

Role and Function of Transit in Growth Management: Current Issues in Florida

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This paper explores how transit influences, or fails to influence, growth in Florida and looks at ways to improve the role of transit planning in the growth management process. Needless to say, growth management is a significant concern in Florida. The issues discussed are presented in the context of the Florida experience. The transferability of this work is limited to the extent that some of the issues may not be relevant in areas where growth is not occurring. However, it is hoped that many will find the material instructive and helpful.

Growth management is a significant concern in Florida. Therefore, the purpose of this paper is to explore how transit influences, or fails to influence, growth in Florida and to look at ways to improve the role of transit planning in the growth management process.

Some of the suggestions in the paper are not necessarily new or innovative, and some of the issues discussed may be useful to certain policy makers while others may not be. For some, who have been very close to the transit planning and growth management business, perhaps part of this discussion will be fairly obvious. Hopefully, other items may be of interest. At any rate, in that many policy makers still appear to be confused about what can and cannot be done to control growth effectively, we maintain that the material covered in this paper is fair game, and we hope that many will find the material instructive and helpful.

GROWTH MANAGEMENT COMPONENTS

Growth management means different things to different people. This is one of the issues that was tackled by the research efforts of the authors. Two basic categories of growth management exist. One category may be termed a "land use planning" category. Land use planning, when properly linked to zoning, provides one of the most, if not *the* most, effective types of growth management. This activity set can control two key decisions effectively: the type of land use permitted in an area and the maximum intensity or density of that land use.

A second category of growth management might be called the "development decision" category. This category of growth is market driven, for the most part, and is difficult to control from the public sector. Development decisions revolve around what properties to develop and when they should be developed.

Naturally, these decisions are driven by a variety of market forces. These forces include (a) the retail value of raw land, (b) the market demand for various development products, (c) the labor and material costs required to deliver a product, and (d) the regulatory costs required to prepare the land for development. The public sector enters the game by creating regulatory pricing strategies.

TRANSIT ROLE

One of the primary issues addressed in the research is "What role should transit play in this game?" The term "game" is used here in the "systems theory" context, not in the sense that this is a trivial matter.

The first category of growth management mentioned was the land use planning category. The formulation of transit policy and plans historically has not been viewed as an essential input into the land use planning process in Florida. There are one or two notable exceptions, which will be mentioned later. Compared to the older industrialized cities to our north, Florida cities are young. They grew up around the highway and around the automobile, normally occupied by a mysterious one-and-one-third persons. Old, entrenched transit usage behaviors are not among our more notable characteristics. Compact, high-density land use corridors are not found in Florida. In a word, the behavior and the land use patterns in Florida are not conducive to high transit patronage.

These, of course, are two significant strikes against the idea of doing something highly significant in the transit business in Florida. A transit market must be created alongside a transit system for it to be successful in Florida. The following is a discussion of how this ties in with the state's growth management goals.

IMPORTANT DISTINCTIONS AMONG TRANSIT SYSTEMS

One of the issues addressed in the research concerned the distinction between capital-intensive, fixed-guideway transit and labor-intensive, over-the-road transit services. The distinction between these two categories is essential for the purpose of analyzing the effectiveness of transit in growth management. The need for this distinction is obvious; nevertheless, there appears to be some confusion or blurring of this issue by some policy makers. The error that we see made is simply

this. Some policy makers seem to suggest that transit, in all its forms, can have an effect on growth in the same way that highways influence growth. To most professionals this is obviously an untrue hypothesis. Based on our experience, it is less obvious to some policy makers.

Without belaboring the obvious, let it suffice to say that over-the-road transit services are services and not infrastructure. As such, they do not play the same role as highway, pipeline, or other infrastructure. These services, likewise, do not play the same essential role in relation to land development as do infrastructure investments.

Secondly, fixed-guideway transit assets do qualify as infrastructure in the traditional sense. They therefore exert influence on land use policy and on development decisions. This is accomplished in some of the same ways that other infrastructure systems influence development.

This presents a bit of a problem:

- The category of transit that has the most influence on land use and development decisions is also the most costly.
- The more costly the transit system, the less likely it is to be implemented.
- The less likely it is to be implemented, the less likely it is to influence growth.

The upshot of this is that a solid financial plan is essential if transit is going to make a serious mark in growth management.

IMPORTANCE OF FINANCIAL PLANNING

To Florida's credit, the state has passed new comprehensive planning legislation containing "concurrency provisions." These new laws mandate that realistic financial plans and policies be developed in concert with land use and infrastructure plans. This has contributed a much-needed touch of realism into the planning process (along with some significant consternation on the part of many local officials).

The worst thing we can do is to plan a capital-intensive transit system, modify land use accordingly, and then implement the land use and not the transit system. Adequate financing is one of the keys to effective use of transit as a growth management tool. The most effective action that can be taken at the state policy planning level is to adopt policies that enhance the revenue stream for transit. If a reliable and predictable revenue stream can be found, then debt financing can be used to support a significant near-term capital project.

One possible suggestion could be a system of special benefit districts tied to planned rail system stations. Land use and permitting concessions could create a win-win scenario, where the landowner could profit while the state would receive the assessment revenue from the transportation districts. The special assessment revenue could be used to float a bond to finance the construction of all or part of the rail line and its stations.

If the land use and permitting concessions are significant, it is possible that private collateral and private capital also could be brought to the table to assist the project. Joint development of stations also could produce significant revenue streams for the public agency through ground leases or through other joint development partnership devices.

In short, the land development game, in fast growing areas,

is a powerful economic force. If harnessed properly, cooperative public-private partnerships could lead to significant improvements in transit. Needless to say, the leveraging power of all of these techniques is much greater when the land in question is undeveloped and zoned at low intensities.

HIGHLIGHTS OF CASE STUDIES

The Metrorail and Metromover systems in Miami have had some effects on growth patterns. Metro Dade County has upzoned areas around stations and has created incentives for cost-effective development products at these sites. At the Government Center Station, land values soared from \$35 per square foot in 1980 to \$112 in 1984, when the system opened. In addition, the county has put together some attractive joint development deals that are netting substantial revenue yields. In addition, the Metromover system has been financed, in part, by special benefit districts.

Viewed together, Dade County's transit policies, financing policies, and land use policies are achieving mutual goals in the public and private sectors simultaneously and in an integrated and planned manner. Naturally, Miami's healthy economy and growth play an important role in this success formula.

A second project is the Florida High Speed Rail Program. This is a private franchise transit development project sponsored by the Florida High Speed Rail Commission. The state has solicited competitive proposals from consortia that are interested in privately financing, building, and operating a high-speed rail line from Miami to Orlando to Tampa. In return, the successful franchisee can receive certain land use and permitting concessions in order to create development projects connected to the system. The profits from the land development venture are to be used to build the system, to cover any operating deficit, and to provide financial rewards to the investors who are willing to risk their capital in the project.

At the time of this writing, two firms remain in the running for the project: the TGV Company and the Florida High Speed Rail Corporation. As consultants to the Florida High Speed Rail Corporation, the authors are more familiar with the Florida High Speed Rail Corporation franchise proposal. The following are some highlights of that proposal.

The Florida High Speed Rail Corporation is led by a large, prestigious Florida land developer. This is significant, because the engine that drives the High Speed Rail is land development and not a locomotive. The Florida High Speed Rail Corporation proposal calls for a full system from Miami to Orlando to Tampa costing a little over \$2 billion. Electric trains will operate at over 150 mph along the route, carrying over 2.5 million passengers beginning in 1995. This proposal spells out a real estate program and a market-driven package of debt financing that will fund the system with private sector dollars.

More than many other projects, this joint public-private partnership is one of the best examples of integrating the desired relationships between land development, transit financing, and fixed-guideway transit development. If successful, this could become a model for a variety of fixed-guideway systems throughout the free world.

The following section contains additional case studies for those readers interested in reviewing this issue in greater detail.

ADDITIONAL CASE STUDIES

BART Case Study

To view transit's role in influencing growth more closely, consider the Bay Area Rapid Transit (BART) System serving the San Francisco, Berkeley, and Oakland area. The 71-mile system includes 20 miles of subway, 24 miles of elevated structures, and 27 miles of ground level service. There are 34 stations, and approximately 150,000 to 200,000 one-way trips are made each day. The system was opened in five stages

between 1972 and 1974. Planning for BART began in the 1950s. A map of the system is included in Figure 1.

Within a number of cities served by BART, the system has been both a direct and indirect cause of a shift in new development in station areas. For example, in downtown San Francisco over 90 percent of the 22.5 million square feet of office space built since 1965 is within 1,500 feet of the four downtown BART stations. Two events primarily attributed to BART, a \$35 million Market Street Development Project and new zoning codes adopted by the city, have contributed to the redirection of growth.

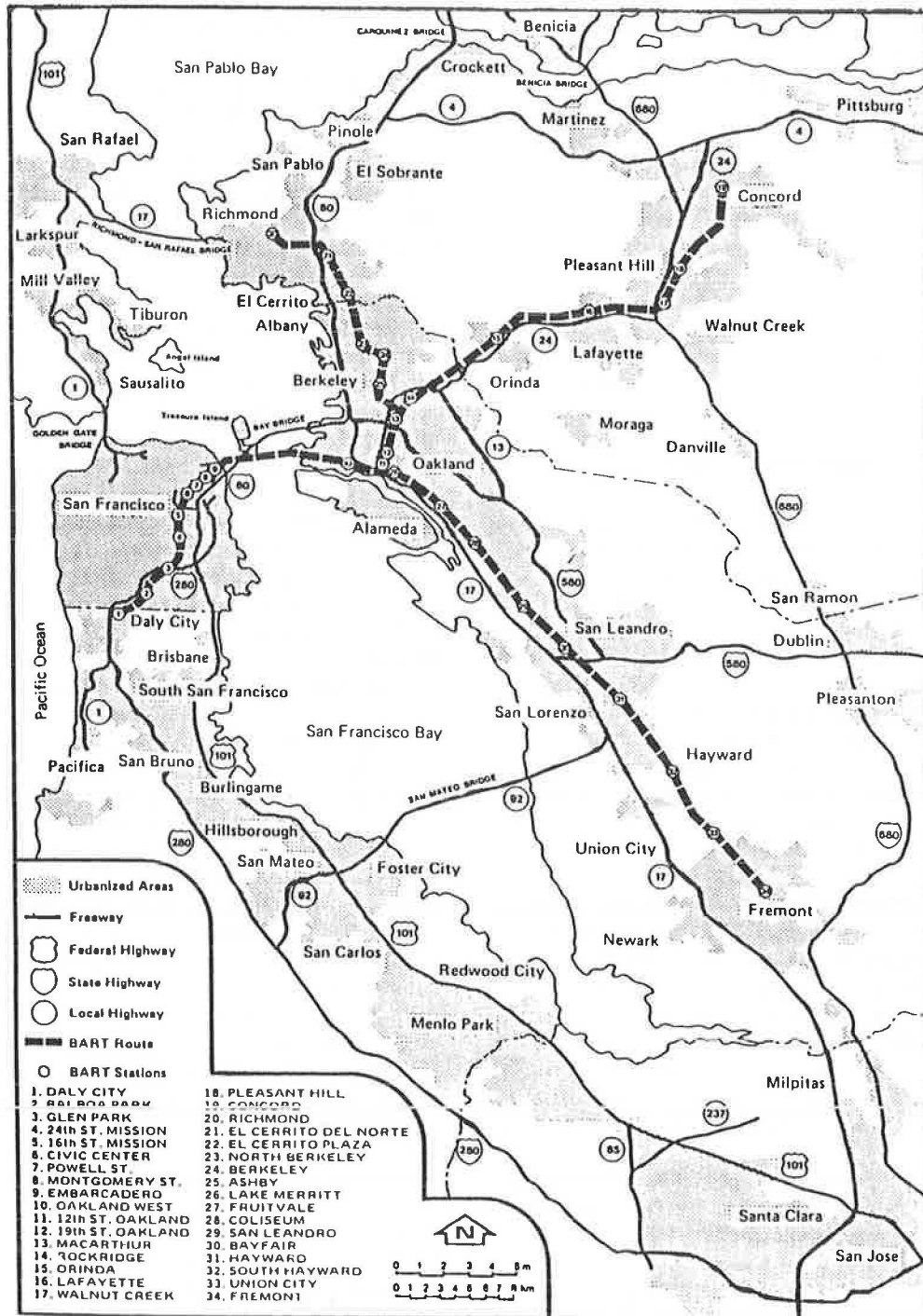


FIGURE 1 BART and Bay area system.

Office construction in BART station areas also has increased in the cities of Oakland, Berkeley, and Richmond. The total amounts of new office space in these cities have been much smaller than that added in San Francisco. About 2 million square feet of major new office space has been added in downtown Oakland since 1965. About 1.5 million was built within 1,500 feet of the two downtown Oakland stations, and BART was one factor that influenced the location of 80 percent of this new space. Another major influence was the City Center redevelopment project, which is located at the site of BART's 12th Street Station. Zoning regulations generally have encouraged commercial development around the downtown BART stations.

BART's influence on housing construction has been less pronounced than its influence on office construction. No high-density nodes of residential development have occurred around the BART stations. This is due, in part, to public policy decisions. Nine residential or mixed residential and commercial areas around BART stations were downzoned in response to residents' wishes to preserve the existing character of the neighborhoods.

Property price gains attributable to BART have been small to date. The program's findings do not support the theory that a rapid transit system is likely to cause large increases in the price of properties near its facilities that could be taxed to help pay for the system. BART's effects in this regard have been too small to be a useful source of financing for the system. However, it should be recognized that BART has no entrepreneurial authority that would permit it to exploit the potential it creates.

BART's influence on people's choices of residence, work place, and shopping locations suggests that its most significant impacts on land use and urban development may occur in the future. If BART continues to influence behavior patterns, some redistribution of homes, work places, and shops is likely to result. Moreover, BART's relative attractiveness as a transportation mode can be expected to grow as its service and reliability improve and as the highways, particularly the bridges into San Francisco, become more congested. BART is then likely to become more important in the location decisions of both individuals and businesses. Finally, large-scale land use changes tend to occur slowly. Therefore, it may be too soon to expect substantial land use impacts as a result of BART.

A large portion of the development attributed to BART occurred in areas conducive to development. In addition to BART's influence on growth, growth probably could not have occurred to the extent it did without new zoning codes. BART illustrates that fixed-guideway transit can play a role in growth management, but transit's influence is controlled by the development environment. Transit-influenced development will occur in areas conducive to development, but transit may have little or no influence on development in areas that are not conducive to development (such as the Oakland Station). In summary, BART illustrates that transit can play a role in growth management when the right environment exists (*I*, pp. 106–110).

Cause-and-Effect Relationships of Transit and Land Use

Since fixed-guideway transit requires a high level of capital investment and is therefore capital intensive, its impact on

the location and timing of new development is very significant. When developers see that the government is willing to invest millions of dollars in transit to build stations at predetermined locations, they are willing to develop along the corridor and around the stations. High investment for rail transit shows a permanent commitment by the government. Developers know that with major funds supporting transit, a transit system is likely to be implemented, and development can occur profitably. However, with bus and paratransit, there really is a much smaller capital investment. These forms of transit are labor intensive. The government can provide a bus line from Point A to Point B, but it can also cancel that service in 6 months. Because the investment is not fixed, the government later can choose to neglect servicing the area. Thus, labor-intensive forms of transit will not influence development significantly. In these cases there is a relatively small (if any) influence on development. Table 1 illustrates the levels of influence on development by various forms of transit.

As illustrated in the table, transit tactics with the greatest potential influence on development have the lowest probability of implementation. Therefore, if the goal is to take advantage of transit options with the greatest potential for influencing growth, investments to finance high-capital transit options must be found. Basically, there are two options: private funding or increased government funding. But even with sufficient funding, a risk exists. Although commitment to high-level transit may result in a commitment by developers, relatively few developers (the Green Companies in Miami are an example) will risk major up-front investments until sufficient ridership is demonstrated. For example, on the Metro-rail system in Miami, initial development did not occur until after construction began, and intense development is not anticipated until higher ridership levels are established. A case study of the Miami Metrorail and Metromover systems follow.

Dade County Metrorail and Metromover Case Study

Metrorail operates in Metro Dade County and currently serves approximately 25,000 to 30,000 passengers daily. The 21-mile Stage I system has 20 stations. Planning for Metrorail began in 1964, and the first stage of the system, costing almost \$1 billion, opened in 1984. Figure 2 illustrates the system. Miami's Metrorail system influences growth by shaping development along its high-density corridor. Dade County, through the Metro Dade Transportation Administration (MDTA), acquired more than \$80 million worth of real property along the system alignment.

The Metrorail system has, in fact, influenced growth along its alignment, particularly at south end and downtown stations. The type of growth and the extent of growth also were affected by land use plans and zoning policies. The Metro Dade County Comprehensive Development Master Plan (CDMP) provided a general policy framework for the implementation of development projects in conjunction with the Metrorail system. The CDMP sought to initiate high-intensity growth centers near transit stations using joint-use development as much as possible.

Initial development along Metrorail ranged from high-tech "Futureworks" development downtown to the Green Datan Center, consisting of three office towers at the Dadeland South

TABLE 1 INFLUENCE ON DEVELOPMENT BY TRANSIT TYPE

Investment Levels	Transit Investment Types	Level of Investment	Effect on Location and Timing of New Development	Probability of Funding & Implementation
Capital Intensive Investment	High Speed Inter-City	Very High	Very Significant Influence	Very Low
	Heavy Rail/Grade Separated Conventional Rail/Light Rail	Very High	Very Significant Influence	Low
	Grade Separated Busways	High	Significant to Low Influence	Low
	Surface Light Rail	Medium	Significant Influence	Fair
	HOV Lanes/At-Grade Busways	Medium	Low Influence	Fair
Labor-Intensive Investment	Bus	Low	Very Low Influence	Good
	Para-Transit	Low	Little known Documentation of Influence Created by Para-Transit Investment, but Probably Very Low	Good

Source: Kimley-Horn and Associates

Station, which is the terminal station for the south line. These developments were not launched until the Metrorail system was under construction and implementation of the system was assured.

In addition to Metrorail, Metromover (a 1.9-mile downtown people mover that interfaces with the 21-mile Metrorail system and serves approximately 10,000 passengers daily) also had an impact on development; opened in the spring of 1986, the people-mover system provides convenient service to the high-rise office core along Biscayne Bay. A map of the system is shown in Figure 3. The influence of the Metromover on the increased commercial development can be seen along its service area. The Downtown Development Authority (DDA) established a special assessment program to require property owners to help finance the Metromover. Political and business leaders want to spend an additional \$240 million to extend Metromover 2.4 miles to the north and south edges of downtown Miami. The project has received powerful backing from the Metro Commission, the Greater Miami Chamber of Commerce, and business people who own property close to the proposed legs. The commission will vote to create a special tax on property to help raise revenue to pay for the extension. Metromover can be viewed as a tool in the revitalization of downtown Miami. The Metromover is, according to Maurice

Ferre, a former Miami mayor and supporter of Metromover, "a quantum leap into . . . the future of Miami."

The county expects to entertain numerous requests from private businesses to provide commercial development and transit-related services on Metrorail and Metromover property and around stations. Now that Metrorail and Metromover are on-line, developers anticipate that Miami's business district will double in size over the next decade. By the year 2000, developers estimate that nearly 25 million square feet of new development will be built around Metrorail's 20 stations and the proposed legs of the Metromover extensions. Dade County planners also anticipate that employment in the downtown area served by Metrorail/Metromover will increase from 109,650 in 1985 to 156,000 in the year 2000.

Dade County's fixed-guideway transit system creates the needed traffic, according to the Green Companies, a Miami developer, and the county's rezoning of the station areas allows developers to build to the desired density. Also, the county used incentives to facilitate development. At the Dadeland South Datan Center site, the county and the developer, Green Companies, established a partnership: in exchange for leasing the station site to the developer, the county will get 4 percent of the gross revenues (\$1 million in 10 years).

Moreover, instead of waiting for builders to show interest

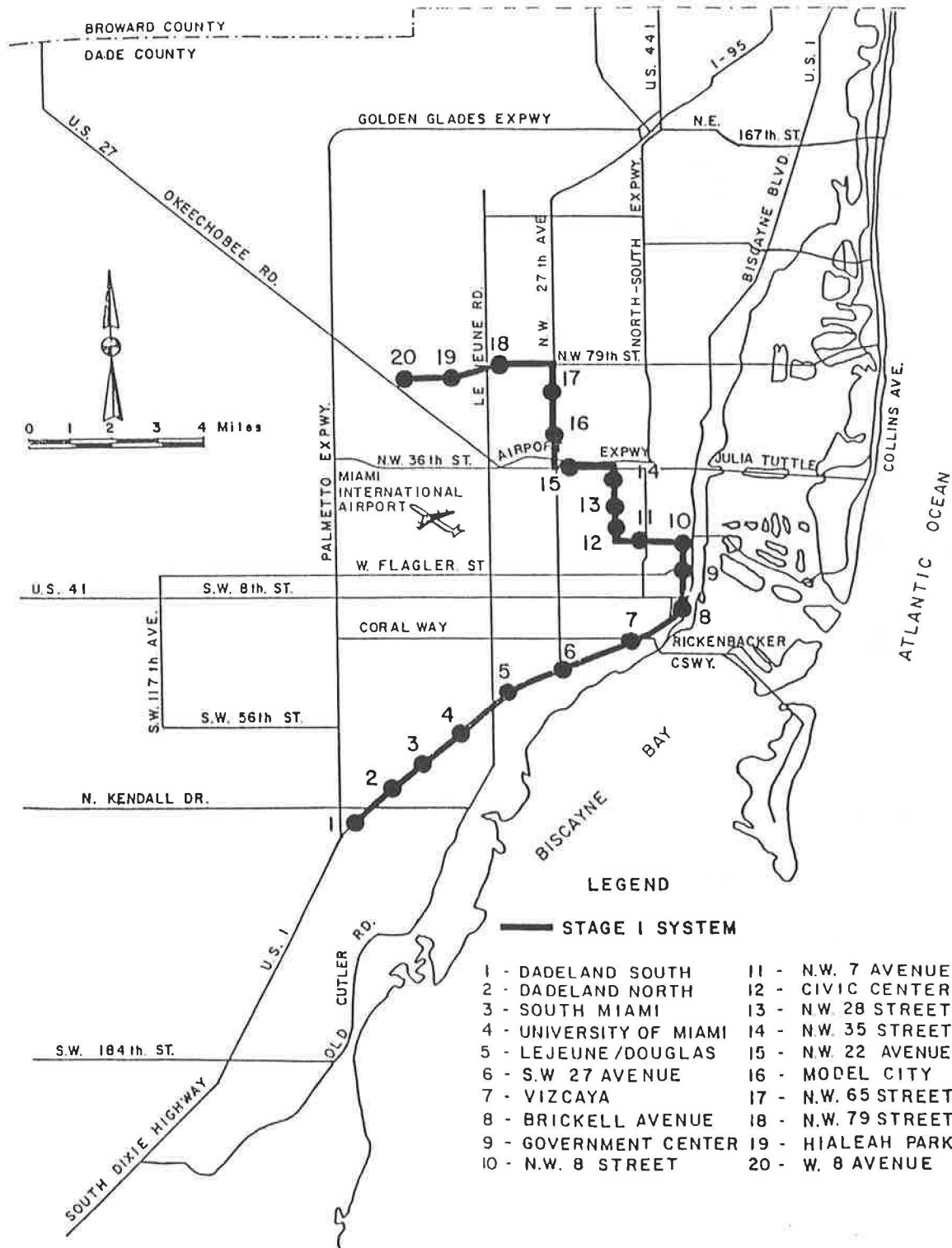


FIGURE 2 Metrorail system, Dade County.

by purchasing land, Dade County initiated development by assembling parcels and offering the private sector incentives to build on them. Before construction started, undeveloped land at Government Center sold for approximately \$35 per square foot in 1980. After construction of the Metrorail system, land value soared to \$112 per square foot when the station opened in 1984. According to a knowledgeable Dade

County commercial real estate broker and developer, land values in the general area away from the Government Center Station ranged from \$35 to \$50 per square foot. These values have remained approximately the same from 1984 through 1986 owing to low inflation rates and an overbuilt office space inventory in the Miami area. Joint-use development and upzoning policies coupled with special benefit district assess-

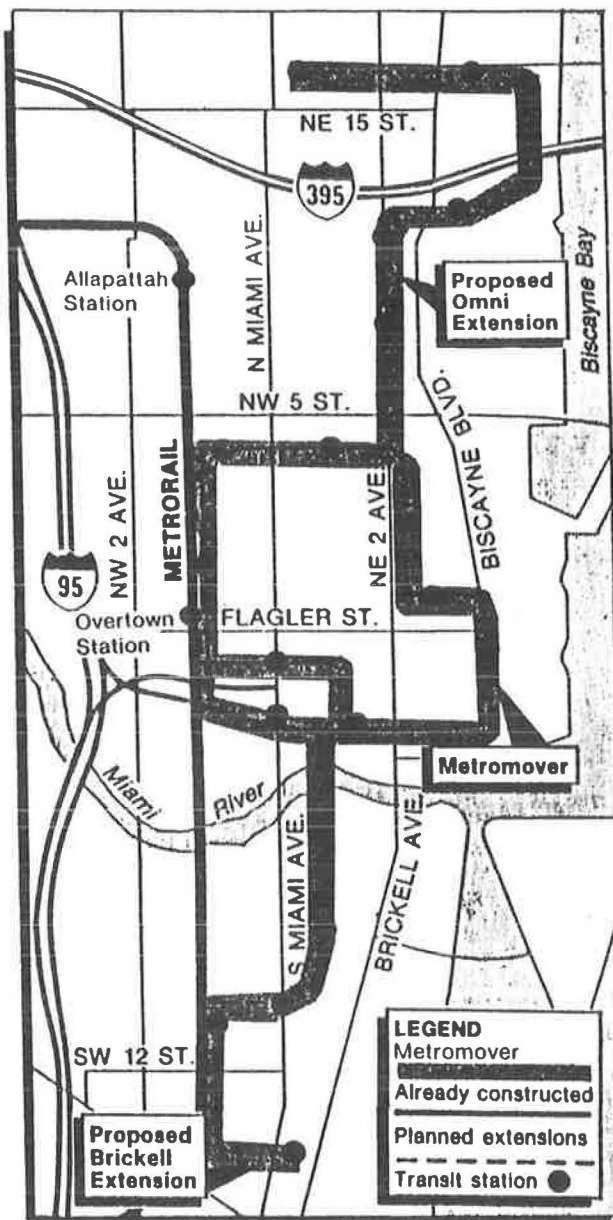


FIGURE 3 Metrorail and Metromover.

ments appear to be one of the keys to financing transit and, ultimately, to managing growth in Dade County.

Optimistic early plans have slowed since ridership has not yet reached anticipated levels. However, it appears that planning, development, and growth around Metrorail stations in Miami are further along than other systems (BART, Washington Metropolitan Area Transit Authority, Metropolitan Atlanta Rapid Transit Authority) at the same point in time.

The Metrorail and Metromover systems further illustrate that a development-oriented environment is necessary for transit to play an effective role in growth management. Land values around some stations increased, whereas values around others did not. The value of key stations often depends on feeder stations on the fringes of the system. Peripheral stations contribute to the value of key stations, because peripheral stations serve as collectors for the main lines. However, these outer stations may not influence development in the surrounding area. Residential development and overall growth will hinge

more on demographics than on fixed-guideway transit. It is important to emphasize that collector stations do contribute to development and growth around other stations in development-oriented environments (2).

Effect of Latent Demand

Latent demand means that demand for transit travel, which is currently not being served, would increase if a reasonable level of transit service were provided. The influence of transit on land use in developed areas typically is small in Florida and elsewhere where buses and other vehicles provide the bulk of mass-transit service.

Over the past several decades, with the increase of automobile availability and usage, bus transit has declined to the point that most ridership is composed of transit-dependent patrons (3, pp. 33-74).

Typically, these transit-dependent riders are the elderly, those persons who are physically incapable of driving, or those who cannot afford to operate a motor vehicle. Other transit-dependent riders include those too young to have a driver's license, own an automobile, or have one available. Thirdly, transit-dependent riders have also included the second and additional working members of low-income families where only one automobile is available to the family and is used by one member for travel to work. Transit-dependent riders also are typically minority more often than would be represented by their percentage of the total population (4, pp. 17-37).

The usual process for dealing with transit's role within developed communities is the Transit Development Plan (TDP). The TDP is a 5-year transportation implementation program that most transit operators in Florida update periodically. One approach used in preparing the TDP is to perform an on-board survey of the local transit operation to determine characteristics of the patrons using the system and then to evaluate the socioeconomic characteristics of the community in terms of characteristics of existing riders. This procedure allows the identification of latent demand along particular corridors or segments of the community and aids the decision-making process concerning location of new routes, levels of service, headways, and areas of coverage.

Experience has shown that bus transit has little or no impact on land use changes, but it may be a factor in the choice of employment location by persons within the community who meet the socioeconomic characteristics defined above. Bus transit seldom increases intensity or increases the density of development or changes existing patterns of development. A major fixed guideway, along with a long-range commitment to transit service, does have an impact in a corridor in terms of redevelopment and increased density of land use. The resulting impacts of transit on an area that has previously developed is similar in effect to the impacts of transit on an undeveloped area where bus transit and low-capital-intensive, high-labor-intensive transit does little to influence development.

Cause-and-Effect Relationships of Transit and Land Use

The cause-and-effect relationships of transit and land use are not really clear. Does transit affect land use or is transit a

result of land use? The density requirements associated with transit and the impact that transit appears to have on land use raise a serious challenge to growth management. For transit to have a positive role in growth management, transit and land use planning must be coordinated, yet coordination is quite difficult.

To provide further insight into the cause-and-effect relationships of transit and land use and the importance of coordinated planning, a case study of the Tri-County Commuter Rail follows. The proposed Tri-County Commuter Rail project will add a new dimension to transit in Florida. The new rail service will provide an incentive for growth around commuter rail stations, and it will also expand the market area for existing development cores by virtue of its connection, using new bus service and Dade County's Metrorail, to major employment, shopping, and industrial centers.

Florida's Tri-County Commuter Rail Case Study

For more than 10 years, the Florida Department of Transportation (FDOT) has been evaluating various transit alternatives to serve the rapidly growing West Palm Beach–Miami corridor. In conjunction with UMTA, FDOT designed a study of the engineering and economic feasibility of instituting commuter travel service in Palm Beach, Broward, and Dade counties. The purpose of this Tri-County Commuter Transit Study (TCCTS), begun in mid 1983, was to identify various transportation options using existing rights-of-way and to select a preferred alternative in terms of its engineering, economic, and institutional feasibility.

Recognizing that many previous studies had developed significant information about the West Palm Beach–Miami corridor, the objectives of this study were to

- Develop reliable and consistent travel demand estimates for each transit alternative,
- Develop comparable capital and operating costs for each option,
- Evaluate alternatives with respect to a consistent set of criteria,
- Investigate innovative financing options for commuter service,
- Identify appropriate management structures for the implementation of commuter service, and
- Enable governmental agencies to reach logical decisions regarding implementation of commuter services.

Throughout the study process, a considerable effort was made to keep the region informed and to obtain inputs from the public on decision issues. The most important factor in this effort was the participation of regional representatives on the Study Advisory Committee (SAC). Staff members from each of the three county Metropolitan Planning Organizations (MPOs) provided timely input and direction on a number of key issues throughout the study process, particularly in the decisions leading to a preferred alternative. The project team maintained extensive coordination throughout the study with public agencies and the public at large.

The SAC established the following goals:

1. Provide for the mobility needs of the region;
2. Meet the travel demands of existing and planned land use;

3. Encourage compatible future development;
4. Promote fiscally sound, safe, and efficient travel;
5. Preserve and improve environmental qualities;
6. Promote energy conservation; and
7. Coordinate with state and local transportation plans.

These goals, particularly the first three, relate to land use and development needs. The needs of the area are addressed at the planning stage of a major transit system. Effects of such planning should create a desirable environment for transit to positively influence growth. In this case, the transit system's purpose is consistent with growth management goals. Monitoring its impact on growth offers an opportunity for further exploration of the relationship between transit and growth management.

The TCCTS concluded that a commuter rail service should be established using an existing railroad to tie together south Palm Beach County from the I-95/Glades Road interchange in Boca Raton to the Amtrak station in Hialeah. However, local officials were concerned that this section would be insufficient and that continuity was not provided with Dade County's Metrorail project (although the Amtrak station is close to Metrorail in Hialeah). Recommendations therefore were made, and the alignment is now anticipated to include an extension north to West Palm Beach and south from the Amtrak station to a new transfer-only station at Metrorail. Two public hearings on this recommendation were held during May and June 1986. In addition, a subsequent meeting was held with the governor and local officials in an effort to identify possible funding options and sources. It is anticipated that a study will be undertaken shortly to identify opportunities for joint public/private development at stations along the alignment. Initiation of this development could probably be anticipated after 3 to 5 years of operation, when patronage levels and service continuity have been established (5, pp. 1–3).

Checks on local land use planning and zoning must be established to ensure that contiguous counties are working together to foster compatible patterns of growth. The emphasis here is that transit's role in growth management must be coordinated and comprehensive: a development-oriented environment must be created uniformly for transit to perform effectively. The time horizon of transportation planning and funding needs to be extended, and the division of responsibility between state and local government for different facets of the transportation system needs to be sorted out so that it reflects actual conditions (6).

This case study illustrates that the cause-and-effect relationships of transit and land use grow out of the land use and zoning policies associated with the implementation of transit as well as necessary coordination among involved agencies. Transit's role in growth can be affected greatly by land use policies, and transit's ability to influence growth management depends on whether it is in an environment conducive to development. As stated earlier, transit is only one part of a growth management package, and effective coordination is necessary to enable transit to operate in that role. As it stands now, transit can influence growth, but by itself transit cannot manage growth, especially with the current inconsistencies in planning and coordination.

San Diego Trolley Case Study

The San Diego Trolley represents a unique opportunity to study the impact of light rail transit (LRT) on the modern

urban environment because it is the first light rail system to be built in this country in the past several decades. Planned, designed, and constructed by the San Diego Metropolitan Transit Development Board (MTDB), the trolley started operation in the summer of 1981.

The San Diego Trolley is classified as an LRT system. The vehicles are operated manually, and there is minimal grade separation. Most of the line operates in an exclusive right-of-way shared with freight operations. The trolley uses an overhead power source (catenaries) and has the capability of operating on city streets that remain open to automobile traffic.

The trolley system is 15.9 miles in length and operates between Centre City San Diego and the International Border with Mexico at San Ysidro. A map illustrating the system's route is given in Figure 4. The system operates on existing streets for a distance of 1.7 miles in Centre City. In Centre City the vehicles travel at-grade on an exclusive, reserved path, typically in the center or at one side of the street. There are seven "stops" within Centre City with approximately one-quarter-mile spacing.

For approximately 14 miles the system operates on the rehabilitated mainline facilities of the San Diego and Arizona Eastern (SD&AE) Railway. All grade crossings are protected by automatic crossing gates that are activated by approaching light rail and freight trains. Although service was initiated as a single-track operation, a double-track system has been operating since February 1983.

The 11 suburban stations are modest, low-level platforms with a waiting shelter, benches, light standards, transit information, ticket machines, public telephones, and trash receptacles. Except for the International Border facility, the stations are not manned, and no restroom facilities are provided. A television surveillance system is monitored by the trolley central controller. Approximately 2,000 free parking spaces are provided at six suburban stations. All suburban stations have pedestrian access, bus access, and bicycle storage facilities. Local bus routes and schedules have been modified to provide feeder service to the trolley.

Major developments in the area served by the trolley include a major remodeling and redevelopment by McDonald's for a large restaurant and retail/office suites in a two-story building located adjacent to the San Ysidro-International Station; development of a discount department store and grocery store shopping center (Target-Ralphs) near the Chula Vista-Palomar Street Station; and development of the Great American Federal Savings and Loan Computer Center, which currently employs 600 people, adjacent to the National City-24th Street Station. The approval of the San Diego Convention Center, and its imminent construction just outside the land use impact study area, should result in improved development potential at the Imperial Station on the southeastern edge of Centre City. The intensive development and redevelopment in Centre City San Diego reflect the extensive redevelopment policies of the city in this area.

Developers report that proximity to the trolley was an important part of their leasing marketing program and has contributed to success in leasing space. Benefits cited were the convenience and low cost of the trolley for clerical and service workers who might be commuting from the South Bay and the colorful and active atmosphere created by the trolley operations on C Street.

The existence of the trolley is seen as an advantage in

locational choice for land uses, particularly in the areas outside Centre City San Diego. The development and market forces at work in Centre City and the typically intense scale of development tend to overpower the trolley's role as a factor in development decisions. However, the benefits of the trolley to building tenants are recognized and used as an important part of a leasing program.

Given the positive response of development interests to the opportunities provided by locations in the vicinity of a trolley station, little has been done by local governments to consider changes in land use policy around the stations. This may be due to other planning considerations, which preclude action in some areas. However, most of the station sites present opportunities to increase the intensity and activity levels in currently built-up and developing areas, which are typically encouraged or allowed by local land use policy (7).

Tampa's Harbour Island People Mover Case Study

Harbour Island, a residential, commercial, and hotel development in Tampa, features a people mover that connects the island with downtown Tampa. Although the developer originally envisioned an automobile-free environment, financiers required automobile access. Despite this compromise, one of the advantages of the people mover is the reduced need for automobile travel to the island (visitors can park in the Fort Brooke parking garage and take the people mover to the island). Roadway improvement requirements were not as great as they would have been without transit. The people mover helped to mitigate transportation impacts of the development. Although the public provided the right-of-way, the people mover was privately financed, and because the development was a DRI, it became a required part of the Development Order. Another unique aspect of the development is that the developers used the people mover as a marketing tool: residents can live on the island and travel to work in downtown Tampa without the need for a car. It is also important to point out that this development is marketed to upscale single and childless couples (i.e., working persons, not retirees).

Currently, the transit service operates at a deficit. But the developer may receive benefits from the system in the future: land value may increase or additional development will be able to occur as the result of the transit service. New development and/or increased land value may offset the operating deficit. Although Harbour Island does not necessarily indicate that privately financed transit will be operationally self-supporting, it does indicate that jointly sponsored transit may have a chance to serve both the public and private sectors profitably and beneficially over the long term, considering value added to the development and increased densities that can be allowed as a result of transit.

Financing Sources

Assessments, exactions, and impact fees and taxes have been used to finance the costs of public improvements for many years. The finances to implement transit can come only from the public sector, the private sector, or some combination. Charging developers fees or increasing taxes can finance transit, but laws authorizing local governments to impose special

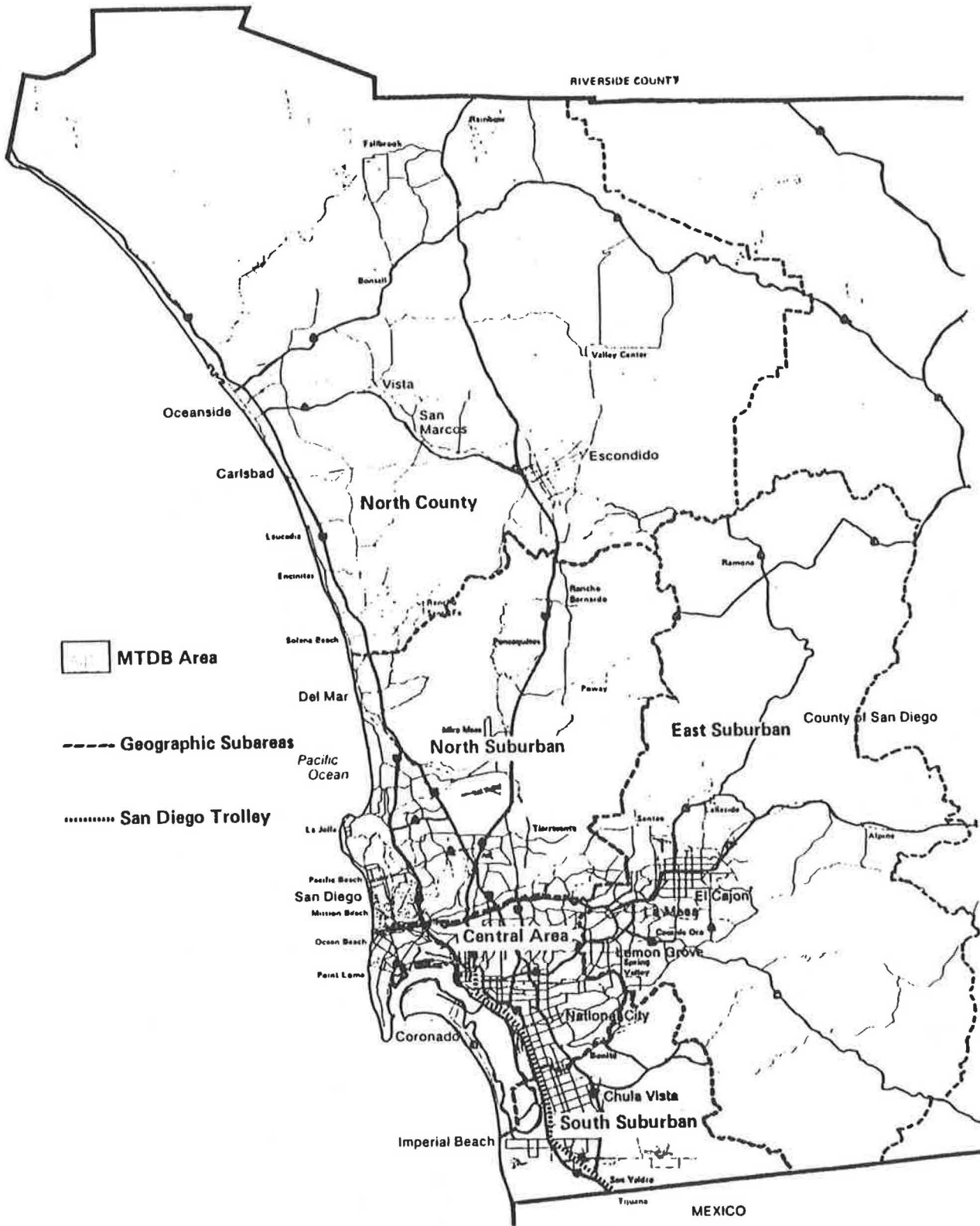


FIGURE 4 San Diego Trolley.

assessments, taxes, and impact fees vary with the types of improvements that can be financed, the manner in which the funds can be collected, and the manner in which the funds may be spent.

Special assessments can be levied on a development to collect some or all of the revenue required to finance transit. Special assessments are collected for improvements that directly benefit particular properties as opposed to improvements that benefit the public or community as a whole. Also, new or additional taxes can be levied, or developers can be required to pay impact fees for transit services. These revenue sources can be coupled together synergistically and woven into a debt-retirement schedule that can float a significant bond issue.

MARTA Case Study

The Metropolitan Atlanta Rapid Transit Authority (MARTA) was created in 1965 by an act of the Georgia General Assembly, and the first phase was opened in 1979. In November 1971 the citizens of Fulton and DeKalb Counties and the city of Atlanta voted approval of a \$1.4 billion mass-transit system. The approved rapid-transit program provides for 53 miles of rapid transit, 41 stations, park-and-ride facilities for nearly 30,000 vehicles, and a fully integrated network of 1,500 route miles of feeder and express bus lines. The system is structured in a cruciform arrangement, with the east-west and north-south rail lines intersecting in downtown Atlanta at the center of the region. Average system station spacing is just over 1.2 miles, with outlying station spacing approaching 3.0 miles and downtown station spacing averaging 0.5 miles. A map of the system is included in Figure 5.

Atlanta has been a pioneer in comprehensive city planning. Its Comprehensive Development Plans, Urban Framework Plan, and Transit Station Area Development Studies (TSADS) are examples of the importance that MARTA rail stations play in land use planning. Creation of Special Public Interest Districts and Planned Development Districts are policies in Atlanta's latest zoning ordinance designed to promote growth and mixed-use development in station areas. The TSADS are of particular relevance because they provide a blueprint to guide development in MARTA station areas as the system matures.

The decade of the 1970s saw a 30 percent increase in downtown office construction in major U.S. cities. This increase required major infrastructure improvements, including major transportation improvements. Joint Development (a public/private partnership) has become an important element in implementing these transportation improvements. Several federal assistance programs (e.g., Urban Mass Transportation Act of 1964) have contributed to the interest in joint development, now commonly referred to as a public-private co-venture. Among the mechanisms utilized to stimulate co-venture are tax increment financing, special benefits assessments, dedicated property taxes in station areas, and zoning controls designed to shift some of the financial burden for transit from the public to the private sector. Those growth management strategies that have proven to be most successful and therefore gained the widest acceptance are as follows:

- Development agreements,
- Early developer involvement in planning,

- Leasing and/or selling air rights,
- Public underwriting of initial feasibility studies, and
- Land banking.

Transit-linked development in Atlanta parallels national trends, with high-intensity mixed-use development clustered around stations located in strong markets. There are also a few instances of actual joint development (public/private partnerships). Notable developments (or proposed developments) in transit station areas include the Rouse Company's redevelopment plans for Underground Atlanta. Called the "Heart of Atlanta," this \$120 million project is designed to be the major entertainment complex in downtown needed to support the convention industry. Located adjacent to the Five Points Station, the project expected to gross \$70 million during its first year of operation in 1987. With expectations of attracting 11.5 million visitors, planners see a multiplier effect spilling over into the Garnett Street and Georgia State Station areas with new intown housing construction. Expansion of John Portman's Peachtree Center, the addition of several major luxury hotels, and the opening of Georgia Pacific's new corporate headquarters are the major developments located near the Peachtree Center Station.

Southern Bell's \$100 million, 1.9 million square foot office and retail complex at North Avenue, the Peachtree Summit (with direct access to the Civic Center Station) office complex that houses MARTA and Coca-Cola among its major tenants, and speculative office space at the Midtown and Arts Center stations are examples of the tremendous impact these rail stations are making in the North Line corridor.

Since 1978, major completed or announced construction on the North Line from the Peachtree Center Station to the Lenox Station adds over 7.0 million square feet of office space, nearly 5,000 new hotel rooms, more than one million square feet of retail space, and several new residential complexes. All of this development is occurring within a 1,500-foot radius of North Line transit stations.

Atlanta's experience suggests that the following actions promote successful joint development projects:

1. Developer involvement in initial transportation planning promotes developer interest in future development projects at transit sites.
2. Transit agencies must take an active role in joint development. MARTA opted for a passive role, allowing the free market system to guide development. As a result, development concentrated at North Line stations, whereas the East and West Line and South stations experienced little or no development. Joint development potentials should be a part of route alignment and station location decisions.
3. Direct station access seems to foster developer interest.
4. The local government and transit agency must establish clear policies supporting joint development. Two examples of public policies designed to encourage station area development in Atlanta are the city's zoning ordinance, which created Special Public Interest Districts in MARTA station areas, and MARTA's September 1982 disposition policy for surplus property, including subsurface, surface, and air rights.
5. Transit agencies should create an office of joint development. This office could provide a single access point that has authority to make deals and assist developers in putting together development packages.

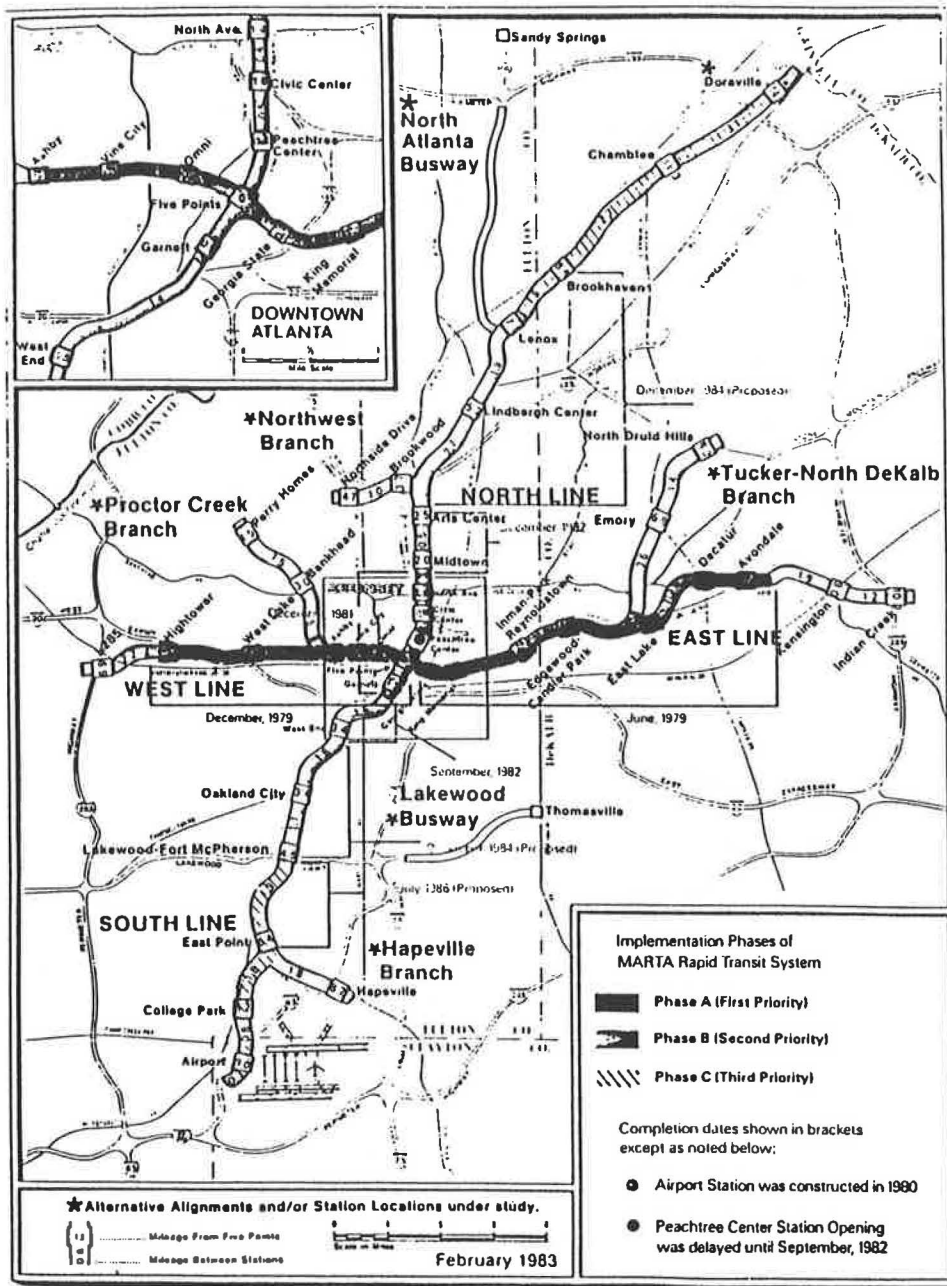


FIGURE 5 MARTA system.

A study of Atlanta's MARTA system reveals that although linkages do exist between land development and transit, development is not automatic. Instead, development is fostered, and ultimately managed, through supportive zoning, special incentives, and strong markets. MARTA is an integral part of a viable, coordinated growth management package, and it operates in a development-oriented environment (8, pp. vii-ix).

GOALS, POLICIES, AND OBJECTIVES OF THE FLORIDA TRANSPORTATION PLAN

Florida intends to use transit investments to aid sound growth management principles designed to provide timely and effi-

cient access to services, jobs, markets, and attractions. Another important goal identified in the transportation plan stresses improved coordination among the various government levels, with special emphasis on planning and funding. Florida plans to develop and implement transit programs that promote integrated planning and urban infill. Ultimately, these transit programs should be designed to manage or effectively influence growth.

PROBLEMS WITH THESE GOALS, POLICIES, AND OBJECTIVES

Some problems with the goals, policies, and objectives in Florida arise from the authority to enact ordinances imposing

exactions or developer fees. In addition, many courts have struck down ordinances where there was no statute to serve as a legal basis for a local ordinance because the local ordinance exceeded the scope of existing enabling legislation or because a particular requirement exceeded current/local legislation (9, pp. 12, 14).

In some instances, current legislation is not consistent with the management goals of the Florida transportation plan. The FDOT is pursuing legislation to support its growth management goals. This legislation will be critical to the overall success of various growth management tools, including transit.

Most litigation concerning growth management tools—the products of policies, goals, and objectives—has centered on whether a particular ordinance is equitable. Ordinances designed to provide growth management tools must be the result of a regular legislative process. A major problem with passing legislation is that governments can become too regulated. There are legal limits on the extent to which legislation can promote growth management (9, p. 14).

Coordination at all levels must exist for transit's role in influencing growth to be optimized. In addition, transit can positively affect development when supportive conditions such as zoning policies, community and government support, and market demand are present. One major concern with Florida's policies is consistency and acceptance. For example, as reported in the Statewide Transit Needs Plan, Phase I, the Suwannee Valley Transit Authority (SVTA) has a goal to maximize efficiency of existing transportation systems. This policy conflicts with the FDOT's policy to support high-speed rail, since SVTA would prefer to expand their existing system rather than opt for a new high-speed rail facility. This conflict is not necessarily direct, but the policy does not exactly correspond with the FDOT's policies. For a positive relationship between transit and growth, Florida's policies, goals, and objectives should be uniform, accepted, and supported at all government levels.

SUMMARY

The following suggestions appear to be in order if a growth state is serious about engaging transit in the growth management process:

1. A clear distinction must be made between fixed-guideway and over-the-road transit services.
2. Transit planning should be linked with the land use process to maximize its influence in growth management.
3. Equal if not heavier policy emphasis should be given to financial policy planning for transit.

4. Fixed-guideway assets that do not have a reasonably clear and acceptable financing policy should not be used in formulating land use policy.

5. More effort should be exerted in promoting joint public-private funding ventures for transit.

6. Government incentives to improve the profitability of land development should be coupled with exactions, fees, or other forms of taxation. This should create a favorable win-win climate for the developer, for our transit systems, and for influencing growth.

It is suggested that more demonstration projects involving joint public-private financing be implemented in the transit arena and that stronger relationships among financial policy, transit policy, and land use policy be developed at all levels of government.

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