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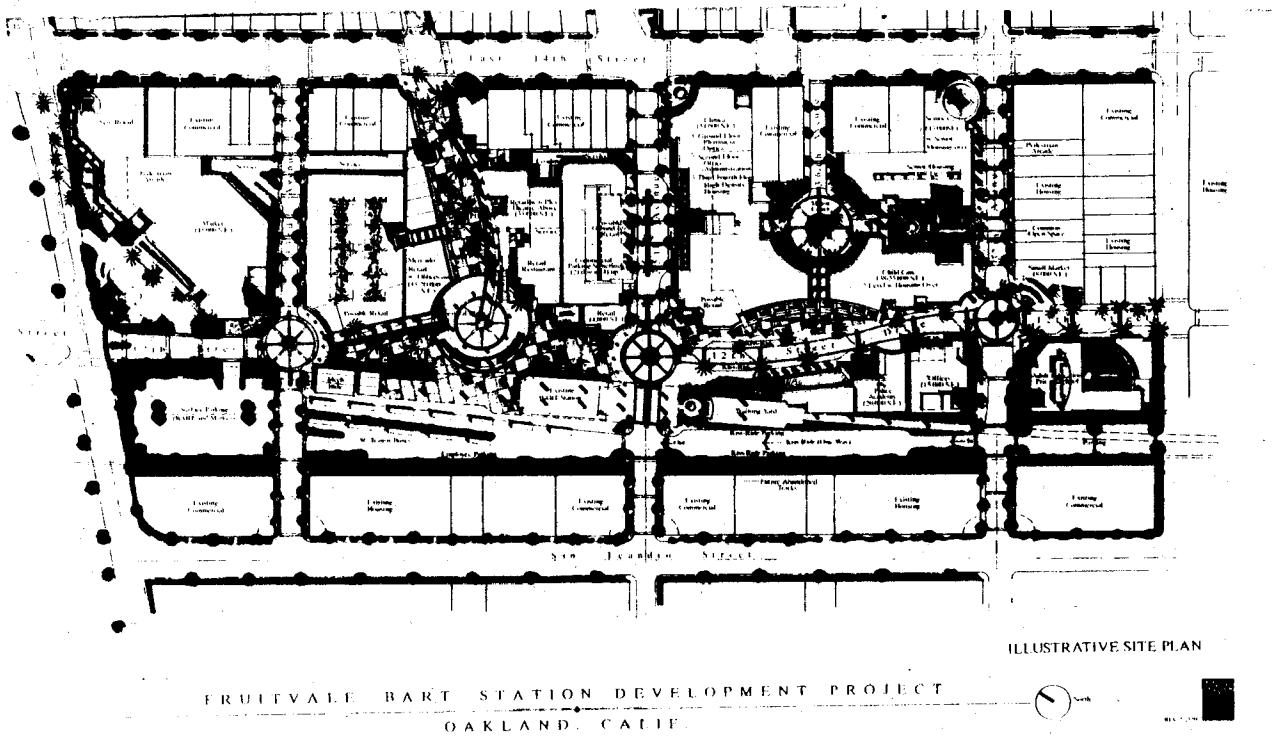
TRANSIT-BASED RESIDENTIAL DEVELOPMENT IN THE UNITED STATES:

A Review of Recent Experiences

March 1994



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16. Abstracts This study reflects the emerging emphasis on "transit-based development" - primarily residential development within easy walking or shuttle access to rail transit stations. This transit-based development differs from the more-chronicled transit "joint development. Rather than maximizing revenues, these development aim mainly at such goals as increasing ridership, reducing vehicle trips to the station, and increasing station atttractiveness and safety. This new interest reflects several changing forces in the transit field: heightened air quality regulations, recent data on transit ridership by station proximity and increased rail transit investment at the state and local levels.

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Transit-Based Development in the United States:
A Review of Recent Experiences

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EXECUTIVE SUMMARY

TRANSIT-BASED RESIDENTIAL DEVELOPMENT IN THE UNITED STATES

Emerging Transit-Based Development

Throughout the United States, rail transit agencies are undertaking a new emphasis on "transit-based development" —primarily residential development within a one-quarter-mile radius of a rail transit station built to tie into the station through easy walking or shuttle access.

This transit-based development differs from the more-chronicled transit "joint development." Joint development includes the use of agency land and resources to generate revenues for the transit agency, such as station connection fees, shared facilities, and leases of land or development rights. In contrast, rather than maximizing revenues, transit-based development efforts aim mainly at such goals as increasing transit ridership, reducing vehicle trips to the station, and increasing station attractiveness and safety.

The new interest in transit-based development reflects several changing forces in the transit field: heightened air quality regulations, recent data on transit ridership by station proximity, and increased rail transit investment at the state and local levels.

Residential Developments on Transit District Land

One form of transit-based development has been development on land owned by the transit district, adjacent to a station. Within the past five years, six major residential projects entered pre-construction or have been built on transit district land, while another seven are in various stages of development. The Washington, D.C., rail system (WMATA) and rail systems on the West Coast have most actively promoted these projects.

In these residential projects, the transit agencies have been aggressive in aiding development in the following ways: (1) assembly of land to combine transit agency land with adjacent non-transit agency land; (2) amortizing the cost of replacement parking over a period of years, rather than requiring payment in the early years; and (3) attractive lease or sale arrangements, including delaying lease payments during the developmental period, participation as an equity partner, subordination of debt, and assistance in securing HUD financing.

Residential Developments on Land Adjacent to Transit Stations

Some of the rail transit agencies also have taken a role in achieving major residential developments on land that is not owned by the transit agency but is within walking or shuttle access of the station.

Survey of the rail transit systems across the country identified 40 major residential projects built in the past five years with the aim of tying into a rail transit station through pedestrian or shuttle access.

The transit-based residential projects differ considerably among East Coast and West Coast systems. On the West Coast, outside of downtown areas, the transit-based projects are primarily three to four stories in height, and between 20 and 70 units per acre. Along the San Francisco Bay Area's BART system, the residential projects range in density from 30 units per acre at Del Norte Place to 43 units per acre at Park Regency. The only high-rise residential projects surrounding transit stations are in the downtowns of Los Angeles, Long Beach, San Diego, San Francisco, Oakland, and San Jose.

The situation is different among East Coast systems. Surrounding a number of non-downtown East Coast rail stations are high-rise residential developments. Lincoln Towers at Ballston station in Washington, D.C., is two towers of 22 stories each, and nearby are other high-rise projects. In Atlanta, the Grandview Apartments at Lenox Station is 36 stories, while GLG Tower at Arts Center is a 51-story tower with a hotel, office space, and 129 residential units.

Nearly all of the developments have benefited from general policies in their jurisdictions favoring residential development at rail stations.

In about a third or so of the developments, the transit agency has taken more specific roles, including: (1) commissioning station area plans that set the framework for development; (2) regular shuttle access from the most distant parts of a large-scale development to the station; (3) reduced parking requirements; (4) assembling land by the transit agency or local redevelopment agency; and (5) financial incentives through the transit agency or local redevelopment agency, including write-down of land, payment for all or part of infrastructure improvements, and access to project financing through tax-exempt bonds and/or an agency role in credit-enhancement.

Concentrations of Residential Developments at Transit Stations

Beyond individual residential developments at transit stations is the concentration of these developments and related retail and services within a one-quarter to one-third-mile radius of the station. The number of rail stations outside of major downtown centers that currently have such concentrations is small. However, transit agencies throughout the country are investing in station area plans for "transit villages."

The Ballston station in Washington, D.C., and the Pleasant Hill station in the San Francisco Bay Area are the two rail station areas (outside of major downtowns) that have the greatest concentration of residential developments. Other rail station areas with lesser but still significant residential concentrations are El Cerrito del Norte in the San Francisco Bay Area; Arts Center and Lenox in Atlanta; Bethesda and Grosvenor in Washington, D.C.; Almaden in San Jose; and La Mesa-Amaya in San Diego.

At Pleasant Hill, a station area plan was commissioned in the early 1980s, and development was undertaken over the next 12 years. Currently, the station area boasts over 1,600 units of housing and 1.5 million square feet of office space (and is an estimated 60 percent built-out).

Ballston as late as 1984 was a low-density suburban area, and what would become the Ballston station had been a bus terminal surrounded by surface parking lots and small-scale commercial. Today,

there are 2471 residential units within a one-third-mile radius and 3.7 million square feet of commercial space, all built since 1984.

Ballston's development owes much to the efforts of Arlington County in planning and in financial incentives. For the past 20 years, Arlington County zoning has concentrated density development at the five transit stations. Additionally, in jump-starting commercial growth at Ballston, the county subsidized a parking garage for the first major commercial/retail development, and set up the Ballston Partnership to market the area as a transit village and to seek out tenants.

Although these two station areas stand as the ones with the greatest residential concentrations, transit agencies throughout the country are involved in planning efforts to achieve residential concentrations at stations. "Transit village" symposiums have been held recently in Sacramento, Los Angeles, and the San Francisco Bay Area.

The Achievement of Transit-Based Development

The current state of transit-based development in the United States might be summarized as follows: there is a good deal of interest on the part of staff and board members of U.S. transit agencies, and agency resources and funding allocated for planning efforts has been available, but still only a limited number of residential projects have actually been built on transit district land or land adjacent to the station.

The development of a station-area design can be a first step in residential concentrations, since it sets a framework for development. However, any station-area design will only be valuable as it is followed up with implementation. Pleasant Hill has moved forward in good part because one local official took it up as her issue and continually pushed for implementation.

Beyond station-area design, opportunity for station-area residential development will lie in the development of transit agency land adjacent to stations. TryMax Apartments in Portland, Grand Central Apartments in the San Francisco area, Almaden Lake Village in Santa Clara, and Westlake/MacArthur Park in Los Angeles are all recent examples of the transit agency using its land for a major residential development, aimed both at providing new housing and at stimulating additional station area development.

In recent decades, the FTA has maintained a hands-off policy toward transit-based development, reflecting in part the limited interest on the part of transit agencies. As these transit agencies take a more active interest in transit-based development, the FTA role concomitantly may heighten. This role lies not in additional conferences or education, but in direct implementation efforts with the local transit agencies.

CHAPTER ONE:

EMERGING TRANSIT-BASED DEVELOPMENT THROUGHOUT THE NATION

Introduction: The Pleasant Hill Station

As the Bay Area Rapid Transit District (BART) train travels through Contra Costa, it runs through a series of suburbs: Orinda, Lafayette, and Concord. The stations are surrounded mainly by low-density development, such as single-family homes or duplexes, or small commercial buildings. The exception is the station next to the last on the line, Pleasant Hill.

Embarking at Pleasant Hill, one finds a series of high-rise office buildings and a hotel, surrounded by over 1,600 residential units — all within a one-quarter-mile radius of the station. The Pleasant Hill station area is an attempt at a new form of development, which Bay Area planners have taken to calling a "transit village."

Around the nation, other attempts at concentrating development, particularly residential development, at rail stations are emerging: at the Ballston and Bethesda stations on the Washington, D.C., rail line; at the Arts Center station in Atlanta; and at the Almaden station in Santa Clara.

These attempts, in turn, reflect the growing interest among both transit agencies and regional planning agencies in transit-based development. At the American Public Transit Association (APTA) October 1992 annual meeting in San Diego, an extra day session on transit-based development brought a full room of transit board members and staff. In the first months of 1993, several transit agencies in Los Angeles, San Francisco Bay Area, and Sacramento have sponsored symposia on designing housing at rail transit stations, while several others — in New York, New Jersey, Santa Clara, and Portland — are sponsoring major transit-based planning efforts.

I. New Transit-Based Development Strategies

At the start, a distinction needs to be drawn between "joint development" and "transit-based development."

"Joint development" is used to mean the use of transit-agency land and resources to generate income for the transit agency. Joint development strategies include leases of land or development rights, facility/ station connection fees, shared facilities, and air rights. In 1992, University of California at Berkeley researchers completed, for the Federal Transit Administration (FTA), a major examination and analysis of joint development strategies throughout the United States.

"Transit-based development," however, is used to mean the use of transit-agency land and resources to concentrate development, primarily residential development, within walking or easy shuttle access of rail transit stations. Transit-based development is not aimed at maximizing income for the transit

agency, but rather aims at other transit agency goals, such as an increase in transit ridership, the reduction in vehicle trips to the station, and increased station attractiveness and safety.

Transit-based development strategies undertaken by transit agencies in recent years can be placed into three categories:

1. Multi-family residential developments on transit district land adjacent to the transit station
2. Planning and financial incentives to achieve multi-family residential developments on land not owned by the transit district but proximate to a transit station
3. Station-area plans and city-wide plans to concentrate residential development at transit stations

II. Study Goals and Methodology

This study represents the first examination of transit-based development efforts nationwide. It follows the recent University of California at Berkeley nationwide study of joint development, and utilizes a similar methodology.

The goals of the study were to: (1) compile an inventory of recent major residential developments on transit-district land; (2) compile an inventory of recent major residential developments on land proximate to a rail transit station that were built to tie into the station; (3) detail recent planning efforts to concentrate development at transit stations; and (4) analyze transit agency roles in achieving transit-based development.

To achieve these goals, the following steps were taken in conjunction with the 17 American rail transit systems with some form of transit-based development effort, as set out in Chart 1-1.

1. A contact person was identified and contacted at each of these transit systems, and the research purpose and design explained.
2. A written survey was compiled and sent to the transit systems. Follow-up calls were made to ensure survey completion.
3. Survey results were compiled, and additional information obtained in subsequent phone interviews with transit agency staff.
4. Phone interviews were conducted with local developers and with planners at regional planning agencies.
5. Results were compiled from the surveys and phone interviews and were combined with site visits to five of the transit systems with most active transit-based development programs: Washington, D.C., San Francisco Bay Area, Los Angeles, Santa Clara, and Portland.

The following chapters set out the study findings. Chapter 2 examines residential developments on transit district land. Chapter 3 examines residential developments on non-transit district land proximate to the transit station. Chapter 4 examines recent planning and design efforts by transit agencies to promote transit-based development. Chapter 5 discusses the prospects for transit-based development in future years, and possible roles for transit agencies and for the Federal Transit Administration.

Chart 1-1

U.S. Rail Transit Systems with Transit-Based Development Efforts 1993

Region	Year Opened	System Type
Pittsburg	1879	Light rail
Chicago	1892	Heavy rail Commuter rail
Boston	1897	Heavy rail Commuter rail
New York	1904	Heavy rail Commuter rail
Philadelphia	1905	Heavy rail Commuter rail
Cleveland	1955	Heavy rail Light rail
New Jersey	1969	Heavy rail Commuter rail
San Francisco Bay Area	1974	Heavy rail
Washington	1976	Heavy rail
Atlanta	1979	Heavy rail
San Diego	1981	Light rail
Miami	1984	Heavy rail
Sacramento	1985	Light rail
Portland	1986	Light rail
San Jose	1987	Light rail
Los Angeles	1990	Heavy rail Light rail Commuter rail

Source: UC Berkeley National Transit Access Center, Survey of Transit-Based Development, 1993.

CHAPTER TWO:

RESIDENTIAL DEVELOPMENT ON TRANSIT DISTRICT LAND

Introduction

In March 1992, the Board of Directors of the Santa Clara County light rail system issued a Request For Proposals (RFP) for multi-family housing to be built on the 5.2-acre site owned by the system adjacent to the Almaden station.

The goal of the RFP was to concentrate housing at the station. The main force behind the RFP, Santa Clara Supervisor and transit board member Rod Diridon, spoke of transit-related housing or "tran-dominiums," and the increase in transit ridership that would accompany adjacent housing.

Several firms responded to the RFP, and an advisory committee recommended a team of Denhart Properties, FPI Real Estate, and architect Rodney Friedman. The team proposed Almaden Lake Village, a 250-unit development, with a "tran-observatory," overseeing the line for train observation.

The Almaden station development is one of several instances in recent years of a rail transit agency using land it owns near or adjacent to a station for housing. In these instances, the arguments advanced by board members and/or staff in support of development have been similar: increased transit ridership, reduction of automobile trips to the station, and the relief of development pressures elsewhere.

I. Residential Developments on Transit District Land

Chart 2-1 shows the major housing developments on transit district land in the past five years that have been approved by the transit district board, are currently in construction, or have been built.

Chart 2-1

Major Residential Projects on Transit District Land 1988-1993

Rail System	Project/Station	Year Built	# Units	Density (DU/Acre)
Santa Clara	Almaden Lake Village (Almaden Station)	1995	250	48
San Francisco	Grand Central Apts (El Cerrito del Norte)	1995	210	77.8
Los Angeles Red Line	Westlake/MacArthur Park	1995	300	75
Portland	TryMax Apts (165th & Burnside)	1992	42	30
San Diego	Creekside Villas (47th Street)	1989	141	15
Washington, D.C.	Ballston Metro (Ballston Station)	1989	277	162

Source: UC Berkeley National Transit Access Center, Survey of Transit-Based Development, 1993.

Beyond these residential projects are several other residential developments that are at or near the RFP stage. These projects are shown on Chart 2-2.

Chart 2-2

Residential Projects Proposed on Transit District Land 1993

Rail System	Project/Station	Status
New York MTA[1]	Harrison Station	RFP expected Fall 1993 for 3.3 acre surface parking site
New York MTA[2]	Port Chester	Planned housing on hold, as suburban economy rebounds
San Francisco[3]	Castro Valley	RFP for minimum 250 BART residential units issued July 1993
San Francisco[4]	Hayward	RFP issued October 1993 for housing on 8-acre site
Los Angeles MTA[5]	Willow Station	RFP planned early 1994 on combined 9.2 acres
Pittsburg[6]	Potomac Station	41 units being considered
Portland	Gresham Central	Up to 80 units on assembled 2 acres

Source: UC Berkeley National Transit Access Center, Survey of Transit-Based Development, 1993.

Chart 2-2 (a)

Residential Projects Proposed on Transit District Land (Notes)

[1]**New York MTA (Metro-North line) Harrison Station.** This residential project has been in planning for five years. In the Fall of 1987, UMTA financed a study of MTA commuter rail stations as sites for joint development. An initial evaluation of 25 pre-selected stations led to a development program for three stations: Harrison, Port Chester, and Kew Gardens. The consultant recommended 40 residential units and approximately 10,000 sq. ft. of retail. The current view of joint development staff is that the project can be up to 160 units, with an emphasis on housing.

[2]**New York MTA (Metro-North line) Port Chester Station.** Another of the 3 MTA station sites identified in the 1987 MTA study as promising for joint development. A 3.5-acre site, currently used as surface parking.
In 1991, the *New York Times* announced that the Robert Martin Company would be developing this site, as part of its larger development of downtown Port Chester. The Robert Martin Company already had plans for 315,000 sq. ft. of retail and office space and 660 residential units on 17 acres of redevelopment land near the station. The MTA's feasibility study suggested a nine-story, 208-unit residential building on the station site.
Since 1991, the office and retail markets in suburban New York have declined sharply, and the station project is on hold.

[3]**San Francisco BART Castro Valley Station.** RFP issued in July 1993 for 5.2-acre site adjacent to the station. Asking for a minimum of 250 units (50 units per acre) and an unspecified amount of ground floor retail.

[4]**San Francisco BART Hayward Station.** RFP issued in Fall 1993 for a combination of the adjacent BART surface parking lot land and city-owned land, 8 acres.
In 1992, the City of Hayward commissioned San Francisco-based architect Daniel Solomon to prepare a design for the decaying downtown area. The Solomon design, adopted by the city council in 1992, "re-centered" downtown around the Hayward BART station, setting out over 1300 new housing units, pedestrian-oriented shops, and open space.

[5]**Los Angeles MTA (Blue Line) Willow Station.** RFP expected in 1994 for development on a combination of land owned by MTA (1.25 acres) and the City of Long Beach totaling up to 9.2 acres. The MTA land currently is used as a 230-car park-and-ride. Current development plan: 100,000 sq. ft. neighborhood shopping, 200-300 residential units, and a 500-car park-and-ride.

[6]**Pittsburg LR Potomac station.** Proposal under current consideration to develop 41 units of senior citizens housing at the Potomac station.

Source: UC Berkeley NTRAC, Survey of Transit-Based Housing, 1993.

II. Transit Agency Roles in Development

In these developments and proposed developments, the transit agencies have aided development in the ways indicated in Chart 2-3.

Chart 2-3

Transit Agency Roles in Residential Developments on Transit Agency Land

- **assembly of land to combine transit agency land with adjacent non-transit agency land.**
- **amortizing the cost of replacement parking over a period of years, rather than requiring payment in the early years.**
- **attractive lease and sale arrangements, including delaying lease payments during the developmental period or until effective occupancy, participation as an equity partner in condominium sales, subordination of debt, and assistance in securing HUD financing and tax exempt financing.**

These roles are illustrated in the following four project summaries: Almaden Lake Village, Ballston Metro Center, Grand Central Apartments, and TryMax Apartments.

1. Almaden Lake Village (Almaden Station, Santa Clara Light Rail)

The light rail line in Santa Clara County has 30 stations in operation, extending from the Santa Teresa station in south San Jose to the Tasman station in north San Jose, and beyond to the Old Ironsides stations past Great America Parkway.

In 1991, Santa Clara County Supervisor Rod Diridon, a member of the transit agency board, proposed a program of "trandominiums" — housing built on transit district park-and-ride land adjacent to the stations. The purpose: to site new housing in the region as much as possible within a quarter-mile radius of the stations.

The Almaden station in south San Jose is the site of the first trandominiums, 250 units on the adjacent 5.4 acres. The project, developed by Denhart Properties and designed by architect Rodney Friedman, was approved by the transit board in February 1993.

Friedmans's design, as shown on Figure 2-1, includes 250 units, with an average density of 48 units per acre. It has two- and three-story buildings on podiums over sub-grade parking. An East Block and a West Block are linked by a pedestrian bridge, which also serves as a "tran-observatory," where "residents can watch the light rail systems as an integrated part of their neighborhood." The complex is aimed at an upscale market. A 700-sq.-ft., 3 one-bedroom will lease for $1,000 per month, which is at the higher end of Santa Clara County rents.

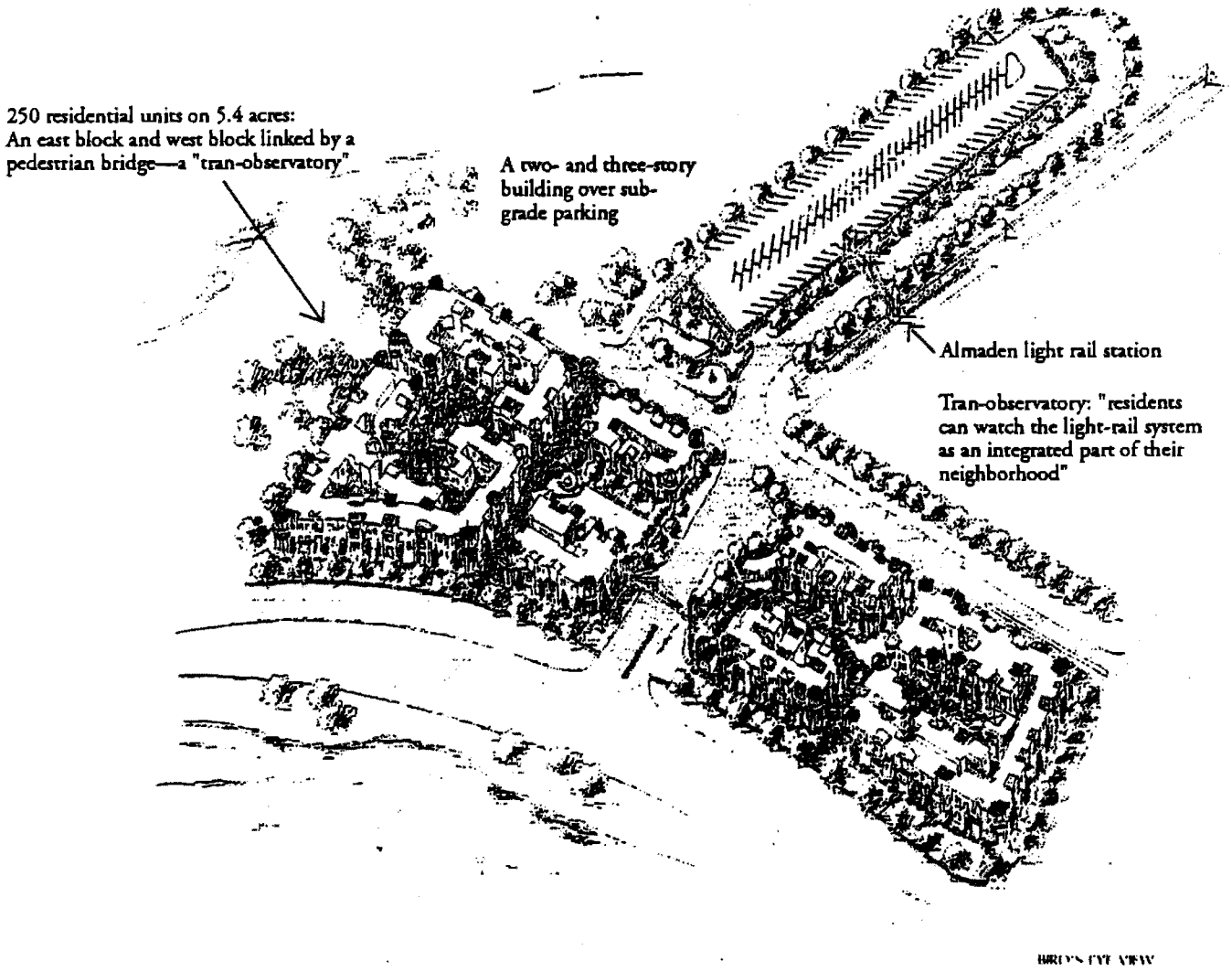


Figure 2-1
Almaden Lake Village
(Santa Clara County Almaden Station)

The transit agency proposes a 75-year lease. Lease payments are to be 8 percent of the appraised value of the land —an estimated $300,000 per year — and will not begin until effective occupancy of the project. No replacement parking is being required, even though current parking spaces will be lost. If conventional financing is obtained, the transit district has agreed to subordinate its debt.

2. Ballston Metro Center (Washington, D.C., Ballston Station)

The Ballston Metro Center, Figure 2-2, is one of the best-known developments on transit district land. It is a 712,000-sq.-ft. development, and includes a 12-story office building, 209 hotel rooms, and 277 condominium units.

Mr. Richard Miller, the station area development director for WMATA during the period of Ballston Metro Center's development, has emphasized that the Center's development owes much to the transit agency's land assembly, adaptability, and the attractive financial terms to the developer. Among the actions taken by WMATA staff:

- *Assembly of land:* In 1982, when development was first being considered for Ballston, WMATA owned a 72,118-sq.-ft. site. An RFP by WMATA in 1982 brought no proposals, and follow-up interviews with the area's developers indicated that the site was only marginally viable as a stand-alone parcel. WMATA then granted the owner of the adjacent 31,414-sq.-ft. site exclusive negotiating rights for the combined properties on the condition that the owner present an acceptable developer for a combined mixed-use project. By late 1984, the Ballston Metro Limited Partnership was formed, and the properties were combined.
- *Adaptability in using a sole source contract:* The agency heretofore had utilized a competitive proposal process for joint development. In this project, the agency agreed to do a sole-source agreement with the Ballston Metro Limited Partnership.
- *Equity participation in the condominium sales:* The agency previously had collected rent payments on land leases. For Ballston Metro Center, though, it became clear that the condominium units would be more marketable if the building was located on fee simple land. The agency agreed to a percentage share of gross proceeds from the condominium sales, and sold 15,000 sq. ft. of land to accommodate the condominiums as well as a hotel.
- *Delay of rent during the development period:* WMATA received only minimal rent payments during development. Subsequently, WMATA received a fixed-sum minimum guaranteed rent, which increased in hundred-thousand dollar increments over a period of three years.

3. Grand Central Apartments (BART, El Cerrito Del Norte Station)

In June 1992, the BART board approved an RFP for development on a 2.7-acre surface parking site owned by BART next to the El Cerrito Del Norte station.

Several developers responded, and in February 1993, the board approved the selection of local developer Charles Oewel (Oewel Partners of Mill Valley). Oewel's proposal, Figure 2-3, includes 210

Entrance to the Station Platform

Ballston Metro Center

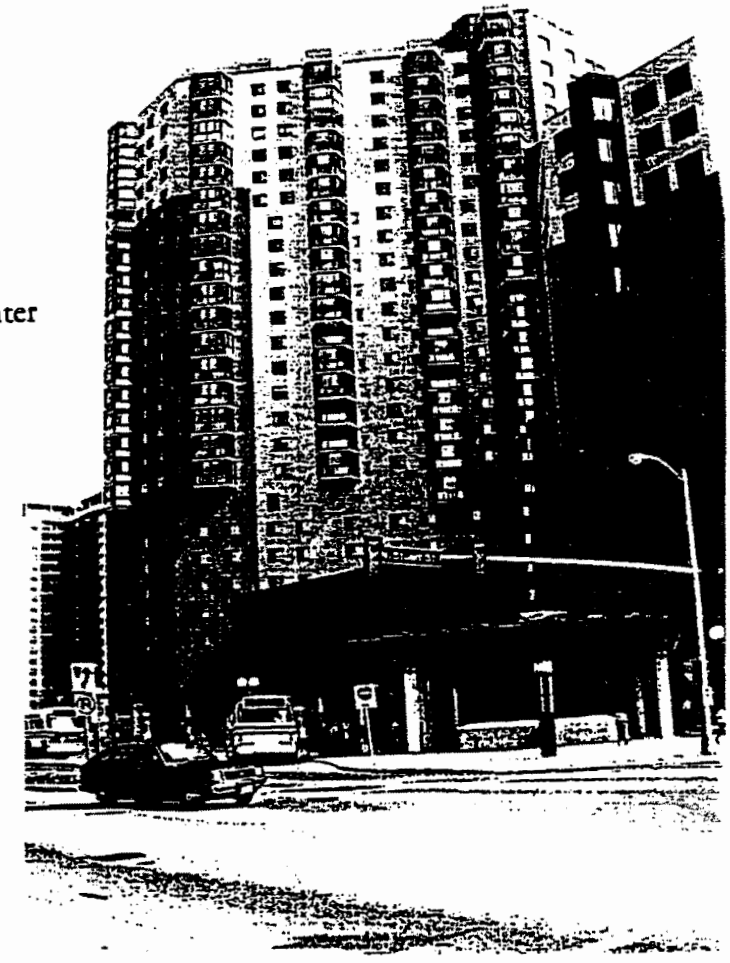


Figure 2-2
Ballston Metro Center
(Washington, D.C., Ballston Station)

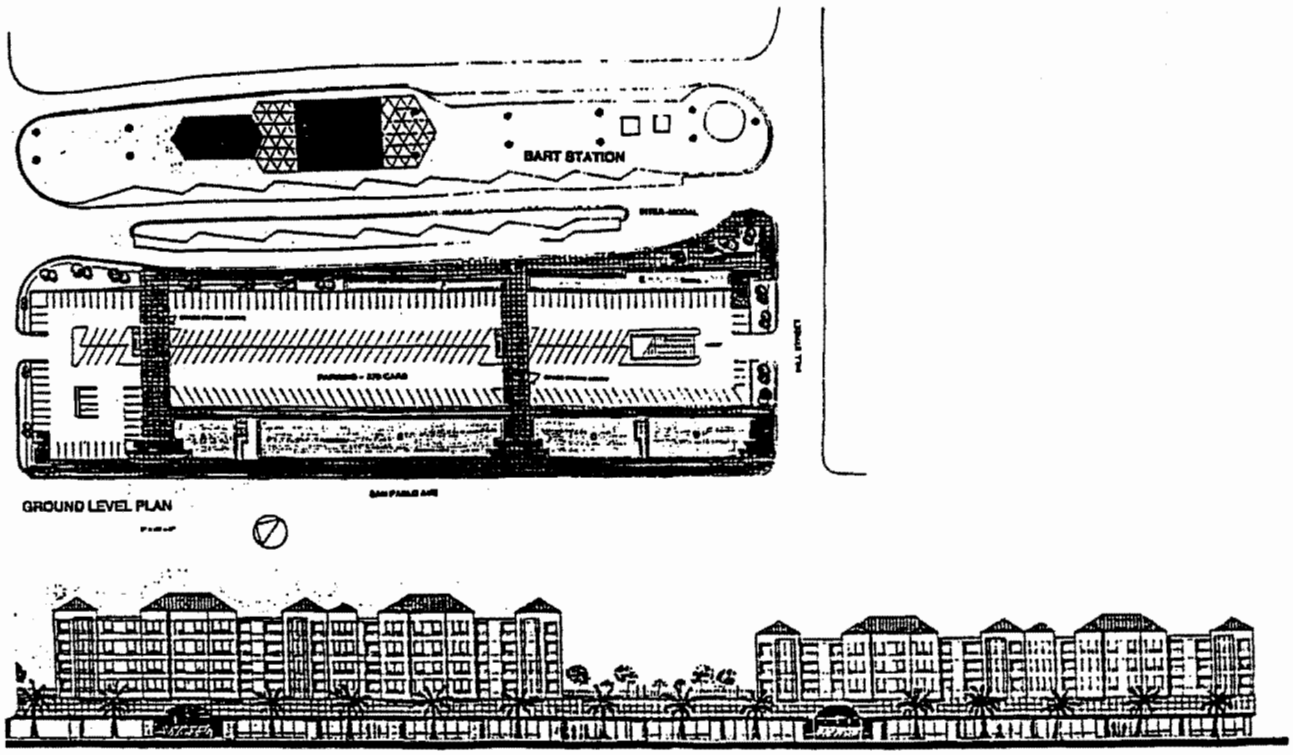


Figure 2-3
Grand Central Apartments
(San Francisco Bay Area, El Cerrito)

residential units and above ground-floor shops totaling 26,750 sq. ft. of retail with 680 parking spaces (320 replacement spaces for BART riders, 281 residential spaces, and 79 retail spaces).

Although BART joint development policy requires replacement parking on a one-to-one basis, BART will not be charging the developer the $2.35 million tab for this replacement. Instead, BART has negotiated with the City of El Cerrito Redevelopment agency to use tax-increment financing to pay for replacement parking.

The 99-year ground lease delays rent payments until occupancy. BART is charging a base ground rent of $165,000 per year, with increases pegged at periodic revaluations of the project. If, as the transit agency hopes, the value of the project increases due to station proximity, the agency will participate in this increase. Further, the agency has been aggressive in helping Oewel secure government-backed financing from the U.S. Department of Housing and Urban Development.

4. TryMax Apartments (Portland LR, 165th & Burnside Station)

The Tri-County Metropolitan Transportation District of Oregon (Tri-Met), the operator of the Portland-area light rail system, has perhaps been more committed to transit-based development than any other rail transit agency in the U.S. Over the past ten years, Tri-Met has paid for station area plans for Banfield, 102nd/Burnside, and 18th & Morrison, and is currently planning for the Westside station area. All are aimed at concentrating development, particularly housing, at the transit stations. Further, Tri-Met has participated in several regional land use plans aimed at concentrating housing at transit stations and preventing housing sprawl throughout the region.

Nevertheless, none of this planning so far has led to new development. Instead, the development that has been achieved has been through micro-infill initiated by Mr. Phil Whitmore, the joint development manager of Tri-Met. Whitmore's strategy has been to leverage small parcels of land owned by Tri-Met near stations. These parcels, usually an acre or less in size, by themselves offer no opportunity for development. Yet combined with one or more surrounding parcels, they can support a modest multi-family complex, which in turn might stimulate additional development.

Whitmore's first completed project was the 42-unit TryMax Apartments, located adjacent to the 165th and East Burnside station. Tri-Met owned three small parcels, totaling less than one acre. Tri-Met might have disposed of the property as excess. Instead, beginning in 1989, Whitmore met with a local builder of houses, Michael Monahan & Associates, to consider linking these non-developable parcels with adjacent parcels for a buildable site.

Over the next two years, Tri-Met worked with Monahan as Monahan acquired three additional parcels, totaling nearly one acre. Combined with the Tri-Met property, the result was a 1.7-acre site, configured to make development possible. Tri-Met, with FTA approval, then sold its land to Monahan at the appraised market value.

In 1992, the 42-unit TryMax Apartments, shown in Figure 2-4, were completed on the 1.7-acre site. Reflecting on the development in a report to Tri-Met directors in May 1992, Whitmore noted that the 165th & East Burnside project "did not have lofty architectural standards nor did it attempt to demonstrate the kind of housing developments unique to transit," although it did meet the goals of fitting within the corridor and being economically feasible. Whitmore cited as key factors the agency's willingness to work with the developer in obtaining local permits, in holding its property while the developer could obtain the additional parcels (the agency even absorbed the carrying costs on a portion of the land), and in staying with the project even after the developer initially was unable to obtain financing in August 1991.

III. Residential Developments that have not Moved Forward

Though the previous five years have seen more residential projects being developed on transit district land than ever before, the list of residential developments planned on district land that have not moved forward is also considerable. A look at these projects indicates similar themes: neighborhood opposition to higher densities, the collapsed real estate market in the late 1980s, and the difficulty of obtaining financing even for multi-family residential projects near rail.

These obstacles were present in several of the projects set out in Chart 2-2, some of which have been delayed since the late 1980s. In particular, along the New York Metro-North line, two major developments at Harrison and Port Chester have been held up due to lack of financing. On the BART line, development has been held up at Hayward for several years, due to lack of financing for a proposed multi-family project, and because in early 1993 the Hayward-based Felson Builders withdrew a residential plan adjacent to the station.

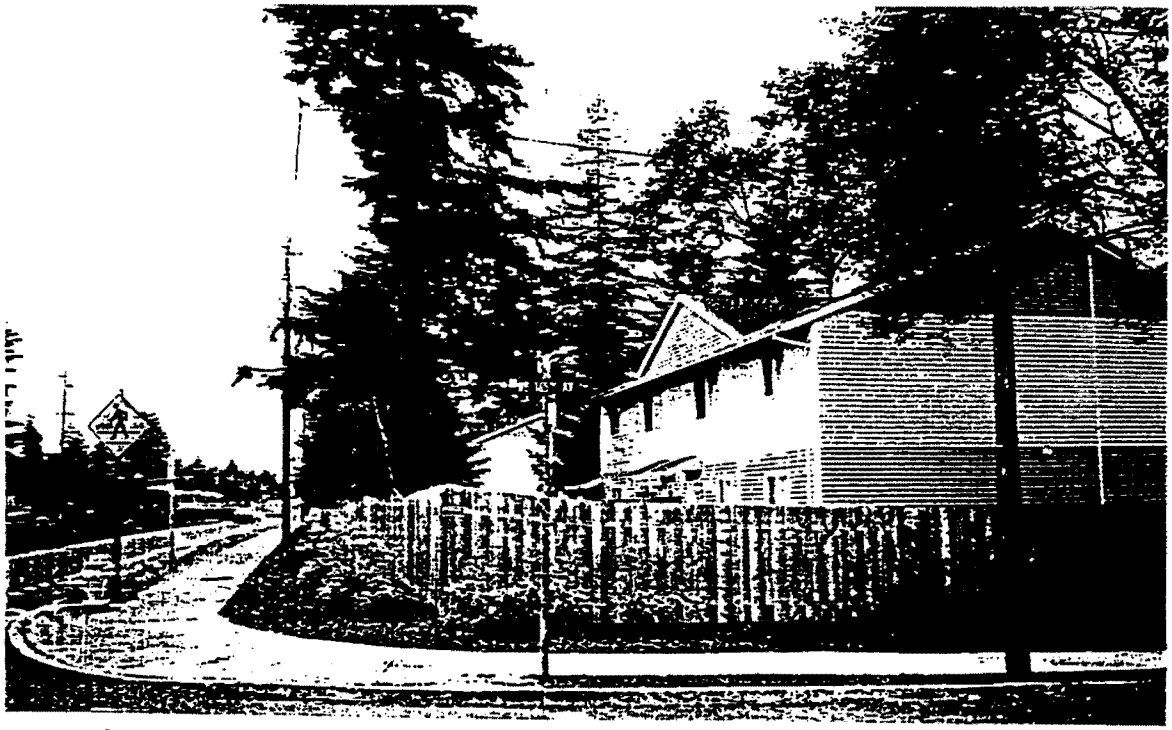
Among other developments that have not moved forward on transit-agency land:

1. New York MTA (Long Island RR)/Kew Gardens: The third of the three stations identified by MTA consultants in 1987 as very promising for joint development, Kew Gardens was slated by 1992 for 200 residential units and parking spaces built on a platform over the Long Island Railroad tracks. By 1993, however, the project was announced dead, due to strong neighborhood opposition. "A density of that kind would change the long-standing village-like atmosphere at the heart of Kew Gardens and would remove one more oasis in the city that keeps the middle class here," said Murray Berger, president of the Kew Gardens Civic Association, a homeowner group.

2. New York MTA (Caemmerer West Side Yards): In the mid-1980s, this was the nation's premier transit district land mega-project, on a seven-block area owned by the New York MTA between 10th Avenue and the Hudson River, west of 30th Street.

The project collapsed with the collapse of the real estate in New York City in the late 1980s. There is no expectation of revival soon, although the New York Governor recently proposed this site as a new Yankee Stadium site.

Residences are located adjacent to the MAX



A view of the pedestrian environment

Figure 2-4
TryMax Apartments
(Portland, 16th & Burnside Station)

3. **Chicago CTA (Howard Station):** Beginning in 1988, a mixed-use development was proposed on the 350-space parking lot adjacent to this station. The development included a major shopping center, a movie complex, 500 replacement parking spaces, and over 200 residential units. The development lingered for several years, and was finally abandoned in June of this year. The neighborhood supported the project, but the developer was unable to obtain financing.

4. **Portland (162nd & Burnside):** Beginning in 1982, a number of attempts were made by the Corporation for Transit Investment, a non-profit development group, to develop a multi-family housing complex on four acres adjacent to this station. The project finally collapsed after several years, when state housing funds were withdrawn and no adequate conventional financing could be found.

IV. Conclusion

The small number of residential projects actually completed on transit agency land in the past five years indicates the obstacles to this development. Projects have moved forward mainly when the transit agency has been aggressive in assembling land parcels and/or providing financial incentives, either directly or through the local redevelopment agency.

CHAPTER THREE:

DEVELOPMENT ON LAND ADJACENT TO TRANSIT STATIONS

Introduction

Mr. Will Fleissig has been in land development for the past 15 years: as an official in the city government of Denver, as a land consultant in Los Angeles and a UCLA faculty member, and now as a developer with the Martin-Devcon development group in San Jose/San Francisco.

Fleissig's development work is currently focused on sites in California near rail transit stations. The reason: "There is a growing market at California rail stations for singles, marrieds-without-children, and empty nesters. These people may want to use their cars to go up to Tahoe on the weekend, but use transit during the week, and find transit proximity a plus."

Fleissig's first project is Winfield Hill, located a few blocks from the Santa Clara light rail station Almaden, and near another transit-based housing development on the transit district park-and-ride, Almaden Lake Village. Winfield Hill is a mix of 84 ownership units and 144 rental units.

Winfield Hill is one of an increasing number of residential developments being built proximate to transit stations. The transit proximity varies among these projects as a factor in development; in some projects, rail transit proximity is the major factor, in others, the transit proximity plays a more minor role. In all of these projects, however, the developers consciously sought to link with transit, either though walking or shuttle. In about a third of these developments, the transit agency or local redevelopment agency provided financial assistance to encourage the transit-housing link.

I. Residential Developments Proximate to Transit Stations

Chart 3-1 indicates major residential projects developed in the past five years on non-transit agency land in order to tie into a rail transit station. Nearly all of these projects are within a one-quarter-mile radius of a station, meant to be accessible through walking. A few (such as Lennox Gables in Atlanta, River Oaks in Santa Clara) are farther out, but linked to the station by regular shuttle service.

These projects differ considerably in densities and designs among the East Coast and West Coast systems. Among the West Coast systems outside of the downtown areas, the major residential projects are primarily three to four stories in height, and between 20 and 70 units per acre. Along the BART system, the residential developments range in density from 30 units per acre at Del Norte Place to 43 units per acre at Park Regency. The only high-rise residential projects surrounding transit stations are in the downtowns of Los Angeles, Long Beach, San Diego, San Francisco, Oakland, and San Jose.

The situation is different among East Coast systems. Surrounding a number of non-downtown East Coast rail stations are high-rise residential developments. Lincoln Towers at Ballston station in Washington, D.C., is two towers of 22 stories each, and nearby are other high-rise projects: the 509-unit

Chart 3-1

Major Rail Transit-Based Residential Projects (1988-1993)

Rail System	Project : Station	Year Built	# Units
Portland	Rockwood Station : Rockwood/188th	1989	195
Portland	Windsor Court Apts. : 162nd/Burnside	1989	76
Washington, D.C.	Bethesda Place : Bethesda	1990	100
Washington, D.C.	Hampden Square : Bethesda	1988	37
Washington, D.C.	The Wisconsin : White Flint	1992	203
Washington, D.C.	White Flint Apts. : White Flint	1994	200
Washington, D.C.	Grosvenor Tower : Grosvenor	1988	274
Washington, D.C.	Grosvenor House : Grosvenor	1987	402
Washington, D.C.	Lincoln Towers : Ballston	1992	714
Washington, D.C.	Randolph Towers : Ballston	1985	509
Washington, D.C.	Chase : Ballston	1990	344
Washington, D.C.	Ballston Place : Ballston	1989	232
Washington, D.C.	Summerwalk : Ballston	1987	172
Washington, D.C.	Quincy Street : Ballston	1990	222
Atlanta	Club Tower : Arts Center	1990	434
Atlanta	Mayfair Apts. : Arts Center	1991	323
Atlanta	GLG Tower : Arts Center	1991	129
Atlanta	The Oaks at Buckhead : Lenox	1991	217
Atlanta	Grandview : Lenox	1990	226
Atlanta	Lenox Gables : Lenox	1991	336
Miami	Biscayne View : Overton/Arena	1990	463
Miami	Arena Towers : Overton/Arena	1989	356
San Francisco	Park Regency : Pleasant Hill	1992	892
San Francisco	Treat Commons : Pleasant Hill	1988	510
San Francisco	Mission Wells : Fremont	1991	392
San Francisco	Del Norte Place : El Cerrito del Norte	1992	135
San Francisco	Veranda : Union City	1989	360
San Francisco	Bay Landing : Pleasant Hill	1988	282
Santa Clara LR	Winfield Hill : Almaden	1994	228
Santa Clara LR	River Oaks : River Oaks	1991	1,214
Santa Clara LR	Ryland Mews : Empire	1993	33
			132
Santa Clara LR	Fior Di Monte : Oakridge	1994	282
LA Red Line	Grand Central Market : 4th & Hill	1995	120
LA Blue Line	Bellamar : 5th & Pacific	1990	160
San Diego	La Mesa Village Plaza : La Mesa Blvd.	1991	95
San Diego	Villages of La Mesa : La Mesa-Amaya	1989	384
San Diego	Mercado : Barrio Logan	1994	144
Sacramento	Windsor Ridge :	1988	112
Boston	Gateway : Malden Center	1989	203
Boston	Tent City : Copley Square	1988	271

Source : UC Berkeley National Transit Access Center, Survey of Transit-Based Development, 1993.

Randolph Towers, the 344-unit Chase at Ballston, and the 232-unit Ballston Place. In Atlanta, the Grandview Apartments at Lenox Station is 36 stories, while GLG Tower at Arts Center is a 51-story tower with a hotel, office space, and 129 residential units.

It should be noted that none of these residential developments in either the East or West Coast bears design that marks it as distinctively linked to transit. In a 1992 design symposium for Northern California transit-based housing, Bay Area architect Ms. Susan Colliver raised the idea of housing near transit with a transit signature. For example, Ms. Colliver noted, the distinctive sleek, stub-nosed BART trains, might give rise to housing complexes at BART stations with a similar distinctive, futuristic look. The proposal, though, was not accepted by other Bay Area architects, who argued that consumers did not want such distinctive design, and would not pay for it. None of the residential developments near BART stations —or residential developments near stations nationwide— bears a transit signature.

II. Transit Agency/Public Agency Roles in Development

Nearly all of the transit-based projects have benefited from general policies in their jurisdictions favoring residential development at rail stations. The Portland region has established policies providing density bonuses for development at rail stations, as have Arlington County and Montgomery County in the Washington, D.C., area, Contra Costa County in the San Francisco Bay Area, and the cities of San Jose and San Diego in California.

Rockwood Station Apartments in Portland, for example, received no direct assistance from Tri-Met. However, the developer, Mr. David Hunt, the former director of the Portland Development Commission, was able to obtain the higher density of 31 units per acre due to the transit housing policies of the Portland region. Similarly, the residential developments at Ballston, such as Chase, Ballston Place, and Summerwalk, all were able to obtain densities due to Arlington County's concentration of residential development at transit stations.

Beyond benefiting from local policies favoring residential densification at stations, these residential developments have benefited from other specific efforts and incentives utilized by the transit district and/or local government, as set out in Chart 3-2.

III. Project Illustrations

These transit agency/local government roles are illustrated in greater detail in the following six project summaries. Two of the projects— Lincoln Towers in Washington, D.C., and Mayfair Apartments in Atlanta —benefited from the greater densities allowed by their jurisdictions for development near the transit station. The other four projects— Del Norte Place in the San Francisco Bay Area, Villages of La Mesa and La Mesa Village Plaza in San Diego, Winfield Hill in San Jose, and Grand Central Market in Los Angeles —all benefited from additional financial incentives for the proximity to transit.

Chart 3-2

Transit Agency Roles in Residential Developments Built Proximate to Transit Stations

1. **The commissioning of station area plans that set the framework for development, and provide assurance of a critical mass of development.**
2. **Regular shuttle access from the most distant parts of the large-scale development to the station.**
3. **Reduced parking requirements and/or local fees.**
4. **Assembling of land by the transit agency or local redevelopment district.**
5. **Financial incentives in reduced costs of land through the local redevelopment district, in paying for costs of infrastructure through tax increment financing, in reducing financing costs through tax exempt financing, and even in participating as an equity partner in the development.**
6. **Financial incentives through serving as a guarantor of loans made to the developer.**

Source: UC Berkeley NTRAC, Survey of Transit Development, 1993.

1. Del Norte Place (San Francisco BART): As shown on Figure 3-1, Del Norte Place is a 135-unit apartment complex, less than 100 yards from the BART tracks and a block from the BART station. Del Norte Place features three levels of residential space above 19,000 square feet of ground floor retail.

Del Norte Place represents a conscious attempt to find a location near a BART station. Del Norte Place is built on land owned by the El Cerrito Redevelopment Agency. When the redevelopment agency sought proposals for development, John Stewart, the San Francisco-based lead developer of Del Norte Place, put in an aggressive bid, actively seeking a site near a transit station. As Stewart later told the *New York Times*: Bay Area traffic gridlock will only get worse in coming years, the cost of driving will only increase, and living near BART will only become more attractive.

The main government participation came for Del Norte Place through the El Cerrito Redevelopment Agency. The Agency serves as an equity partner in Del Norte Place, leasing the land to Del Norte Place for $1 per year and 15-20 percent of cash flow. The Agency also underwrote nearly $10 million of the $14 million in infrastructure improvements, through the use of tax increment financing.

Del Norte Place has leased rapidly. It opened in July 1992; by the end of May 1993, 97 percent of its apartments were rented. Most of the first tenants are singles or married couples without children commuting to work in downtown San Francisco or Oakland, students at the nearby University of California at Berkeley, or empty nesters. Only 17 percent of Del Norte Place's households include children; 56 percent of the households are singles.

Figure 3-1
Del Norte Place
(S.F. Bay Area, El Cerrito Station)

Possible noise from BART trains was an early concern for the developers. According to John Stewart, however, the only complaints concerning noise have been about trucks on nearby San Pablo Boulevard: "The proximity to BART so far has had no negatives of noise or security."

2. La Mesa Village Plaza/Villages of La Mesa (San Diego): As shown on Figure 3-2, La Mesa Village Plaza is a mixed-use project of residential, retail, and office space. Ground-floor retail and office is topped by three stories of residential. Ninety-five residential units are spread over 5.4 acres for a density of slightly more than 17 units per acre. The project was built in 1990-1991 by a local San Diego firm, the Commonwealth Companies.

Like Del Norte Place, La Mesa Village Plaza was a conscious attempt by the local redevelopment agency and transit agency to link housing to a transit station. The redevelopment agency owned 5.4 acres adjacent to the station, and issued a number of RFPs in the late 1980s, seeking to link development to the station. When several proposed projects fell through due to lack of financing, the agency significantly discounted the land costs, and significantly reduced the money required up front. La Mesa Village Plaza paid a very small amount of money up front ($150,000), and the agency carried a note for payment over time. Further, the transit agency, MTDB, spent money to improve the station design, to be compatible with the Plaza.

For Villages of La Mesa, as shown on Figure 3-3, the La Mesa Redevelopment Agency also played a major role. The redevelopment agency assembled the 19 acres on which the 384 units were built, at a density of slightly over 20 units per acre—above the average residential density in La Mesa of 6.2 units per acre. The agency then sold the land to the developer, the local Douglas Allred Company. Once the Villages was designed, the MTDB relocated the station site, and swapped land with the developer, to ensure better station access for residents and others walking to the station.

3. Lincoln Towers, Washington, D.C.: Lincoln Towers, 714 residential units as shown on Figure 3-4, was completed in early 1992. It is two towers of 22 stories each with 13,500 square feet of ground floor retail.

Lincoln Property Company is the developer, and it actively sought out Ballston. No extra government incentives were utilized or offered, but the project did benefit in moving forward rapidly from Arlington County's zoning and policy in favor of density near rail.

4. Mayfair Apartments: Atlanta: The 30-story first tower of this envisioned two-tower project (Figure 3-5) was completed in 1991. The 323 residential units are on slightly more than two acres for a density of over 125 units per acre.

The developer, Laing Properties, a wholly owned American subsidiary of a British company, actively searched for sites in the Midtown/Arts Center area that were within 3-4 blocks of a MARTA station. Mayfair is four blocks from the Arts Center Station. The developer believes that having MARTA nearby is important to Mayfair tenants (whether or not they actually patronize MARTA), and therefore to the project's financial success.

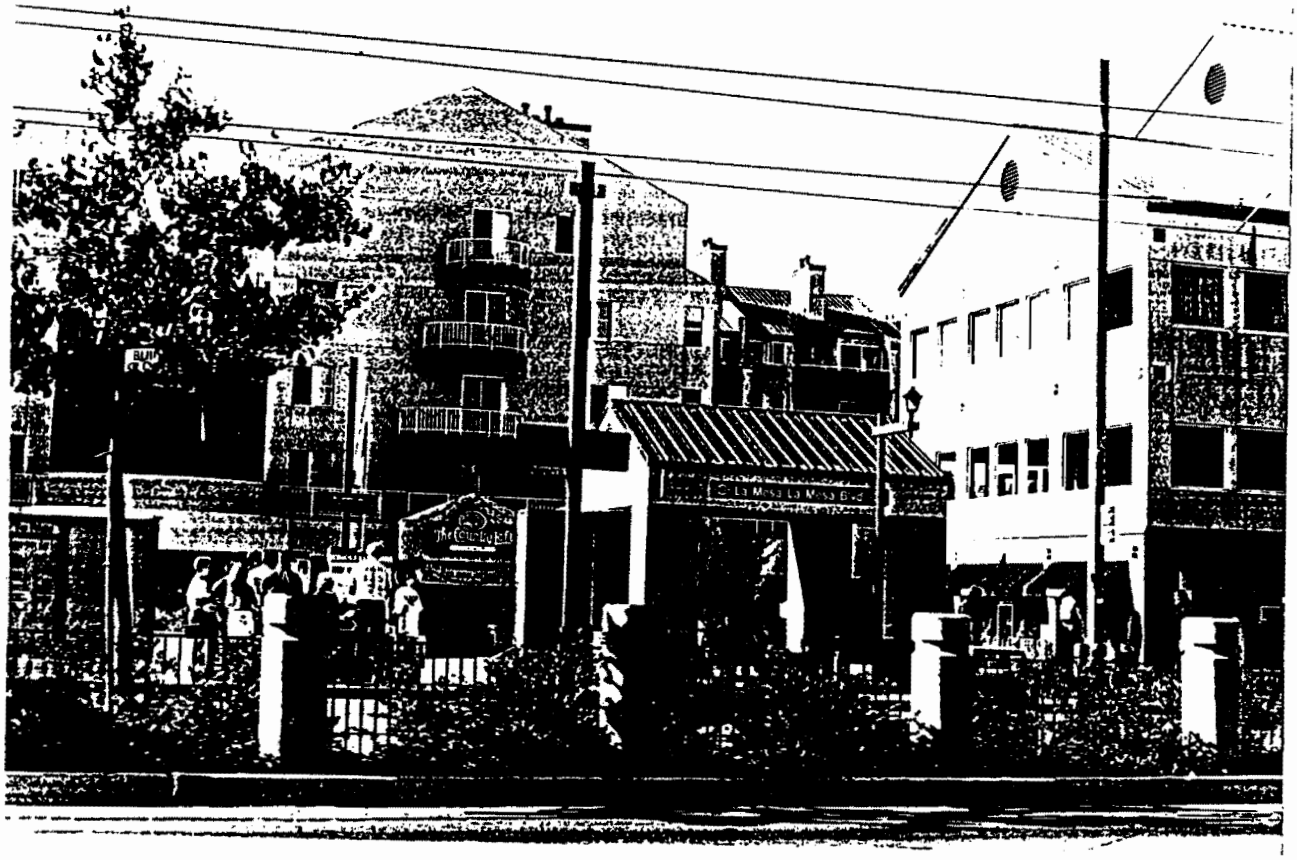


Figure 3-2
La Mesa Village
(San Diego, La Mesa Station)

Figure 3-3
Villages of La Mesa
(San Diego)

Lincoln Towers

Randolph Towers

Figure 3-4
Lincoln Towers
Washington, D.C.,

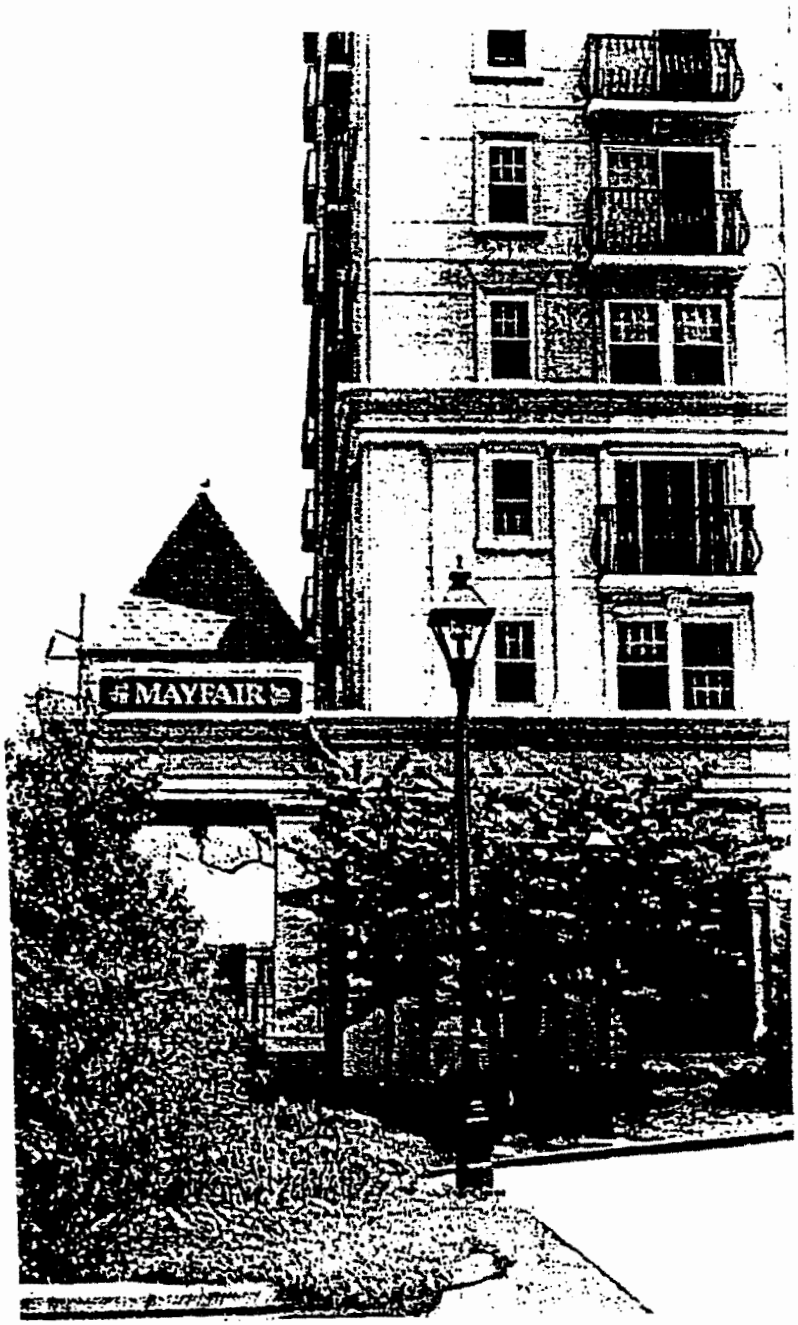


Figure 3-5
Mayfair Towers
(Atlanta, Arts Center Station)

The project received no special government incentives beyond the favorable density permitted near a rail station.

5. Winfield Hill, Santa Clara: Winfield Hill is a 248-unit project (Figure 3-6), a mix of 84 ownership units and 144 rental units, at 20 units per acre. As noted above, the developer, Mr. Will Fleissig of the Martin Group/Devcon Investments, sought out a site near the transit station.

Winfield Hill was made possible primarily through the city of San Jose's financial incentives to promote housing near transit. Winfield Hill's placement near the Almaden station gave it priority in the city's housing fund. The city subsidized more than 25 percent low- and moderate-income units (for families with incomes between $18,000 and $35,000 per year), through a $8.5 million loan, fully subordinated to the construction loan. Additionally, the city provided $2.6 million to assist moderate income homebuyers.

6. Grand Central Market, Los Angeles: This is a 120-1,500-unit residential project planned adjacent to the existing 4th and Hill Station in downtown Los Angeles. The project is not on transit agency land, but the transit agency is serving as a guarantor on $2.8 million in loans made to the developer.

IV. Conclusion

The transit agency roles in major residential developments on land adjacent to transit stations have been less than agency roles in residential developments on transit land, but still significant. One third of the developments received financial incentives from the transit agency or local redevelopment agency.

Nearly all benefitted from a regional planning focus on concentrating development at transit, and the counties with sharpest focus—Arlington County, Virginia; Montgomery County, Maryland; Contra Costa County, California; and San Diego County, California— have shown the greatest number of projects.

Figure 3-7
Winfield Hill
(Santa Clara, Almaden Station)

CHAPTER FOUR:

CONCENTRATIONS OF RESIDENTIAL DEVELOPMENTS AT TRANSIT STATIONS

Introduction

Beyond individual residential developments at transit stations is the concentration of these developments and related retail and services within a one-quarter to one-third-mile radius of the station. The number of rail stations outside of major downtown centers that currently have such concentrations is small. However, transit agencies throughout the country are investing in station area plans for "transit villages."

I. Concentrating Development: Pleasant Hill and Ballston

The Ballston station in Washington, D.C., and the Pleasant Hill station in the San Francisco Bay Area are the two rail station areas (outside of major downtowns) that have the greatest concentration of residential developments. Other station areas today with lesser but still significant residential concentrations (three or more major residential projects), are set out in Chart 4-1. They include the El Cerrito del Norte station in the San Francisco Bay Area; the Arts Center and Lenox stations in Atlanta; the Bethesda and Ballston stations in Washington, D.C.; Almaden station in San Jose; and La Mesa-Amaya station in San Diego.

The Pleasant Hill station-area design started in 1981. Four local agencies — Contra Costa County, BART, the city of Pleasant Hill, and the nearby city of Walnut Creek came together to develop a master plan for 125 acres centered around the station. At the time, the area around the station consisted largely of older, modest single family homes, and strip commercial, on small parcels. The agencies hired the San Francisco planning firm of Sedway Cooke. The specific plan delivered by Sedway Cooke in August 1982 was as follows:

1. The placement of high-rise office development on the land owned by BART immediately adjacent to the station and on surrounding parcels.
2. Farther out, but within a one-third-mile radius, the placement of multi-family housing, tapering to single-family housing by Sedway Cooke.
3. The spreading of retail and public open space throughout the one-third-mile radius, to create an active street life.

A significant part of the Sedway plan was achieved over the next ten years, due mainly to the Contra Costa Redevelopment Agency. The agency assembled the irregular parcels into developable parcels, paid for new public infrastructure and traffic improvements, and issued tax exempt financings.

The current station area, as shown in Figure 4-1, boasts over 1,600 units of housing and 1.5 million square feet of office buildings. Four major residential projects exist along with four major office buildings. The Redevelopment Agency issued an RFP in July for a fifth multi-family residential development on land it owns between the freeway and the station.

Chart 4-1

Rail Transit Stations with Residential Concentrations

Rail System	Station Area	Concentration
Washington, D.C.	Ballston	2,471 new residential units built since 1984 within a one-third-mile radius. Includes also a high-rise office city, 3.7 million square feet of commercial space since 1984.
Washington, D.C.	Bethesda	A mix of high-rise residential, office, and retail. Bethesda Place, one-half block north of the Bethesda Metro stop, includes two towers, an office tower of 11 stories, and a residential tower of 10 stories. Retail space totaling over 66,000 square feet is located in both towers. Nearby Hampden Square consists of two towers: a 12-story office tower and an adjacent 8-story residential tower.
Atlanta	Arts	A series of high-rise residential developments built since 1990: Club Tower, Mayfair Apartments, and GLG Tower.
Atlanta	Lenox	Like Arts, the center of new high rise residential construction: The Oaks at Buckhead, Grandview, and Lenox Gables.
Santa Clara	Almaden	The Santa Clara station outside of downtown with targeted development: Almaden Lake Village on transit district land, and nearby Winfield Hill.
San Diego	La Mesa-Amaya	La Mesa, outside of San Diego, has aggressively directed housing to the station: Villages of La Mesa, Park Grossmont.
San Francisco	Pleasant Hill	Over 1,600 residential units built in this one combination of residential and commercial, as set out below.
San Francisco	El Cerrito del Norte	The 135-Unit Del Norte Place, the emerging 210-Unit Grand Central Apartments, and a planned 90-Unit Condominium project.

Source: UC Berkeley NTRAC, Survey of Transit Development, 1993.

While the station has achieved a concentration of residential and office development envisioned in the Sedway Cooke plan, it has not achieved the pedestrian orientation and street life. No retail shops exist, and the streets largely are empty. Even James Kennedy, the Contra Costa Redevelopment Agency chief responsible for the area's development, recently remarked that the station area "lacks a heart."

Kennedy, along with the BART staff, is seeking to reconfigure the area into one with an active street life, shops, and even perhaps a regional cultural/entertainment complex. An RFP is scheduled in early 1994 for the two BART parking lots, to convert these lots into structured replacement parking and retail uses.

The Ballston station area is shown on Figure 4-2. Prior to the building of the station, Ballston was a low-density suburban area. The future Ballston station was a bus terminal surrounded by surface parking lots and strip commercial.

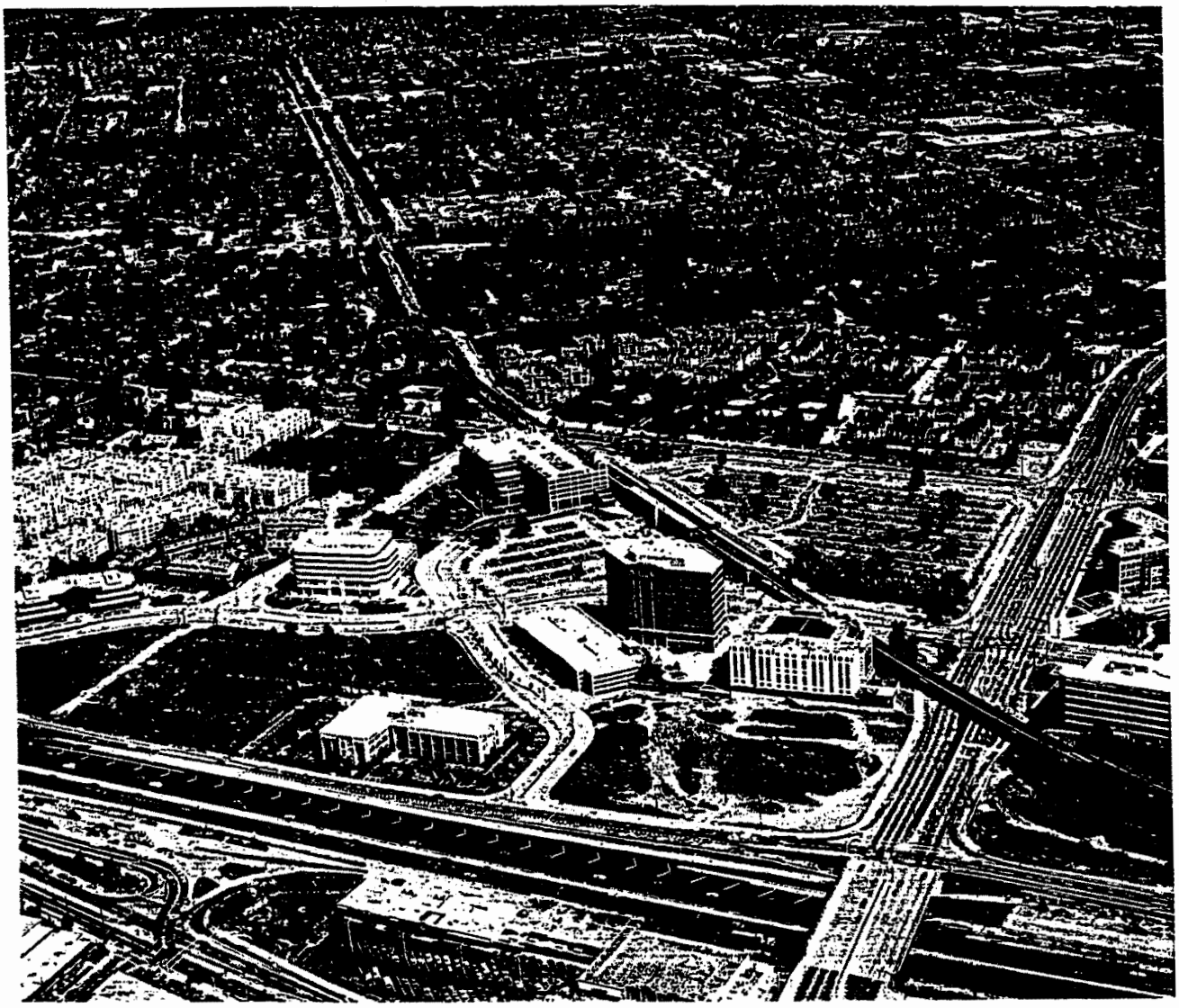


Figure 4-1
Pleasant Hill Station Area
(San Francisco Bay Area)

Figure 4-2
Ballston Station Area
(Washington, D.C.)

Above the station today is Ballston Metro Center, the combination hotel, office complex, and condominium complex. Surrounding it within a one-third-mile radius are 2,471 new residential units, built since 1984, and 3.7 million square feet of commercial space, also new since 1984.

The development of the Ballston station area owes much to the planning polices of Arlington County and its dedication over the past 20 years to concentrate density housing at the rail transit stations. Since the early 1970s, the Arlington Planning Department, the sole planning entity for the area, has placed policies in its General Plan to ensure that any density housing in the County is at the five transit stations: Rosslyn, Courthouse, Clarendon, Virginia Square, and Ballston.

The Arlington County General Plan concentrates residential within a one-third-mile radius of the stations; tapers densities, heights, and uses down to single-family neighborhoods; and provides for a mix of office, retail, and residential at the stations. A number of the stations have specific functions: Rosslyn is a major business center, Courthouse is the local government center, and Virginia Square is the site of George Mason University. Yet, even within these functions, all of the station areas except Virginia Square have some density residential. At Courthouse, for example, there are four high-rise residential projects mixed with the Arlington County government buildings.

But aggressive zoning is not solely responsible for Ballston's growth. Ballston has also benefited from the county's willingness to jump-start commercial growth. The county subsidized a parking garage for Ballston Common (and its main tenant, May Company), the first major commercial/retail development, built on the site of the rundown Parkington shopping mall. The county also set up the Ballston Partnership to market the area as a transit village and seek out tenants.

The marketing, in turn, has been able to tie into the expansion of the federal government and accompanying trade association expansions. The National Science Foundation and the Applied Research Planning Agency are moving to Ballston, as is the National Rural Electric Cooperative Association, with its own headquarters building. Other government agencies at Ballston are the National Pollution Fund Center, the U.S. Army Legal Services Agency, and the Federal Deposit Insurance Corporation.

On the corporate side, Eastman Kodak, ENVIRON, Sedgwick James, and USLICO all have major office space. Site plans, approved by Arlington County, call for an additional 2 million square feet of office/retail space.

On the residential side, the Marriott Corporation recently completed its two 20-story towers, which will be the 325-unit senior Jefferson retirement community. There are more than 1,200 additional residential units on the drawing board.

Mr. Wilfred Owens has followed the transit-based development in Arlington County since the 1960s. In a December 1992 letter on Ballston's growth, he recalled that in 1966 when the decision was made to bring the Orange Line to Arlington, "there was nothing in Ballston, except a few retail stores, one where we went to buy shoes." He continued,

> In 1966, when we knew the Orange Line was coming to Arlington, I spoke at the Committee of 100 dinner about how a public-private partnership would some day transform Clarendon, two stops before Ballston, into an international center. I missed by two stops. Because Ballston did it, and we are still struggling with Clarendon.

As to why it was Ballston rather than Clarendon, Owens cited the combination of Metro "plus the new I-66 interchange plus the May Company agreeing to build a shopping mall, the Ballston Common."

The Ballston station area, like the Pleasant Hill station area, is by no means recognized as a model transit village. The area has greater retail activity than Pleasant Hill, but still lacks significant street traffic or street activity. Yet, like Pleasant Hill, Ballston is not complete. As noted above, ten new residential, commercial, and retail developments have been approved by Arlington County, and are in various stages of pre-construction.

II. System-Wide/Station-Area Residential Plans by Transit Agencies

Although Pleasant Hill and Ballston remain the few transit stations with residential concentrations, transit agencies are investing in system-wide and station-area plans. Chart 4-4 indicates examples of the transit agency planning activity during the past five years, emphasizing residential development at the station.

III. Designs of Residential Concentrations at Transit Stations

Los Angeles

On April 8, 1993, an overflow crowd of more than 300 architects, developers, planners, and city officials gathered in downtown Los Angeles to hear creative ideas for new "transit villages," handsome mixes of housing, shops, and public spaces at stations on the emerging commuter rail, light rail, and heavy rail lines.

The symposium was sponsored by the transit agency, the Los Angeles County Metropolitan Transportation Authority (LACMTA), which due mainly to the urgings of one board member, Mr. Nicholas Patsouras, has in the past four years taken up the issue of station area development. LACMTA— or, more precisely, its predecessors LACTC and SCRTD — funded station-area assessments and/or plans for station areas including Vermont/Sunset, Vermont/Santa Monica, and Hollywood/Western on the heavy rail Red line and several stations on the light rail lines in Pasadena-Los Angeles and Long Beach-Los Angeles. LACMTA also funded a city-wide transportation-land use policy as well as the April symposium.

Earlier in the year, LACMTA staff chose three sites for design: Vermont/Santa Monica on the Red Line heavy rail, Willow Station on the Blue Line light rail, and El Monte station on the MetroLink commuter rail. Design firms were called upon to sketch station-area plans, and to address such issues as the appropriate densities for station-area housing, the mixes of uses, and the ways of phasing in projects.

Chart 4-2

Examples of Planning Efforts by Transit Agencies to Concentrate Residential Developments at Transit Stations (1993)

Rail System	Planning Efforts
Los Angeles	A series of planning efforts to concentrate development at stations: (1) a citywide transportation/land use policy to concentrate residential developments within a one-quarter-mile radius of transit stations; (2) specific station area plans for 12 of the planned stations, particularly in the Vermont corridor, Hollywood, and the Valley; (3) a citywide symposium on designing transit-based housing.
New Jersey	NJ Transit recently completed "Rail Station Area & Transit Planning Handbook" for municipalities to concentrate residential development at transit stations.
Santa Clara	Worked with the city of San Jose in establishing recent transit-oriented development zoning. "High-density" housing (12-40 du) within 2,000-foot radius of existing and planned stations. Aggressive transit-oriented zoning also in nearby Mountain View and Sunnyvale.
New York	A series of planning efforts, including a high-profile specific plan for a new "transit village" at the planned Wasaic station.
Sacramento	"Transit village" competition sponsored for the Butterfield station. Active transit-oriented development zoning, transit agency working with local government.
Portland	Perhaps the most complete planning efforts by the transit agency (and other public entities) to link housing and transit. Since the early 1980s, a series of state, regional, and local mandates to focus growth in bus and rail transit corridors —State of Oregon's Transportation Planning Rule, METRO's Regional Urban Growth Goals and Objectives, the Tri-Met strategic plan, and Portland's Livable City Program. The transit agency, Tri-Met, also has undertaken a series of station area plans, and currently is in a two-year planning effort for the westside stations.

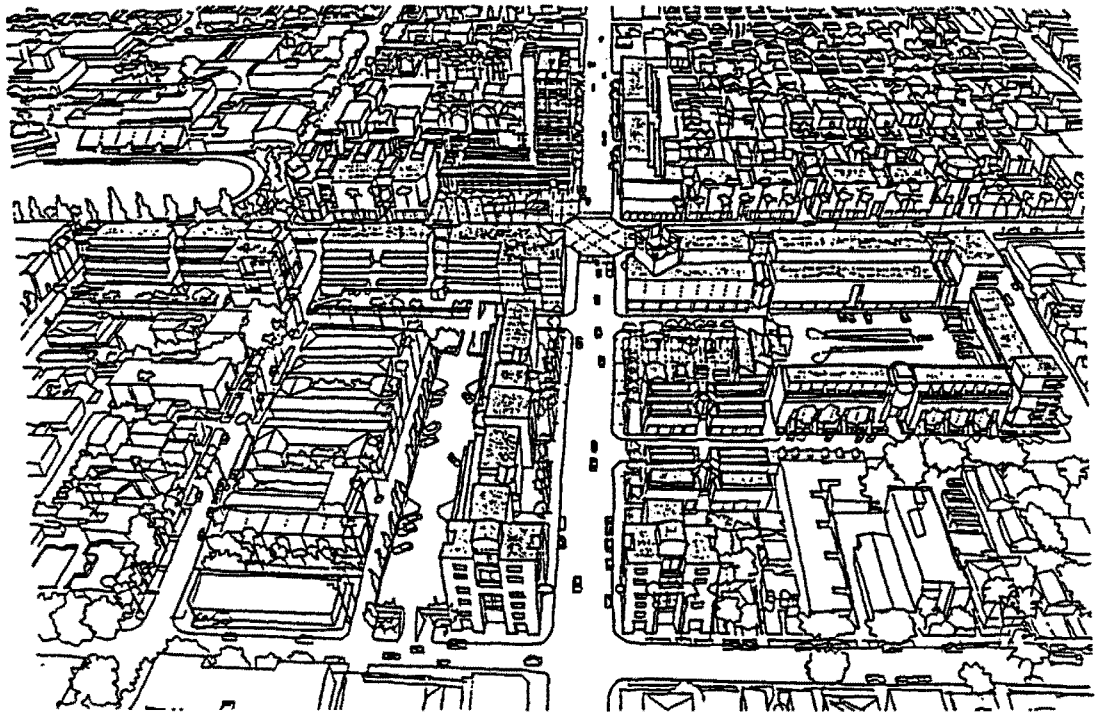
Source: UC Berkeley NTRAC, Survey of Transit-Based Housing, 1993.

Ten firms were chosen to participate, based primarily on experience and interest in transit-based development. Participation meant no significant remuneration (an honorarium of $750) and at least 25 hours of work. Still, nine of the ten firms selected chose to participate, including a number of Los Angeles' leading design firms.

A number of the designs are shown on Figures 4-3, 4-4, and 4-5. Figure 4-3 is the design of the Vermont/Santa Monica heavy rail station-area by the design firm of Barton Myers Associates. The station, scheduled to open in 1998, is down the street from Los Angeles City College and in the middle of one of the most dense immigrant areas of Los Angeles. Average household income is $20,000, and the density is already high by Los Angeles standards at 42.5 persons per acre (compared to 11 persons per acre citywide). The design firms were asked to look at eight development parcels on the four corners of the intersection. Like the other firms designing this site —Koning Eizenberg Architecture and the Los Angeles Community Design Center —Barton Myers Associates designed a mix of uses on these parcels: new affordable and mixed-income housing, public space and preservation of community landmarks, and

Aerial Perspective

The aerial perspective gives a sense of the building massing - the concentration in density closest to the intersection of Santa Monica Boulevard and Vermont Avenue at the station portal. A single tower building marks the plaza at the station portal and the tallest mixed use buildings front on the major streets. Buildings step down in height and density at increasing distance from the intersection to mix with the low rise neighborhoods surrounding the station area.



Development Statistics Table

The following Table quantifies the new development proposed in the site plan. Site numbers 1 through 8 refer to specific development sites proposed by the MTA in the briefing notes for this case study. In total, approximately 765 dwelling units, 200,000 sq. ft. of retail development and 70,000 sq. ft. of office development are proposed in the plan.

	Total Site Area (s.f.)	GFA - New (s.f.)	FAR	Retail Area (s.f.)	Office Area (s.f.)	Community Center Area (s.f.)	Res. Units	UPA	Parking Spaces
SW Quadrant									
Site 1 and Site 2	102,002	255,500	2.5	24,250	19,250		200	85	240
NE Quadrant									
Site 3	242,516	306,800	1.3	64,700	50,000	28,000	160	29	500
SE Quadrant									
Site 4	60,882	127,500	2.1	25,500			100	72	110
Site 5	81,085	124,000	1.5	31,000			100	48	190
Site 6	38,130	112,500	3.0	21,500			85		100
NW Quadrant									
Site 7 and Site 8	79,881	144,500	1.8	29,000			120	67	160
TOTAL	604,496	1,070,800	1.8	195,950	69,250	28,000	765	55	1,300

Figure 4-3
Station Area Design by Barton Myers for Vermont/ Santa Monica Station (Los Angeles)

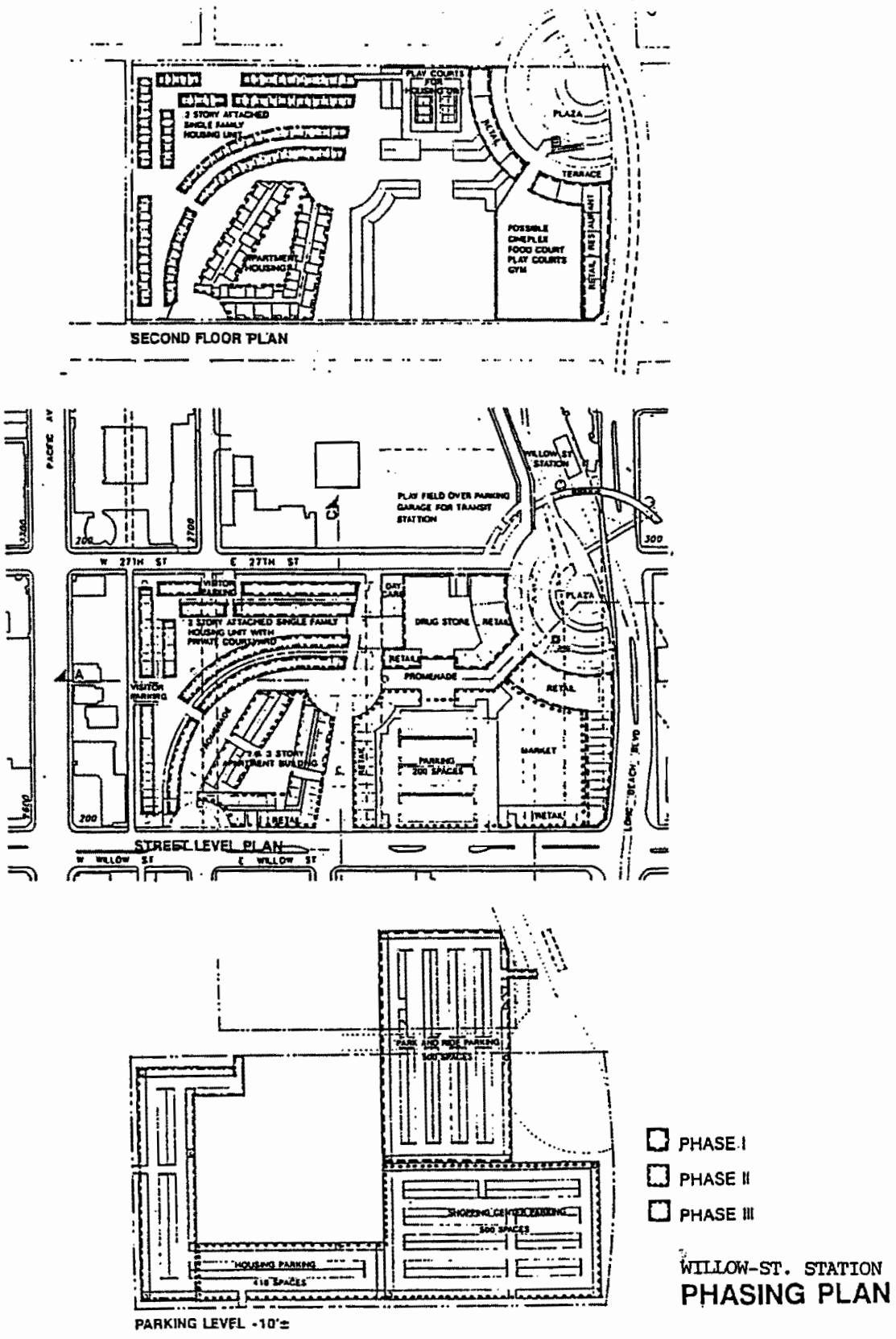
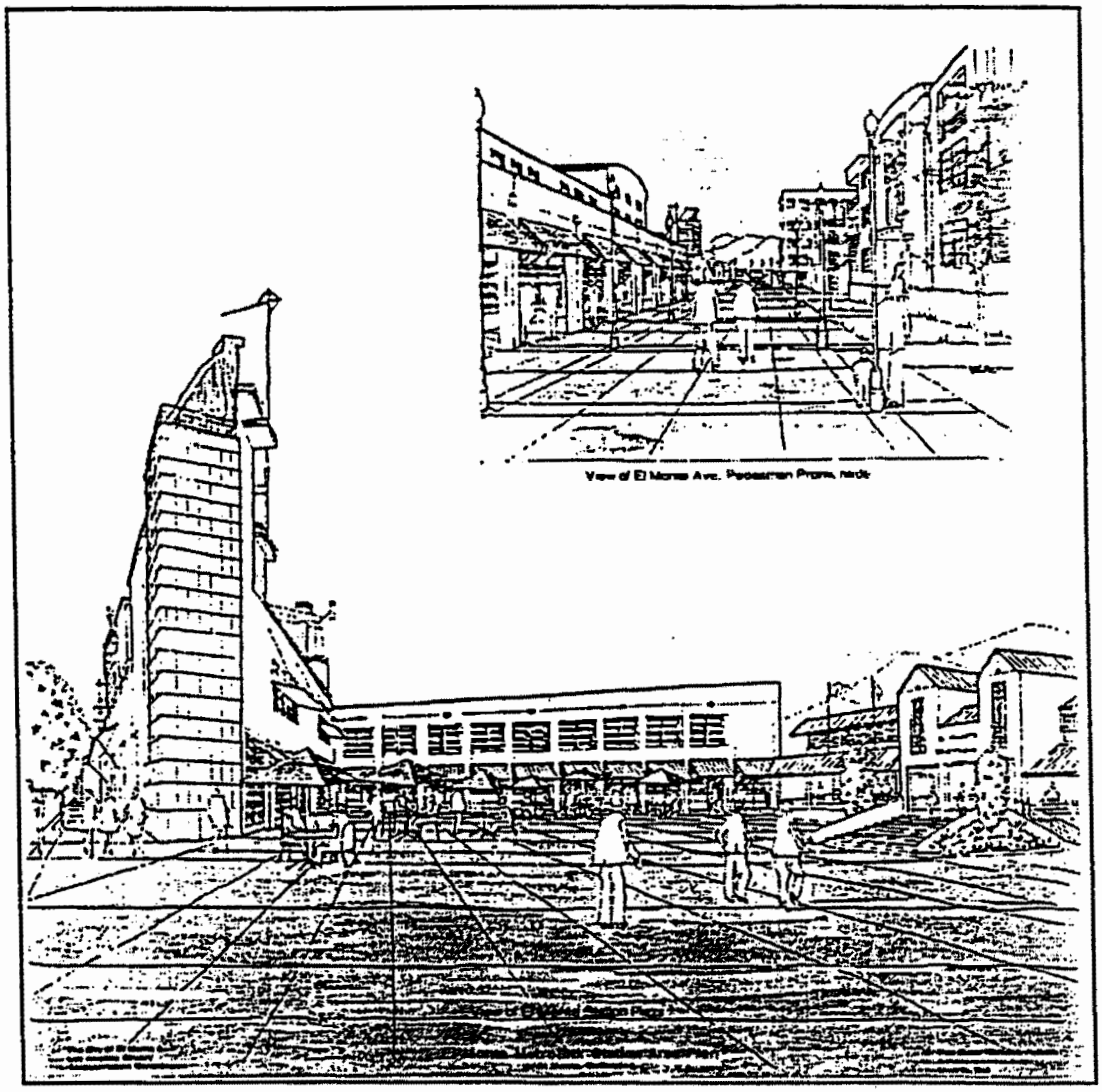


Figure 4-4
Station Area Design by KDG Architects
for Willow Station (Los Angeles)

MTA CASE STUDY
EL MONTE METRO LINK STATION
A TRANSIT ORIENTED COMMUNITY



PEDESTRIAN AND TROLLEY PROMENADE
and
STATION PLAZA

Pedestrian access to the Transit Station must be of a people scale, with arcades, awnings, lighting, stoops and porches and signs which reinforce and celebrate the pedestrian. The walk should be direct and convenient and it should be lined with a variety of activities such as shops and residences for security and convenience. The station design should be a "robust" symbol of transit, and take advantage of the gathering of people, creating a plaza surrounded by a mixture of shops and restaurants which tailor to the transit rider as well as the surrounding neighborhood.

Figure 4-5
Station Area Design by Van Meter Williams Pollack for El Monte Station (Los Angeles)

new neighborhood serving shops. Barton Myers placed the station portal at the intersection of Santa Monica and Vermont as the center of activity, and the design emphasizes easy pedestrian access to and from this station. Barton Myers particularly criticized a recent Los Angeles Department of Transportation decision to widen Vermont Avenue and narrow the sidewalks. Even at a highly-urbanized station, Barton Myers argued that the idea was achievable of a transit village, not disturbed by major thoroughfares.

Figure 4-4 is the station-area design of the Willow Street light rail station in Long Beach by the firm of KDG Architecture & Planning. Willow Station, opened as a station with the opening of the Long Beach-Los Angeles light rail in 1991, is the northernmost point of Long Beach's Redevelopment corridor along Long Beach Boulevard. Currently within the station area are Long Beach Memorial Hospital, Jackie Robinson Elementary School, and several fast food restaurants and a gas station. The Willow Station has been a major park-and-ride station with 235 spaces, and MTA wants to continue to provide at least this amount of parking for commuters.

In describing the Willow Station area, MTA staff noted an opportunity to propose a "transit based community design that integrates commuter parking, neighborhood shopping, and housing." The staff noted several constraints adding to the "complexity and reality of this case study": incomes in the surrounding market area do not permit the neighborhood shopping center to bear unusual costs of real estate typical of mixed use centers in more affluent areas; development of the community shopping center is an immediate objective; the station platform is located in the most remote corner of the site, making a configuration that maximizes accessibility to the station more difficult.

The KDG design includes the housing and retail, and provides for greater public space in a series of plazas and a promenade. A retail village is thus created, including a movie complex.

The housing is primarily two-story apartment units, which have private gardens and a subterranean parking garage. The retail plans include a full-service grocery store, a drug store, and smaller community-serving retail uses. Public plazas are created to link the project with hospital uses to the northeast and the residential community to the south.

Figure 4-5 is the station design of the El Monte commuter rail station by Van Meter Williams Pollack. The El Monte station opened in October 1992, and in March 1993 service was expanded to included midday trains. As the commuter rail, Metrolink, continues to expand into the Inland Empire and feeder transit and shuttle connections are made, the station at El Monte will serve commuters headed into Los Angeles and going to employment centers in San Bernadino County. The station currently is near a low-density residential neighborhood and the Valley Mall town center. Valley Mall is the historic center of El Monte, with buildings dating back to the 1920s and 1930s.

The design teams were presented with seven parcels surrounding the station, identified by the City of El Monte as underutilized commercial sites as well as current surface parking lots. The Van Meter design connects the station to Valley Mall with a variety of shops, offices, and residences. The more than 1,000 new residences range from senior housing to townhomes and single-family homes.

Consistent with its design of transit stations elsewhere, the Van Meter firm provides a striking station plaza. In describing this plaza, Van Meter writes, "The station design should be a 'robust' symbol of transit and take advantage of the gathering of people, creating a plaza surrounded by a mixture of shops and restaurants which tailor to the transit riders as well as the surrounding neighborhood."

Fruitvale (Oakland)

A second transit-based housing symposium was held on May 15, 1993, at Patten College in the Fruitvale district of Oakland. This symposium, arranged by the Spanish-Speaking Unity Council with the transit agency, BART, and funded by the City of Oakland, focused on the middle- and lower-income, heavily hispanic BART Fruitvale station area.

In the 1950s and even up through the 1960s, the Fruitvale and especially its main street, East 14th Street, was a vibrant commercial center. Since the late 1960s, numerous anti-poverty plans have been developed — Clyde Brewster, who has owned a store in Fruitvale for 18 years, commented at the symposium, "You and I and 20 of our friends could retire on the money that has been spent studying this area."

The Spanish-Speaking Unity Council's idea for Fruitvale revitalization departed from previous ideas in seeking to use the transit station as a spur to and center of redevelopment. The transit station was seen as the one way of turning around the area.

In particular, the SSUC thought of development at the station, mixing residential, retail, social services, and a regional cultural center. As with the Los Angeles symposium, in Fruitvale leading architecture and design firms participated, with only a minimal remuneration.

Figure 4-6 is the most favored design at the symposium, designed by the San Francisco-based firm of Heller & Leake. Among its major features are a handsome public plaza in front of the station, and it is surrounded by a branch of the San Francisco-based Mexican museum and a library of Latin American literature.

No parking is lost. The existing surface parking is replaced by a four-level structured parking, placed to the right side of the station, serving to buffer the station area from the BART tracks and any train noise. Additionally, the garage is wrapped by offices of La Clinica de La Raza, so that the nearby housing units do not look into the garage.

The housing is a main component and is built above ground floor retail and spread over the project. The housing, approximately 400 units, is spread from 33rd street to 37th street. This distribution is intended to create a 24-hour-a-day presence, to prevent an empty plaza after business hours, to create a unified neighborhood.

Senior housing is placed along the plaza so that seniors will have activities to either take part in or watch. The National Council on Aging is placed on the ground level of the senior housing. Family-oriented housing is at the south side of the site, with day care on the ground level. The school site is nearby.

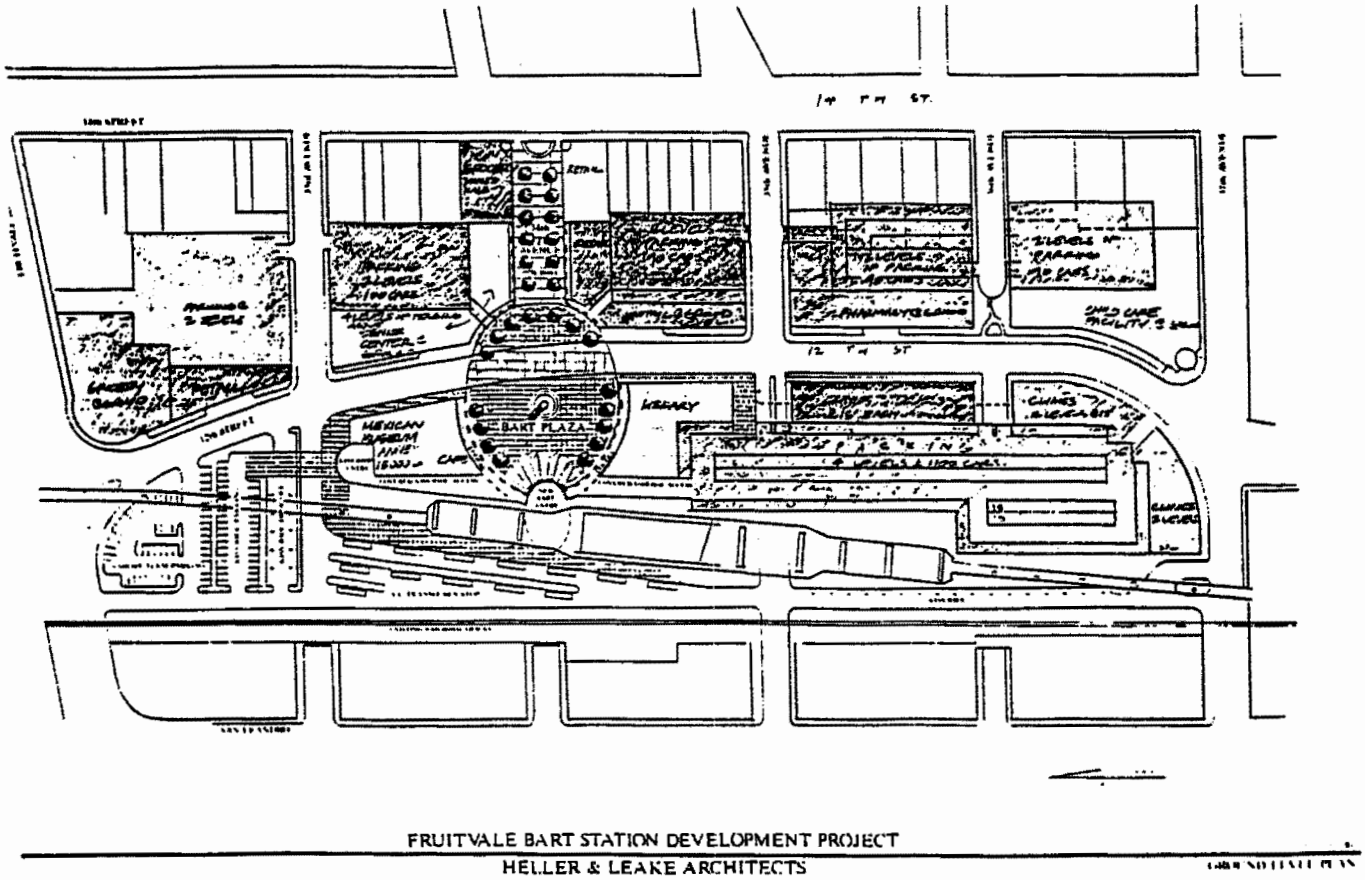


Figure 4-6
Fruitvale Station Area Design by Heller & Leake
(San Francisco Bay Area)

From the designs of residential concentrations at transit stations at several Los Angeles stations and at Fruitvale, there is agreement on several elements:

- Concentration and density of residential development within a one-quarter mile station radius
- Mixed-use development with small shops/possibly a regional entertainment/cultural development
- A pedestrian orientation/easy pedestrian access to the station
- Open space/station area plaza
- Sense of place/identity

These elements come together to maximize the use of the transit line. The combined elements make the housing considerably more attractive to potential residential buyers/renters. The elements also make the station area a potential destination point for visitors.

CHAPTER FIVE:

THE ACHIEVEMENT OF TRANSIT-BASED DEVELOPMENT

I. The Current Situation Summarized

The current state of transit-based development in America might be summarized as follows: a good deal of interest on the part of staff and board members of America's transit agencies, and agency resources and funding allocated for planning efforts. But still a very limited number of residential projects actually built on transit district land or land adjacent to the station.

Among the projects set out in previous chapters that have not gone forward are Kew Gardens, New York; Howard Station, Chicago; El Cerrito Plaza, San Francisco; and 162nd & Burnside, Portland. A number of them have been dropped because of opposition from neighborhood organizations. However, the greater number have been dropped because of inability to obtain financing.

Conversely, a look at the projects that have gone forward indicates that in many of these cases the transit agency has been aggressive in securing the zoning, permitting, and most of all the financial incentives to achieve the project. Transit-based housing has not been immune from the tight financing markets for multi-family residential projects throughout the nation. To achieve projects, transit agencies increasingly have taken active financing roles.

II. Transit Agency Roles

Station-Area Designs

The two rail transit stations in America that have achieved concentrations of residential development —Pleasant Hill on the San Francisco rail line and Ballston on the Washington, D.C., rail line— both were the result of concentrated planning efforts by the county (Contra Costa County for Pleasant Hill, Arlington County for Ballston) and the transit agency. The county played the more major planning role, but the transit agency also was an active participant.

In the case of Pleasant Hill, the transit agency helped fund the station area plan in 1981 that set the framework for development. The transit agency continued to work with the county to coordinate development on its 12 acres with the station area plan. At Ballston, the county undertook the planning effort, but the transit agency developed a central piece of the station-area design, Ballston Metro Center, above its station.

It is important to note that both of these "transit villages" have come about only over a period of years. The specific plan for Pleasant Hill was commissioned in 1981, and both the residential and commercial development began only in the mid-1980s. Ballston has been in planning since the late 1970s, and its development also began in the mid-1980s.

The commissioning of a station-area design at an early stage can help to achieve the concentration of development beyond one or two projects. The design need not be an expensive full-blown specific plan; it can be a less formal station-area design.

What is most important is that the station-area design be adopted at an early stage by the transit agency board and local government, and that the implementation be carefully tracked. In Contra Costa County, the Sedway/Cooke plan for the Pleasant Hill station was adopted in the early 1980s by the transit agency and Contra Costa Board of Supervisors. Just as important, one of the Supervisors, Ms. Sunne McPeak, decided to make Pleasant Hill her "life-work in planning," and continually pushed for implementation, including the financial incentives to make implementation possible. The inertia in local government usually is so strong that only if one or more transit or local government officials monitor and push for results will transit-based development be achieved.

Development on Transit District Land

While the process of a station area plan, adoption, and implementation is one means of transit-based development, a second means is direct multi-family development on transit district land. Such development provides new housing in itself, and also can spur the development of adjacent housing and retail/commercial.

As Chapter 2 indicated, the number of residential developments on transit district land built (or in the process of construction) during the past five years is small (6 developments), as is the number actively in the pipeline (7 developments).

Neighborhood opposition to any density, odd configurations of land, and most especially the inability of developers to obtain financing, have stymied development. With interest rates already low, the tight financing markets can be expected to continue. Transit agencies that want to achieve residential development on transit-agency land in the next few years likely will need to go beyond the issue of adequate zoning to a more pro-active role, including in financing.

An examination of the transit agency roles in the recent residential developments, includes the following roles:

1. The assembly of land to combine transit agency land with adjacent parcels.
2. Amortizing the cost of replacement parking over a period of years, rather than requiring payment in the early years.
3. Attractive lease and sale arrangements, including delaying lease payments during the developmental period or until effective occupancy, participation as an equity partner in condominium sales, subordination of debt and assistance in securing HUD financing and tax exempt financing.

Of particular interest among transit agency actions is the micro-development residential strategies being tried by staff of the Portland light rail transit agency, Tri-Met. Tri-Met joint development manager Mr. Phil Whitmore has experimented in recent years with small, sometimes oddly configured

parcels of land near stations owned by Tri-Met. These parcels, usually an acre or less in size, by themselves offer no opportunity for development. Yet, combined with one or more surrounding parcels, they can support a modest multi-family complex.

Whitmore has only one completed project, the 42-unit TryMax Apartments, located adjacent to the 165th and East Burnside station, and is moving forward on several potential projects, including Gresham Central. His approach, of course, does not require more than a modest investment of resources or assumption of risk by the transit agency, and offers the promise of stimulating additional development proximate to the station.

Development on Land Adjacent to Transit Stations

Transit agencies own relatively little land adjacent to transit stations; the great majority of the land within a one-quarter-mile radius of the transit station is privately owned (or owned by other public entities).

In the past five years, private development has slowly began to concentrate at a limited number of transit stations, such as the Arts Center and Lennox in Atlanta, and Bethesda in Washington, D.C. Developments have gone up without any assistance from the transit system or local government.

Nonetheless, transit agencies have taken actions to stimulate residential development proximate to transit agencies on non-transit agency land. Chief among these actions:

1. Underwriting, in full or part, the commissioning of a station-area design, which can set the framework for proximate development.
2. Regular shuttle access from the most distant parts of a large-scale development to the station.
3. Assembling land by the transit agency or local redevelopment agency.
4. Financial incentives in reduced costs of land through the local redevelopment agency, in paying for costs of infrastructure through tax increment financing, in reducing financing costs through tax exempt financing, and even in participating as an equity partner in the development.

The Federal Transit Administration

The Federal Transit Administration (FTA) largely has kept a hands-off policy over the years on transit-based development, although it has funded several papers on transit-based development designs. Otherwise, FTA has regarded transit-based development as not sufficiently related to the main mission of transporting people, and not of any priority to local rail transit agencies.

As noted above, a number of factors are already giving transit-based development higher priority on the local level among rail transit agencies. Chief among these are the increasing investment in rail transit infrastructure by states and local governments as well as the federal government, the recent findings of high transit-ridership by station proximity, and the heightened air quality regulations. Transit

board and staff are coming to agree with Mr. Phil Whitmore of Portland's Tri-Met that transit-based development is not only environmentally sound, but most basically offers a relatively inexpensive means of increasing ridership.

As the interest in transit-based development among transit agencies increases, the FTA's role will be to aid in the implementation of transit-based development. Recent experiences in transit-based development suggest that to overcome the inertia in all levels of government, an implementation strategy and a timetable is needed. The FTA is working with transit agencies, local governments, other government agencies and the transit public to examine way to implement land use development that is transit based, increasing transit ridership and adding to the livability of a community.

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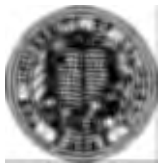

SANTA BARBARA • SANTA CRUZ

INSTITUTE OF URBAN AND REGIONAL DEVELOPMENT

BERKELEY, CALIFORNIA 94720

February 1993

IMPLEMENTING TRANSIT-BASED HOUSING ON SELECTED TRANSIT LINES THROUGHOUT THE UNITED STATES

Summary

Over the next eighteen months, NTRAC proposes to join with FTA in working with the staff and board of three rail transit systems throughout the country to design and implement plans for transit-based development. NTRAC researchers, in concert with local transit district staff, will study current land use surrounding the rail transit stations; identify promising sites for development; develop a strategy for transit-based development in concert with local elected officials, planners, and neighborhood groups; and set out a timetable and implementation path for carrying out the development.

During the subsequent three years, NTRAC researchers will continue to be in contact with the local transit district to ensure implementation.

I. SELECTION OF THREE RAIL TRANSIT SYSTEMS

NTRAC researchers will select three transit systems with which to work in developing transit-based development strategies. The transit systems will be chosen on the basis of interest on the part of system management, and their willingness to invest the system's own resources in the action plan.

The systems chosen will be a mix of heavy rail and light rail, and will represent a mix of geographic regions.

II. INVENTORYING AND ANALYSIS OF LAND USE WITHIN A ONE-THIRD MILE RADIUS OF THE TRANSIT STATIONS

For each of the three systems, NTRAC researchers will begin by working with local transit district staff to inventory current land use within a one-third mile radius of each transit station in the system. The inventory will be done on a parcel by parcel basis, as currently is done by NTRAC for Northern California transit stations, utilizing a data available from County Assessors, land title companies, planning and redevelopment agencies, and other sources.

NTRAC researchers will then analyze current land usage within a one-third mile radius of the transit stations. The analysis will include such variables as: number and size of unused or

underutilized parcels; number of landowners; presence of a redevelopment zone or enterprise zone; local market for residential/commercial/retail; zoning and presence of any specific plan; and neighborhood support/opposition to growth.

From its analysis, NTRAC will identify the station areas most promising for forms of transit-based development.

III. PRELIMINARY ACTION PLAN FOR TRANSIT-BASED DEVELOPMENT

NTRAC researchers will develop a preliminary action plan for transit-based development, including the entire system and emphasizing the station areas most promising for development. The plan will set out:

a. Analysis of the market for housing and the market for mixed use in the station area.
b. Specific parcels that offer opportunity for housing and densities appropriate for these parcels.
c. Incentives available to the local government to spur transit-based development.
d. Incentives available to the transit agency to spur transit-based development.
e. Strategy and timetable for utilizing these incentives to achieve transit-based development.

f. Increased transit ridership and other benefits that can be expected from transit-based development.

IV. REVIEW OF THE PRELIMINARY ACTION PLAN

NTRAC researchers will meet with transit agency staff and with planning and housing staff of local governments to review the preliminary plan, and make revisions.

The University researchers will also meet with local neighborhood organizations to review the preliminary plan, and make revisions.

NTRAC researchers will meet with local elected officials to review the preliminary plan, and make revisions.

V. DEVELOPMENT, PRESENTATION, AND IMPLEMENTATION OF THE ACTION PLAN

Based on the comments from the above-mentioned groups, NTRAC will develop an action plan, and present the plan to board and staff of the transit agency.

NTRAC researchers will work with the staff and board of the transit agency in the implementation of the action plan. NTRAC envisions an initial implementation stage of at least six months following the acceptance of the action plan by the transit agency.

NTRAC expects to continue to work with the transit agency for a longer period of three years, following this FTA project.

OTHER INFORMATION ON THE BERKELEY PROPOSED PROJECT

In February of 1993 we received an outline of a proposal for the continuation of the Berkeley (Bernick) project. Basically, it proposed that NTRAC, through FTA funding, work with the staff and board of three rail transit systems throughout the country to design and implement plans for transit-based development. They would in essence:

I. Select three rail transit systems on the basis of their interest, willingness to invest resources in the action plan, mix of heavy and light rail, and a mix of geographic regions.

II. Inventory and analyze land use within a one-third mile radius of the transit stations. From analysis, NTRAC would identify the station areas most promising for forms of transit-based development.

III> Develop a preliminary action plan for the development, including the entire system .

IV. Review plan with transit agency staff and with planning and housing staff of local governments and make revisions as necessary. This would also include meeting with local neighborhood organizations and local elected officials to review the plans.

V. Develop, present, and implement the Action Plan working with the staff and board of the transit agencies. NTRAC envisions working with the agencies for at least a three year period.

PROJECT DESCRIPTION

Transit-Based Development in the United States: A Review of Recent Experiences and Assessment of Opportunities for Transit Agencies

PROGRAM AREA: Planning and Project Development Program

SPECIAL FOCUS: Planning Program Support

STATUS: New

PROJECT DESCRIPTION: This project will focus on transit-based development around America's heavy rail and light rail transit lines. The project will review rail transit systems and set out the existing transit-based development and plans for future development. A telephone and mail information gathering effort will lay the groundwork for a possible second phase of detailed case studies and a third phase of implementation work with selected transit districts. The ultimate aim is to achieve development, particularly residential development, within a one-quarter mile to one-third mile radius of transit stations that will maximize both transit ridership and pedestrian access to the station.

JUSTIFICATION: ISTEA requires the consideration of land use policies and economic development criteria in making the new start evaluations. However, FTA does not currently have the necessary information to determine how a proposed project may promote economic development, and many MPO's and local government agencies need guidance in this area. The proposed study would be the first phase in developing this information.

POTENTIAL RECIPIENT: Regents of the University of California
Institute of Urban & Regional Development
Berkeley, California 94720

PROJECT FUNDING:

	PRIOR FUNDING	2FY1992 FUNDING	FY 1993 FUNDING	POTENTIAL OUTYEAR COST
Section 26(b)	-0-	-0-	$44,859	$200,000

OBLIGATION MECHANISM: Grant

PROJECT MANAGER: Effie S. Stallsmith

ESTIMATED COMPLETION DATE: July 31, 1993

OBLIGATION DATE:

Other Univ. of California at Berkeley Projects

Ridership Impacts of Transit Sensitive Site Designs and Land Use Patterns

This University of Berkeley, Institute of Urban and Regional Development, project was funded through the University Research and Training Program and monitored by the Office of Grants Management was obligated on September 16, 1992, in the amount of $83,000. The purpose of this project was to develop site design and land use planning guidelines that could be used by transit agencies, local planning offices, and developers across the U.S. in creating more pedestrian-friendly and transit-serviceable built environments. A final report of this project was received in October of 1993.