THE INITIAL ECONOMIC IMPACTS OF THE DART LRT SYSTEM

Prepared for

Dallas Area Rapid Transit

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I. Introduction and Overview

After years of planning and building, DART rail became a reality in June of 1996. As part of the "Before and After Study," the University of North Texas Center for Economic Development and Research was retained to identify and measure the initial economic impacts of the LRT system, focusing primarily on property values and retail sales. The following report present our findings.

Section II is a review of the academic and professional literature on rail transit and property values. Most studies to date have found only marginal positive impacts on adjacent property values when rail systems are constructed, with the exception of joint public-private development partnerships. But the focus of these studies has been mainly on heavy rail systems, not light rail as is the case of Dallas. What's more, the Dallas area exhibits different economic and demographic characteristics than most other communities where mass rail transit has been constructed in recent years.

Section III looks at changes in taxable values between 1994 and 1998 for properties located near DART stations as well as a sample of commercial, industrial and residential properties in comparable neighborhoods not served by DART rail. The jump in valuations around DART stations was about 25 percent greater than in the control neighborhoods with the sharpest gain posted in the City Place-Mockingbird-Lovers corridor.

Section IV examines the impacts of DART rail on commercial real estate, in particular occupancy and rental rates for office, retail and industrial properties. By these measures, proximity to DART LRT stations appears to be a plus for most classes of real estate, especially Class A and C office buildings and strip retail.

The final section of the report looks at the growth of retail sales since DART rail went into service. Between mid-1997 and mid-1998, total retail sales jumped 36.2 percent in Dallas' Central Business District. By contrast, retail sales growth citywide was only 3.6 percent.

II. Does Rail Transit Affect Property Values? A Review of the Academic and Professional Literature

Over the past two decades a considerable body of research has emerged on the question of the impact of urban rail transit systems on residential and commercial property values. The past half-decade has also seen growing interest in the closely related area of transit joint development. The distinction drawn between these two related areas of research is important. In the case of the former, the chief aim has been to statistically measure the nature and strength of the relationship between one form of transportation infrastructure (rail transit) and property values, and results have been reported extensively in peer-reviewed academic journals, working papers and grant reports. As for the latter, the focus has been on categorizing the mechanics of revenue- or cost-sharing arrangements between public transit agencies and private developers. Very little empirical work has actually been completed. In what follows, the published research on both issues is summarized and examined for insights that may help to shed light on what Dallas' new light rail transit is likely to bring.

Urban Rail Transit and Property Values

Throughout the 1960s, considerable attention was focused on the comparatively broad issue of how transportation infrastructure influences urban form and, consequently, urban property values (Alonso 1964, Mills 1967, Muth 1969). The impetus of this research was the notion that urban property values are influenced by accessibility, defined commonly as the straight-line distance of a given property from the central business district (CBD) (Kain and Quigley 1970). In other words, any significant improvement in the transportation system that increases accessibility and reduces transportation costs should be capitalized in land values and result in land-use changes.

Intuitively, this is a readily understood and convincing argument. Empirical research, however, paints a decidedly more complicated picture. One in-depth review of this issue concluded that the empirical research has seldom supported theoretical expectations (Giuliano 1989). A more recent review concludes that the capitalization effects of rail transit are actually extremely modest and highly variable (Cervero and Landis 1995).

Interest in the impacts of rail systems on property values began to emerge in the early-1970s with the construction of "new generation" rail transit systems in San Francisco, Washington, D.C. and Atlanta, of which more will be said shortly (Giuliano 1989). But the first study of this ilk examined the suburban land use impacts of Philadelphia's Lindenwold high-speed rail line, which replaced a conventional rail system in 1969 (Boyce et al 1972). This research concluded overall that the Lindenwold system had resulted in transportation savings and, consequently, had some positive impact on property values. But, it also muddied the issue by suggesting that the positive impacts of rail transit on property values were more apparent in lower- and middle-class neighborhoods than in higher-income areas (Mudge 1974, Allen & Mudge 1974, Boyce et al 1976).

San Francisco's Bay Area Rapid Transit (BART) system has received the greatest attention from researchers. The earliest BART study to look at impacts on residential property values yielded mixed results: Only a handful of the neighborhoods studied showed noticeable impacts on property values (Lee 1973). Two more studies concluded that BART had encouraged the decentralization of both population and employment in the Bay Area, which seems to suggest downward pressure on inner-city property values (Webber 1976, Dyett et al 1979). Several other studies, meanwhile, concluded that BART depressed adjacent property values for a variety of aesthetic and social reasons, including increased noise and vibration, increased automobile traffic, the perceived accessibility of lower classes to previously higher income neighborhoods, and architecturally insensitive design treatments of rail stations (Dornbush 1975, Burkhardt 1976, Baldassare et al 1979). Only two studies, in fact, found that BART exerted a positive influence on property values. One identified a positive effect on properties located within 1,000 feet of a

BART rail station (Blayney Associates 1978). The other, an impact study conducted 20 years after BART began operation, found a premium on homes with good access to the BART system (Landis et al 1994). The real contribution of this particular study, however, may be that it identified an effect two decades after BART service began; in other words, there probably is a significant time lag involved in the capitalization of transportation improvements (Giuliano 1986).

Washington D.C.'s Metro system has received scrutiny in three studies. Two concluded that the impact of rail transit on property values was, at most, indirect and limited to areas characterized by other favorable factors such as the availability of developable land, positive economic, political and social conditions, and coordinated government policies for development (Lerman et al 1978, Damm et al 1980). Their findings supported two earlier studies which reviewed and reinterpreted the then extant body of research on rail transit capitalization and determined that rail does little to promote real economic growth absent these supporting factors (Knight & Trygg 1977a, 1977b). A third Metro study, like two of the BART studies completed nearly 10 years earlier, found that rail encouraged the decentralization of population and employment and, consequently, tended to lower property values in older neighborhoods (Paget Donnelley 1982).

In Atlanta, researchers discovered that rail transit had virtually no impact on property values (Nelson & McCleskey 1989), while a study of Miami's Metrorail system came to the same conclusion (Gatzlaff & Smith 1993). Over the past decade, Portland's MAX rail transit system has also received attention. In two studies, only very modest and spotty impacts on property values were identified (Arrington & Davis 1987, Al-Mosaind et al 1994). Preliminary results of a third study hold that rail transit has had virtually no impact on property values (Dueker 1997).

In fact, the only evidence that consistently supports the notion that rail transportation improvements positively impact property values comes from two studies of Toronto's rail transit system. One, which looked at changes in residential property values along two streets in Toronto before and after 13 miles of subway replaced streetcar service to the city's CBD, concluded that

proximity to subway stations had a slight positive impact on property values (DeWees 1976). Another examination of Toronto's experience with rail transit revealed that the city's rail corridors have experienced intense development and that residential property values are significantly higher near a rail line than elsewhere (Bajic 1983).

As a number of other studies have pointed out, however, there are multiple reasons to question the relevance of Toronto's rail experience to urban areas in the U.S. First, Toronto has strong development controls for which there is no counterpart in the U.S., as well as an almost complete absence of suburban highways (Rice Center 1987, Gatzlaff & Smith 1993). Moreover, Toronto encouraged a broad range of public policies to encourage rail-ridership, including restraints on automobile use (Dear 1975, Knight & Trygg 1977a, Dingemans 1978, Cervero 1984). Finally, Toronto is characterized by a density of development that's rare in urban areas in the U.S.; as one study observed, in such circumstances rail transit will almost inevitably improve accessibility and boost property values (Heenan 1968).

Several explanations have been advanced for the weak and inconsistent empirical relationship identified between rail transit and property values. An obvious starting point is the straightforward argument that the basic theoretical construct — i.e., that rail transit improves accessibility and, therefore, affects land values and use — is ill-conceived. Some studies, in fact, have claimed that rail systems do not impact accessibility because they tend to serve few origins and destinations, and they carry a very small share of the total number of trips in an area (Hamer 1976, Meyer & Gomez-Ibanez 1981). In other words, rail transit systems should not be expected to affect land use.

Another simple explanation for the counter-intuitive conclusion of most of the empirical research is that rail systems simply haven't been given sufficient time to impact adjacent properties. The case here is that the durability of capital stock implies long time lags in land-market responses to changes in the transportation system (Giuliano 1986). This would appear to be the case with San Francisco's BART system, if recent research on its impacts mentioned above is to be believed (Landis et al 1994).

A third problem concerns measurement technique. If the model is correctly specified and the data are sufficiently mature, can the specific influence of rail transit be distinguished from other, confounding factors? One persistent criticism of the empirical research cited above has been that the methodological complexities involved in isolating the effect of any one factor on land values over several years make it unlikely that impacts can be measured, even if they exist (Giuliano 1986).

As for the confounding factors themselves, several have been identified that have forced researchers to acknowledge that transportation costs and accessibility are much less important factors than location theory predicts (Giuliano 1989).

1. Well-developed highway systems. In most large U.S. metropolitan areas the arterial highway system is well-developed, with multiple linkages to the interstate system as well as to local roads and tollways. Consequently, rail transit systems — even if large scale — have little relative impact on accessibility and, consequently, land use.

2. The decentralization of urban areas. With commercial and residential activities dispersed widely throughout most U.S. urban areas, relative differences in accessibility have declined. Put differently, in multi-centered urban areas — such as Dallas — almost any number of locations are equally accessible; in turn, once some basic level of accessibility has been fulfilled, it is no longer a primary consideration for residents or businesses. One interesting finding of the research cited above, in fact, is that rail transit systems appear to have accelerated urban decentralization (Webber 1976, Dyett 1979, Paget Donnelly 1982).

3. Relocation costs. Higher property values attributable to rail transit should, in part, reflect relocations to a newly accessible location. In reality, the long life and immobility of fixed capital makes relocation costs significant both for households and firms. In turn, if accessibility differences between alternative locations are small relative to relocation costs, accessibility considerations will not be sufficient to cause a move to take place (Clapp 1984).

4. Structural economic change. Much has been written in recent years about the growing services-orientation and globalization of the U.S. economy. How do these changes affect

transportation and land-use relationships? First, the relative importance of transportation costs in economic activity has declined as the transmittal of information has displaced the shipment of goods. Second, the market orientation of business is shifting increasingly to international networks; thus, for many firms, access to the interstate highway system and to major airports may be far more important than access within an urban area.

5. Local public policies. As some of the research cited above noted, local governments have the power to influence land use and value through tax and zoning policies, provision of infrastructure, financial assistance and other incentives (Knight & Trygg 1977a). Moreover, the influence of local government can be multiplied in urban areas characterized by competing jurisdictions (i.e., incorporated municipalities, as in greater Dallas).

In summary, the empirical research of the past two decades — though not without flaws — reveals that the capitalization effects of rail transit systems are not easily generalizable. Most of the evidence suggests that rail transit exerts no influence on land use and value; where evidence of a positive influence has been uncovered, it is highly localized and contextual. Indeed, the murkiness of this relationship has prompted some researchers to conclude that the greatest potential for recouping private value from public investment in transportation systems lies in transit joint development, a discussion of which follows (Cervero and Landis 1995).

Transit Joint Development

As noted previously, transit joint development entails a cost- or revenue-sharing arrangement between a public transit authority and private developer. The concept of joint development is fairly straightforward and has its roots in the notion that mass transit spurs both higher-density and higher-quality development (Gannon & Dear 1975, Pushkarev & Zupan 1977, Smith 1984). Essentially, in return for the right to develop the property above, below or adjacent to a transit station, the developer either assumes some of the construction cost of the station or makes a direct payment to the transit authority.[1] For the developer, the advantage lies in the higher rents and/or occupancy created by proximity to a transit station (capitalized accessibility).

Over the past fifteen years, some 115 joint development projects have been completed in the U.S. in more than a dozen cities, with the majority concentrated in New York City, Washington, D.C., Philadelphia, Atlanta and Boston (Landis et al 1991, Cervero 1994, Cervero & Landis 1995). Most (85 percent) were completed between 1980 and 1989. In addition to the quid-pro-quo incentive structure cited above, several other factors have encouraged this activity: (1) the federal government has placed increasing pressure on local transit agencies to seek more local revenue sources, (2) booming commercial real estate markets during the 1980s increased the value of transit agency properties, and (3) public-private partnerships have come into vogue (Landis et al 1991).

Essentially, joint development projects completed to date have taken eight forms (Landis et al 1991):

1. Station purchase or lease. A developer buys or leases space above or adjacent to a transit station for the purpose of new construction or renovation. This is the principal mode of joint development in Washington, D.C. and, along with station interfaces (see below), in Atlanta.

2. Non-station purchase or lease. A developer buys or leases a non-station site for the purpose new construction or renovation.

3. Station interface. A developer buys or leases the right to connect a structure physically to a transit station. The developer usually builds and finances all physical improvements to the passageway and may pay a fee to maintain the exclusive right to connect to the transit station. Atlanta has made considerable use of this form of development.

4. Benefit assessment district. The transit agency creates a zone around existing or planned transit stations for the purpose of collecting a portion of incremental property tax revenue resulting from new development. Currently, benefit assessment districts are functioning in Detroit, Los Angeles and Miami.

5. Incentive agreement. A developer agrees to build or upgrade a transit station in return for waivers of density or height restrictions, variances on permitted land use or free easements through public land. This is the dominant form of joint development in New York City.

6. Cost-sharing agreement. A developer and transit agency share selected facility construction costs, usually for excavation and related structural work. Cost-sharing arrangements have dominated joint developments in New York and Philadelphia.

7. Joint use of facilities. A developer and transit agency share the use of equipment, such as HVAC, elevator or escalator systems, parking lots and garages.

8. Development-concession lease. A transit agency leases station space to a developer or retailer in return for a rent payment and a renovation or upgrade.

Across this spectrum, no single mode of joint development has dominated. Instead, the preferred form has tended to vary by city as a function of the type of transit system in use (i.e., heavy- v. light-rail), the age of the system, the condition of the commercial real estate market, and the receptiveness of the public and private sectors to partnerships (Cervero et al 1991).

Despite the apparent popularity of transit joint development, however, only two empirical studies have been published. The first examined a limited number (9) of joint development projects and was undertaken relatively early in the recent history of joint development (Keefer 1983). Like many of the studies conducted during that time regarding the broader issue of rail transit impacts on property values, it concluded that joint development projects significantly benefited land use and site rents only in the presence of a healthy regional economy and a supportive governmental framework (i.e., permissive zoning to allow higher densities).

The second study was more comprehensive, employing pooled time series data to examine a variety of office market indicators over an 11-year period (1978-1989) for selected commercial properties located at or near 3 transit stations in Washington, D.C. (Ballston, Bethesda and Silver Spring) and 2 stations in Atlanta (Arts Center and Lenox) (Cervero 1994). Most importantly, this research found office rents at or near the stations to be 15 percent higher than rents for comparable properties elsewhere. Put differently, joint development projects added roughly $3 per gross square foot to annual office rents. This study also concluded that joint

development projects encouraged comparatively lower vacancy rates, shorter lease-up and re-lease times, and received better terms from lenders because of their more profitable and stable income streams.

Obviously, on the basis of just two empirical studies of joint development only a tentative conclusion that such projects positively impact land values or use is warranted. Moreover, researchers who have studied that issue have been careful to note that past successes have relied on a confluence of several conditions that are not always easily repeated, the most important of which is a robust commercial real estate market (Landis et al 1991). Put differently, regardless of quality no project can overcome adverse market conditions. Other factors revolve around "culture;" that is, the entrepreneurial capacity of the transit agency, the willingness of private developers to partner with the public sector, and so on.

Implications for Rail Transit in Dallas

Will proximity to Dallas Area Rapid Transit (DART) stations have a positive impact on property values? The evidence from empirical research on other transit systems is not encouraging. What's more, Dallas is characterized by two of the "enemies" of rail transit – (1) a high degree of decentralization along with multiple centers and (2) a well developed network of highways. Still, the experience of Dallas may prove to be different from other areas. First, the Dallas-Fort Worth region is currently the nation's strongest metropolitan economy and boasts a booming commercial real estate market. Second, residential densities are increasing in many parts of the Dallas area, as evidenced by the tremendous amount of apartment construction underway. Third, the demographic composition of the City of Dallas is changing in ways that will enhance the demand for public transit and, perhaps, the value of properties located close to DART light rail stations.

In the following chapter, changes in property values around DART rail stations are examined carefully and compared to changes in property values of similar neighborhoods that are not proximate to DART rail stations.

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III. Property Value Changes: 1994-98

In an effort to determine whether the DART LRT system is having a positive effect on property values, we collected appraisal data on nearly 700 commercial and residential properties located within ¼ mile of the 15 existing light rail stations. (For purposes of this analysis, we have treated the Dallas Central Business District as one station). We also pulled a sample of 160 properties in eight comparable areas that aren't served by DART rail but otherwise exhibit neighborhood characteristics similar to those around DART stations. The results of the analysis are summarized in Tables 1 and 2. (A complete listing of the properties examined can be found in Appendices A and B.)

During the period 1994 to 1998, total property values increased in 11 of the 15 neighborhoods examined. The drop in CBD values is probably a result of a continuing high level of office vacancies coupled with the removal of some older buildings from the tax rolls. The drop in values around the Illinois and Westmoreland stations may actually be a result of temporary dislocations associated with DART LRT construction. Sharp gains in property values have occurred around some DART stations, most notably in the City Place-Mockingbird-Lovers corridor. Office valuations have posted the sharpest gains.

While property values city-wide have recovered in recent years, the jump in total valuations around DART stations was about 25 percent greater than in the control neighborhoods. Though not true for every class of property in every neighborhood, *the proportionately higher rise in values for DART-served properties suggests that the light rail system is having a positive economic impact.*

Similar results are found when we just look at land values (see Table 2). In this case, the average appreciation around DART stations was double that in the non-DART rail neighborhoods.

Recently announced real estate projects point to continued growth around DART LRT stations. United Commercial Urban Centers is developing a shopping, apartment, office and hotel complex adjacent to the Mockingbird Lane rail station. On Park Lane, just west of the DART stop, investors have acquired two of the NorthPark East office buildings and are studying plans for a major redevelopment of the land. And Rancho Vista Development Company, a subsidiary of Hunt Petroleum, has announced plans with the city of Richardson for a 200-acre, mixed use development along the DART line right-of-way on the east side of North Central Expressway between Campbell and Renner roads. And plans have been finalized for a 40 acre mixed use development around the future Parker Road rail station in Plano. In south Dallas, new commercial and retail development is underway near the Illinois and Lancaster Road stations.

A detailed analysis of value changes in four major corridors can be found in Appendix C.

Table 1

Average Percent Change in Total Property Values (1994-1998)

Dart Stations	Retail	Office	Residential	Industrial	Vacant	All Properties
Cedars	-23.56%	39.82%	0.00%	8.18%	-30.94%	23.57%
Central Business District	33.41%	-37.16%	26.80%	11.95%	-3.38%	-9.71%
City Place	67.26%	69.38%	-33.14%	9.33%		59.01%
Corinth	6.66%		-24.55%	24.82%	35.33%	0.37%
Hampton			42.27%			46.27%
Illinois	-39.08%	11.49%	-10.94%	0.00%	-38.26%	-30.54%
Kiest	83.82%	9.05%	-10.17%		44.20%	36.75%
Lovers	5.29%	73.06%	30.48%	22.85%		65.77%
Mockingbird	78.71%	9.35%	28.07%	-11.62%		27.20%
Morrell	-29.70%		-6.59%	0.00%	-20.56%	-12.13%
Park Lane	-42.14%	64.45%	12.42%	-36.15%		2.17%
Tyler/Vernon	35.72%		9.87%		22.55%	12.18%
VA Hospital	16.72%	0.90%	65.46%		-7.05%	29.73%
Westmoreland	-23.42%	49.52%	20.85%	4.18%	-54.41%	-20.20%
Zoo	3.75%		14.44%	8.12%	0.63%	9.25%
Average	12.39%	28.97%	11.02%	3.79%	-5.12%	15.98%

Comparable Areas	Retail	Office	Residential	Industrial	Vacant	All Properties
Hampton Rd & Canada Dr	-11.23%	0.00%	4.74%		-0.07%	-6.44%
Hampton Rd & Kiest Blvd	-4.43%		8.50%		58.65%	15.81%
Illinois Ave & Knoxville	-23.82%	3.70%	24.44%	0.00%	51.84%	-0.25%
Jefferson Blvd & Zang Blvd	23.99%		15.02%		0.00%	22.15%
Miller Rd & 15th St	-2.52%		30.21%		-0.27%	2.30%
Preston Rd & Royal Ln	8.91%	15.24%	12.05%		-4.00%	9.26%
Spring Valley & Coit	24.37%		23.71%		104.92%	25.09%
Walnut Hill & Marsh Ln	47.05%	6.35%	10.72%		0.00%	34.99%
Average	7.79%	6.32%	16.17%	0.00%	26.38%	12.86%

* One Property

Source: Dallas Central Appraisal District

Table 2

Average Percent Change in Land Values by Property Use (1994-1998)

Dart Stations	Retail	Office	Residential	Industrial	Vacant	All Properties
Cedars	-24.90%	12.39%	0.00%	-6.53%	-31.00%	-9.66%
Central Business District	1.42%	38.22%	-5.17%	0.18%	-3.38%	18.55%
City Place	142.08%	37.61%	20.74%	0.00%		44.06%
Corinth	2.85%		13.22%	74.23%	24.66%	25.71%
Hampton			11.56%			11.56%
Illinois	38.74%	49.92%	-0.39%	0.00%	-11.54%	28.71%
Kiest	240.14%	-4.64%	-4.32%		0.00%	79.51%
Lovers	7.56%	-15.39%	14.14%	15.63%		-5.40%
Mockingbird	74.28%	-29.27%	14.28%	-13.80%		20.44%
Morrell	18.71%		22.85%	0.00%	5.97%	17.92%
Park Lane	-22.74%	20.33%	24.36%	18.74%		-3.44%
Tyler/Vernon	48.89%		0.00%		32.50%	8.41%
VA Hospital	23.05%	-5.16%	-21.20%		-7.05%	5.36%
Westmoreland	-42.50%	34.53%	0.00%	6.28%	-54.41%	-23.86%
Zoo	6.88%		-0.54%	-10.28%	0.27%	1.96%
Average	36.75%	13.85%	5.97%	7.68%	-4.40%	14.66%

Comparable Areas	Retail	Office	Residential	Industrial	Vacant	All Properties
Hampton Rd & Canada Dr	-19.81%	0.00%	0.00%		-0.07%	-14.80%
Hampton Rd & Kiest Blvd	27.56%		0.00%		58.65%	41.50%
Illinois Ave & Knoxville	26.34%	3.70%	0.00%	0.00%	51.84%	8.38%
Jefferson Blvd & Zang Blvd	2.54%		0.00%		0.00%	1.93%
Miller Rd & 15th St	1.29%		0.00%		-0.27%	0.95%
Preston Rd & Royal Ln	-2.87%	11.19%	6.79%		-4.00%	0.98%
Spring Valley & Coit	23.19%		-17.65%		39.52%	19.98%
Walnut Hill & Marsh Ln	-1.79%	0.00%	-2.88%		0.00%	-1.38%
Average	7.06%	3.72%	-1.72%	0.00%	18.21%	7.20%

*One Property

Source: Dallas Central Appraisal District

IV. Impacts of DART Rail on Commercial Real Estate

Another approach for assessing the economic impacts of light rail is to look at changes in commercial occupancy rates and rents for properties close to DART stations. For this purpose, we contracted with MPF Research to examine the occupancy and rental rate history during the 1994 to 1998 period for approximately 200 office buildings, retail properties, and industrial sites within ¼ mile of existing DART LRT stations. Though the rail system did not start operating until 1996, we hypothesized that occupancies and rental rates may have risen in anticipation of the forthcoming service. The results of this analysis are displayed in Table 3.

Class A office buildings near DART stations saw average occupancy rates jump from 80.2 percent in 1994 to 88.5 percent in 1998 while rents rose from an average of $15.60 per square foot to $23.00, an increase of 47.4 percent. Class B office buildings recorded occupancy gains during the 1994-1998 period from 73.0 percent to 77.9 percent, while rental rates increased 40.4 percent. Occupancies in Class C buildings rose slightly, from 44.8 percent to 46.4 percent, and rental rates increased 20.9 percent, rising to $11.39 per square foot in 1998.

Community retail properties—those with at least one major retail anchor—experienced a slight decrease in occupancy between 1994 and 1998 while rental rates jumped 29 percent. Neighborhood retail establishments—convenience stores, personal service businesses, and supermarket retailers—saw occupancy and rental rates rise by 3.3 percent and 6.2 percent respectively. North Park, the only regional mall currently served by DART LRT, remained 100 percent occupied during the 1994-1998 period while rents increased 20 percent.

Strip retailers near DART stations experienced a 4.2 percent increase in occupancy rates and 18.4 percent gain in rental rates during the 1994-1998 time frame.

For industrial properties near DART rail stations, occupancies jumped 16 percent between 1994 and 1998 while rents increased 27.4 percent on average. Significantly, of the 33 industrial properties examined, 23 could boast 100 percent occupancy rates at the end of 1998.

In sum, proximity to DART LRT stations appears to be a plus for most classes of property, especially for Class A and Class C office buildings and strip retail where the occupancy and rental gains have been most impressive. Obviously, the period 1994 to 1998 saw a strong real estate recovery in much of Dallas following the debacle of the late 1980s and early 1990s. Still, the properties around DART stations performed as well, and in some cases better, as those located elsewhere. For example, Class A occupancy rose 8 percentage points around DART stations compared to a 1-percentage point gain citywide. At the end of 1998, overall Class A occupancy rates averaged 87 percent compared with the 88.5 percent rate near DART stations. Rental rates for A and C buildings within ¼ mile of existing LRT stations were roughly comparable to citywide averages for these classes of property.

TABLE 3
MPF Data for DART Study
Office Buildings

Property ID#	Class	1994		1995		1996		1997		1998		% Change Occ. Rate	% Change Rent/SF
		Occ. Rate	Rent/SF	Occ. Rate	Rent/SF	Occ. Rate	Rent/SF	Occ. Rate	Rent/SF	Occ. Rate	Rent/SF	1998-1994	1998-1994
11	A	75.8%	$16.13	76.5%	$16.63	74.2%	$18.01	90.2%	$20.51	92.8%	$20.95	22.44%	29.9%
49	A	46.5%	$13.40	48.8%	$13.58	52.0%	$14.54	92.8%	$15.70	92.8%	$18.35	99.57%	36.9%
50	A	57.5%	$14.68	71.0%	$14.73	87.3%	$16.73	86.2%	$20.35	99.0%	$21.95	72.23%	49.5%
63	A	75.2%	$20.07	63.9%	$16.32	58.0%	$16.59	62.0%	$17.63	71.8%	$20.28	-4.52%	1.0%
87	A	27.9%	$11.75	52.7%	$13.25	96.5%	$16.00	94.0%	$19.50	100.0%	$22.00	258.42%	87.2%
88	A	88.0%	$11.75	88.0%	$11.75	85.6%	$16.00	88.5%	$18.50	0.0%	$25.75	-100.00%	119.1%
199	A	74.5%	$13.50	54.9%	$14.50	68.4%	$15.13	89.2%	$20.00	85.6%	$22.05	14.86%	63.3%
221	A	94.6%	$15.50	91.4%	$17.00	93.0%	$20.00	87.1%	$22.50	93.2%	$23.94	-1.44%	54.5%
239	A	94.0%	$14.00	89.0%	$15.50	97.0%	$18.00	97.0%	$20.00	97.4%	$21.00	3.61%	50.0%
295	A	89.5%	$16.50	64.2%	$17.50	73.1%	$19.50	77.2%	$20.50	89.4%	$23.50	-0.07%	42.4%
390	A	64.4%	$16.02	72.0%	$16.30	61.1%	$17.87	62.7%	$20.23	58.5%	$24.19	-9.15%	51.0%
416	A	85.6%	$14.68	68.6%	$14.73	87.3%	$16.73	86.2%	$20.35	83.7%	$21.95	-2.28%	49.5%
417	A	90.0%	$20.09	92.9%	$19.77	95.4%	$23.89	93.7%	$24.00	95.8%	$25.12	6.41%	25.0%
421	A	67.5%	$15.15	93.6%	$16.20	93.6%	$16.25	95.0%	$18.55	97.0%	$21.80	43.76%	43.9%
549	A	84.5%	$21.73	75.6%	$21.73	81.3%	$21.73	87.6%	$26.80	96.8%	$27.77	14.57%	27.8%
573	A	72.9%	$12.00	100.0%	$12.00	100.0%	$13.50	89.4%	$17.00	95.6%	$16.50	31.08%	37.5%
616	A	91.5%	$17.00	89.9%	$16.50	88.5%	$18.79	92.0%	$21.79	91.6%	$28.20	0.08%	65.9%
656	A	3.2%	$15.00	33.3%	$17.50	78.0%	$20.00	99.5%	$22.50	99.4%	$24.50	3007.19%	63.3%
661	A	93.8%	$23.40	96.0%	$27.90	97.5%	$32.40	98.0%	$33.40	98.8%	$34.80	5.29%	48.7%
694	A	53.2%	$11.00	92.5%	$12.00	77.6%	$12.00	86.9%	$12.00	92.1%	$14.00	73.20%	27.3%
715	A	84.8%	$15.00	90.1%	$17.35	92.6%	$21.09	99.2%	$23.59	100.0%	$23.18	17.92%	54.5%
741	A	95.6%	$14.00	89.3%	$16.75	95.4%	$17.60	91.5%	$20.60	98.8%	$22.10	3.38%	57.9%
742	A	66.1%	$15.00	88.2%	$16.59	85.9%	$22.59	82.7%	$23.45	88.8%	$25.45	34.34%	69.7%
746	A	92.7%	$17.50	91.3%	$18.47	93.6%	$22.97	98.2%	$26.50	96.5%	$26.50	4.10%	51.4%
832	A	85.1%	$13.50	87.1%	$15.00	79.7%	$18.18	83.6%	$20.06	96.0%	$20.83	12.84%	54.3%
864	A	96.0%	$15.50	93.8%	$15.50	87.7%	$19.00	99.3%	$24.90	95.5%	$24.40	-0.57%	57.4%
868	A	100.0%	$15.00	34.3%	$15.00	100.0%	$15.00	100.0%	$22.00	100.0%	$22.00	0.00%	46.7%
883	A	96.9%	$15.00	98.3%	$16.50	98.8%	$18.00	100.0%	$21.50	92.7%	$23.05	-4.36%	53.7%
899	A	71.3%	$17.90	70.0%	$15.95	70.4%	$18.15	75.0%	$23.80	77.5%	$24.83	8.71%	38.7%
914	A	86.2%	$14.00	93.8%	$15.50	97.1%	$17.50	95.2%	$19.50	90.0%	$20.50	4.41%	46.4%
915	A	79.4%	$18.00	86.9%	$19.50	91.9%	$23.00	50.4%	$27.00	81.6%	$25.00	2.73%	38.9%
923	A	69.5%	$13.00	59.5%	$14.75	75.8%	$16.00	81.5%	$17.50	100.0%	$17.50	43.88%	34.6%
972	A	82.8%	$21.45	85.6%	$21.45	91.6%	$21.45	97.2%	$26.80	96.8%	$29.29	16.93%	36.6%
987	A	84.3%	$14.25	89.9%	$15.50	90.4%	$20.00	92.9%	$24.30	84.0%	$22.80	-0.36%	60.0%
996	A	100.0%	$17.00	87.1%	$16.50	91.2%	$17.00	91.2%	$17.25	—*	—*	—	—
1002	A	100.0%	$14.50	100.0%	$16.00	100.0%	$18.00	38.3%	$21.00	58.5%	$22.50	-41.47%	55.2%
1015	A	98.3%	$14.00	97.8%	$14.50	100.0%	$17.00	98.8%	$21.00	98.8%	$24.00	0.46%	71.4%
1034	A	81.6%	$11.00	84.1%	$13.00	88.3%	$13.00	87.6%	$15.00	73.2%	$18.00	-10.33%	63.6%
1045	A	96.3%	$17.88	95.3%	$18.83	97.2%	$21.65	92.6%	$23.76	88.1%	$25.31	-8.50%	41.6%
1065	A	94.8%	$17.50	100.0%	$20.50	100.0%	$25.00	100.0%	$26.00	100.0%	$28.00	5.49%	60.0%
1173	A	92.2%	$15.38	92.2%	$18.13	94.4%	$18.13	78.5%	$18.63	91.0%	$19.13	-1.31%	24.4%
1487	A	84.0%	$15.50	82.0%	$17.25	100.0%	$18.00	100.0%	$18.00	89.8%	$20.00	6.88%	29.0%
Property Average		**80.2%**	**$15.60**	**81.2%**	**$16.52**	**87.3%**	**$18.62**	**87.8%**	**$21.28**	**88.5%**	**$23.00**	**10.37%**	**47.4%**

*This property no longer classified as Class A Office Building.

TABLE 3
MPF Data for DART Study
Office Buildings

		1994		1995		1996		1997		1998		% Change Occ. Rate	% Change Rent/SF
Property ID#	Class	Occ. Rate	Rent/SF	Occ. Rate	Rent/SF	Occ. Rate	Rent/SF	Occ. Rate	Rent/SF	Occ. Rate	Rent/SF	1998-1994	1998-1994
12	B	59.0%	$11.50	55.8%	$11.50	58.2%	$12.00	63.2%	$12.28	63.2%	$14.53	7.07%	26.35%
19	B	59.7%	$11.60	59.7%	$11.60	58.2%	$11.23	60.8%	$10.50	84.3%	$13.00	41.21%	12.07%
20	B	81.9%	$13.91	83.3%	$12.50	80.6%	$12.50	80.6%	$13.50	88.9%	$16.00	8.52%	15.03%
22	B	57.1%	$12.60	70.0%	$11.35	79.6%	$11.07	79.6%	$12.74	78.6%	$14.80	37.60%	17.46%
23	B	34.5%	$11.25	45.0%	$10.50	30.4%	$12.00	35.3%	$13.81	28.1%	$15.56	-18.67%	38.31%
24	B	99.5%	$13.35	96.0%	$13.35	96.0%	$14.10	96.0%	$14.35	23.1%	$17.00	-76.78%	27.34%
31	B	65.2%	$11.58	80.9%	$12.40	93.6%	$13.75	92.1%	$17.75	81.7%	$20.70	25.29%	78.76%
33	B	65.3%	$13.15	72.6%	$11.90	80.6%	$13.35	85.7%	$14.90	93.9%	$18.00	43.78%	36.88%
40	B	76.6%	$9.50	81.0%	$10.25	86.0%	$10.25	79.4%	$10.75	93.0%	$12.50	21.45%	31.58%
45	B	38.6%	$15.02	34.3%	$15.00	28.3%	$16.50	26.3%	$17.70	28.0%	$17.70	-27.46%	17.84%
51	B	75.8%	$15.25	75.8%	$14.73	50.0%	$15.40	79.2%	$18.46	75.8%	$19.75	0.05%	29.51%
53	B	100.0%	$15.50	93.2%	$15.50	86.3%	$17.35	87.4%	$17.85	95.5%	$17.85	-4.45%	15.16%
56	B	64.1%	$14.33	72.8%	$14.83	70.3%	$16.33	93.5%	$22.60	98.3%	$22.85	53.37%	59.46%
75	B	93.5%	$9.00	93.5%	$10.50	100.0%	$10.50	100.0%	$11.25	0.0%	$16.00	-100.00%	77.78%
89	B	57.1%	$9.75	72.8%	$11.00	88.1%	$13.00	81.4%	$16.00	94.5%	$18.00	65.55%	84.62%
189	B	85.2%	$11.38	85.2%	$11.65	85.2%	$14.00	67.5%	$16.75	52.3%	$17.75	-38.59%	55.98%
223	B	66.8%	$10.00	69.4%	$11.50	75.0%	$13.50	80.0%	$15.00	73.0%	$17.50	9.28%	75.00%
237	B	100.0%	$9.50	81.1%	$12.50	84.1%	$13.00	95.7%	$14.00	97.8%	$17.50	-2.16%	84.21%
254	B	74.9%	$13.10	49.7%	$13.10	49.7%	$14.00	61.4%	$16.75	90.5%	$18.00	20.88%	37.40%
258	B	100.0%	$11.50	96.9%	$11.50	88.2%	$13.00	90.8%	$17.00	90.8%	$19.00	-9.25%	65.22%
484	B	100.0%	$13.25	100.0%	$13.25	100.0%	$13.25	100.0%	$13.25	100.0%	$13.25	0.00%	0.00%
491	B	57.3%	$9.00	59.5%	$13.00	66.6%	$14.50	76.8%	$16.00	77.7%	$17.00	35.62%	88.89%
535	B	35.1%	$10.00	63.4%	$10.00	66.7%	$11.00	66.7%	$12.50	40.0%	$16.00	13.96%	60.00%
572	B	68.8%	$14.68	73.5%	$15.23	79.6%	$16.13	86.6%	$17.91	76.6%	$21.72	11.29%	47.96%
580	B	57.1%	$16.27	51.9%	$14.00	52.3%	$17.19	48.7%	$17.86	52.0%	$20.36	-8.91%	25.14%
596	B	19.4%	$12.50	19.4%	$12.67	17.6%	$13.17	61.4%	$17.17	96.4%	$20.17	396.96%	61.36%
627	B	93.3%	$13.00	95.8%	$14.00	78.9%	$16.00	71.8%	$19.00	69.4%	$20.00	-25.62%	53.85%
637	B	74.9%	$11.00	96.9%	$12.50	100.0%	$14.25	90.8%	$16.50	84.3%	$17.00	12.58%	54.55%
639	B	70.0%	$13.35	99.8%	$13.45	100.0%	$15.55	100.0%	$15.55	100.0%	$15.55	42.86%	16.48%
789	B	80.4%	$14.00	41.4%	$16.00	64.8%	$18.00	91.2%	$19.50	92.6%	$20.50	15.19%	46.43%
802	B	83.3%	$12.25	68.1%	$13.80	88.8%	$14.65	88.8%	$17.90	81.9%	$16.15	-1.64%	31.84%
840	B	78.4%	$13.25	34.2%	$12.50	68.9%	$13.30	74.6%	$13.30	82.5%	$18.30	5.24%	38.11%
859	B	68.9%	$12.57	84.1%	$13.50	67.5%	$14.50	75.3%	$13.50	95.6%	$14.50	38.81%	15.35%
860	B	98.0%	$13.00	95.6%	$15.00	91.0%	$14.50	95.0%	$15.25	87.8%	$16.75	-10.37%	28.85%
865	B	50.1%	$12.70	50.1%	$12.70	50.1%	$10.70	71.0%	$12.70	84.3%	$15.00	68.24%	18.11%
1003	B	68.8%	$9.50	78.8%	$11.00	81.8%	$11.50	100.0%	$12.00	100.0%	$17.00	45.35%	78.95%
1025	B	100.0%	$14.00	86.0%	$15.75	92.5%	$17.00	91.3%	$20.00	91.3%	$18.00	-8.68%	28.57%
1483	B	81.0%	$12.01	90.0%	$13.17	92.0%	$14.50	100.0%	$14.50	92.7%	$15.50	14.40%	29.06%
1513	B	81.0%	$12.00	90.0%	$13.20	90.0%	$15.00	89.5%	$15.00	80.6%	$18.45	-0.54%	53.75%
1772	B	100.0%	$13.00	83.2%	$14.00	98.1%	$18.00	87.1%	$18.50	100.0%	$18.50	0.00%	42.31%
Property Average		**73.0%**	**$12.35**	**73.3%**	**$12.90**	**75.4%**	**$13.99**	**80.1%**	**$15.55**	**77.9%**	**$17.34**	**6.73%**	**40.39%**

TABLE 3
MPF Data for DART Study
Office Buildings

		1994		1995		1996		1997		1998		% Change Occ. Rate	% Change Rent/SF
Property ID#	Class	Occ. Rate	Rent/SF	Occ. Rate	Rent/SF	Occ. Rate	Rent/SF	Occ. Rate	Rent/SF	Occ. Rate	Rent/SF	1998-1994	1998-1994
1	C	17.5%	$11.50	17.2%	$10.50	16.0%	$10.50	16.0%	$15.50	36.8%	$16.00	110.0%	39.1%
2	C	0.0%	$7.00	0.0%	$7.00	0.0%	$7.00	0.0%	$7.00	0.0%	$7.00	—	0.0%
4	C	36.9%	$8.30	36.2%	$8.30	20.1%	$8.25	20.1%	$13.50	20.1%	$12.50	-45.5%	50.6%
6	C	0.0%		0.0%		0.0%		0.0%	$0.00	—*	—*	—	—
7	C	45.4%	$8.00	45.4%	$8.00	45.4%	$8.00	0.0%	$9.00	0.0%	$15.00	-100.0%	87.5%
8	C	81.5%	$12.54	0.0%	$11.13	0.0%	$11.13	0.0%	$11.13	0.0%	$11.13	-100.0%	-11.2%
9	C	0.0%		0.0%		0.0%		0.0%	$0.00	0.0%	$0.00	—	—
15	C	47.5%	$10.25	31.9%	$9.25	42.6%	$8.80	43.7%	$8.30	45.9%	$8.30	-3.4%	-19.0%
17	C	93.3%	$11.75	100.0%	$11.75	100.0%	$11.75	100.0%	$12.50	58.7%	$13.50	-37.1%	14.9%
18	C	0.0%		0.0%		0.0%	$8.00	0.0%	$8.00	0.0%	$0.00	—	—
32	C	48.8%	$10.00	66.4%	$10.00	100.0%	$10.00	—	—	—*	—*	—	—
34	C	6.6%	$6.25	6.6%	$6.25	6.6%	$6.25	6.6%	$6.25	6.6%	$6.25	0.0%	0.0%
36	C	18.3%	$12.00	18.3%	$12.00	18.3%	$12.00	19.4%	$12.00	10.0%	$20.10	-45.4%	67.5%
37	C	64.7%	$6.00	64.7%	$6.00	39.1%	$6.00	—	—	—*	—*	—	—
42	C	33.4%	$8.30	41.2%	$8.30	20.1%	$9.75	20.1%	$13.50	0.0%	$13.50	-100.0%	62.7%
43	C	5.1%	$7.50	5.1%	$8.00	4.3%	$9.75	4.3%	$10.25	4.3%	$12.25	-15.7%	63.3%
44	C	32.0%	$7.62	96.1%	$6.90	95.0%	$8.00	96.5%	$9.00	86.8%	$12.00	171.4%	57.5%
57	C	49.3%	$10.00	49.3%	$9.50	81.0%	$10.75	82.9%	$10.75	85.6%	$10.75	73.7%	7.5%
67	C	85.7%	$12.00	85.7%	$12.00	61.9%	$10.00	76.2%	$12.00	94.8%	$12.50	10.6%	4.2%
68	C	100.0%	$10.50	100.0%	$10.50	100.0%	$10.50	100.0%	$10.50	100.0%	$13.00	0.0%	23.8%
247	C	96.0%	$8.00	91.9%	$8.00	86.3%	$8.50	94.9%	$9.25	78.9%	$12.00	-17.8%	50.0%
426	C	5.0%	$10.13	5.0%	$10.13	0.0%	$16.25	—	—	—*	—*	—	—
454	C	82.6%	$10.50	84.3%	$10.00	74.8%	$14.50	90.4%	$15.00	88.0%	$16.50	6.5%	57.1%
593	C	47.0%	$10.10	47.0%	$12.50	61.2%	$12.50	61.1%	$13.00	47.9%	$16.00	2.0%	58.4%
713	C	39.0%	$9.50	35.6%	$9.50	83.1%	$10.00	79.5%	$10.00	70.0%	$11.50	79.5%	21.1%
724	C	60.5%	$9.50	59.9%	$11.00	73.7%	$11.00	73.7%	$11.50	80.0%	$12.50	32.2%	31.6%
801	C	91.5%	$11.50	91.5%	$11.50	93.4%	$11.50	99.1%	$14.00	99.2%	$14.00	8.4%	21.7%
894	C	67.5%	$6.84	67.5%	$6.84	68.6%	$6.84	100.0%	$6.84	100.0%	$7.09	48.1%	3.7%
Property Average		**44.8%**	**$9.42**	**44.5%**	**$9.39**	**46.1%**	**$9.90**	**47.4%**	**$9.95**	**46.4%**	**$11.39**	**3.5%**	**20.9%**

*These properties no longer classified as Class C Office Buildings.

TABLE 3
MPF Data for DART Study
Retail Buildings

Property ID#	Class	1994 Occ. Rate	1994 Rent/SF	1995 Occ. Rate	1995 Rent/SF	1996 Occ. Rate	1996 Rent/SF	1997 Occ. Rate	1997 Rent/SF	1998 Occ. Rate	1998 Rent/SF	% Change Occ. Rate 1998-1994	% Change Rent/SF 1998-1994
49	C	83.0%	$21.00	92.1%	$16.50	92.2%	$16.50	92.2%	$16.50	44.4%	$16.50	-46.46%	-21.43%
89	C	97.1%	$45.50	83.0%	$45.50	97.5%	$45.00	98.1%	$45.00	98.6%	$42.50	1.54%	-6.59%
153	C	100.0%		100.0%		100.0%	$17.28	100.0%	$17.12	100.0%	$17.06	0.00%	—
161	C	100.0%	$11.03	100.0%	$10.93	100.0%	$10.78	100.0%	$12.12	96.6%	$16.06	-3.37%	45.60%
315	C	90.9%	$13.00	100.0%	$17.00	89.6%	$15.00	98.0%	$15.00	98.0%	$15.00	7.82%	15.38%
359	C	100.0%	$14.91	100.0%	$14.85	76.8%	$18.33	100.0%	$18.90	100.0%	$18.98	0.00%	27.30%
418	C	93.3%	$9.75	91.0%	$21.75	91.0%	$21.75	99.2%	$25.00	100.0%	$25.00	7.18%	156.41%
531	C	90.6%	$15.00	98.6%	$16.00	96.6%	$17.00	94.0%	$17.00	93.9%	$18.50	3.61%	23.33%
781	C	94.6%	$16.50	95.9%	$16.50	88.9%	$23.00	100.0%	$26.50	100.0%	$32.50	5.71%	96.97%
858	C	93.3%	$17.50	88.1%	$17.50	89.8%	$17.00	89.1%	$16.50	89.1%	$16.50	-4.45%	-5.71%
1921	C	100.0%	$17.00	100.0%	$17.00	100.0%	$17.00	100.0%	$15.00	100.0%	$15.00	0.00%	-11.76%
Property Average		**94.8%**	**$18.12**	**95.3%**	**$19.35**	**92.9%**	**$19.88**	**97.3%**	**$20.42**	**92.8%**	**$21.24**	**-2.12%**	**17.20%**
677	N	95.5%	$21.66	95.6%	$18.63	89.2%	$18.51	98.6%	$28.46	97.2%	$23.90	1.82%	10.34%
690	N	100.0%	$4.75	100.0%	$4.75	100.0%	$4.75	100.0%	$4.75	100.0%	$4.75	0.00%	0.00%
773	N	85.9%	$5.00	85.9%	$6.00	77.6%	$6.00	88.3%	$6.00	90.6%	$6.00	5.53%	20.00%
783	N	81.8%	$3.84	83.1%	$3.76	89.8%	$3.60	84.6%	$3.51	89.6%	$2.60	9.50%	-32.29%
1943	N	92.5%	$4.75	91.3%	$4.75	85.5%	$5.25	85.5%	$5.25	93.3%	$5.25	0.83%	10.53%
Property Average		**91.1%**	**$8.00**	**91.2%**	**$7.58**	**88.4%**	**$7.62**	**91.4%**	**$9.59**	**94.1%**	**$8.50**	**3.30%**	**6.25%**
56	R	99.2%	$50.00	98.0%	$50.00	98.7%	$60.00	98.7%	$60.00	100.0%	$60.00	0.81%	20.00%

*Class C = Community Center
*Class N = Neighborhood Center
*Class R = Regional Mall

TABLE 3
MPF Data for DART Study
Retail Buildings

		1994		1995		1996		1997		1998		% Change Occ. Rate	% Change Rent/SF
Property ID#	Class	Occ. Rate	Rent/SF	Occ. Rate	Rent/SF	Occ. Rate	Rent/SF	Occ. Rate	Rent/SF	Occ. Rate	Rent/SF	1998-1994	1998-1994
8	S	100.0%	$8.50	100.0%	$13.00	64.0%	$19.25	100.0%	$19.50	100.0%	$19.50	0.00%	129.41%
69	S	85.6%	$14.00	93.2%	$14.00	90.0%	$22.50	89.9%	$22.50	89.5%	$22.50	4.56%	60.71%
99	S	73.0%	$11.00	85.5%	$12.00	85.0%	$12.00	88.6%	$14.00	88.6%	$15.00	21.41%	36.36%
134	S	100.0%	$19.00	100.0%	$19.00	100.0%	$19.00	100.0%	$19.00	74.1%	$21.50	-25.92%	13.16%
140	S	94.4%	$19.00	100.0%	$19.00	100.0%	$19.00	100.0%	$19.00	75.0%	$25.00	-20.55%	31.58%
162	S	100.0%	$20.62	100.0%	$20.49	80.9%	$11.47	87.5%	$16.50	98.4%	$14.25	-1.63%	-30.89%
255	S	19.8%	$16.50	19.8%	$19.00	75.9%	$19.00	75.9%	$19.00	100.0%	$19.00	405.05%	15.15%
267	S	93.9%	$18.00	100.0%	$18.00	100.0%	$18.00	68.3%	$19.00	100.0%	$14.63	6.50%	-18.72%
326	S	75.0%	$11.87	85.4%	$12.49	73.9%	$12.47	70.9%	$12.85	70.9%	$19.14	-5.43%	61.25%
328	S	92.8%	$10.62	96.4%	$10.49	82.9%	$9.47	82.9%	$13.35	100.0%	$12.82	7.76%	20.72%
330	S	100.0%	$18.50	100.0%	$18.50	100.0%	$18.50	100.0%	$18.50	100.0%	$18.50	0.00%	0.00%
411	S	100.0%	$10.00	100.0%	$10.00	100.0%	$10.00	100.0%	$15.00	100.0%	$15.00	0.00%	50.00%
497	S	70.8%	$14.62	70.8%	$17.49	96.8%	$17.47	89.4%	$19.85	81.4%	$19.32	14.99%	32.15%
504	S	92.3%	$10.12	85.4%	$9.99	85.1%	$13.47	90.8%	$12.00	90.8%	$12.00	-1.64%	18.58%
515	S	100.0%	$12.50	100.0%	$12.50	100.0%	$12.50	100.0%	$12.50	100.0%	$12.50	0.00%	0.00%
560	S	64.0%	$3.37	64.0%	$3.24	100.0%	$3.47	100.0%	$3.35	100.0%	$2.82	56.25%	-16.32%
570	S	82.0%	$13.50	82.0%	$13.50	0.0%	$13.50			—*	—*	—	—
591	S	89.7%	$15.12	92.8%	$14.99	100.0%	$14.97	100.0%	$15.90	100.0%	$17.63	11.48%	16.60%
623	S	100.0%	$3.50	50.0%	$3.50	50.0%	$3.00	100.0%	$3.00	100.0%	$4.50	0.00%	28.57%
721	S	100.0%	$10.00	100.0%	$10.00	100.0%	$10.00	100.0%	$10.00	—*	—*	—	—
860	S	100.0%	$12.62	76.9%	$27.49	76.9%	$27.47	76.9%	$27.35	72.0%	$26.82	-28.00%	112.52%
914	S	100.0%	$10.43	74.7%	$11.09	56.0%	$18.00	100.0%	$18.00	100.0%	$18.00	0.00%	72.58%
945	S	60.0%	$13.62	60.0%	$13.49	79.0%	$14.97	79.0%	$14.85	79.0%	$14.32	31.65%	5.14%
952	S	97.3%	$15.00	90.0%	$17.50	100.0%	$17.50	100.0%	$17.50	100.0%	$17.50	2.77%	16.67%
961	S	74.7%	$9.50	74.7%	$9.50	100.0%	$10.00	100.0%	$13.00	100.0%	$13.00	33.87%	36.84%
1031	S	100.0%	$9.62	61.7%	$13.25	100.0%	$13.50	96.6%	$13.50	100.0%	$13.50	0.00%	40.33%
1093	S	92.5%	$17.62	89.1%	$17.49	94.0%	$19.47	88.7%	$19.35	75.0%	$22.00	-18.92%	24.86%
1185	S	100.0%	$16.62	100.0%	$16.49	76.0%	$10.47	73.9%	$11.35	83.0%	$14.00	-17.00%	-15.76%
1224	S	100.0%	$19.00	100.0%	$19.00	100.0%	$19.00	100.0%	$19.00	100.0%	$19.00	0.00%	0.00%
1913	S	100.0%	$17.00	100.0%	$17.00	100.0%	$17.00	100.0%	$17.00	100.0%	$18.00	0.00%	5.88%
2161	S	20.0%	$16.00	20.0%	$15.50	88.0%	$16.00	87.8%	$16.00	82.0%	$16.00	310.00%	0.00%
2178	S	100.0%		0.0%	$4.50	27.7%	$7.50	27.7%	$9.00	85.0%	$9.00	-15.00%	—
2290	S			100.0%	$8.00	84.5%	$6.98	84.5%	$6.90	85.0%	$8.50	—	—
2332	S			84.4%	$9.99	100.0%	$12.47	84.8%	$7.35	64.0%	$15.00	—	—
Property Average		**86.8%**	**$13.46**	**81.1%**	**$13.87**	**84.3%**	**$14.39**	**89.2%**	**$15.00**	**90.4%**	**$15.95**	**4.17%**	**18.43%**

*These properties are no longer classified as retail buildings.

**Class S = Strip Center

TABLE 3
MPF Data for DART Study
Industrial Buildings

	1994		1995		1996		1997		1998		% Change Occ. Rate	% Change Rent/SF
Property ID#	Occ. Rate	Rent/SF	Occ. Rate	Rent/SF	Occ. Rate	Rent/SF	Occ. Rate	Rent/SF	Occ. Rate	Rent/SF	1998-1994	1998-1994
648	0.0%	$3.00	100.0%	$3.33	100.0%	$3.33	100.0%	$3.33	100.0%	$3.33	—	11.00%
816	100.0%	$4.50	100.0%	$4.50	100.0%	$4.50	100.0%	$4.50	100.0%	$4.50	0.00%	0.00%
1104			100.0%	$4.50	0.0%	$3.50	100.0%	$3.50	100.0%	$3.50	—	—
1185	100.0%		100.0%		100.0%		100.0%	$7.50	100.0%	$7.50	0.00%	—
2512	100.0%	$2.00	100.0%	$2.00	100.0%	$2.50	100.0%	$2.50	100.0%	$2.50	0.00%	25.00%
2538	100.0%	$2.75	100.0%	$2.75	100.0%	$2.75	100.0%	$2.75	100.0%	$2.75	0.00%	0.00%
2703	100.0%	$3.50	100.0%	$3.50	100.0%	$3.50	90.6%	$3.50	100.0%	$3.50	0.00%	0.00%
5878	100.0%	$3.84	90.0%	$3.84	100.0%	$3.84	100.0%	$3.84	100.0%	$3.84	0.00%	0.00%
6742	100.0%	$2.38	100.0%	$2.38	100.0%	$2.38	100.0%	$2.38	100.0%	$2.38	0.00%	0.00%
6886	0.0%	$2.50	100.0%	$2.50	100.0%	$2.50	30.4%	$2.50	0.0%	$4.00	—	60.00%
6989	100.0%	$4.50	100.0%	$4.50	100.0%	$4.50	100.0%	$4.50	100.0%	$11.50	0.00%	155.56%
6992	48.7%	$8.00	100.0%	$8.00	100.0%	$8.00	100.0%	$8.00	100.0%	$10.50	105.34%	31.25%
7002	80.0%	$8.00	80.0%	$8.00	80.0%	$8.00	80.0%	$8.00	80.0%	$10.00	0.00%	25.00%
7626	83.8%	$8.00	100.0%	$8.00	100.0%	$8.00	100.0%	$8.00	79.5%	$8.00	-5.08%	0.00%
7811	38.7%	$3.00	44.8%	$3.00	49.4%	$3.00	40.0%	$3.00	0.0%	$3.00	-100.00%	0.00%
7824	100.0%	$2.00	100.0%	$2.00	100.0%	$2.00	100.0%	$3.00	100.0%	$3.00	0.00%	50.00%
7909	55.6%	$2.75	100.0%	$2.75	58.2%	$3.00	58.2%	$2.88	100.0%	$2.88	79.86%	4.73%
7911	100.0%	$3.00	72.5%	$3.00	72.5%	$3.50	100.0%	$3.50	100.0%	$3.50	0.00%	16.67%
8238	0.0%	$1.75	0.0%	$1.75	0.0%	$1.75	0.0%	$1.75	—*	—*	—	—
8762	71.8%	$1.50	100.0%	$1.50	100.0%	$1.50	100.0%	$1.50	—*	—*	—	—
8763	66.8%	$4.38	100.0%	$4.88	82.3%	$4.88	82.3%	$4.88	100.0%	$4.88	49.70%	11.42%
8770	100.0%	$2.00	100.0%	$2.00	100.0%	$2.00	100.0%	$2.00	100.0%	$2.00	0.00%	0.00%
8771	100.0%	$1.50	100.0%	$1.50	100.0%	$1.50	100.0%	$1.50	100.0%	$1.50	0.00%	0.00%
8819	0.0%	$5.00			100.0%	$5.00	0.0%	$4.00	0.0%	$4.00	—	-20.00%
8955	89.2%	$9.00	100.0%	$9.00	98.9%	$8.50	98.9%	$8.50	100.0%	$10.50	12.11%	16.67%
8958	100.0%	$4.50	100.0%	$4.50	100.0%	$4.50	100.0%	$4.50	100.0%	$5.44	0.00%	20.89%
8959	100.0%	$9.50	100.0%	$9.50	100.0%	$9.50	100.0%	$9.50	100.0%	$11.00	0.00%	15.79%
9283	97.9%	$6.75	95.6%	$7.00	97.8%	$9.00	97.8%	$9.50	97.4%	$9.50	-0.53%	40.74%
9301	100.0%		77.1%	$3.00	100.0%	$3.00	100.0%	$3.00	100.0%	$3.00	0.00%	—
9329	50.0%	$2.25	33.7%	$2.25	100.0%	$2.63	100.0%	$3.13	100.0%	$3.13	100.00%	39.11%
9858	50.1%	$8.50	80.7%	$10.78	80.7%	$10.78	80.0%	$12.00	80.0%	$12.00	59.78%	41.18%
10210	92.4%	$2.50	100.0%	$2.50	100.0%	$2.50	100.0%	$2.50	100.0%	$2.50	8.23%	0.00%
10211	100.0%	$2.50	100.0%	$2.50	100.0%	$2.50	100.0%	$2.50	—*	—*	—	—
Property Average	**75.8%**	**$4.18**	**89.8%**	**$4.23**	**88.5%**	**$4.32**	**86.6%**	**$4.48**	**87.9%**	**$5.32**	**15.99%**	**27.35%**

*These properties no longer classified as Industrial.

V. Sales Tax Collections Near DART Stations

As indicated in the previous section, retail occupancies and rental rates rose between 1994 and 1998, partly in anticipation of new DART rail service. Now that DART rail is up and running, it would be useful to know if retail sales activity in areas served by DART is doing better or worse than the city overall.

Working with the Texas Comptroller of Public Accounts, we have attempted to devise some benchmarks against which future retail sales growth can be compared. The Comptroller's office collects gross sales data by Zip code and has a program that can estimate gross sales, taxable sales and sales tax receipts for small areas. After numerous discussions with the Revenue Accounting Division of the Comptroller's office, we designated the Dallas Central Business District—Zip Codes 75201 and 75202—as one retail area. Based on street addresses we provided, the Comptroller was also able to come up with an estimate of monthly sales taxes collected by merchants around four other DART stations—Mockingbird, Park Lane, Corinth and Kiest. Appendix D includes the detailed data and relevant correspondence.

Since the opening of DART rail in June 1996, gross sales in the Dallas CBD have grown significantly. As shown in Table 4, year-over-year retail sales growth on a quarterly basis has ranged between 5 and 79 percent with total sales for the period 3Q97 through 2Q98 36.2 percent higher than 3Q96 through 2Q97. By contrast, retail sales growth citywide was only 3.6 percent during this period.

For the other four stations, the Comptroller has prepared a sales tax collection estimate for January 1999 which can be updated monthly at DART's request (see Appendix D).

TABLE 4

Changes in Gross Retail Sales, Dallas Central Business District 1996-1998

($ millions)

Quarter	Amount	Quarter	Amount	Percent Change
2Q 98	$202.3	2Q 97	$113.2	78.7%
1Q 98	197.2	1Q 97	109.9	79.4
4Q 97	177.5	4Q 96	169.2	4.9
3Q 97	146.2	3Q 96	138.7	5.4
Total	*$723.2*		*$531.0*	*36.2%*

Source: Texas Comptroller of Public Accounts

VI. Perceptions of DART Rail by Real Estate Developers, Brokers, Managers and Leasing Agents

The quantitative analysis of property valuations, office occupancy and rental rates, and retail sales activity indicates that the DART LRT system is generating positive and measurable economic benefits for businesses and homeowners located near rail stations. To supplement and reinforce these findings, interviews were conducted with fifteen Dallas-area real estate professionals involved with commercial property development, leasing and marketing. Though generally open-ended, the interviews were designed to elicit responses to six basic issues. The responses are summarized below:

(1) ***Does the real estate community realize that properties near DART stations have appreciated faster than others? Is access to rail being used in real estate marketing?***

In general, real state professionals consider DART rail a positive force for development in the Dallas region, though most expressed surprise that property values had risen more around the rail stations than elsewhere in the area. Several stated they consider DART a critical factor in the Dallas area's long-term growth prospects because of growing traffic congestion and air pollution. This is especially true for Dallas' central business district (CBD). All of the developers and property managers emphasize proximity to DART when marketing properties near rail stations.

(2) Are parcels near DART rail stations likely to be developed before others? How important is access to public transportation in the location decision by developers and tenants?

Several respondents indicated they would chose a DART site over a non-DART site for developing a new commercial property because they believe such sites are easier to market. With parking becoming more problematic as higher density development proceeds, brokers and

leasing agents see access to public transit as a competitive advantage. This is just as true for suburban properties as for properties located in Dallas' CBD.

Brokers and tenant representatives report that many of their prospects—especially those relocating from the Northeast and Midwest where public transportation is a given—are asking to be shown buildings near DART rail stations. While this may not be the critical site selection criterion at present, it will become much more important in the future as traffic congestion worsens and parking costs increase across the Dallas area. One respondent stated that DART rail offers the best hope for bringing retail back to the CBD.

(3) Can DART rail help facilitate mixed-use property development?

Mixed-use developments, incorporating residential, commercial and retail facilities, have a mixed track record in the Dallas area. But most of those interviewed believe access to—or better yet incorporation with—a DART rail station can facilitate these types of developments. Indeed, mixed-use developments are being constructed or planned at the Cityplace, Mockingbird, Richardson/Galatyn Park and Plano DART LRT stations.

Historically, lenders and developers in the Dallas area have shied away from mixed-use projects. But several respondents believe that success will breed success—that is, if one or two of the planned mixed-use projects along the rail system succeed, others will follow. They also believe that DART should be actively involved in the negotiating and planning for mixed-use development.

(4) What does the commercial real estate community like and dislike about DART rail?

For the most part, respondents had high praise for the DART rail system and the DART administration. They find the trains fast and the stations clean and attractive, though some feel

the ticket machines are difficult to use. Importantly, real estate professionals believe the visibility of DART rail creates a "big city" flair in Dallas and may actually give the region a competitive edge when courting businesses from other parts of the country.

Several respondents believe DART could do a better job communicating with the real estate community, such as giving them updated information on ridership, costs, long-range plans and the like. DART should also do more advertising and other promotions to increase ridership.

(5) What new policies might be adopted by DART or area cities to stimulate more development near rail stations?

Several respondents suggested that DART acquire more land and prepare master plans for joint development around rail stations. This is particularly important for the southern sector of Dallas. Better coordination is needed among city agencies, DART, and developers.

DART should also be thinking about expanding the current alignments of the LRT system. More east-west rail service should be considered as well as linkages with the Las Colinas urban center and people mover.

(6) Would a City of Dallas "redevelopment agency" be helpful in revitalizing the central business district?

Perhaps surprisingly, most respondents answered "yes" to this question. There seems to be a consensus among real estate professionals that a redevelopment agency is essential for the revival of Dallas' central business district. Such an entity could condemn, build, and assemble parcels to facilitate mixed-use development in the CBD and elsewhere in conjunction with private developers. A redevelopment agency could also be the catalyst for bringing housing, a pedestrian mall, retail and entertainment to the CBD. These types of developments, in turn, would help DART because of the higher densities and limited parking.

Several respondents stated that DART should be an active player in downtown revitalization in conjunction with a redevelopment agency.

The following tally sheet details some of the comments made by respondents to the six questions.

1. Do they understand property values have increased around DART properties?

—access to DART rail is a positive force for development
—some developers, but not all, recognize DART's potential for stimulating development
—most developers are unaware of the positive impact DART is having on property values and development generally
—" I'm surprised, but pleased, to learn that property values are rising faster around DART stations"
—"Developers and others have underestimated the economic and business development impacts that will stem from DART rail. Combined with the completion of loop 190, DART rail will stimulate much growth."
—Proximity to DART is being used in marketing materials by developers, brokers and leasing agents.
—In the suburbs, if a property is within a block of a DART station, that is a plus. Because most of the suburbs are not pedestrian friendly, a property located more than a few blocks from DART rail is not likely to be affected. Nor does the proximity to the station enhance the marketability of the property.
—"Alternative transportation has become critical for the long-term economic growth prospects of the Dallas area."
—Developers understand the economic value of being located near a DART rail station. This is especially important for downtown development and redevelopment. DART rail helps lease up buildings more quickly in the downtown area.
—DART rail is not yet big enough to have a major economic impact.
—Property valuations have risen in downtown Plano because of perceived benefits from the future rail station. DART did not anticipate the development occurring around some stations.

2. If you had identical parcels, one near DART rail and the other not, which would you develop first? Any reason not to develop around DART stations? Do clients ask to be located near public transit?

—"We, and some other developers, have been buying and holding land around DART stations. Rising suburban traffic congestion will lead to higher-density development in conjunction with DART access."
—Parking is a problem that DART rail can help alleviate. Car-to-rail connections are important.
—All respondents indicate they would choose a DART site over a non-DART site for development.
—A deterrent to development around DART stations is the perception that public transit is associated with crime. Undesirable elements will ride the rails and prey on businesses and residents near DART stations.
—Developers need to be better informed about the impact and potential of DART rail.
—It is easier to develop and lease facilities near DART stations.
—Increasingly, prospects ask about the availability of public transportation, especially if they're from the Northeast or the Midwest.
—DART, over time, will help to mitigate the parking problem in downtown.
—"DART rail is not a factor in attracting retail development at present. But it offers the best hope for stimulating the re-birth of retail in downtown."
—As we urbanize and increase densities, DART will be used more.
—DART is becoming a selling point, but its real potential is in the future.
—"Brokers and tenant reps always ask about access to public transportation. Relocating companies are used to public transit."
—"Alternative transportation will be critical for long-term economic growth in the Dallas area."
—Parking costs are becoming more important to companies than air quality regulations.
—Reconstruction of LBJ/Central interchange, scheduled to last eight years, will increase traffic on DART rail.
— EPA rules and restrictions will play a large part in driving demand for DART rail service in the near future.

3. Mixed use; financing problems; can DART rail help?

—"I support the concept of mixed use development. But, because little has been done historically in the Dallas area, many lenders are wary."
—"I'm a big fan of mixed use development. But less than five percent of lenders are currently willing to underwrite such developments. What we need is a local success story to put developers and bankers at ease."
—With experience and success, financing will become easier.

—DART has been, and will continue to be, a catalyst for mixed use development.
—Most developers are specialized and don't understand mixed use development. Lenders need to be educated. If Cityplace and Galatyn Park work, that could be the turning point.
—The prospect of a DART station is helping to revitalize old-town Plano.
—Henry S. Miller/West Village project being financed by equity and Bank One. (check with Miller).
—Traditionally, mixed-use hasn't worked in Dallas. But DART can help.
—Mixed-use development requires patient money. DART should get involved at the front end.
—Mixed-use development is an evolving process.

4. What to you like or dislike about DART rail?

—Dislike the ticket machines. Cityplace will have only one escalator; it is 120 feet below Central Expwy.
—DART provides an alternative to auto transport and will have positive traffic and environmental impacts.
—DART rail gives Dallas a "big city" flair. Good rolling stock, smooth ride. Good route layout from a developer's perspective. Near freeways is a plus in terms of traffic integration. Good idea to connect with major attractions such as zoo, west end and arena as this helps attract middle class riders. DART is well-managed.
—"I see nothing negative about DART (from a developer's perspective)"
— DART has underestimated demand for Park and Ride, particularly around the north Dallas stations like Park Lane.
—DART needs to do a better job of communicating with real estate professionals, such as giving them updated information on ridership, costs, long-range plans, etc.
—DART rail needs to be expanded beyond it currently planned system.
—DART should do more advertising and promotion to increase ridership.
—DART will help bring the Olympics to Dallas and help transform the city to world-class status.
—Good rolling stock and route plan. State of the art system.
—DART needs to acquire more land and draw up master plans around stations.
—DART is well managed. Its system draws middle-class patrons to the Zoo and south Dallas.
—DART is an amenity. The trains are clean and speedy. Their visibility creates an urban feel.
—DART network is too limited and should be expanded.
—DART rail gives Dallas a competitive edge. But it needs more participation and support from the suburbs.
—Transit-dependent riders need DART. Bus alignments have been flexible. Para-transit is needed for small employers.
—DART needs to be more flexible; the current system is biased toward the Central Business District of Dallas. Too much focus on the hub and spoke system.

5. What new policies might be adopted by DART or area cities to stimulate development around rail stations?

—For South Dallas, DART rail presents opportunities for joint development around most stations.
—Cedars Station has had a tremendous impact in attracting business. Need pedestrian linkages to Sears project.
—The tools for joint development are "disjointed." Coordination is needed among city agencies, DART, non-profits and developers.
—DART would benefit from having more of a real estate development focus.
—"If a Las Colinas connector is built, we won't need a marketing department."
—DART is critical for further development of the Las Colinas urban center. Access to public transit has always been an integral part of the Las Colinas master plan.
—Keep DART rail clean and safe. Don't risk becoming like crime-ridden systems in other parts of the country.
—DART needs an east-west line from Plano to DFW Airport on the Cotton Belt right-of-way.
—Use TIF money to build garages and lots for park and ride.

6. Does Dallas need a redevelopment agency?

—Yes. The Central Dallas Association has no power or authority and does very little. An active municipal planning/development agency could assist private developers. TIFs and tax abatements could be used as seed money. A redevelopment agency could also plan for higher densities and less parking, which, in turn, would help DART.
—An RDA is not needed. The private sector is best at promoting economic development and re-development, given the right incentives. There is no entrepreneurial talent in the city.
—Yes. An RDA could use its powers of condemnation to facilitate mixed-use development. TIFs have already helped achieve this goal. (Cityplace is in a TIF).
—Private, free enterprise is best. Dallas has the best developers in the nation.
—There is no entity at present that can put together a major project. A redevelopment agency deserves consideration. Joint development with DART should be pursued further.
—"Absolutely, yes. Such an agency could be the catalyst for rebuilding the CBD with a pedestrian mall, retail, office and entertainment. It could assemble parcels and negotiate with private sector developers."
—Yes, and DART should be an active player. The agency could accumulate land around DART stations and better control development.

List of interviewees and affiliations:

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[1] This differs from co-development, which involves coordination of public and private interests but no formal agreement that specifies the sharing of costs or revenues.