. The idea is to bring together a group of experts and hold an intense design review examination of a community over the course of a few days, complete with input from citizens, civic leaders and public officials. The team will hear presentations on aspects of a community, tour the site, and then proceed to brainstorm on ideas to improve the quality of the built and natural environment. While the recommendations that a charrette team presents after a few days of complete immersion in a community do not carry the weight of law, they may be able to bring up new issues or reinvigorate old ideas about the design, character, and direction of a community. Charrettes have become recognized as useful tools in stimulating community discussion and "jump-starting" a longer process of planning and review that can help a community revitalize itself.

RPA has led charrettes in downtown Yonkers and the town of Princeton Junction to promote transit-friendly concepts and plans and to provide models for creating a community participation process to plan. These charrettes also served as vehicles for gathering information about local concerns and desires. The findings from these two charrettes are summarized below. While the Yonkers case study was organized as a traditional charrette, the Princeton Junction case study was an opportunity to use computer technology to simulate a proposed town center adjacent to the Princeton rail station.

Downtown Yonkers

RPA, in cooperation with the City of Yonkers, coordinated a case study charrette for the downtown Yonkers station area. Yonkers offered a unique opportunity to apply transit-friendly principles to strengthen the connections between the rail station to downtown Yonkers and to the waterfront. By harnessing the downtown's role as a transit center, Yonkers could become a more livable urban center.

The charrette process was a collaborative effort that brought together a team of planners, urban designers, and transportation and municipal regulation experts to the downtown Yonkers station area for four days. In addition, various transit providers and public officials, including Metro-North Commuter Rail Road, Westchester County Bee-Line system bus service, and City of Yonkers officials were gathered to discuss transportation and land use relationships in the study area. The case study area encompassed Larkin Plaza and its surrounding streets, the train station, bus plaza, lower Main Street, and Warburton Avenue from Main Street to Manor House Square.

During this time, the team gathered issues and ideas from community groups, property owners, merchants, and public officials. Through a process of extensive meetings with more than 100 area residents, merchants and officials the team formulated a series of recommendations to develop the area as a transportation, commercial and recreation center.

Figure 19. Yonkers Station



The transit recommendations included:

- Change zoning ordinance to encourage mixed-use and a more urban land use pattern, building on the recommendations of the 1990 Downtown Master Plan.
- Ground the strategy for developing waterfront activities by recognizing that existing direct, safe, convenient transit access to potential boating and waterfront

recreation distinguishes it from virtually any other marina/recreation in the region.

- Identify Larkin Plaza as an urban amenity and gateway to the waterfront area and to the train station by removing trees in the center of Larkin Park in order to make the station more visible.
- Re-establish the train station as a civic symbol and functioning intermodal transportation center for the waterfront area by creating a large public space in front of the main entrance. Add an information kiosk identifying the waterfront area, bus routes, historic buildings, and existing and proposed cultural institutions and merchants within a quarter-mile of the station.
- Clearly designate pedestrian paths between station, bus, and Trolley Barn Plaza along Main Street, Recreation Pier and future ferry service area.
- Improve station and immediate station area by expanding the station's role as a center for the community by encouraging tenants that provide a full range of services.

The Downtown Yonkers Station Area Charrette, conducted by RPA, focused on the Metro-North Commuter Railroad's Hudson Line station at Larkin Plaza. The charrette team also suggested that improvements be made in three phases. The report suggested that the city should retrofit Larkin Plaza as the gateway from the rail station to downtown and to the waterfront within one-to-three years. In addition, zoning should be amended to allow for more mixed uses for the station area and the rail station itself should be revitalized. In phase two, within four-to-seven years, the city should improve Larkin Plaza and the train station, as

well as the old Trolley Barn. Finally, the group suggested eliminating parking from Larkin Plaza or limiting it to short-term parking. All of these recommendations tie in to the city's overall plan to revitalize the waterfront area.

Figure 20. Simulation model



The city administration has focused much of its economic redevelopment efforts on the downtown and waterfront areas in order to make the city more inviting and pleasant for residents and visitors while increasing the tax base, enabling the city to provide more and better services for everyone.

Princeton Junction

This was an opportunity to apply computer simulation technology to an actual transit site, Princeton Junction in West Windsor, NJ. This project employed a "Suburban Centers Kit of Parts," a computer application that creates a

perspective illustration of how a town could look if developed according to particular zoning codes. The application is interactive, so views of the town can be changed on command and different development scenarios can be displayed. It is a tool that can help communities visualize the impact of zoning codes in three dimensions.



Figure 21. Princeton Junction aerial

Princeton Junction was chosen for several reasons. There continues to be significant growth in the area which needs to be directed. The most recent growth in West Windsor and the entire Princeton Route 1 Corridor has not been in centers, but rather in campus-style office parks, retail malls, pod-style townhouse condominium developments, and post-World War II-style single-family subdivisions. The township already has millions of square feet of commercial

office space, a busy commercial strip, and a residential population that grew from 8,500 in 1980 to 16,000 in 1990, yet no discernible center.

If West Windsor is to have a center, Princeton Junction should be it, with the potential to serve both local and regional needs. It is a crossroads, on the most highly traveled railroad corridor in the United States. The Junction is already a “center” for the thousands of commuters who use the station each day, whether they walk, drive, take a shuttle bus, or ride the spur train, the “dinky” that runs from the Princeton University campus to Princeton Junction. Just to the east the Route 571 strip is a contemporary “Main Street” for shopping, while to the west, between the station and Route 1 and along Alexander Road, is a growing agglomeration of office buildings.

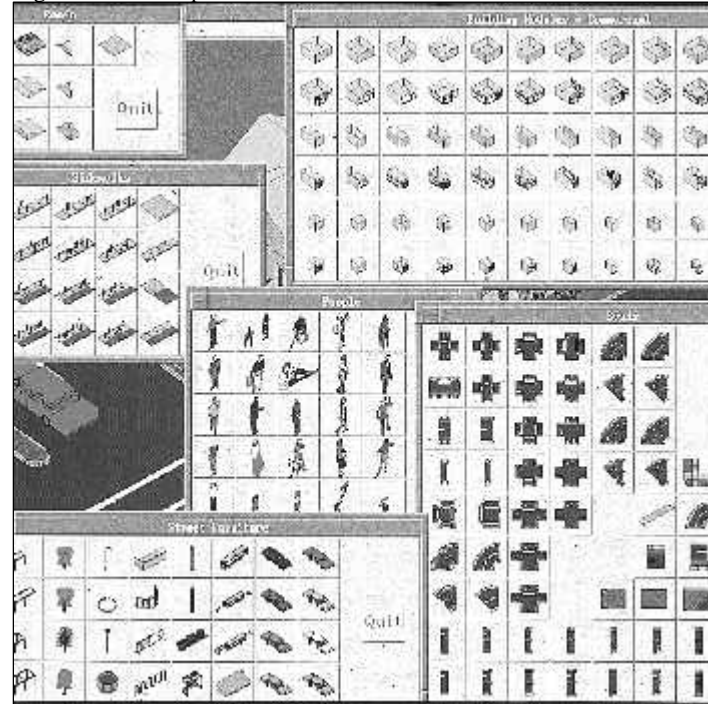
Within a half-mile radius of the station itself, Princeton Junction presents virtually every kind of suburban design challenge: to retrofit a suburban strip of grocery stores, gas stations, and professional offices; to let in pedestrians; to connect it to transit; to enhance it visually and functionally. To the south, there is an intact single-family neighborhood, many of whose residents walk to the station for their rail commute. To the west, there is a commuter parking lot with free-standing office buildings close by (which could be better connected to each other), the commuter rail station and the retail area. And, the station itself: How can its attractions be harnessed to serve as a focal point rather than just a parking lot and drop-off point?

Figure 22. 3-D Corner simulation



West Windsor had already sponsored and adopted a “Princeton Junction Town Center Plan” (Lenaz, Mueller & Associates, Planning Consultants) in May 1992. This excellent plan, which incorporated a host of pedestrian and transit-friendly planning and design ideas, was developed through extensive community review and discussion about the town center idea and the expansion of Route 571. In addition, the center was conceived as being in accord with the “town center” definition in the New Jersey Development and Redevelopment Plan. Thus, it is potentially the core of a municipality designated “center,” which could lead to support for infrastructure and other costly improvements.

Figure 23. Kit of parts



The most promising aspect was how a center, as described in the Princeton Junction Plan, could be the physical connection between the strip “Main Street” and the station. This connection offered a chance to modulate a series of land use/transportation relationships from car to pedestrian to rail.

The plan emphasized these points:

- Link land use with transit.
- Provide for integration of both sides of the station.
- Encourage mixed use.

- Emphasize creation of a pedestrian-oriented town center.
- Ensure the preservation of important natural resources located near the site.
- Preserve the established residential neighborhood adjacent to town center core.
- Provide for road and bridge improvements that support rather than discourage pedestrian movement.

The town recognized that they had little idea of how the “town center” they had authorized would look or function. They welcomed the idea that their two-dimensional “plan” could be further articulated as a three-dimensional “design.”



Figure 24. Computer simulation, Downtown view

Without further articulation, the town center plan would remain a sub-element of the master plan, but would never be written into a zoning “overlay,” and would ultimately never

be realized on the ground. An AES computer graphics application at the New School of Social Research’s Environmental Simulation Center was used to create a three-dimensional representation of the adopted town center plan. The computer simulation was an exciting and effective tool, not only graphically displaying the impact of height, bulk, and programmatic alternatives but also calculating important data such as parking requirements for each scenario.



Figure 25. Computer simulation aerial

Princeton Junction, under a new administration, town officials retreated from the intention of the plan to focus on a multiple retail centers plan and opted instead for a standard suburban development plan. The technical goals—demonstrating alternatives to suburban development patterns—were successfully accomplished. But convincing communities to adopt the necessary changes proved to be too difficult. Local concerns, often described as Not In My Back Yard (NIMBY) reactions to proposals, are significant obstacles to regional planning issues, including transit-friendly development strategies.

Conclusion

In the final analysis, both the Yonkers and Princeton Junction projects demonstrated some considerable successes, but also highlighted the obstacles to designing and implementing plans for transit-friendly communities. While both projects succeeded in highlighting issues and community views, neither one ultimately led to a process that seems to be moving toward new design guidelines and redevelopment of the areas around the towns' stations. In Yonkers, the city planning department went through a period of turmoil and new political leadership came in. In

IMPLEMENTING THE VISION

Through observations of station area improvement efforts and discussions with municipalities throughout Long Island, the Hudson Valley, Connecticut and New Jersey it has become clear that there are as many challenges as there are opportunities in developing transit-friendly communities.

The mounting regulatory and public pressure to address VMT growth and auto dependency has created an opportunity to promote and implement transit-friendly principles throughout the region. Changing demographics, busy lifestyles, and shifting housing needs that stress convenience have created a market for compact residential developments that are accessible to public transit. Some of the shifting regional trends have highlighted the need to integrate land use planning more closely with public transportation in order to preserve the quality of life in this region. Because of the potential benefits of transit-friendly communities, these regional trends have created an opportunity for implementing transit-friendly improvements. Transit-friendly communities are uniquely designed to encourage public transit usage, reduce auto use, and revitalize the local downtown area.

Along with the opportunities, there are several hurdles to transforming existing station areas into truly transit-friendly communities. Many of the areas around the region's commuter rail stations are mature suburban communities that have existing residential neighborhoods and often a shopping district of some size within the station area.

Implementing transit-friendly improvements in these places raises local community concerns such as density, increased traffic congestion, effect on local services and taxes, parking, and impact on quality of life in the community.

There are three major challenges to implementing transit-friendly communities. First, the car has become the preferred mode of travel and the challenge is to provide a practical and attractive alternative. Second, existing zoning ordinances covering areas around rail stations prohibit the implementation of transit-friendly principles. Third, the acceptance of higher densities and concentrated development around stations has run into community opposition.

Despite the recognized benefits of mixed-use, moderate-density, pedestrian-oriented communities that are serviced by transit, development has been hampered by limited financial resources and NIMBY-ism against dense residential development. Transit-friendly communities can be realized through new and creative use of private financing techniques, public-private partnerships, and community-lending practices. A variety of financial, mortgage and tax incentives should be provided at the local level of government to promote these new partnerships with the financial community. Federal policy through its strong role in transportation funding also has a role to play. Modifications to existing ISTEA (Intermodal Surface Transportation Efficiency Act) rules, for example, could serve as incentives for communities to take action on transit-friendly development in order to qualify for additional transit funding.

The future success of the region and its rail system hinges on our ability to reinforce and revitalize traditional community centers. One of the key strategies will be promoting transit-friendly development around transit stations. Residents of mixed-use, moderately dense, pedestrian-friendly communities with attractive pedestrian access to the rail station are more likely to use public transportation and are less dependent on automobiles. In the process of retrofitting existing rail communities into transit-friendly places, these areas will be strengthened, creating town centers with viable retail streets and neighborhoods that are attractive and pleasant places to live as well as to visit.

The vision of transit-friendly communities:

- Integrates the rail station facility into the town center and strengthens pedestrian-friendly links to surrounding residential neighborhoods.
- Promotes land use patterns and residential densities that maximize the use of commuter rail service and reduce the dependence on automobiles.
- Provides another option in the menu of places to live in the region.
- Encourages the centering of suburban development into areas around rail stations and strengthens existing retail and residential areas around the region's rail stations.

RECOMMENDATIONS

The following are recommendations for several initiatives that transit agencies, state officials, local municipalities and communities in the region could consider in order to encourage land use patterns which increase transportation

efficiency and encourage transit use. RPA recommends that the following five major actions be undertaken:

Identify Existing and Planned Station Areas

Many of the towns along the region's commuter rail system have the foundation to become transit-friendly communities by implementing transit-friendly improvements that include strengthening pedestrian corridors to the station and the local shopping area and identifying potential sites for mixed-use or clustered residential development.

Although much of the residential market had disappeared in the region in the late eighties and early nineties, there are signs that the residential market is improving. Residential projects are being proposed in Elizabeth, NJ, Scarsdale, NY, and Hempstead, NY. According to a study by Robert Cervero, many proposed residential projects to be developed on transit district land have not moved forward due to neighborhood opposition to higher densities, the collapsed real estate market in the late 1980s, and the difficulty of obtaining financing for multi-family housing projects near rail. (Cervero, Bernick March 1994.)

This new niche in the residential market reflects the changes in the way people live and the changes in households. Fewer and fewer households resemble the prototypical "Ozzie and Harriet" family made up of a set of parents, two kids and a dog. Clustered housing in proximity to the Main Street area and the rail station offer benefits that meet the needs of changing demographics. For households with two income earners with busy lives and empty nesters looking for a lower maintenance lifestyle, clustered developments located within walking distance of a rail station and

shopping fulfills the need for convenience. For these particular segments, it also improves their quality of life and they enjoy the stronger sense of community.

Communicate with Local Communities to Gain Public Support

RPA, in partnership with transit agencies and state officials, should communicate with local planning officials, elected officials, and citizens about the concept and benefits of transit-friendly communities to gain public support. And, more importantly, work with the community and stakeholders to develop station area improvement plans with supporting zoning language.

The challenge here is to illustrate to mature suburban communities where the opportunities lie for transit-friendly improvements and transit-oriented developments, and that higher residential and commercial densities can be designed to be sensitive to existing context. Because there is an unfounded fear of density, communities need to be shown that when designed well, density can create pleasant and comfortable environments that create a sense of community. Also, there may be more acceptance of increased housing densities in station areas if it is balanced by density decreases elsewhere.

Despite the recognized positive impacts of transit-friendly developments, much of this development has been hindered by the threat of the “Not In My Back Yard” syndrome toward higher density residential development. It has been shown that higher residential densities create higher potential transit ridership and also provides the consumer

base needed to support the local commercial district within walking distance of many of the residents.

For the past 26 years, the Village of Scarsdale has been debating how to redevelop a portion of its downtown that is both adjacent to its rail station and gateway for the Village. The Village had always envisioned a residential development with ground floor retail for the site. Penn Central proposed a 150-unit condominium development with 22,478 square feet of retail and other commercial space and parking for 539 cars.

Despite its Tudor style, in keeping with the predominant architectural style of the buildings downtown and its set-aside units for the elderly, there has been community opposition to the height and density of the development. There was a fear that this project would “urbanize” the Village. Penn Central has recently submitted a scaled back development proposal for 90 units of senior assisted housing units and some retail space. At this point, the project is still in review and the site has not been developed.

This case reflects the serious concern communities have regarding the scope of development and the impact of increased density. However, this hurdle can be overcome by showing communities that density can be handled graciously by good architectural and landscape design. Communities need to be shown that higher design standards can ensure that the community’s character and vision are preserved. In the past higher densities have been associated with mammoth-sized housing complexes and large office buildings. Higher densities can be handled to fit the context of the suburbs with higher design standards and closer

attention to the public spaces such as streets, sidewalks and open spaces.

Develop Station Area Plans and Design Guidelines

Towns with residential and commercial development around its rail station should designate them as a transit-friendly districts. Plans and design guidelines should be developed describing the vision for the district and encourage transit-friendly improvements. Municipalities should designate at least the area within a quarter to half-mile radius of the rail station as a transit-friendly overlay district with ordinances and zoning regulations that encourage pedestrian-friendly development and community design.

In addition to a station area plan, design guidelines should be adopted to guide design review. The objective of design should be to improve the overall pedestrian environment in the station area to promote walking and bicycling. Design guidelines are also critical in establishing stricter design standards for higher density residential developments. Not only is the review of architectural features critical, but so are review of site and landscape design. Towns should adopt zoning regulations that will enforce its objectives.

Often municipalities do not allow the mixed use or residential densities that are required for successful transit-friendly communities. In fact, some places, such as Pleasantville, NY are considering downzoning its residential regulations from multi-family housing to single family homes. What they should, in fact, be doing is upzoning to create more residential units in the downtown area, adjacent to the rail station.

With a larger number of residents within walking distance of a station there will be a larger pool of potential transit riders and customers to support the local commercial district.

Both New Jersey and Connecticut encourage the formation of a special district around rail stations to implement transit-friendly objectives. The station area plan that focuses on the special objectives of the station district can be adopted as a land use element of the local comprehensive plan.

Encourage Transportation To Agencies Adopt Transit-Friendly Community Policies

Long Island Rail Road, Metro-North, and NJ TRANSIT should promote transit-friendly communities around their facilities. San Francisco's Bay Area Rapid Transit system (BART) for example, actively promotes transit-friendly development around the BART system. Transit agencies can generate revenue from developing properties and parking lots adjacent to rail facilities. In addition, by increasing the number of residents living within a quarter-mile radius of its stations, the potential market of transit users will expand, generating additional farebox revenue. As new workplace destinations are created along its transit corridors, there is an opportunity to expand its reverse commute markets, which is already Metro North's fastest growing market.

Transit agencies need to engage groups and town governments to implement transit-friendly improvements. NJ TRANSIT has adopted a community participation process in which it guides improvements in towns surrounding its stations. It has published a handbook, "Planning for Transit-Friendly Land Use," for towns and

residents that wish to implement transit-friendly land use plans around their transit stations.

Transit agencies need to be supportive partners in helping towns surrounding stations with transit-friendly efforts. For example, NJ TRANSIT's handbook for communities, "Planning for Transit-Friendly Land Use," was published to assist elected and appointed planning officials, members of planning and zoning boards, technical planning staff members, community representatives, and individual citizens interested in improving the relationship between land use planning and transit. While it is generally recognized that transportation and land use planning need to be integrated to realize the enormous potential of public transportation, a coordinated effort between municipalities and transit agencies needs to be aggressively pursued. Only through coordinated efforts will transit agencies be able to increase ridership and municipalities be able to deal with traffic congestion and the need for economic development opportunities.

The incentive for transit agencies to participate in development of transit land is the generation of revenue. Promoting development around stations can also increase ridership while reducing vehicle trips to the station. And, by creating a mixed use community around a station, it increases its safety and attractiveness. In this way the station becomes a focal point for development.

Establish State and Local Programs for Transit-Friendly Development

Both Connecticut and New Jersey have state policies that encourage initiatives to improve the relationship of

transportation and land use decisions with particular emphasis on directing new industrial, commercial and residential development to transit-accessible locations. However, in both states these are simply general guiding principles for the administrative and programmatic actions and capital and operational investment decisions of state government. New York State currently does not provide communities with guidance on the implementation of the land use regulatory powers it delegates to them.

There are immediate steps that can be taken at the local level that do not require a plan for development or zoning amendments. Retrofitting public spaces such as streets, sidewalks, and areas immediately surrounding the rail stations to make them more pedestrian-friendly can begin the process of transforming a station area into a truly transit-friendly community. Pleasant, attractive, and safe pedestrian pathways to the station should be established, based on observed foot traffic patterns of daily commuters.

Targeted programs with funding and regulatory incentives will be necessary to affect the implementation of transit-friendly development and communities. These programs would further ensure that municipalities will focus efforts to develop station area plans and zoning that foster intensive land uses at the stations and along transit corridors. A site acquisition procedure must be defined to allow public entities or private developers to develop properties along rail corridors that fulfill transit-friendly objectives.

Regional policy needs to be adopted that focuses development at rail stations. According to research conducted by the National Transit Access Center at the

University of California at Berkeley, transit-oriented residential developments that have been successfully implemented benefited from a regional planning focus on concentrating development at rail stations. Counties with the sharpest focus on transit-oriented development, Arlington County, VA; Montgomery County, MD; Contra Costa County, CA; and San Diego County, CA have the greatest number of implemented projects.¹

CONCLUSION

Building transit-friendly communities, and making better use of the commuter rail system could add significantly to the region's quality of life and economic vitality. The tri-state region has all but used up the capacity of its highway system, and there are few, if any, opportunities to add new or widen highways. The region's 1,250 mile commuter rail system has the capacity to accommodate much of the region's future mobility needs, but only if concerted efforts are made to locate new jobs and populations in centers served by this system.

By building on our rich tradition of transit-friendly community development, we can take advantage of two of the regions unique competitive advantages: the world's largest commuter rail system, and the constellation of compact transit-oriented town and city centers that developed around the system.

¹ Transit-Based Residential Development in the United States: A Review of Recent Experiences, National Transit Access Center, University of California at Berkeley, Michael Bernick and Robert Cervero, March 1994.