Economic Impacts of Transit on Cities

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Justifications for transit investments have included stimulating community revitalization, creating jobs, spurring economic development along a specific transit corridor, and maintaining and sustaining dense urban centers that are becoming paralyzed by automobile congestion. However, opponents of transit investments argue that the actual economic effects of transit do not meet these claims and do not warrant the expenditure of public funds. Transit studies have provided mixed evidence of whether or not the objectives are actually met by transit. A review of the transit literature was conducted to examine the existing economic impact reports for rapid transit systems in the United States and Canada. Sample cities were chosen for case studies to test the varying opinions of policy makers, planners, business people, and developers on the objectives of transit investments and to determine the extent the objectives were achieved in each city. Four types of cities were sampled: older, established rail cities (Boston, Massachusetts); newer rail cities (Atlanta, Georgia); newer cities proposing rail transit (Dallas, Texas); and smaller, bus-oriented cities (Hartford, Connecticut). For each city, the transit system's characteristics, goals and objectives, and impact on economic development were discussed. Findings indicate that transit assists other factors in creating and directing new development projects, provides crucial access to highly congested downtowns, contributes to quality of life that makes a city more attractive for economic development, and provides economic opportunity for transit-dependent populations in urban areas.

One justification for transit investment has been its potential to provide a positive impact on the economic growth of cities. Claims for transit investment have included stimulating community revitalization, job creation, economic development along a specific corridor, and maintaining and sustaining dense urban centers that are becoming paralyzed by automobile congestion. Other benefits attributed to transit include helping to reduce urban pollution levels and increasing accessibility for the disadvantaged and elderly populations in the cities. In this context, transit generally refers to any public transit system, which requires major capital investment.

Opponents of transit investment argue that the actual economic effects of transit do not meet these claims and are, in fact, less significant and therefore do not justify major expenditures of public funds. Opponents suggest that although transit may shift patterns of development within a region, it does not bring additional economic benefits to the area economy in which it serves.

In fact, studies done on the subject have presented mixed evidence of whether or not these objectives are actually met by transit. The following discussion is the outcome of a 1988 study conducted for UMTA and results will be presented of new case studies on this issue to better clarify the objectives guiding transit planning and the implications for transit investment.

In order to obtain a fresh and in-depth look at the economic impacts of transit development, the UMTA study called for a two-pronged approach: a set of case studies and a literature review. This approach was chosen to best qualify potential economic impacts of transit by comparing published findings with actual experience in four different cities. The results provide conclusions on what transit can and cannot accomplish for a city's economy that can then be used by decision makers and transit planners to make choices about their city's transit future.

The literature review examined existing impact reports for rapid transit systems built in the United States and Canada. Methodologies were examined to determine the actual economic impacts that have resulted in cities with new rapid transit facilities. In addition, the literature review examined the impact transit has had on achieving the major economic development objectives that are often presented as justification for transit investments.

To complement the findings of existing literature, a sample of cities with differing levels of transit investment was chosen to test the varying opinions of policy makers, planners, business people, and developers on the objectives of transit and to determine the extent the objectives were achieved in each city. Four types of cities were sampled: older, established rail cities (Boston, Massachusetts); newer rail cities (Atlanta, Georgia); newer cities proposing rail transit (Dallas, Texas); and smaller, bus-oriented cities (Hartford, Connecticut). In each city, a sample of policy makers, business leaders, transit planners, and academic observers was interviewed to determine the current state of opinion on the value of public transit for cities.

The following issues were examined for each case study city, all of which shed light on the true nature of the relationship between transit and economic development:

- Objectives and values guiding transit decisions,
- Effects of transit on the city or region,
- Impacts of transit on different groups and locations,
- Impacts of transit on downtown development,
- Relationship between transit and environmental quality, and
- Relationship between transit and economic growth.

Finally, a comparison of findings from both the case studies and literature review will be made to present relevant lessons for transit planners and other interested parties as to the value of transit to a city's economy.
LITERATURE REVIEW

There is extensive research and literature exploring the economic impacts of transit on cities. Literature on the economic impacts of transit primarily examines the various methodologies used by researchers to measure the extent to which transit has fulfilled its economic objectives. Of interest for this discussion were results of methodological studies in terms of how transit has lived up to its economic objectives.

Studies attempting to measure the economic impacts of transit rely on a variety of methodologies. Among the most common indicators used to determine the extent of economic benefit are

- Increase in property values adjacent to the transit line;
- Increase in development projects (building permits, visual inspection) along the transit line; and
- Changes in business sales adjacent to the transit line.

If these measures increase, then the transit line has brought a benefit to the economy. Inherent in these methodologies is the assumption that changes must be net increases, adding new development to the region. If transit merely shifts economic benefits from one part of the region to another, then the conclusion is that there is no economic benefit at all.

Such a conclusion presents a problem in measuring the true nature of economic impacts that is illustrated by the differences between how academic studies measure economic impacts and what objectives economic planners select when planning transit projects. For example, although the academic literature uses changes in property values to measure economic impacts of transit on a specific area, transit planners have not selected increasing property values as an objective for planning transit projects to encourage economic growth. Rather, their objectives include a broader desire to promote growth in distressed areas, to expand economic opportunity for the transit-dependent populations (i.e., elderly and poor), to allow more people to access the downtown for employment, among others. Examining property values along a rail line fails to measure broader issues of whether more people have job opportunities, and whether employment in the downtown is growing.

Also problematic is the underlying assumption that net growth is an indicator of economic benefit to a region. In fact, distributional shifts of development may be very desirable from a planning point-of-view. Some areas may be more appropriate for development than others, so encouraging a shift in activity may be beneficial to the city. Concentration of activity also creates benefits of its own, creating economies of land use and transportation that cannot occur when development is dispersed.

Appropriate and accurate measures for the true economic impacts of transit will require further study. However, the difficulties that occur when using academic studies to make policy decisions would indicate that many issues must be examined when making the choice to build or expand transit, including the broader economic planning objectives previously discussed.

Although there are a range of potential economic development objectives for transit investment, generally they can be grouped into three major categories, as follows:

- Sustain and maintain dense development and growth in the downtown core,
- Allocate land use and development, and
- Create and stimulate economic growth and employment opportunities.

Sustain and Maintain Density Development and Growth in the Downtown Core

For some older U.S. cities and cities in which access is constrained by geography, downtown access is becoming increasingly constrained by automobile and truck congestion on the network of downtown streets and highways leading into and out of downtown. Difficulties for employees, residents, and clients in accessing downtowns are increasing and are causing constraints on economic growth and threatening the loss of businesses from the urban core. In examples in the literature, transit investment has been seen as a positive factor for retaining or improving downtown access and as a significant contributor for maintaining and expanding downtown economies.

For example, New York City has been facing the potential loss of businesses because of difficulty in accessing the downtown core. New York’s urban character was well established before the use of the automobile became commonplace, and consequently the city grew up transit-dependent. However, the advent of the automobile brought new highway and roadway systems to serve downtown but the established dense development patterns have hindered the construction of roadway systems that adequately serve downtown. As New York and other cities with similar downtowns continued to grow, congestion has reached critical levels and cities have historically looked at transit investments as being necessary for maintaining access to the urban core. Transit improvements in these densely populated cities tend to attract larger ridership than new systems built in metropolitan areas characterized by low-density urban and suburban developments.

In San Francisco, California, the Bay Area Rapid Transit District (BART) system was built to maintain access to a central business district to which access was limited by geographic constraints because San Francisco is located on the tip of a peninsula. From the north and east, the city can only be accessed via bridge, whereas from the south access is constrained by coastal mountains. Although extensive BART impact studies failed to provide significant evidence of related development occurring at stations outside downtown, the transit system provided the crucial link into downtown that has allowed more employees and others to access downtown activities.

The previous discussion is not meant to convey the notion that congestion and access problems experienced by these cities have been solved because each of these cities continues to grow, access remains a significant problem. It is clear, however, that without continued investment in upgraded and new transit systems, the economies in these cities would be constrained by congestion. Continued growth would be jeopardized, possibly leading to the loss of businesses and employment.

Allocate Land Use and Development

Another major objective that policy makers hope to realize through transit investments is the control of land use and
development along specific corridors within a region. From a land use planning point-of-view, concentrating development at specific station areas or along specific corridors may be desirable in order to prevent sprawl and to retain the rural character of suburban areas not served by transit. Corridor development can also concentrate development and thereby decrease the need to use an automobile for every separate errand or shopping trip.

One major objective of the investment in the Metro system in Washington, D.C., was to support a compact pattern of regional centers along major corridors radiating out from a strong downtown. Some evidence exists in the Washington metropolitan area that development has occurred at and around station areas, although it is not clear that the Metro corridors have yet or would in the future stimulate the level of corridor development that was anticipated. In addition, it must be made clear that the development, which has occurred at station sites and along Metro corridors, would undoubtedly have occurred elsewhere in the Washington metropolitan area.

This reallocation of development is important because it means that the transit investment has not led to any net new economic gain for the area, but has simply reallocated land uses within the metropolitan area. Policy makers whose objective for a transit investment is to direct development along a specific corridor must be careful to assess the actual value of this reallocation (with no net gain) against the significant capital expenditure required to build and operate transit systems.

Create and Stimulate Economic Growth and Employment Opportunities

A third objective often cited for investing in major new rapid transit projects or improvements is to create or stimulate growth in an urban area. This objective can be divided into two: (a) revitalize a depressed urban area, and (b) create a world-class city image that will help to attract people and businesses to an area.

Several cities have invested in new rapid transit systems to try to stimulate economic revitalization. Buffalo, New York, based the feasibility study for its new rapid transit system on the premise that the system would help stimulate new downtown development, which would bring new employment and other opportunities, thus helping to revitalize a community that suffered from the decline of basic industry in the region during the 1970s (Gordon Thompson, Manager of Planning, Niagara Frontier Transit, telephone interview, April 1988). Pittsburgh, Pennsylvania, also hoped to reverse an economic decline by modernizing rapid transit in that city.

Both Pittsburgh and Buffalo invested in new transit systems that have managed so far to claim only modest amounts of development in conjunction with the new transit systems. A survey of developers in Buffalo conducted by the Niagara Frontier Transit Authority found that the transit system was considered a positive influence for $650 million of new development in the downtown. However, this development was also affected by other public policy decisions and public investment. The major new downtown development, the Main-Genessee project, is located at a transit stop but would not have occurred without the expenditure of federal dollars to assemble and purchase the land for the project.

In Pittsburgh, planners and transit agency representatives have been unable to identify specifically any new downtown development attributable to the trolleys (although the trolley may have had a minor positive influence on new downtown development that has occurred). However, there is evidence of a major negative impact of the Pittsburgh trolley. Gimbel's department store, which had been directly located on the above-ground trolley line, went out of business. The store claims the fact that the underground transit system bypassed the store is partially responsible for the store's loss of business and eventual closure.

Knight and Trygg (1), in their comprehensive study of the land use impacts of rapid transit, concluded that major rapid transit investments played a key role in new development both in downtown areas near stations and in suburban areas, but only when accompanied by other favorable conditions. Knight and Trygg (1) found that in Toronto, Montreal, and San Francisco the new transit systems provided much-needed improvements in accessibility to these downtowns, thus stimulating downtown growth. However, in these cases and in the cases of many other downtowns and suburban areas, many other factors were present that combined with the transit improvements to make development possible. These factors included demand for new office spaces or residential units, a healthy overall economy, timing of construction, availability of land, placement of the station, land use policies, and other public investments. As recognized both in the studies of BART in San Francisco and in Knight and Trygg's work (1), development around BART stations in downtown San Francisco occurred in large part because of specific redevelopment planning efforts undertaken for Market Street by the city. In addition, new zoning ordinances encouraged development around the station areas by significantly increasing allowable floor area ratio for developments within 700 ft of stations and by providing density bonuses for buildings adjacent to downtown transit stations. At downtown BART stations in Oakland, California, and at the Lake Merritt station, significant public efforts to assemble land and invest in new development have been critical to new development around the station areas. It is certain that these areas would have realized much less development without significant participation from the public sector.

Several cities have recently undertaken major new rapid transit projects with the objective of creating world-class image for their city. Both Atlanta and Dallas have identified the world-class city objective as a major stimulus for investing in a new transit system. Sacramento, California, and Miami, Florida, both hoped to achieve world-class city status with their new transit systems. Decision makers in these cities believe that a modern rapid transit system is an integral part of projecting an image of their cities as major, vital urban centers. If the world-class city image can be achieved, they believe that new business investment would pour in.

Although modern transit systems may be one characteristic of a world-class city, a new transit system has not shown that by itself it can project a world-class image for a city. A city must have a well-developed infrastructure including road systems and air service, cultural attractions, a critical mass of existing major businesses, and other characteristics in order to qualify as world-class. To date, evidence in the literature
has not shown that cities that have built transit systems to attain world-class city status have attracted the related development and investment characteristic of a world-class city, simply because of the transit system.

Summary of Literature Review Findings

Although investments in transit systems sometimes show evidence of leading to new development and increased real estate prices and values around some station areas, these impacts are usually not evident unless other factors encouraging development are also present. Land use policies and public investments supporting the development along with available land are all important to encouraging development in association with new transit development. In fact, a combination of all of these factors in addition to an investment in a transit system are unlikely to create sufficient economic growth in a depressed community. A strong economy complete with a demand for new space is the essential ingredient for stimulating new economic growth in depressed cities.

However, transit investments have been more successful in alleviating congestion in urban areas that must develop mechanisms for transporting commuters into and out of the downtown core. Systems such as the Massachusetts Bay Transit Authority (MBTA) in Boston and the Metropolitan Transit Authority (MTA) in New York attract large numbers of patrons working in downtown locations. However, in these areas, transit is one component of a larger solution to congestion. Transit investment, when coupled with other policies and programs, can address the future of transportation congestion problems in these dense urban areas.

CASE STUDIES

Case studies in four U.S. cities—Atlanta, Boston, Dallas, and Hartford—examined in depth the issues surrounding the impact of public transit on the downtown economy. These studies focused on the broader objectives of transit planning and investment than those often examined in the literature. Cities were selected to represent different levels of transit investment and different types of transit systems. Case studies were conducted to determine what the public (planners, developers, business people, and politicians) expected from transit and why they felt it was important to the economy. Although the case studies did not provide definitive proof of the relationship between transit and economic development, they demonstrated the importance of transit in supporting the economic health and growth in the downtown core. These case studies also underlined the importance of public transit as providing access to employment opportunities for the elderly, handicapped, and poor, who are dependent on transit for their livelihood. This access is important for a city’s future not only because transit is a public good, but also because a city’s economy depends in part on the level of employment and income of its residents.

Finally, the case studies investigated the importance of transit in supporting higher densities in more congested urban areas. All of the case studies showed the role of transit in bringing workers, shoppers, residents, and clients in and out of the downtown core. This role becomes crucial as parking reaches the crisis stage in many cities and as existing highways operate consistently over capacity. Transit is not the only solution, but remains a crucial tool in the future economic health of U.S. cities. Findings of the case studies revealed some insight into what transit contributes to the urban economy as well as providing a broader, more comprehensive way of viewing transit impacts.

Atlanta

Transit System

Atlanta, the Southeast’s largest city, was chosen as a representative newer city with an existing rail system, the Metropolitan Area Regional Transit Authority (MARTA).

MARTA was conceived as part of Atlanta’s ambitious plan to become a national and international center of commerce. Transit has always been part of the region’s comprehensive regional planning effort and MARTA was constructed with the philosophy that the system would reshape the region’s development. To date, the system has not shown evidence of influencing development patterns throughout the entire metropolitan area. However, in areas of the city where all of the proper elements were in place to support economic development, in more recent years MARTA has allowed development of denser downtown projects.

Transit Goals and Objectives

Although the region and its units of government were pressing ahead with plans to expand the highway system, planners promoted transit as a complement to a good, strong freeway system. Transit was envisioned by the planners as strengthening the emphasis on the central business district and reducing suburban sprawl, which might otherwise result. Transit was also seen as a way to achieve the goal of reducing traffic congestion on the region’s highways and improving the mobility for the region’s transportation-dependent population. Business and civic interests saw public transit in general, and a rail transit system in particular, as part of their plan to place Atlanta among the nation’s most prosperous cities and give the city international prominence.

Transit and Economic Development

One of the goals for MARTA was to stimulate widespread and planned regional growth; however, this goal was not achieved regionwide to the original desired level. This failure was largely a result of other factors such as the recession in the early 1980s, a decrease in federal funds for urban improvement projects outside of the rail system itself, and private sector disinterest in developing land near station sites, particularly at stations outside of downtown. As a result, much land was left undeveloped.
However, recently Atlanta’s economy has improved and a set of public policies designed to support development has been instituted. As a result, downtown Atlanta has experienced a scale of development and revitalization fulfilling many early desires for the MARTA system. Time was needed for all elements to fall into place, but transit finally contributed significantly to the support of economic development.

Perceptions of transit as a solution for mobility problems and as an attractive and efficient way to travel are beginning to be used by developers of properties near some MARTA stations. Although many developments choose downtown because of the prestige of a downtown address, many are selecting sites near a MARTA station. In one important case, the North Park development, MARTA’s proximity allowed an increase in the scale of the proposed development, making larger densities possible. In another, Lenox Park, the proximity of transit appears to have affected the mix of uses. In both cases, substantial increases in transit ridership are expected as a result of the project’s presence.

However, in both cases the developments, although large, are only a fraction of the total amount of existing and planned development within the submarket areas. Within these areas, other development is taking place with less obvious ties to the transit system. It appears that transit affects development in the more marginal areas. Some areas, such as near some suburban stations, are not ready for development and no transit system will make something from nothing. On the other hand, some locations are so attractive, such as the prestigious downtown areas, that transit is not a driving factor in development decisions. It is the areas in between, where some elements are in place but some encouragement is needed, that transit can create the impetus for development.

As the importance of MARTA has grown in recent years, its future role in economic development will continue to grow in support of Atlanta’s economic growth. MARTA has been cited as a factor of growing importance to locational decisions for two kinds of facilities. For operations centers, MARTA is playing an increasingly important role as the transportation mode of choice for the clerical and technical work force employed there.

Secondly, developers and observers believe that MARTA will have an increasingly important role in locational decisions for regional headquarters of major corporations. An important part of Atlanta’s recent growth has resulted from decisions to locate such facilities in the region, given the increased ability to move workers to and from downtown and the airport. With its new terminal within the airport itself, MARTA now offers 20-minute trips to downtown and midtown locations. As long as office parks can be located within an hour’s drive to Hartsfield International Airport, Atlanta will continue to attract regional sales and headquarters facilities. When available sites or levels of congestion make this 1-hour trip impossible, MARTA will make the difference in attractiveness as a place to do business.

Atlanta’s emergence as a center of national and international importance was based on the recognition that auto dependence is self-limiting. Although the transit system has not generated the levels of development near station stops that were anticipated, the need to reduce congestion, transport a growing work force, and provide Atlanta with an international image and competitive edge make the transit system a crucial part of the Atlanta economy.

Boston

Transit System

Boston was selected as representative of older cities with an existing rail transit system. Boston is served by the Massachusetts Bay Transportation Authority (MBTA).

One objective of transit system upgrades in Boston in recent years has been to improve access into the highly congested downtown. This objective has become particularly important since highway construction was put under a moratorium. As suburban highways become just as congested as downtown streets, moving people efficiently into and out of downtown will become more crucial to the regional economy. A specific economic objective of access to downtown is the ability to move the labor force in and out of the city. This movement was further exacerbated by a freeze on the number of parking spaces allowed in downtown Boston. Boston’s office and retail economy is healthy and providing a sufficient labor force to serve the demand, which is important in sustaining the level of economic activity. A subset of the labor force is the lower income, transit-dependent population that relies on transit for its livelihood. Transit serves this group particularly well and provides a social good by providing access to employment opportunities. By the same token, the metropolitan Boston transit system also serves the non-transit-dependent population as both the subway and commuter rail systems have heavy park-and-ride ridership.

A related objective of relieving automobile congestion by public transit is to improve air quality. Boston has a serious pollution problem and one of the important values of transit to the area is to reduce the number of cars traveling to downtown and adding to the air pollution.

Underlying all of these issues—pollution, congestion, access—is the issue of quality of life. In an older, transit-oriented city like Boston, maintaining a clean, useful, well-functioning rapid transit system becomes an integral part of keeping Boston a desirable place to live, which allows the economy to grow and prosper.

Transit and Economic Development

Transit’s impact on economic development in Boston has been the subject of much debate. Generally, it has been accepted that transit and the economy are linked together but differing views exist on the nature of the relationship.

For the few remaining parts of Boston not currently served by transit, linkage to the rest of the transit system is considered crucial for supporting new development with the resulting increased labor force and other activity that would take place. For example, in the Fort Point Channel area, the streets simply cannot handle a large increase in worker, resident, and shopper traffic that would result from development. Fort Point Channel is pointed out by all observers and officials as the single most important example of the relationship between transit and economic development.
Transit provides access to employment, especially for transit dependent populations. As one official observed, "The lack of transit puts a limit on finding employment. It is very important to have transit for opportunities for employment." This aspect of transit addresses the social good question by providing access to employment opportunities for a population dependent on transit for traveling to and from work. In this sense, public transit provides both a social good as well as an economic good.

In summary, transit in Boston is linked with patterns of development, but does not control it. Planners and developers considering new projects in the city will need to ask the question: "How will people get there?" Access to downtown will continue to play a key role for Boston's workforce as congestion becomes more critical. Evidence of the importance of transit in this role can be seen in the growing commuter rail investment, which has responded to a large demand for bringing white-collar labor downtown. Ridership on the recently expanded commuter rail network has been higher than expected and has been mushrooming annually. In addition, throughout the construction period for the Central Artery-Third Harbor Tunnel Project, which will be taking place over the next 10 years, a comfortable, easy-to-use means of accessing the city becomes even more paramount.

As Boston's metropolitan area spreads further from the central core, the concept of regional transit becomes more important in maintaining the current level of growth. As is true in many cities, transit is no longer simply a downtown issue. Transit also encouraged regional dispersal of originally downtown functions, such as back office operations and other businesses. For example, the extension of the Orange Line north to Malden and Charlestown and the Red Line south to Quincy and Braintree has supported new office and other construction in these areas. Downtown insurance companies and banking and finance firms have relocated many of their back office and clerical functions in these areas. Although relocation of back office functions is part of a general trend for many industries, the opening of new transit lines played a crucial role in the development of these areas. The role of transit systems must be viewed as a regional one, with commuter rail playing as significant a role as the original subway section of the system.

Dallas

Transit System

Dallas was selected as representative of a newer city considering building a new transit system. Currently, downtown Dallas is served by bus service operated by Dallas Area Rapid Transit (DART). On June 5, 1988, Dallas-area voters defeated a referendum in which DART proposed bond financing for funding a $1.8-billion, 93-mi light-rail rapid transit system through a 1-cent sales tax. The defeat of the referendum means at least a temporary end to public rail transit in Dallas. However, DART has since regrouped to produce a new plan for transit in the city, although many of the suburban members of DART are questioning their future involvement in DART. In June 1989, DART released a new proposal for transit in Dallas, which included a comprehensive package of 66 mi of light-rail, high-occupancy-vehicle (HOV) lanes, commuter rail, and bus service. The new package has been designed to solve current transit problems using a variety of transit alternatives designed to support Dallas' future economy.

The defeat of the referendum to build a light-rail system makes Dallas an important case study for understanding transit impacts on cities and the impact of various types of funding on transit. Dallas-area planners, developers, and most citizens have recently confronted the issue of why transit is important to Dallas and why Dallas does or does not want a transit system. Unlike an older city where a system would already be in place, Dallas has the opportunity to examine the goals and objectives of building a new rapid transit line. The type of financing explored by DART, bond financing, is an alternative to the use of federal funds and raises issues of government funding policies for rapid transit.

DART's first proposal for a 93-mi transit system was an arterial light-rail system planned to operate primarily during peak commuter hours and was to include 210 electrically powered rail cars. One line would have extended south from downtown to Oak Cliff and to West Oak Cliff. A second line was planned to run underground along the North Central Expressway, surfacing near Mockingbird Lane and continuing above ground to Plano, with a spur traveling west to Carrollton and Irving. The arterial nature of the system provided a downtown orientation for rail service and would have served both residential areas surrounding downtown as well as activity centers outside the downtown.

Another transit project that makes Dallas a good case study for studying transit impacts is a private sector trolley project underway adjacent to the central business district. A group of developers, property owners, and business people along McKinney Avenue joined together to design an antique trolley to run on McKinney Avenue, linking shopping, restaurants, businesses, and a residential neighborhood. Out of a total cost of $6 million, a little over $2.5 million was obtained from UMTA grants with the balance of funds raised from private contributions and some city aid. Currently, the trolley is under construction and there is some interest to continue the trolley service to other parts of the city.

Transit Goals and Objectives

A prevailing view in downtown Dallas is that Dallas needs rapid transit to become a world-class city. Transit would make Dallas competitive with major national and world trade centers such as New York, Boston, and Atlanta. As one official described it (informal communication),

"World-Class City" is a term that is used all over Dallas and is a very typical term for a new city like Dallas which is trying to achieve status as a world class city. This means that, for example, U.S. Bank Plaza is a world class building . . . . The people in Dallas believe that in order to achieve world class status, recognition, and so forth, they have to have a rail transit system.

Apart from the competitive standpoint, a major objective of transit in Dallas is to assist in relieving traffic and mobility problems prevalent in and around downtown Dallas. The rap-
idly burgeoning suburbs of Dallas, especially north of the central business district, have congested highways both into downtown and between various suburban activity centers. Traffic congestion in Dallas is a regional problem because of the dispersed nature of business and retail activity centers throughout Dallas county. DART's proposed rail system sought to relieve regional traffic congestion with transit lines running into and out of downtown to ease commuting. However, the proposal did not include circumferential rail service to ease congestion between the regional activity centers.

Increased mobility into central Dallas resulting from public transit has value for two important reasons. Transit allows the large working population to move into and out of downtown and serves the transit-dependent population which lives primarily to the south of the downtown area. To a lesser degree, rapid transit also increases mobility of visitors to the area who need to access areas nearby and adjacent to the central business district.

Charles Anderson, Executive Director of DART, summarized the objectives for the rail transit system in an article in the *Dallas Business Journal* (2,p.8), as follows:

- Reduction of congestion,
- Reduction of labor-related transportation costs (as opposed to continued reliance on buses and cars),
- Reduction of air pollution, and
- Reduction of dependence on hydrocarbon fuels.

One observer summed up rail transit in Dallas in this way (informal communication). "Rail supporters say that DART would profoundly reshape the urban landscape, curbing unplanned suburban sprawl, reducing the community's reliance on automobiles and making Dallas a very different place at the dawn of the 21st century."

**Transit and Economic Development**

Planners and business people feel that rail transit is crucial to the continued health of the downtown economy. The downtown area is currently shrinking and many believe that rail transit is necessary to prevent further shrinkage.

These beliefs are tied to the two objectives mentioned previously—mobility of a qualified workforce and a world-class city image. Mobility of a qualified workforce is crucial for the expansion of office and retail activity, which are both central to the Dallas economy, especially as projected growth in the region will make the regional road system unacceptably congested. This mobility is especially important in light of the competition from suburban office parks, where highway access is simple and land costs are much lower than in downtown Dallas. The objective of becoming a world-class city is also a factor in allowing for economic growth and future business attraction. In order to compete against major cities like Chicago, New York, and Boston for attracting and retaining top-notch businesses, Dallas feels it needs to have a rail transit system. However, the ability of rail transit to provide world-class city status has not been proven and whether this objective could be achieved is uncertain.

Because the DART rail system was only proposed and not actually constructed, there is no concrete evidence that rail transit is necessary to support economic growth. What is clear from Dallas policy makers and citizens is that increased mobility within the city of Dallas is a crucial link to economic growth in the region. Rail transit is one possible component to this, as are HOV lanes, improved highway access, and other transit options.

**Hartford**

**Transit System**

Hartford was chosen as a representative smaller city with a bus-only transit system.

The Hartford region is served by a system of Interstate highways consisting principally of I-91, the major north-south Interstate through the Connecticut Valley and I-84, which travels in a northeast-southwest direction, both currently under construction.

Consistent with findings in the literature review, the bus system in Hartford has not shown much evidence of directly causing or steering economic development. However, bus transit, in conjunction with other alternatives such as vanpools and carpools, is becoming more important in bringing the workforce into and out of Hartford, as congestion increases and the number of parking spaces decreases.

**Transit Goals and Objectives**

Hartford’s transit system does not have many explicit economic development goals, apart from public service. Transit is seen by the city’s transportation department as a complement to its highway construction and operation efforts to help reduce congestion and support growth. Hartford’s major employers have an interest in ensuring that congestion does not impede their operations because much of this congestion results from downtown-oriented trips by suburban residents at peak rush hours. These employers have been cooperating for a decade in the development and implementation of transportation system management measures. One goal of their efforts is a 20 percent reduction in single-occupancy vehicles with downtown destinations. Their hope is that such reductions will make available sufficient space on the region’s highways to accommodate employment growth now underway in Hartford and in the downtown in particular.

Advocating the social and economic needs of Hartford’s residents is of particular concern for the city. For many years, the city has viewed its role as an advocate for its residents, both because Hartford contains a disproportionate share of the region’s poor and because decisions affecting transit service were not in their hands, but rather in those of the state.

Planners, policy makers, and public and private decision makers bring different goals and objectives to the transit planning process. All share a common hope that public transportation and paratransit can contribute to reducing commuter time and to offering wider access for employment opportunity to innercity residents.

**Transit and Economic Development**

The absence of fixed-rail transit in the greater Hartford area casts the discussion about the relationship between transit and
economic development in a different light than that of the other case study cities. Hartford's rubber-tired transit system, which includes its extensive and growing paratransit service, has not shown the ability to influence private sector investment decisions.

The connection between economic development and transit in Hartford is viewed in terms of its effects on people, both as workers and as area residents. This view includes the impact of the transit-dependent for whom transit is a source of economic opportunity. At another level, there exists employment opportunities in a large number of downtown firms without corresponding opportunities for parking. Many companies are unable to provide parking for all, and status and pay determine in some part whether parking is available.

Economic viability of downtown Hartford and the success of several of its employers, including hospitals and other institutions with a concentration of lower-wage jobs, depend on public transportation. Transit has become part of the solution to the transportation impacts of economic development in downtown Hartford.

Although there is little evidence in Hartford that the bus system has influenced economic development patterns or decisions, transit plays a role in supporting the city's economy by giving access to the city's workforce under circumstances of congestion and severe parking limitations. As the long-term plan for access to downtown Hartford takes shape, transit will play a role in solving the problem of moving people into and out of an increasingly dense downtown core.

CONCLUSION

Although each of the case study cities has a different type and level of transit and is quite different geographically, historically, and socially, all of the case studies point to common elements concerning the value of public transit for the economy and the impact transit has on shaping economic development. These elements consist of the following general issues:

- Transit is only one of several factors which must be in place to create and direct new development projects. The case studies, particularly Atlanta, support the findings of the literature review, that although transit is an important component in supporting development, it is not the single cause of new development. Other factors are just as important in bringing about economic growth, including the area economy, land use planning and policy, and availability of land, among others. However, when all factors are in place, transit provides an important support for allowing large and more dense development and economic activity to occur in downtown.

- Transit provides crucial access into highly congested downtown cores, which allows more people to access downtown for work, shopping, and other activities. The literature review found this to be particularly true in older cities such as Boston and New York and the case studies supported this position. Older and more densely developed cities such as Boston rely heavily on rapid transit to support the downtown economy. But even newer cities, such as Dallas, have increasing regional mobility crises in which transit can provide part of an overall mobility strategy. Highways alone cannot provide sufficient levels of free-flowing traffic to support further economic development and expansion in many downtown areas.

- Transit contributes to the quality of life in urban areas, which makes a city more attractive for economic development. This contribution includes reduction of air pollution, reduction of traffic downtown, and assistance to the transit-dependent population for access to employment and other opportunities. All of the case studies underlined the importance of transit for these types of issues. The role transit plays in providing economic opportunity for transit-dependent populations was noted in all four cities, whether the transit system was rail or bus. The other issues apply to rail transit and were factors particularly in Dallas and Boston. These issues are not central economic development issues, but they underscore the role of transit in long term viability of urban economies. The health of a metropolitan economy is only as strong as the population living in the city. Without transit, populations such as the elderly, the handicapped, and low-income residents have less access to employment, which lowers the potential earning power of a large sector of the city's population.

What are the implications for the continued investment in transit? Additional study needs to be done to determine more appropriate ways of measuring impacts, as the literature to date has used the wrong measures in trying to determine the benefits created by transit. Although transit itself does not directly cause economic development, transit contributes in a significant way to the metropolitan economy in terms of quality of life and support for growth. It is also clear that with growth and congestion threatening to throttle most American cities, the future survival of downtown economies is tied to quality transit infrastructure. As the case studies have emphasized, transit can be an important part of a metropolitan area's plan for maintaining the economy and allowing the natural progress of growth.

REFERENCES