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*“Transit doesn’t induce development as much as shape it. It’s a catalyst only if there’s a market force.”
Leon Eplan, Commissioner of Planning and Development, Atlanta, Georgia*

Historically, the planning, financing and implementation of transit-supportive environments was the primary responsibility of public sector entities. Cities and public agencies (e.g., DART) were understood to have the largest and longest-term interest and responsibility, making them the obvious lead in any development or investment effort. They were also understood to be the logical conduit for local, regional, state and federal funding sources. Today, the public sector, while continuing to play a significant role in most transit efforts, has realized that success is dependent on participation by both public and private organizations. Strategies that leverage resources and facilitate joint development are essential for successful evolution of station areas, as no one entity --either public or private --has sufficient resources alone to sustain a long-term, region-serving improvement effort.

To this end, the intent of this document is to educate both the public and private sectors about: anticipated market conditions, barriers to development and strategies to stimulate and maintain investment in the vicinity of the future Downtown Carrollton light rail transit station. The intended audiences for this information includes a range of stakeholders from City officials and staff to property and business owners, developers and lenders.

Background

The need to reduce exclusive reliance on automobiles has been recognized at both the federal and local levels. The emphasis nationwide has “shifted to investing in alternative modes of transportation and encouraging development that will support alternate modes in coordination with the automobile.” (Source: Federal Transit Administration) ISTEA, the Intermodal Surface Transportation Efficiency Act adopted by Congress in 1991, was an early initiative that provided a directive to regions to coordinate transportation investments with land use planning. ISTEA also gave regions the flexibility to establish local priorities for allocating funding in order to best accomplish community transportation goals. Today, area councils of government and transit authorities are continuing these efforts through funding initiatives, by lobbying for policy reform and educating the community.

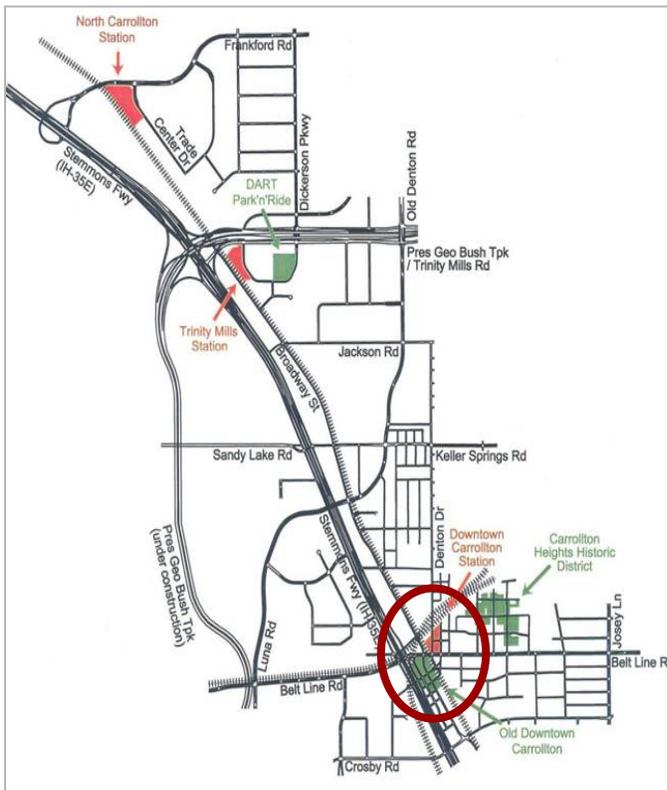
One of the single most critical components for the success of development which supports transit is a favorable regulatory environment. Supportive policies and codes will impact development form, activity



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and value; as well as transit agency initiatives; and ultimately translate into continued action and coordination. The City of Carrollton clearly established a local mandate in support of light rail investment and promotion of transit-oriented development in its 2007 Comprehensive Plan Update. Today, with three stations planned in the community along the DART Green Line (under construction) (see [Figure 1](#)), the market research presented here and ultimately supported by ongoing updates to its policy and regulatory documents, the City of Carrollton leads many other communities in their commitment to this development form.

Figure 1: Planned Carrollton Station Areas



Criteria for Successful Station Area Planning

- ▲ Higher density residential and office space is encouraged to help create a critical mass of development.
- ▲ The locational advantages of each station area are carefully considered, and development is focused at those station areas that have multiple such advantages, including good auto and transit access.
- ▲ Land use and transportation planning is coordinated among state, regional and local entities.
- ▲ Land use regulations permit higher density residential and commercial development at station areas and restrict it elsewhere.
- ▲ Parking is limited and/or managed through physical design elements, new facilities and regulatory measures.
- ▲ Public entities understand the factors which influence a developer’s risk and return and offer assistance when conditions are not in equilibrium.

Purpose

Through the planning effort directed by Townscape, Inc., Urban Designers and Community Planners, the City of Carrollton initiated a process to ensure that future improvements within the primary impact area (which encompasses much of Downtown Carrollton) (see [Figure 2](#)) occur in a manner (use and density) consistent with adopted policy and regulatory documents. This market analysis, prepared by Leland Consulting Group (Denver), is designed to be both informative and strategic and is intended to provide

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City staff, property owners and developers with a clear vision of potential development consistent with the larger planning initiative; and, benchmarks with which to evaluate specific development proposals located within the primary impact area and station area of influence. Additionally, analyses provided herein can be used to guide the identification of those opportunities that will most effectively maximize the benefit of proximity to the DART Green Line Light Rail Corridor. Ultimately, this document is designed to guide capital and policy decisions on improvements which can be implemented over the mid- and long-term (5 to 10+ years) to promote (re) investment.

Vision

The planning (redevelopment) concept for properties within the vicinity of the downtown station is set forth in the *Carrollton Renaissance Plan*, adopted by Resolution 2580 in 2002, and reinforced by the existing comprehensive plan and other strategic and policy documents. The common vision shared by these public reports involves strategic investment in a compact, transit-oriented development (TOD) environment, containing a mix of land uses, with a strong emphasis on walkable urbanity. The creation of a more vibrant urban milieu in the context of greatly enhanced transportation connectivity suggests that Downtown Carrollton has the potential to regain and perhaps surpass its historic status as a regional hub of development and economic activity.

Figure 2: Downtown Carrollton Station



This *Downtown Carrollton Market Analysis and Implementation Strategy* is intended to provide the City of Carrollton, potential development partners, and other stakeholders with a technical framework for discussions regarding market opportunities, and partnership strategies in advance of, and in connection with, the introduction of transit improvements. The vision and directives referenced herein were developed with input from the City and its project representatives, and guidance from the consultant team.



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TOD Definition

“Station areas may contain all TOD principles – an individual project will not.” Transit Oriented Development (TOD) Workshop, 29 October 1998

As a result of increasing demand for transit, planners, developers and municipalities have focused their attention on TOD (transit oriented development). TOD, as used herein, is a strategy which supports use of a multi-modal transportation system including automobiles, transit, walking, bicycling and ridesharing. It is a strategy to preserve mobility and livability as the region grows. Its intent is to promote high quality transit, bicycle, and pedestrian connections while encouraging a compact, higher density mixed-use development pattern. While the configuration of TOD is unique to every situation and therefore needs to be tailored to fit the needs and goals of the city, the neighborhood, and the residents and businesses where it is located, at a minimum it must link multi-modal access while encouraging both pedestrian and bicycle connections to the site. In addition, it must include a number of mixed, public and private uses. Ultimately, TOD is a strategy to preserve the mobility and livability of a region as it grows, implemented by transit authorities, local communities and private development entities.

Methodology

The market analysis presented here focused on investigating physical conditions within a primary impact area of the Downtown station and including contiguous uses, relative to access and visibility; as well as economic, financial, and market conditions in a secondary influence area (thee “Trade Area”). This was accomplished through visual inspections, together with analyses of primary and secondary data sources. Secondary sources included, but were not limited to: the North Central Texas Council of Governments (NCTCOG) socioeconomic projection series; U.S. Census demographic database; ESRI Census-based demographic estimates and projection series; Costar¹ commercial real estate database; and Hanley Woods/Meyers Group residential supply database.

Report Format

The analysis that follows has the following key components: first, a discussion of the primary impact area (in this case much of Downtown Carrollton), together with a definition of the Trade Area in which

¹ Costar is a nationally recognized data source for commercial real estate activity.



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most competitive projects and sources of product and consumer demand can be found; second, an overview of economic, demographic and lifestyle characteristics describing the Trade Area; third, a review of those market indicators and trends that provide a measure of the health of the market and economy, including estimates of anticipated demand by major land use category; and, finally industry information on station development types, market trends and the essentials of successful station area development partnerships.



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The City of Carrollton is essentially an “inner-ring” suburb located north/northwest of Dallas, Texas. Its original downtown area is located at the intersection of Interstate Highway-35E and Belt Line Road (a major arterial loop road circling Dallas County). While the proposed light rail station is anticipated approximately one block to the northeast of this intersection (along the existing Union Pacific right-of-way), the area of influence is considered to encompass properties within 1,500 feet of the station. This area is herein referred to as the “primary impact area.”

Once centrally located within Carrollton, Downtown is now generally located in the south central portion of the City as past annexations and conventional, post-war suburban growth have pushed the City’s boundaries to the north. This more established section of Carrollton – like older portions of Farmers Branch, Richardson, Coppell and parts of Plano – has witnessed demographic and economic changes as business capital and affluent residents have migrated towards suburban fringe locations. Along with socio-demographic shifts, the physical infrastructure and real estate inventory has aged and the environment for investment has grown more complex, further challenging future redevelopment initiatives.

Current conditions aside, Downtown Carrollton has been identified by DART and other transportation planning bodies as well-suited to serve as a hub for regional commuter transportation. In addition to the north-south Green Line light rail line (serving commuters moving to and from Central Dallas), Downtown Carrollton will likely see future commuter rail service by the Denton County Transit Authority (DCTA). Other proposed connections which may run through the area include the “Cotton Belt” Line (adding regional east-west connectivity from DFW International Airport through Carrollton to many north Dallas suburbs), and the Burlington Northern Line connecting Irving to Frisco. While the Green Line and DCTA connection alone will bring significant transit-oriented redevelopment opportunities to Downtown Carrollton, the prospect of the confluence of these other, longer-term connections suggests that the area could become even more regionally important.

Trade Area Definition

Planning for infill revitalization through transit-oriented development projects requires an understanding of the built environment and the people within it. The market analysis, conducted by Leland Consulting



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Group (LCG) and summarized here, focused on identifying market opportunities within the region and representative project trade area.

The analysis showed that the introduction of significant passenger rail catalysts will present unique opportunities for infill development and transit-oriented development. There is market demand and Downtown Carrollton, with strategic public and private investment and continued policy support, can be positioned to capitalize on niche and destination opportunities serving the community and region.

Boundary Criteria

A trade area is that area from which a project(s) or district will draw the majority of its residents (for housing), patrons (for retail) and employees (for office) – that area that will likely be a source of competition and demand. The boundaries of the trade area are often irregular as they are influenced by the following conditions:

Physical Barriers – the presence of certain physical barriers including highways, arterials, and significant structures which influence driving and shopping patterns;

Location of Possible Competition – inventory of potentially competitive projects that could diminish the market share available to the project;

Proximity to Population and/or Employment Concentrations – concentrations in an area which could translate into more population and households to support the project (“density” and “rooftops”);

Zoning – restrictive or favorable regulatory environment which will influence a developer’s interest in delivering projects in one location vs. another;

Market Factors – conditions which will set sale and lease prices, influence a developer’s interest, or impact the project’s revenue potential (“value”);

Drive Times, Spending and Commuting Patterns – habits and patterns that have been established which could impact the project’s ability to capture market share (or require re-education).



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Figure 3: Subject Site and Trade Area



This trade area (depicted in [Figure 3](#)) is commensurate in size with the potential regional influence of contemplated development. While each separate residential and commercial use would, in reality, have its own distinct trade area, the analysis presented here assumes a single trade area shape for all major land use types for purposes of consistency and given the long-range planning aspect of this assignment. The Trade Area is generally defined as State Highway 121 on the north, Interstate Highway 635 (“the LBJ Freeway”) on the south, Denton Tap Road on the west and the Dallas North Tollway on

the east.

Note: Normally, a transit-oriented development market analysis would define a trade area to include other locations on the line, as well as those areas influenced by competition, driving patterns and the other factors identified above. The analysis presented here did not consider the former since the timing for future rail construction is such that few known station area developments have been identified.

Economic and Demographic Characteristics

Economic and demographic characteristics in the market are indicators of overall trends and economic health which may affect private and public sector development. The following are highlights of those trends expected to affect development demand within the primary impact area over the next 10 years. A discussion of demand by land use over a 20-year period is provided in the relevant sections below. *Note: Throughout the discussions which follow, items in red highlight noteworthy differences among the geographic areas of comparison (the Trade Area, the Dallas-Fort Worth Metropolitan Statistical Area, and State of Texas).*

Population and Household Growth

While population and household growth in the Trade Area can be said to have slowed relative to competing fringe locations, the pace of residential growth is actually strong in absolute terms. Table 1



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shows counts of households for the Trade Area, the Dallas-Fort Worth Metroplex (or Region), and the State of Texas overall, as estimated by ESRI, a Census-based national provider of demographic data. It shows that from 2006 to 2011, the Trade Area is expected to grow at a rate of just over 2 percent annually.

Table 1: Household Growth

	Trade Area	DFW	State of Texas
2000	127,814	1,881,056	7,393,354
2006 (est.)	136,187	2,167,190	8,359,419
2011 (forecast)	150,561	2,439,494	9,252,468
*CAGR ('06-11)	2.03%	2.40%	2.05%

CAGR = Compound Average Annual Growth Rate

Source: U.S. Census Bureau; ESRI-BIS; NCTCOG; and LCG.

This is comparable to growth in the State overall (which is growing faster than the nation’s 1.5 percent annual rate), but slower than the Metroplex. The NCTCOG, which uses its own forecast district boundaries (and has a somewhat lower starting estimate of existing households), estimated a growth rate of 2.2 percent annually for the Trade Area for the period between 2000 and 2005, slowing to 1.5 percent annually through 2010. NCTCOG projects that rate to decline further, to approximately 0.9 percent annually by 2015 as land supplies diminish. The analysis presented here assumes a blended rate of 1.6 percent for annual household growth in the Trade Area during the initial 10-year demand forecast period.

Figure 4: Projected Household Growth to 2030



Figure 4 provides a graphic depiction of NCTCOG-projected absolute household growth in the Trade Area and the surrounding region through 2030. Note: Growth in Central Plano, Richardson, and most of Dallas is expected to be relatively stagnant, while northern fringe suburbs like Frisco and Lewisville are expected to grow rapidly. Comparatively, Carrollton is projected to experience more moderate growth.



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Household Characteristics

As indicated in Table 2, the Trade Area, while once more suburban in its demographic makeup, now has many household characteristics more consistent with urban areas including a higher percentage of “non-family” households. A “non-family” is defined by the Census as single households or households in which residents are unrelated. Almost one-half of all households in the Trade Area qualify as “non-family.”

The Trade Area also has a much higher percentage of renter households than either the Metroplex or the State as a whole. Consistent with the skew towards “non-family” households (and renting in general), average Trade Area household sizes are smaller and the percentage of Trade Area households made up of only one -or two -persons is higher than both the Metroplex and State. Figure 5 above shows the geographic distribution of renter households in the Metroplex.

Figure 5: Renter Households

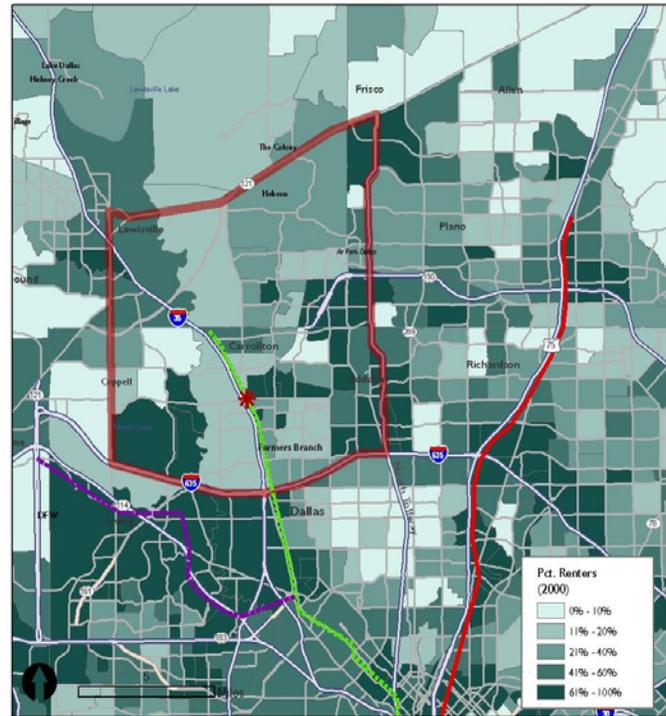


Table 2: Household Characteristics

	Trade Area	DFW	State of Texas
% Non-family	45%	31%	29%
HH size (2006)	2.31	2.76	2.78
% Renter (2006)	58%	37%	34%
% 1 & 2 Person HHs	67%	55%	54%

Source: U.S. Census, ESRI, and LCG

Experience shows that households at transit stations are smaller (with around 1.65 to 1.90 persons each) irrespective of the surrounding area household size. Approximately one-half of the households within rail stations are one-person, while only one quarter of the households in surrounding areas are one-



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person households. This pattern is suggestive of heightened demand for multi-family residential (“apartments buildings, whether owned or rented and single-family attached (“row house” or “townhouse” products within the primary impact area, and is explored further under the discussion of age distribution and psychographic/lifestyle characteristics.

Population by Age

Rail-based housing tends to draw two age groups; residents 25 to 44 and residents over 65 years of age. Although the current median age in the City of Carrollton is 33.3 years old - nearly the same as the Metroplex’s 33.2 years and identical to the statewide median --most significant are the differences across these two age cohorts. The Trade Area has a higher concentration of population aged 25 to 34, relative to the Metroplex and State, and a somewhat higher representation of population aged 35 to 44. Conversely, the Trade Area has a significantly lower per capita population of seniors aged 65 and older, relative to the State and Metroplex. This age distribution, with its preponderance of young adults, is supportive of a prototypical transit-oriented built environment. Seniors, while lower in percentage than the Metroplex or State, still offer an important target market (e.g. enticing North Dallas seniors into a lower-maintenance, pedestrian-friendly residential setting) for future station area residents. [Figure 6](#) shows the geographic distribution of population aged 22-29 in the year 2000. [Figure 7](#) depicts the area population aged 65 and over – obviously concentrated primarily in North Dallas and Richardson, with an extension into Farmers Branch.

Table 3: Population by Age (2006)

	Trade Area	DFW	State of Texas
0 to 24	33%	38%	38%
25 to 34	21%	15%	14%
35 to 44	18%	16%	15%
45 to 54	14%	14%	14%
55 to 64	9%	9%	9%
65+	6%	8%	10%
Median age	33.3	33.2	33.3

Source: U.S. Census, ESRI, and LCG



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Figure 6: Population Aged 22-29 (in 2000)



Figure 7: Population Aged 65 and up (in 2000)



Educational Attainment

Educational attainment was significantly higher in the Trade Area than in the Metroplex and State overall in 2000. Forty-five percent of adult residents in the Trade Area had at least a Bachelor’s degree, versus 29 percent in the Metroplex and just 24 percent statewide. While higher rates of attainment are concentrated towards the northern edge of the Trade Area, an overall abundance of college-educated residents can suggest an affinity for transit-supportive product types including urban shops, professional office space and certain dense housing products. This is particularly true for residents age 25 through 44.

Table 4: Educational Attainment – Age 25+ (2000)

	Trade Area	DFW	State of Texas
Graduate Degree	13%	9%	8%
Bachelor’s	32%	20%	16%
Some College	30%	29%	28%
High School Grad.	15%	23%	25%
No H.S. diploma	11%	20%	24%

Source: U.S. Census, ESRI, and LCG



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Income Levels

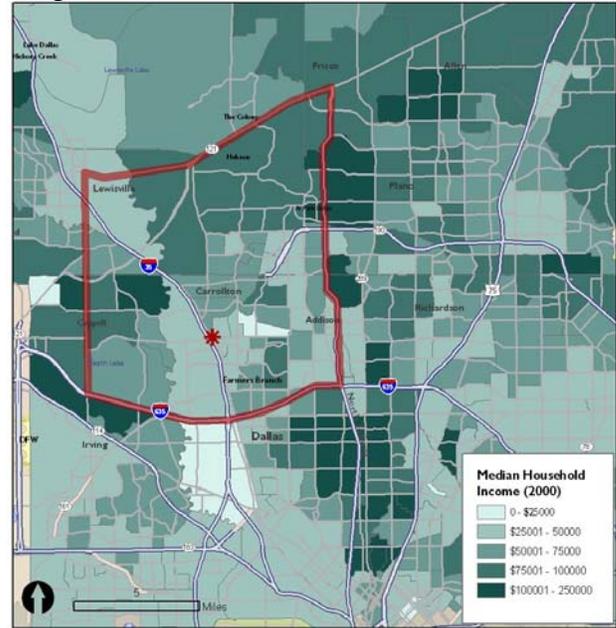
Household incomes in the Trade Area are significantly higher than statewide and regional levels. As with educational attainment, the geographic distribution of this affluence is skewed somewhat away from Downtown Carrollton. Figure 8 illustrates this pattern.

Table 5: Median Household Income (2006)

	Trade Area	DFW	State of Texas
\$0-25K	9%	16%	24%
\$25-35K	8%	9%	11%
\$35-50K	16%	15%	16%
\$50-75K	21%	19%	19%
\$75-100K	15%	14%	12%
\$100-150K	16%	15%	12%
\$150K+	16%	11%	8%
Per Capita Inc.	\$42,650	\$30,000	\$24,670
Med. Household Inc.	\$70,188	\$60,380	\$49,251

Source: U.S. Census, ESRI, and LCG

Figure 8: Median Household Incomes



While many affluent households exhibit suburban consumption preferences, higher incomes can also have a correlation with urban tastes in shopping, office space and housing products, co-located and well-suited to a transit-oriented environment. This is particularly true among younger adult age cohorts, making it a potentially viable indicator in this Trade Area. Table 5 summarizes the estimated household income distribution in the Trade Area for 2006.

Ethnicity

The Trade Area, while predominantly White, has a substantial Asian population (with Vietnamese and Indian residents particularly well-represented). Hispanics have a significant presence as well, but at levels below that of the Metroplex and State overall. Visual inspection of the mix of ethnic-oriented businesses in the Trade Area suggests that greater racial and ethnic diversity can be found towards the



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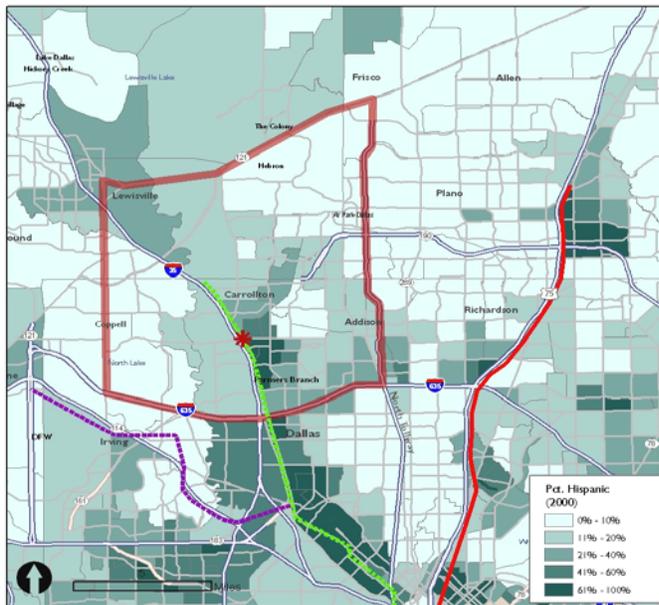
southern half of the Trade Area, including south-central and Downtown Carrollton. Primary research including discussions with local residents supports this observation, suggesting an on-going migration of both Latino and Asian resident populations northward over the past two decades. Table 6 shows the breakdown of ethnic and racial subgroups in the Trade Area, Metroplex and State. *Note: The Census considers Hispanic origin separately from race, thus the totals do not add to 100 percent.*

Table 6: Ethnicity (2006)

	Trade Area	DFW	State of Texas
White Alone	70%	67%	69%
Black Alone	8%	13%	11%
Asian/Pacific Alone	11%	5%	3%
Other/Multiple	12%	15%	17%
Hispanic Origin*	22%	25%	36%

Source: U.S. Census, ESRI, and LCG

Figure 9: Hispanic Population Concentrations



Concentrations of any particular ethnic or racial group do not necessarily dictate the need for particular real estate products, but rather ethnic diversity in general can add to the “place-making” flavor of a development if translated into unique locally-owned dining and shopping options. To the extent that a given ethnicity is correlated with lower household incomes, that may also relate to opportunities for mixed-income residential products. Figure 9 shows Hispanic population concentrations in the Trade Area

and throughout the Metroplex.



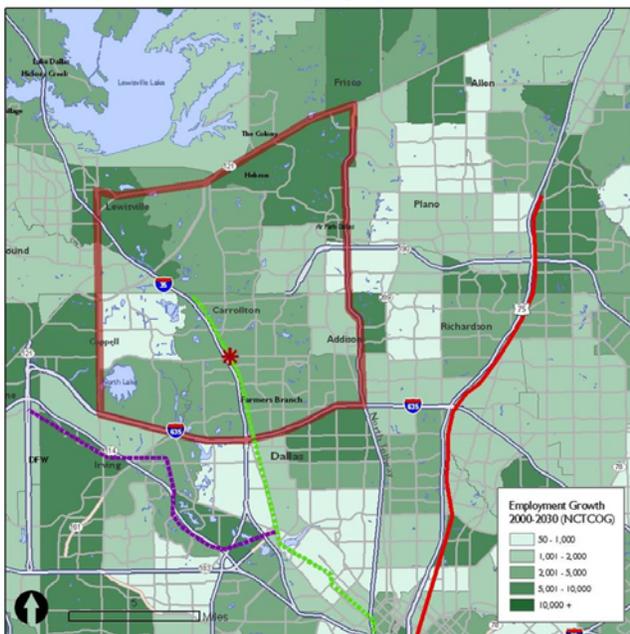
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Employment

Employment growth directly impacts the creation of new office and industrial space demand and has an important indirect impact on the generation of demand for new residential units. Long-term employment growth projections are modeled for small geographies by the NCTCOG. These projections are generally consistent at the county and state levels with forecasting produced by the State of Texas Workforce Commission. Employment growth for the Trade Area is estimated to increase from 273,993 in 2005 to 334,558 in 2015. The compound annual growth rate (CAGR) is expected to gradually slow from a 3.3 percent rate in 2005 to a 2.0 percent annual rate through 2010 and into 2015. By 2020, employment growth is projected to slow to 0.8 percent per year. *Note: The office space demand analysis presented here assumed a 2.0 percent annual rate of growth.*

Figure 10 illustrates the distribution of projected employment growth through 2030, showing higher expected growth in parts of Lewisville, Frisco, Addison, north Dallas, and the Las Colinas (north Irving) area. It is worth noting that, -- while regional councils of governments are generally supportive of infill and transit-oriented development -- it is relatively common for such bodies to overlook major infill opportunities in their socio-economic forecasting. Empirical evidence suggests not only higher than average concentrations of employment adjacent to transit, but -- specifically -- higher percentages of managerial and professional employees.

Figure 10: Projected Employment Growth



Psychographics

Psychographics is a term used to describe characteristics of people and neighborhoods which, instead of being purely demographic, measures their attitudes, interests, opinions, and lifestyles. These more qualitative descriptions are increasingly used by marketers and planners to help tailor product offerings to suit the tastes of target market segments. Residential homebuilders and commercial retail developers, in particular, are interested in understanding a community’s psychographic profile, as this is an indication of its



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residents’ propensity to spend across select retail categories. Residential developers are also interested in understanding this profile as it tends to suggest preferences for certain housing product types. The most widely used source of psychographic profiling is the Tapestry™ segmentation system offered by ESRI. In the Tapestry system, each neighborhood (Census block group) in the United States is assigned to one of 64 distinct lifestyle/psychographic segments.

Table 7 shows the top seven Tapestry segments present in the Trade Area, along with an index showing the degree to which each is disproportionately represented in the Trade Area versus the country and Metroplex as a whole (100 percent would indicate average per capita representation).

Table 7: Top Trade Area Tapestry Segments

Segment	Trade Area HHs	Index to U.S.	Index to DFW
Young and Restless	37,017	1,763%	333%
Enterprising Professionals	35,795	1,497%	576%
Metro Renters	13,944	718%	401%
Boomburbs	9,589	348%	96%
Sophisticated Squires	7,166	190%	171%
In Style	4,997	140%	241%
Suburban Splendor	4,781	195%	103%

The top seven Tapestry segments present within the Trade Area for Downtown Carrollton include: *Young and Restless, Enterprising Professionals, Metro Renters, Boomburbs, Suburban Splendor, Sophisticated Squires* and *In Style*. A description (from ESRI) of each segment is presented in the discussion that follows. *Note: Experience has proven that in many communities, approximately 90% of residents fall within fewer than 20 categories, therefore, these top seven categories are assumed to be fairly representative of Trade Area profiles.*

Young and Restless

Change is the constant in this diverse market. With a median age of 28.9 years, the population is young and on the go. About 85 percent of householders moved in the last five years. Young and Restless householders are primarily renters, living in apartments in multi-unit buildings. Almost 60 percent of households are single-person or shared (with another person). This educated



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market has the highest labor force participation among all the Tapestry segments, at 75 percent, and the highest female labor force participation, at 73 percent.

Young and Restless residents use the Internet daily to visit chat rooms, play games, obtain the latest news and search for employment. They read computer and music magazines, and listen to public radio. They watch movies in the theater and on video/DVD, attend rock concerts, play pool, go dancing, and exercise at a health club weekly.

With over 37,000 trade area households, this segment is represented here at more than 17 times the per-capita rate as in the U.S. as a whole.

Enterprising Professionals

This market is home to young, highly educated working professionals. Single or recently married, they prefer newer neighborhoods with townhomes or apartments. Typically found in cities, these residents would rather rent than own.

Their lifestyle reflects their youth, mobility and growing consumer clout. To keep in touch, *Enterprising Professionals* residents rely on cell phones, PDAs, and PCs. They use the Internet to search for a job or a place to live, track their investments, or shop. *Enterprising Professionals* travel for business and pleasure. They practice yoga, take aerobic classes and jog to stay physically fit.

There are approximately 35,000 *Enterprising Professionals* households in the Trade Area, a rate 15 times as high as the nation. Their spending habits, mobility and housing preferences make them one of the most sought-after target markets for transit-oriented development projects (think Addison Circle residents).

Metro Renters

Metro Renters are young (approximately 30 percent are in their twenties), well-educated singles beginning their professional careers in the largest cities such as New York, Chicago, and Los Angeles. Their median household income has been increasing faster than most market segments. A majority are renters, often in older high-rise units. They live alone or share with roommates.



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Metro Renters residents spend money on themselves, buying women's designer jeans, ski apparel, and workout clothing. They enjoy time with friends and entertain at home. For leisure, they attend rock concerts, go to the movies, and go dancing. They play racquetball and tennis, practice yoga, work out regularly, ski, and jog. Surfing the Internet is an important part of their lives; they go online to search for jobs, listen to the radio, and order airline and concert tickets.

There are approximately 14,000 *Metro Renters* households in the Trade Area, seven times the national rate. While less affluent than *Enterprising Professionals*, *Metro Renters* are good prospects for new multi-family development and generally an excellent source of light rail transit ridership in general.

Boomburbs

The newest additions to the suburbs, these communities are home to younger families with a busy, upscale lifestyle. Median home values are growing and most households have two workers and have two vehicles. Growth is characteristic of the communities and these families.

These affluent families, who recently moved to their homes, focus their attention on upgrades, furnishing and landscaping. *Boomburbs* residents spend on family, leisure, and other activities, too. They are one of the top markets for sport utility vehicles. They participate in golf, tennis, and swimming and own an array of electronic equipment.

There are almost 10,000 *Boomburbs* households in the Trade Area. This segment is not particularly amenable to transit-oriented development as a residential choice, but should be an occasional source of entertainment and dining spending for the primary impact area and its members may find work in redeveloped office space near a transit station.

Sophisticated Squires

Sophisticated Squires residents enjoy cultured country living in newer home developments at a lower density. These urban escapees are primarily families with children. They are college-



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educated, professionally employed and have elected to commute to maintain their semi-rural lifestyle.

From buying golfing equipment to attending golf tournaments, golf is a key part of their lives. Cargo space for golf and do-it-yourself projects determines their preference for SUVs and minivans. With the right tools, they are not afraid to tackle home and garden improvement projects.

There are over 7,000 *Sophisticated Squires* households in the Trade Area. Like *Boomburbs* residents, this affluent segment is not amenable to urban real estate products but could also contribute occasional shopping dollars, particularly for entertainment and dining.

In Style

In Style residents live in affluent neighborhoods of metropolitan areas. More suburban than urban, they nevertheless embrace an urbane lifestyle. Townhome ownership is more than double the national level, but more than half of the households are traditional single family homes. Labor force participation is high and professional couples predominate. The median household income is \$67,800. Only about one-third of households include children. The median age is 39.3 years.

In Style residents are computer savvy; they use the Internet daily to look up information, track investments, or make purchases. They own a diverse investment portfolio, contribute to retirement savings plans, and have long-term care and life insurance. They enjoy going to the beach, snorkeling, playing golf, and casino gambling. They favor domestic travel.

There are 5,000 *In Style* households in the Trade Area – 40 percent higher than national rates. This affluent segment is more likely than *Boomburbs* or *Sophisticated Squires* residents to consider living in a more urban setting such as a loft, brownstone or luxury apartment.



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Critical to interpreting the City's and primary impact area's competitive position within the region is an understanding of the supply characteristics of land uses within the defined trade area and similar transit locations in the region. In order to identify (and quantify) potential development opportunities among uses (given the area's competitive position and prevailing market conditions) demand estimates should also be prepared. Knowing that stations develop and evolve over time -- often 10 or more years -- depending on their size, scope and vision, forecasts generally extend 20 years. *Note: Demand estimates and primary impact area capture rates are influenced by strategic consideration of barriers and opportunities for redevelopment and the introduction of transit infrastructure.*

Most stations will reach their full potential with time. Some will mature quickly, while others may take many years. Growth will usually coincide with market cycles, with development occurring in times of economic prosperity. Therefore, monitoring market conditions and timing station development (where possible) is important. However, even during periods of slow growth, the momentum established during periods of growth should continue and could, in effect, accelerate despite adverse market conditions.

Ultimately, development thresholds will be influenced by the number and type of projects entering the market prior to the completion of the light rail line and station. Similarly, the timing of demand which occurs will depend on market demand, availability and condition of supply, activity at other stations on the line, availability of vacant and under-utilized properties (potential for assemblages), and the availability of financing and incentives.

Office Demand

Demand for new office space is, above all else, a function of projected employment growth in a Trade Area. Overall employment, as estimated by the NCTCOG for forecast districts roughly matching the Trade Area, is divided into industry subgroups based on data from ESRI. These industry sector employment totals are then grown at a rate corresponding to the NCTCOG forecast to arrive at a factor for job growth over the time period of interest. Each new job is assigned a probability (penetration rate) that it requires of office space (depending on the sector), and that total is multiplied by a required square footage per office employee. These numbers can be calibrated against real office space inventory numbers provided for the Trade Area by Costar – a commercial property data provider. The result is an estimate of



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demand for office space square footage for the entire Trade Area. An additional allowance is made for the likely turnover and replacement of some existing obsolete office space.

Once the Trade Area total estimated demand is determined, the primary impact area is analyzed in relation to likely areas of Trade Area competition that will vie for the same future tenant –or -space needs. Ultimately professional judgment is used to determine a reasonably attainable market share, or “capture rate” for the primary impact area over a defined period of time.

Whereas the Trade Area has numerous industrial and warehousing facilities, properties in and around the primary impact area are not currently home to significant concentrations of office space². However, planned expansion of commuter transit, together with development of potentially desirable housing options, will present a significant competitive advantage in attracting new office development. Because of this, and in recognition of the dwindling supply of commercially-zoned land suitable for office space, Carrollton’s downtown area is estimated to be capable of capturing between five and ten percent of Trade Area demand (8 percent is used in Table 8) during years 1 through 10. *Note: Obviously the actual rate of capture in the impact area could be higher or lower than this amount.*

At over 8 percent, the primary impact area could capture over 475,000 square feet of new office space during the first ten years. Although NCTCOG expects a decline in employment growth among infill locations long-term, experience has proven that successful “placemaking” combined with market momentum can cause reality to exceed expectations. As the area matures and proves ~~up~~ its ability to redefine itself as a regional employment address (particularly with the addition of transit improvements), its capture rate in later years will likely increase.

Employment growth in the Trade Area is expected to decline by the NCTCOG in the second decade as well. The NCTCOG projects an annual trade area job growth rate of just over 0.5 percent annually between 2015 and 2025. For this analysis, an adjusted Trade Area job growth rate of 1.0 percent annually was used to reflect infill development opportunities (especially around transit) that may have been overlooked in the NCTCOG forecasting model.

² There are 225,000 square feet of existing office space within one mile of the proposed station (much of it Class C and flex office space in an industrial setting). This represents less than one percent of all Trade Area office inventory. Among recent successful TOD sites, this compares with almost 9.2 million square feet within one mile of Addison Circle, over 3.3 square feet within one mile of Mockingbird Station, and almost 1.8 million square feet within one mile of Plano’s TOD redevelopment. Mockingbird Station, with 500,000 square feet of TOD office space, has contributed the most to its one-mile radius office inventory.



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However, this slowdown in employment growth is offset, in this analysis, by an expected increase in the capture rate for the Downtown Carrollton primary impact area, due in large part to the completion of transit improvements. Over this time period, the Trade Area is expected to require an additional 2.9 million square feet of office space due to employment growth, and 1.1 million square feet in the replacement of obsolete existing space. Of this total demand estimate, Downtown Carrollton could potentially capture 471,000 square feet, for a rate of 12 percent (up from 8 percent in the first ten-year period).

Table 8: Office Demand Estimates

Summary of Office Space Demand from Employment Growth									
Trade Area									
Ten Year Demand									
	Est. 2005	Annual Job	10-yr. Job	Est. Pct.	10-yr. Office	Est. 10-year	Est. Office	Attainable	Attainable
	Jobs	Growth	Growth	Office	Demand	Turnover/	Demand	Subject	10-yr
		Rate			from Job	Replacement	From	Capture	Capture
					(s.f.)		(10-year)	Rate	(s.f.)
Agriculture & Mining	2,613	2.0%	572	20%	28,616	5%	6,534	8%	2,812
Construction	11,154	2.0%	2,443	20%	122,131	5%	27,885	8%	12,001
Manufacturing	29,994	2.0%	6,569	10%	164,214	5%	37,493	8%	16,137
Transportation	5,934	2.0%	1,300	25%	81,220	5%	18,544	8%	7,981
Communication	6,813	2.0%	1,492	25%	93,253	5%	21,291	8%	9,164
Electric, Gas, Water, Sanitary	580	2.0%	127	25%	7,945	5%	1,814	8%	781
Wholesale Trade	21,630	2.0%	4,737	10%	118,421	5%	27,037	8%	11,637
Retail Trade	70,899	2.0%	15,526	10%	388,160	5%	88,623	8%	38,143
Finance, Insurance, Real Estate	32,344	2.0%	7,083	90%	1,593,720	5%	363,872	8%	156,607
Services (Non-Retail)									
Hotels & Lodging	5,507	2.0%	1,206	10%	30,151	5%	6,884	8%	2,963
Automotive Services	2,647	2.0%	580	10%	14,493	5%	3,309	8%	1,424
Entertainment & Recreation	2,806	2.0%	615	10%	15,365	5%	3,508	8%	1,510
Health Services	8,724	2.0%	1,910	25%	119,401	5%	27,261	8%	11,733
Legal Services	2,666	2.0%	584	90%	131,341	5%	29,987	8%	12,906
Educ. Institutions	7,737	2.0%	1,694	20%	84,722	5%	19,343	8%	8,325
Other Services	54,474	2.0%	11,930	55%	1,640,315	5%	374,511	8%	161,186
Government	6,433	2.0%	1,409	50%	176,093	5%	40,205	8%	17,304
Other	1,037	2.0%	227	50%	28,385	5%	6,481	8%	2,789
Totals	273,993		60,003		4,837,943		1,104,581		475,402

The entitled maximum build-out for office space in the primary impact area is approximately 30.5 million square feet based on the comprehensive plan, higher density zoning and code revisions. This said, allowable office densities exceed demand estimates quantified for the study time frame, yet allow for the potential development of more space in the long-term.

Office Supply

At the time of this analysis, the office market within the Trade Area, as well as throughout much of the



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Dallas - Fort Worth Metroplex, was experiencing lingering vacancies and suppressed rent levels resulting (in large part) from the post-2001 economic slowdown. Office vacancies of approximately 15 percent generally represent an equilibrium point at which developers begin to consider building more space (assuming acceptable rent rate levels). Trade Area vacancies of 22 percent as of early 2006 suggest that excess supply exists in the market that must be absorbed before meaningful new speculative development will occur. This said, the Dallas-Fort Worth Metroplex has a history of staying ahead of the traditional supply-demand curve, delivering product slightly ahead of a “ready” market. Both occupancy and rents are trending positively, indicating that the market is already cycling out of this down phase. As shown in [Figure 11](#), there is some existing office space in Carrollton; however, Class A Trade Area space is almost exclusively located along the Dallas North Tollway. [Figure 12](#) summarizes supply conditions.

Figure 11: Trade Area Office Supply

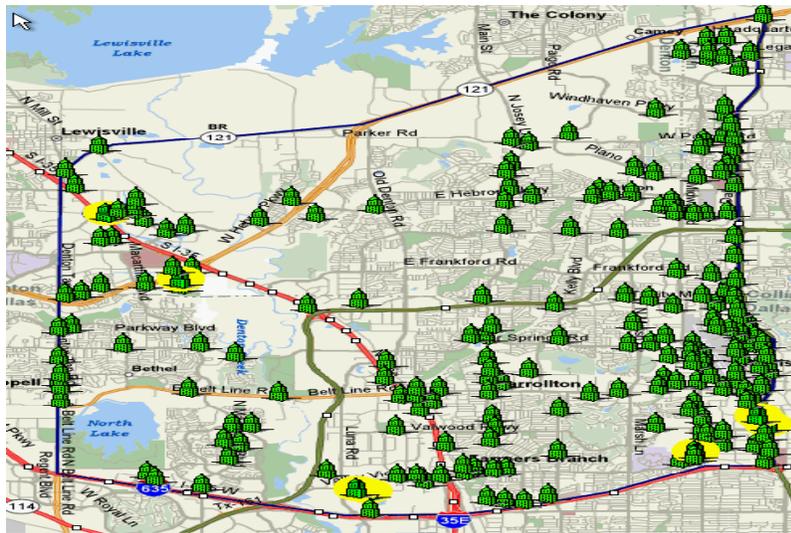
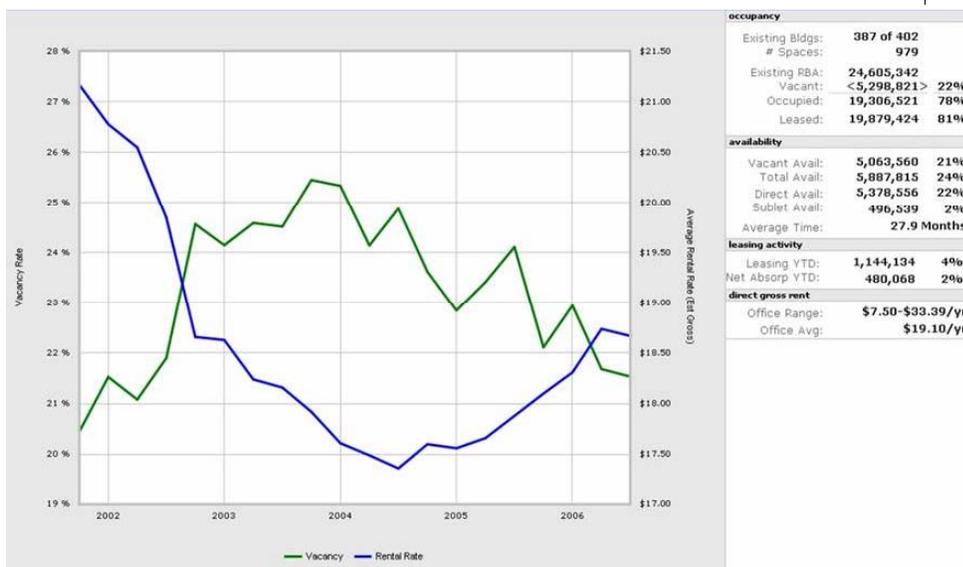


Figure 12: Office Supply Conditions (Q2-2006)





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Residential Demand

Demand for new residential units is primarily a factor of growth in income-qualified households within a trade area. For this analysis, NCTCOG projections for household growth were adjusted upwards (to account for ESRI projections and based on the assumption that infill opportunities were not counted) and distributed across income breaks using ESRI/Census data. These were, in turn, translated into corresponding price points and rent ranges – which are considered rough approximations, given the variability in individual affordability factors. Minor adjustments for second homes and demolitions were added to the model, resulting in new unit demand across rental and ownership price brackets.

Projected Trade Area household growth was analyzed along with historical patterns of single- and multi-family development to arrive at an estimated new demand for housing in the Trade Area of approximately 24,000 units over 10 years. Demand for apartment units were estimated to represent approximately 35 percent of overall Trade Area demand or approximately 8,600 units per year. Of the remaining ownership demand, over 30 percent was assumed to represent demand for attached product³. This is higher than current rates of ownership attached development, but reflects expected trends in product preference, recognizing aging population demographics and the effects of potential future interest rates.

New residential developments in Downtown Carrollton should ultimately compete most directly with other infill and transit-oriented developments in the region such as the later phases of Addison Circle and Downtown Plano, along with *Eastside Richardson* (and other yet-to-be-named TOD projects along proposed new LRT lines). Near-term, however, any new product in the primary impact area will likely compete with other projects in the immediate Trade Area including suburban development on its outer (primarily northern) edge.

Considering these supply and demand realities, along with anticipated land availability near the subject station and within the primary impact area, Downtown Carrollton is believed capable of absorbing

³ The share of attached homes as a percentage of all ownership home construction is difficult to infer from building permit statistics. Data on new home sales suggests that condominiums and townhomes may represent less than ten percent of overall recent new home sales in trade area communities. The higher estimate of 30 percent attached product over the 10 to 20 year timeframe of this analysis is a professional judgment based on a variety of factors including: declining and availability, increasing infill development new and growing acceptance of transit-oriented development, and an aging population looking for a lower maintenance housing option. All of these factors points to the potential for higher levels of attached housing as a percent of all ownership construction.



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Table 10: Single Family Attached Demand Estimates

Residential Trade Area (single family attached only)
Annual Capture

Annual Income Range	Approx. Home Price Range	Annual Trade Area For-Sale Demand	Est. Pct. Townhome/Condo	Est. Annual Townhome/Condo Units	Attainable Capture Rate (within attached)	Attainable Subject Capture (units/yr.)
\$15-25K	\$50 to \$85K	11	80%	9	10%	1
\$25-35K	\$85 to \$120K	79	60%	47	12%	6
\$35-50K	\$120 to \$175K	188	50%	94	12%	11
\$50-75K	\$175 to \$250K	319	40%	128	12%	15
\$75-100K	\$250 to \$350K	271	30%	81	12%	10
\$100-150K	\$350 to \$500K	309	20%	62	12%	7
\$150K and up	\$500K and up	348	20%	70	10%	7
<i>Totals</i>		1,525	32%	491	12%	57

Table 11: Rental Apartment Demand Estimates

Residential Trade Area (rental apartments only)
Annual Capture

Annual Income Range	Approx. Rent Range	Annual Trade Area Rental Demand	Attainable Capture Rate (within Rental)	Attainable Subject Capture (units/yr.)
\$15-25K	\$375 - \$625	62	10%	6
\$25-35K	\$625 - \$875	119	20%	24
\$35-50K	\$875 - \$1,000	188	20%	38
\$50-75K	\$1,000+	213	20%	43
\$75-100K	\$1,000+	116	15%	17
\$100-150K	\$1,000+	77	12%	9
\$150K and up	\$1,000+	39	10%	4
<i>Totals</i>		814	17%	141

Residential demand for the Trade Area is expected to decline as household growth slows over the second ten years of the twenty-year, long-term planning time frame. The NCTCOG projects household growth of 0.5 percent annually from 2015 to 2025. This figure is adjusted upwards to 0.8 percent annually for this analysis to account for infill redevelopment opportunities not contemplated by the Council of Governments’ forecasting model. The decline in the rate of growth, therefore, is approximately offset by



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an anticipated increase in capture rate for the subject property, as the Downtown Carrollton station area becomes more established as a residential option.

Since rail-based housing is primarily upscale multi-family (rental) and / or higher density single family (ownership), the market for attached ownership units (including townhomes, condominiums and related products) is targeted to households earning over \$150,000 (in 2006 dollars). Demand within this segment is projected to be 3,720 over the second ten-year period. Of this, Downtown Carrollton could absorb approximately 680 units for an overall capture rate of just over 18 percent. Over the same time period, the Trade Area should generate demand for 2,050 new apartment units (again excluding income ranges below \$15,000 annually), of which Downtown Carrollton could absorb some 380 units at a similar 18 percent overall capture rate. As rail-based housing is primarily upscale multi-family (rental) and / or higher density single family (ownership) housing, price points tend to concentrate at the middle- to upper-end of the market where the strongest growth is anticipated.

The entitled maximum buildout for residential space is approximately 8,600 units, based on plans, policies and regulations in the area, as well as available vacant and under-utilized land. Traffic survey zones (TSZs) present in the Downtown Carrollton impact area currently house a population of 4,421 residents, according to the NCTCOG (this should be considered a rough estimate, given overlapping TSZ and study area boundaries), suggesting that some 2,000 of the 8,600 allowable units may already exist in Downtown Carrollton. This allowable build-out residential capacity is thus likely more consistent with an absorption window beyond the study timeframe analyzed herein. *Note: Ultimate project capture rates will depend not only on overall quality and design integrity, but on the provision of a greater diversity of price points within both ownership and rental unit properties. In other words, a project serving only a narrow band of price points could suffer in terms of overall unit absorption.*

Note: The discussion of residential supply is presented in the context of competition among other mixed-use sites found throughout the Metroplex.

Retail Demand

Demand for new retail space is primarily determined by the spending potential of Trade Area households, both existing and future. In some cases, existing spending potential is currently unmet within the Trade Area. This “void” or “leakage” to outside retail establishments represents a potential



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source of demand that can be “recaptured” with superior or better located new retail space inside the Trade Area. Largely because of retail concentrations around Vista Ridge Mall, The Shoppes at Willow Bend, Village on the Parkway and the Belt Line Road commercial corridor, this Trade Area is not considered to have a substantial existing retail void.

Another, typically larger, source of demand for new retail space originates in the spending potential of new households projected for the Trade Area. In the context of this analysis, demand for space from future expenditures was determined by multiplying growth in households with that portion of household income spent on general retail purchases. Healthy overall Trade Area household growth suggests that almost 3 million square feet of new retail space will be required by new Trade Area households over the next 10 years. Retail demand can also come in the form of turnover or replacement of obsolete existing retail space. Because the Trade Area maintains a substantial inventory of older retail establishments, an assumption of 1 percent annual turnover/ replacement was used, resulting in an additional 1.3 million square feet of demand over ten years. A conservative 5 percent capture rate was used to generate an overall retail demand estimate of 219,000 square feet for the primary impact area – as summarized in Table 12.

Table 12: Retail Demand Estimates

Retail Demand Analysis							
Trade Area							
Ten Year Demand Estimates							
Category	Est. Square Feet (current)	Annual Growth (= Household Growth)	Est. Square Feet (year 10)	Growth in s.f. (10-yr)	Additional Demand From Turnover **	Subject Capture Rate	Subject Capture (s.f.)
Auto Parts, Accessories, and Tire Stores	260,222	1.6%	304,987	44,765	26,022	5%	3,539
Furniture & Home Furnishings Stores	1,272,453	1.6%	1,491,348	218,895	127,245	5%	17,307
Electronics & Appliance Stores	1,753,188	1.6%	2,054,781	301,593	175,319	5%	23,846
Bldg Mater., Garden Equip. & Supply	476,391	1.6%	558,343	81,951	47,639	5%	6,480
Food & Beverage Stores							
Grocery Stores	1,237,869	1.6%	1,450,814	212,945	123,787	5%	16,837
Specialty Food Stores	32,972	1.6%	38,644	5,672	3,297	5%	448
Beer, Wine, and Liquor Stores	76,560	1.6%	89,731	13,170	7,656	5%	1,041
Health & Personal Care Stores	802,264	1.6%	940,274	138,010	80,226	5%	10,912
Clothing and Clothing Accessories Stores	1,671,498	1.6%	1,959,038	287,540	167,150	5%	22,735
Sporting Goods, Hobby, Book, & Music	586,294	1.6%	687,152	100,858	58,629	5%	7,974
General Merchandise Stores	3,565,052	1.6%	4,178,332	613,280	356,505	5%	48,489
Miscellaneous Store Retailers	718,461	1.6%	842,055	123,594	71,846	5%	9,772
Food Services & Drinking Places							
Full-Service Restaurants	682,938	1.6%	800,421	117,483	68,294	5%	9,289
Limited-Service Eating Places	1,053,653	1.6%	1,234,908	181,255	105,365	5%	14,331
Special Food Services	79,823	1.6%	93,554	13,732	7,982	5%	1,086
Drinking Places (Alcoholic Beverages)	24,393	1.6%	28,589	4,196	1,829	5%	301
Other/excluded Categories*	2,858,806	1.6%	3,350,594	491,788	214,410	5%	24,589
Totals	17,152,838		20,103,564	2,950,726	1,643,204		218,976

Source: U.S. Census, COSTAR, ESRI-BIS, Urban Land Institute, Leland Consulting Group
 *including entertainment/cinema, professional office, banking, etc.
 **turnover/replacement based on 10% over 10 years



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Physical barriers posed primarily by numerous at-grade train crossings (discussed in more detail in the master plan document) represent the biggest single obstacle to regional-scale retail development in the impact area. Because of this consideration, Carrollton’s best hope for new regional retail capitalizing on DART expansion is more likely at the Trinity Mills Station planning area. However, grade separation improvements to even one or two of the more troublesome at-grade crossings, in combination with the enhanced connectivity brought about by the LRT expansion, suggests that the Downtown Carrollton primary impact area could nonetheless substantially expand its retail offerings. If so, it is likely they will take the form of neighborhood-serving retail, together with dining and entertainment destinations that choose to take advantage of a more vibrant mixed-use setting. Ideally, redevelopment initiatives and the urban character of the new station will complement and enhance the charm and historic value of the existing Carrollton Square collection of establishments.

As with residential demand, overall household growth rates in the second ten-year period (approximately 2016-26) are also expected to decline. However, again, this decline in Trade Area growth is expected to be offset by an increasing share of market demand in Downtown Carrollton as the area matures as a retail / mixed-use destination and as a transportation hub, overall. Using the same 0.8 percent adjusted annual growth rate, the Trade Area is projected to see 1.7 million square feet of new demand resulting from household growth and another 1.6 million square feet of replacement demand (as obsolete properties are replaced). Increasing the subject area’s overall capture rate from 5 percent to 7 percent, Downtown Carrollton should be able to capture 232,000 square feet of new retail space demand over the second ten-year planning period.

Evidence is inconclusive on whether retail may or may not benefit significantly from location at transit stations. One study showed rates “arrival by transit” rates that may (or may not) be as high as “arrival by walking.” In all cases, “arrival by automobiles” was the dominant mode. The entitled maximum build-out for retail space is just less than 380,000 square feet. To accommodate the total projected demand of approximately 450,000 square feet (in addition to existing retail space) over 20 years, Downtown Carrollton could need to adjust projected capture of or permitted maximum allowed residential or office space.

Retail Supply

The Trade Area (as shown in [Figure 13](#)), as of early 2006, had approximately 17.6 million square feet of



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retail space, according to Costar. This space was 10 percent vacant, a figure slightly above typical retail market equilibrium rates (approximately 7 percent), and suggesting major new development may not yet be warranted. This guideline, however, ignores factors such as space obsolescence and mismatches between desired and existing tenants. Thus, a new development for tenants consistent with market tastes could succeed despite existing vacancy rates.

Figure 13: Retail Supply Conditions (Q2-2006)

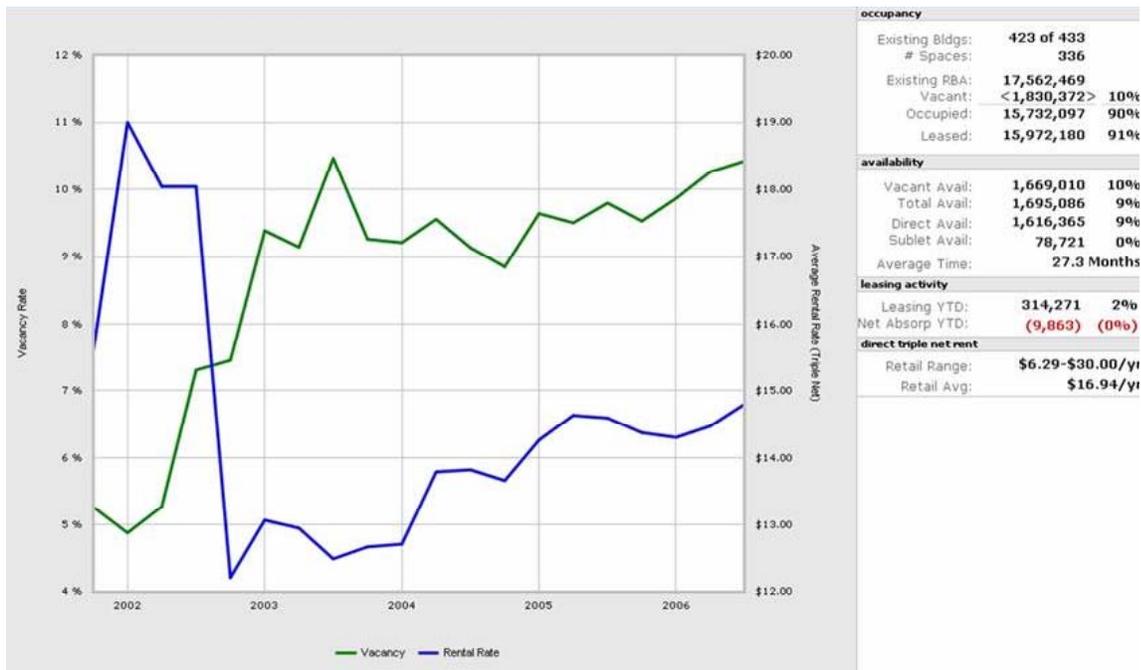
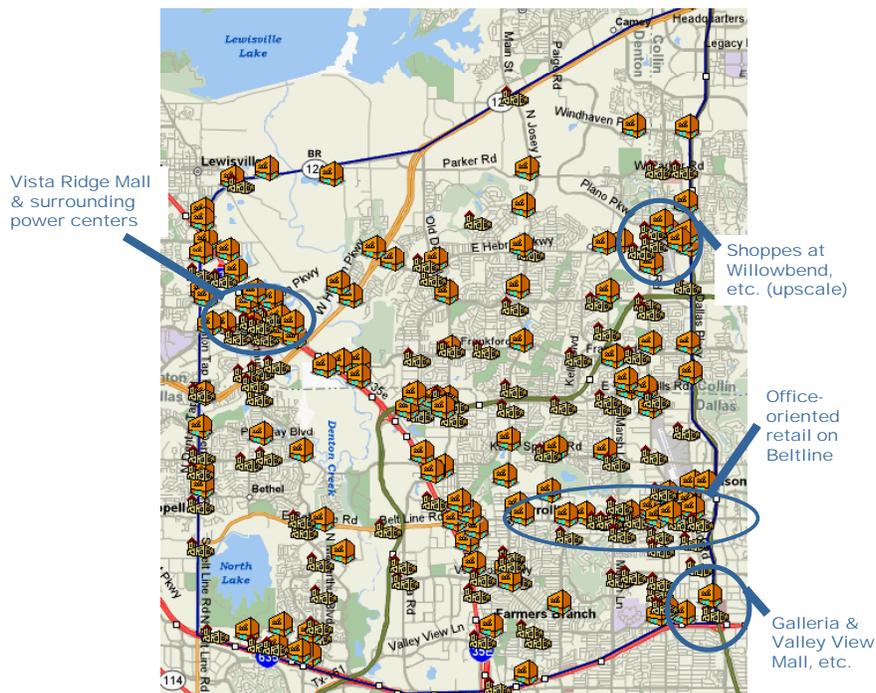


Figure 14: Trade Area Retail Space

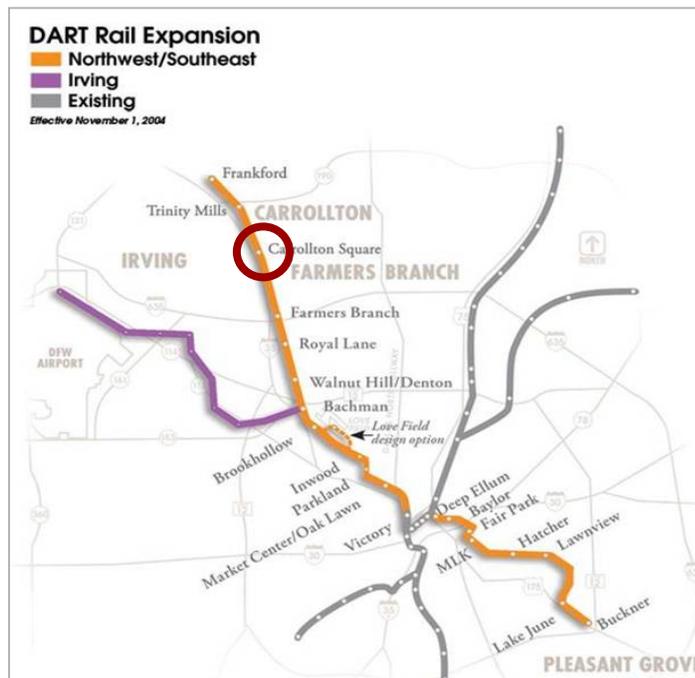




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The role of the planned light rail station for Downtown Carrollton is discussed in greater detail elsewhere in the master plan document, but bears restating as it relates to the redevelopment potential of properties within the primary impact area. Figure 15 shows a sub-regional detail of planned LRT expansion for the DART system. Although depicted as gold in Figure 15, the Northwest/Southeast expansion is now officially known as the Green Line. When completed in 2010, the Downtown station will provide important north-south commuter access connecting the area with Central Dallas. If the proposed Cotton Belt line (currently on DART’s 2030 Service Plan) crosses the area as an additional east-west connection, the site will take on added importance as a regional hub serving Addison and other suburban locales with access to DFW International Airport and the office/employment cluster at Las Colinas in Irving.

Figure 15: Planned DART LRT Expansion



This combination of access opportunities could make the primary impact area attractive to a wider array of potential homebuyers and renters – even as a residential option for households having different workplace destinations. As domestic and international conditions increasingly point to increasing gasoline prices over the long-term, access to convenient and reliable transit options should become an even more important factor in home location.

Other sites like Addison Circle, Mockingbird Station, and Downtown Plano have proven market acceptance for vertical mixed-use infill redevelopment in a transit-oriented setting. Each of these projects also relied on significant public investments in infrastructure improvements to ensure project success and a commitment to a sustainable long-term vision in lieu of short-term gains.

Other sites like Addison Circle,



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Summary Comments

The strategy for revitalizing Downtown Carrollton through transit-oriented development can be informed by recent and ongoing projects in the region that have proceeded along a similar vein. Specifically, while traffic volumes and income demographics within the 3-mile vicinity around Carrollton the Downtown Carrollton Station are strong, low density housing and workplace concentrations (comparatively) may hinder the pace of initial development, especially relative to Addison Circle and Mockingbird Station, where more urban densities were already in place. Table 13 compares the vicinity around Downtown Carrollton to the areas around Addison Circle, Downtown Plano, and Mockingbird Station.

Research shows that commercial developments near comparable TOD sites in the Dallas area have varied considerably. Table 14 summarizes office and retail development near the same comparison areas – this time focusing on a smaller, one-mile radius to capture project-related development and immediate context. *As illustrated, Downtown Carrollton does not have the critical mass of existing office or retail development found at comparable sites – suggesting that it may face an increased marketing challenging in its initial phases of establishing the area as a professional employment and shopping/dining address.*

Table 13: Station Area Demographic Comparison

Demographics (3-mi. radius)								
	2005 Population	2005 Households	Median Income	# HHs earning \$100K+	2005-10 HH Growth	Highest Nearby Traffic (ADT)	Daytime Pop. (Jobs)	Notes
Downtown Carrollton	84,102	30,659	\$62,800	7,736	1,737	179,000	71,802	Traffic count from I-35 at Beltline in 2004
Addison Circle	122,042	61,348	\$59,712	16,505	3,279	66,777	178,281	Traffic count from Arapahoe Rd. in 2006
Plano TOD	87,833	32,906	\$68,697	9,614	2,247	149,120	75,860	Traffic count from Central Exp.
Mockingbird Station	209,699	93,944	\$50,063	22,590	3,441	48,940	154,791	6,700 households earn \$250K+



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Table 14: Station Area Commercial Conditions

Q2-06 Office Supply (1-mi. radius)					
	Bldgs.	Total s.f.	Med. Rent. (nnn)	Proposed and Under Const. s.f.	Notes
Downtown Carrollton	21	225,091	\$11.00	0	
Addison Circle	90	9,160,000	\$17.30	135,000	901,000 s.f. of office built since 1999 (339,000 in Addison Cir.)
Plano TOD	58	1,768,000	\$15.00	0	168,000 s.f. of office built since 1999
Mockingbird Station	50	3,319,668	\$16.00	0	503,000 s.f. of office built since 1999 (all at the TOD site)

Q2-06 Retail Supply (1-mi. radius)					
	Bldgs.	Total s.f.	Med. Rent. (nnn)	Proposed and Under Const. s.f.	Notes
Downtown Carrollton	15	139,637	n/a	0	
Addison Circle	47	3,570,000	\$16.62	450,000	45,000 s.f. of retail built since 1999 (all in Addison Cir.)
Plano TOD	65	3,551,000	\$13.00	0	265,000 s.f. built since 1999; rent based on just 3 properties
Mockingbird Station	36	852,140	\$26.00	0	80,000+ s.f. built since 1999 (all at TOD site)

In addition to considering the experience of similar locations, to understand what the primary impact area and Downtown Carrollton station can expect in terms of real estate growth, one must consider its size, character, ownership, day time and nighttime population profiles, intended ridership to be served and its role in the region and on the “transportation line” as a whole. Household growth, household size, income, nearby employment and other population characteristics all define market opportunity. The market analysis presented herein is intended to provide the foundation on which to build sound investment strategies for the Downtown Carrollton primary impact area. Key market observations for moving forward include the following:

- ▲ The Trade Area has been and is expected to continue to densify with smaller households comprised of younger (and older) residents, with moderate and higher-incomes.
- ▲ Although there is not a significant concentration of older residents 65 years and older, (6 percent of the population base versus 8 percent in the Metroplex and 10 percent statewide), this figure is expected to increase creating additional demand for a greater diversity of residential product types.
- ▲ Based on demographic and psychographic analyses, potential housing niches for the station include: workforce housing; attached ownership products (such as townhomes, condominiums, lofts and rowhomes); senior housing; and work / live housing.
- ▲ Densifying housing near or in the station areas will increase demand for convenience and/or



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- service retail space. Potential retail niches for the station, in response to these residential concentrations, include: entertainment, dining, general merchandise, and personal service.
- ▲ The primary impact area’s access to regional markets via new rail connections, as well as the potential for turnover in the land base as property values increase, raises the potential for Downtown Carrollton to support a wider range of retail formats.
 - ▲ Significant growth in the Trade Area is projected to occur in the manufacturing, retail trade and service industries. This represents an opportunity for the station to develop smaller multi-tenant office space, incubator space, work / live units and ultimately Class A and Class B office space.
 - ▲ Station area commercial office vacancy and rental rates are not currently at levels required to support the density of new development and/or redevelopment envisioned for the area. Therefore, “gap” financing could be necessary to leverage private investment in early projects that will “jump-start” re-investment activity within the impact area in a format consistent with long-term goals.

Given the City of Carrollton’s central location within the Metroplex, and Downtown’s central position on the DART Green Line, the area is strategically located to capture a substantial share of the region’s traffic and business growth. Forecasts indicate that more than 5.9 million square feet of office space, nearly 24,000 residential units, and 4.5 million square feet of retail space could be absorbed in the Trade Area over the next 10 years, from which the primary impact area could benefit. During years 10 through 20, the Trade Area could realize additional demand for 4.0 million square feet of office space, more than 15,000 residential units and 3.3 million square feet of retail space. The level of investment which actually occurs, however, will be directly proportionate to the City’s and property owners’ commitment to stronger physical connections, supportive infill policies, creative financial solutions and removal of barriers.

In conclusion, Downtown Carrollton appears well positioned to attract successful mixed-use, transit-oriented development. Its concentration of younger and older adults, diverse but generally affluent population, and lifestyle segments amenable to urban environments, bodes well for the viability of a dense, diverse and vibrant urban atmosphere of the kind typified by TODs in the region.

The presence of an authentic historic small town/downtown district provides an essential component for successful place-making efforts in the primary impact area, helping to complete and validate expansion



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of the built environment through new development. The presence of an ethnically diverse population base has the potential to add further vitality to this urban mix through, for instance, a “restaurant row” destination of varied ethnic restaurants alongside a variety of traditional Texas cuisine.

The combination of interstate highway and DART light rail access provides a powerful combination of transportation options for both inbound and outbound commuters - and more importantly, for those seeking to live, work and play within one walkable district. Affluent riders from points north, in particular, could provide an additional source of demand for shopping/ dining, and eventually, a diverse mix of residential products.

Expectations should be tempered, however, considering transit-oriented development does not “create its own demand.” Rather, it provides a better option than non-TOD options while still drawing heavily from new and existing rooftop and workplace concentrations.

Population and employment concentrations in and around the study area are far smaller than those that existed around the now--successful Addison Circle and Mockingbird Stations, yet are similar to Plano’s pre-DART condition. While the viability of Downtown Carrollton as a regional center for office, retail and / or residential development is yet untested, it appears to be well-positioned to capture a significant share of Metroplex growth, provided supporting policies, financial incentives, flexible regulations and market education are established. Strategies to define and advance these mechanisms are presented in the following section relative to successful public-private TOD partnerships.



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It is important to note that any strategy related to station area development must be flexible enough to acknowledge and accommodate the differences among the various station types. Not all stations will -or should -achieve the same mix or level of employment, housing, retail/service and civic amenities. As such, actions for change must be sensitive to the different starting points, assets and market positioning of each station. Following is a definition of the various station development types:

Employment Center TOD

- ▲ Acts as trip generator for residential centers
- ▲ Includes major office developments in the FIRE (finance, insurance & real estate), government and service sectors
- ▲ Includes associated retail, restaurants and entertainment uses
- ▲ Draws from entire light rail line and from auto commute zone of 20 to 30 minutes
- ▲ Increase in density translates into increase in ridership (100 employees per acre yields a 2.2% increase in ridership)

Residential Center TOD

- ▲ Acts less as a generator, more as an originator for trips
- ▲ Includes higher density residential with light rail orientation
- ▲ Includes local service retail supported by automobile access
- ▲ Draws upper income demographic mix, people 25 to 45 years old, small households
- ▲ Draws senior or retiree housing due to convenience

Mixed-Use Center TOD

- ▲ Existing and future neighborhoods where housing and retail uses have been intensified
- ▲ Retail, restaurant and entertainment uses occur when residential density increases
- ▲ Office Parking supports night-time entertainment and restaurant parking
- ▲ Market supported only in higher-density areas
- ▲ Relies on high-amenity, attractive environments
- ▲ High land values and scarce land supply is a prerequisite



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Based on these definitions, the Downtown Carrollton station represents the potential to be a combined employment and residential center TOD, or Mixed-Use TOD, the difference being the level of emphasis placed on defining the area as a destination with concentrations of commercial uses. Strategies to advance change and accelerate private investment that is responsive to future rail investment acknowledge this intent.

Public Private Partnerships

DART's role in joint development has historically been that of the regulator – identifying transit lines and station locations and creating policies for communities to follow in planning for them. In today's competitive market, however, DART has the potential to play a bigger role. DART is the logical entity to provide leadership and support to local governments, and financing relief and infrastructure to private developers. Conversely, local governments provide a unique community perspective and connection to residents (future transit riders) while developers bring experience and an understanding of the market. Each partner in joint development provides a different perspective and set of objectives to the process.

Partner Goals

The public sector and the private sector each look at a potential project quite differently. The public sector looks long-term: defining its goals publicly, dealing with both public perceptions and the political climate while also seeking assurance from the private sector. The public sector is looking for developers who: have a successful track record; know the public scrutiny that accompanies redevelopment; understand the public process and microscopic view of a public/private project; are financially strong; and have access to both debt and equity sources of investment.

The private sector, on the other hand, largely focuses on the short-term: the period when an investment is most vulnerable. The private sector defines its investment objectives from capital, market and operating risk perspectives. The private sector is looking for: political will; stable city leadership; community support and alignment; a favorable (or at least neutral) media; and access to public financial mechanisms (e.g., urban renewal, bonding capacity, land control, etc.).



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These goals, assurance versus speed and flexibility, are not mutually exclusive. Within station planning areas, the public sector is looking for developers who are capable – meaning they -understand intense public scrutiny and will not back out; have experience with the urban development process; can point to a successful track record; and are appropriately funded. The private sector seeks a committed public partner with strong political will, a stable elected body and planning commission, a dedicated staff with a focus on implementation, and the ability to bring creative policy and financial incentives to area. All sides need each other. *Source: Achieving Regional Centers, Leland Consulting Group.*

The table below illustrates the responsibility of each partner in station area development. The list is based on the ground rules for joint development.

Table 15: Partner Responsibilities

Responsibilities	Partners	
	Transit Agency	Private Developer
Prepare station area plans		X
Seek partnerships with property owners and developers	X	X
Install public improvements		X
Plan and manage parking effectively		X
Promote and provide incentives for infill	X	X
Prepare market strategy and educate delivery system	X	X
Prepare regulations which encourage thresholds		X
Purchase land and position for TOD	X	X
Do a regulatory audit		X
Deliver projects to the market		X

Note: Items highlighted above are addressed in the following discussion.

Source: Puget Sound Regional Council and Leland Consulting Group.

As of the date of this report, the City of Carrollton had either already addressed, or was in the process of addressing, the following issues in an effort to “ready Downtown Carrollton for investment.”

- ▲ Completed increased density re-zoning



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- ▲ Established tax increment reinvestment zone
- ▲ Prepared market study which addressed potential opportunities and barriers
- ▲ Completed station area master plan
- ▲ Updated comprehensive plan
- ▲ Acquired strategic parcels at the Downtown and Trinity Mills stations
- ▲ Began initiatives related to:
 - ▲ Parking capacity and management
 - ▲ Storm water runoff
 - ▲ Roadway network
 - ▲ Future transit linkages
 - ▲ Streetscape / landscape design standards
 - ▲ Infrastructure planning

Install Public Improvements

Primary infrastructure elements for a mixed-use station include:

- ▲ High level of transit accessibility on both the regional and local transportation systems
- ▲ Infrastructure placed to encourage dense development and address physical challenges
- ▲ Well-connected network of small streets within the station Including an environment and series of amenities that encourage walking
- ▲ Distinctive informal public gathering spaces
- ▲ Amenities such as public art, street trees, landscaping, lighting, and other factors that create a sense of place
- ▲ Parking management strategies such as adjusted parking ratios combined with shared parking and/or structured parking to avoid surface parking lots

There is no simple formula or rule of thumb for deciding what level of infrastructure and/or investment is needed to make a station attractive for development. As each station is unique, so are its individual needs. However, there are certain key infrastructure elements that must exist for any station to be successful. First and foremost on any list is transportation, or rather, several types of transportation. By providing extremely accessible transportation and plenty of choices, the region can create stations that become the focus of economic activity and real estate investment. The challenge is financing the infrastructure in such a way that public investment is most effectively leveraged.



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Urbanized “places” such as stations present a classic dilemma when it comes to infrastructure: it is necessary to spend money to save money. We know that, at a regional scale, these centers of development, through compact and infill development, can reduce total infrastructure costs (such as for water supply, sewers and roads) to local governments and property owners by up to 25 percent. However, this reduction at the regional level comes at the expense of balanced project economics at the local, or project level. At the project level, for example, costs are often higher within stations due to a concentration of demand and increased volume of activity (e.g., structured parking).

The result is a higher level of public and private costs for the station (project level), but lower costs at a regional level. Achieving regional cost economies, therefore, require financial assistance at the local level to offset higher local costs.

The most obvious public contribution to infrastructure in station development is parking. Since structured parking often is not possible for developers to build (largely because of high construction costs relative to achievable rent) public investment can and should focus its financial resources on structured parking. When all other essential components are in place to propel the station to its next stage of intensity, public subsidy can be a logical and productive way to make the parking component feasible for development. (See the discussion below regarding parking strategies within transit stations.)

The decision to either finance or participate in the financing of structured parking should be based on the role of the station in the line (qualitative) and density of the station program (quantitative). Generally speaking, a project’s value is an indication of feasibility for structured parking (driven by project density or floor area ratio (FAR) and land price.) The City of Carrollton is well- positioned to either finance or participate in financing this type of infrastructure through its existing improvement zone. (See more extensive discussion below.)

Parking Strategies

“High parking ratios combined with surface parking make high density development impossible.”

Author, Unknown

A station’s economic success, in part, depends on adequate parking. Unfortunately, conventional approaches to parking (such as large parking lots between the street and businesses) can undermine the vitality and pedestrian atmosphere needed at a station. Parking should be treated as a separate land use



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within the development, serving all uses within the center. It is inadequate, costly and counterproductive to address parking as a piece of each commercial, residential or office use. Rather, it should be considered a supportive piece of the whole which when planned for and managed can make effective use of existing resources. In this way, parking can be considered as a utility, like a water or sewer line.

Parking strategies include:

- ▲ Reduce the amount of parking. When analyzing ratios, do not necessarily reduce the overall requirement, but rather the individual ratios for each land use. Policies and regulations in support of this strategy will effectively facilitate the right degree of compactness and density, and thereby reduce unnecessary traffic circulation. With joint use or shared parking opportunities, a station can reduce its amount of parking by 20 to 25 percent. Another element of this strategy should be credit for on-street parking. *Note: This strategy will largely be addressed by implementing the City's new transit zoning.*
- ▲ Manage the use of parking. A station must manage its parking system to make sure it is functioning correctly once the initial cushion of over-supply diminishes. Existing and future retailers are a critical audience for this strategy. To this end it will be essential to limit all-day parking in core areas and incorporate short-term parking zones. Developing a parking management district for the station deserves prime consideration.
- ▲ Use parking structures. A station should provide mechanisms to allow parking to move into structures over time. For the near-term, land prices in most stations will not support the high cost of structured parking. If structured parking is required, public financial assistance is almost certainly necessary. Therefore, develop a plan which locates buildings and infrastructure to allow for eventual conversion of surface to structured parking.
- ▲ Monitor the use of parking and eventually charge for its use. Parking is an essential element of the TOD infrastructure, but is also the most costly. As it transitions to structured parking with increases in demand, fees should be levied (eventually). The alternative to riding transit is using the automobile. Employees, residents, etc. that drive to urban areas (including downtowns) expect to pay for parking at their end-point. Charging for parking at the beginning of their trip will be accepted by riders, once the value of transit is understood.



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Incentives for Investment

The public sector’s role in “readying the environment” for private sector investment can be multi-faceted. Potential implementation strategies or “action steps” to further investment include:

Pre-Development Services / Project Due Diligence: Provide “due diligence” services that potential developers would otherwise have to initiate themselves. This saves time and money for the developer. Specific pre-development services which the public sector can “contribute” to a project include market studies, refined development economic analyses, environmental studies, design guidelines, etc.

Direct Financial Assistance: Station area projects offer unique financial challenges to the private development community. “Filling the financial gap” (if there is one) will therefore be a critical element of the public sector implementation strategy. There are many methods and tools for “filling the gap” using public sector financial contributions. Direct financial assistance can be provided by the public sector through:

- ▲ Bond financing for infrastructure improvements
- ▲ Land cost discount/write-down
- ▲ Off-site infrastructure investments
- ▲ Public sector grants and/or loan programs
- ▲ Tax Increment Financing (TIF)
- ▲ Special districts
- ▲ TOD property tax exemptions ⁴
- ▲ System development charge deferrals
- ▲ Transportation impact fee credits
- ▲ Transit-supportive zoning

Any of these contributions will directly reduce any financial “gap,” and, when used in combination, they can make a project economically feasible. *Note: Many of the tools identified above are either already or in the process of being put in place by the City.*

⁴ Limiting tax collection among properties in a Tax Increment Reinvestment Zone could be counter-productive.



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Indirect Financial Assistance: In addition to more direct forms of financial assistance, there are a number of strategies that the public sector can employ to indirectly enhance a project's economic feasibility. Indirect financial assistance strategies, which attempt to ease the development process for the private sector, can include:

- ▲ Development fee waivers and deferrals
- ▲ Tax abatements and rebates
- ▲ Streamlined project approval

On-Going Project Marketing Assistance: As the project is in its absorption phase (the period prior to stabilization in occupancy and revenue levels) and, the public sector can contribute marketing assistance in the way of public relations, advertising, etc. Through the City's internal marketing system and links to other civic organizations, the project could receive a boost in recognition and visibility at a critical period in its development.

Development Economics

In order to assess the economic feasibility of a project and its various components (including structured parking), it is useful to conduct a preliminary analysis of its expected financial performance. While it is difficult to predict project economics at a conceptual stage without site engineering, construction documents, etc., it is still beneficial to conduct a *pro forma* analysis using typical revenues and costs for projects of a certain type and density. This *pro forma* analysis then provides an initial baseline from which additional financial analyses can be performed. It also becomes a planning tool for the formulation of future implementation strategies.

Evaluation Criteria for Incentives

All TOD projects should be evaluated in terms of the total return to public, as well as private, investors so as to assist in making decisions about the trade-offs involved in potential public subsidies for various uses. At a minimum, financial outcomes should include:

For Local Governments: higher tax revenues from increased retail sales and property values;



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<i>For the Transit Agency:</i>	increased fare box revenues and potential ground lease and other joint development revenues; it is possible that increases in land value could cover a significant portion of the cost of transit investments;
<i>For the Developer:</i>	higher return on financial investment;
<i>For Employers:</i>	shorter and more predictable commute times, easier employee access; and
<i>For the Community:</i>	a balance between financial return and other goals of TOD so that projects are not judged purely on their monetary return.

Source: “Transit Oriented Development: Moving From Rhetoric to Reality,” The Brookings Institution Center on Urban and Metropolitan Policy and The Great American Station Foundation.

As cities compete in the local and regional marketplaces for station area development, their “tool bag” must contain a variety of strategies and mechanisms to attract investment. These “tools” can be financial (grants, loan programs, etc.), physical (infrastructure investment), market (planning / feasibility assistance), or organizational in nature. They can be used independently or in various combinations. Given the obstacles associated with TOD development, it is imperative that whatever mix of tools is put in place it be comprehensive, flexible and creative.

Educating the Delivery System

As the lead entity in the promotion of transit development at a local level, the City needs to spearhead education of the “delivery system.” To this end, officials and staff need to provide educational materials and resources about markets, market strategies and related topics. They also need to assist their partners in becoming more knowledgeable about investment assistance; help them analyze the likelihood of reaching lease or sales goals, capture necessary revenues, etc.; and anticipate factors that contribute negatively to the risk vs. reward equation. If the public sector is to truly partner with the private sector, jurisdictional staff and policy makers need to understand markets, their dynamics, how they are measured, and the factors that affect change.

Transit-oriented development not only makes sense as an effective means of managing growth, but it can be market-responsive and fill a market niche while maintaining its value. The message to the private sector should highlight the following benefits of TOD development:

- ▲ Shifts in demographic characteristics support compact development forms



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- ▲ Pressure for convenience among consumers will only grow in the long-term
- ▲ Public sector willingness to leverage private investment is Council-supported
- ▲ Increased lease rates and land prices are realized over time
- ▲ Employee productivity is higher when commuting times are shortened
- ▲ Quality of Life is high in stations – qualitatively and quantitatively

In addition to carrying the message of TOD attributes, the City of Carrollton could host ongoing and regular discussions between the private and public sector to examine trends such as lending practices, appraisal issues and techniques, loan underwriting guidelines, cost of debt and equity, land values and rents by area, and other issues. Changes in lending underwriting, appraisal instruction, and insurance underwriting will effect investment and the way in which public private partnerships are written.

Lessons Learned

Studies of station area and transit-supportive development contain several conclusions regarding the factors that lead to successful transit-supportive development:

- ▲ The overall market is critical. A stronger market for development – and in particular higher density residential and office space – will help create the critical mass of development at station area locations.
- ▲ The locational advantages of each station area should be carefully considered, and development focused at those station areas that have multiple locational advantages, including good auto access, as well as transit access.
- ▲ Historically, businesses and residents commonly trade off land costs and transportation costs in choosing locations. Land in central locations (downtown, suburban activity centers) is more expensive, but transportation costs are lower. Outlying land is cheaper, but transportation costs are higher.
- ▲ The market can function to make the use of land and transportation efficient by causing the most valuable land and transportation facilities to be used by those that value it most.



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- ▲ Land use regulations which permit higher-density residential and commercial development at station areas and restrict it elsewhere are essential.
- ▲ The public sector need be actively involved in development partnerships with the private sector. Public sector actions can include investment in pedestrian and transit improvements, land assembly, site preparation and development subsidies.