2030 Transit System Plan

hov  bus  paratransit  rail  systemwide mobility

October 2006
DART MISSION STATEMENT

The Mission of Dallas Area Rapid Transit is to build, establish, and operate a safe, efficient, and effective transportation system that, within the DART Service Area, provides mobility, improves the quality of life, and stimulates economic development.
2030 Transit System Plan

- hov
- bus
- paratransit
- rail
- systemwide mobility
# 2030 Transit System Plan - Table of Contents

## 1.0 Introduction
- 1.1 Planning Process ................................................................. 1
- 1.2 Relationship to Other Plans .................................................. 2
- 1.3 Organization of the Plan ...................................................... 3
- 1.4 Future Updates ................................................................... 3

## 2.0 Growth Trends and Mobility Issues
- 2.1 Local and Regional Growth Patterns ................................. 4
- 2.2 Changes in Travel Patterns and Congestion ....................... 4
- 2.3 Regional Transportation Issues ......................................... 5

## 3.0 Focus Areas
- 3.1 Downtown Dallas and Surrounding Urban Areas ............... 7
  - 3.1.1 Transportation Needs and Opportunities ...................... 7
  - 3.1.2 DART’s Role ............................................................. 9
  - 3.2 North Crosstown Corridor ............................................. 9
  - 3.2.1 Corridor Needs ......................................................... 9
  - 3.2.2 Alternatives Considered ........................................... 10
  - 3.2.3 North Crosstown Recommendations ....................... 10
  - 3.2.4 Remaining Issues .................................................... 10
- 3.3 Airport Access .................................................................. 11
  - 3.3.1 Dallas Love Field ..................................................... 11
  - 3.3.2 DFW International Airport ....................................... 12
- 3.4 Southern Sector Growth ..................................................... 13
  - 3.4.1 Southern Sector Demographics ................................. 13
  - 3.4.2 forwardDallas’ Comprehensive Plan ......................... 13
  - 3.4.3 Southern Sector Recommendations ......................... 14

## 4.0 Land Use and Economic Development
- 4.1 DART Initiatives ............................................................... 16
  - 4.1.1 Education ............................................................... 16
  - 4.1.2 Facilitation ............................................................. 16
  - 4.1.3 Coordination .......................................................... 17
  - 4.2 Member City Initiatives ................................................ 17
  - 4.2.1 Transit-Oriented Development ................................. 17
- 4.3 Regional Planning Initiatives ............................................. 19
  - 4.3.1 Vision North Texas .................................................. 19
  - 4.3.2 Alternative Future Sensitivity Tests ............................ 19
- 4.4 Cooperative Planning ....................................................... 20

## 5.0 Financial Considerations
- 5.1 Key Revenue Sources ..................................................... 21
- 5.2 Capital Expenditures ....................................................... 21
- 5.3 Transit Operating Expenses ............................................ 22
- 5.4 Financial Profile ............................................................. 22
  - 5.4.1 Risks and Opportunities .......................................... 23
  - 5.4.2 Year 2030 Financial Capacity ................................. 24

---

October 2006
This page intentionally left blank.
1.0 Introduction

Dallas Area Rapid Transit (DART) was created in 1983 by a majority of voters in 14 cities (now 13) and Dallas County and was founded upon its original 1983 Service Plan. The long-range element of the DART Service Plan is the Transit System Plan (TSP). DART updates the Transit System Plan regularly, with the last update completed in 1995. The 1995 plan identified strategies for the Service Area through 2010.

As of 2006, DART has successfully implemented the majority of its 1995 Transit System Plan, including:

- 45 miles of Light Rail Transit (LRT) with 35 stations in operation and carrying more than 60,000 people on an average weekday; another 48 miles of LRT is in various stages of planning, design, and construction
- 35 miles of commuter rail on the Trinity Railway Express (TRE), linking the downtowns of Dallas and Fort Worth
- 31 miles of High Occupancy Vehicle (HOV) lanes, resulting in travel time savings for more than 100,000 people daily

With most of the projects and programs from the 1995 Transit System Plan in operation or programmed for implementation, it is time for DART to identify the next generation of programs. These programs will build upon recent successes and address the continued growth, increasing congestion, and changing attitudes toward transit both inside and outside of the DART Service Area.

This 2030 Transit System Plan update recognizes that DART’s role is changing – both internally and externally. As the remaining elements of the 1995 Transit System
Chapter 1: Introduction

GUIDING PRINCIPLES

As adopted by the DART Board of Directors (Resolution 010151)

Mobility

- Identify future market needs and new market opportunities.
- Provide a system that attracts new customers, particularly single occupant vehicle users, while serving transit-dependent customers.
- Provide an integrated transportation system with the appropriate level of capacity, accessibility, and performance to meet customer needs.
- Consider opportunities to preserve right of-way options for future transit use.

Fiscal Responsibility

- Provide a system that is efficient, cost-effective, and affordable.

Land Use and Economic Development

- Promote a region that is transit-oriented and places priority on transit.
- Support transportation and land use planning that helps achieve a better quality of life within the North Texas region.
- Provide a system that is compatible with the community it serves and minimizes environmental impacts.
- Support member cities’ economic development objectives by coordinating improved transit services.
- Encourage initiatives to invest at or near transit facilities.

Planning Process

- Establish a common vision for transportation that is regionally accepted, progressively implemented through a comprehensive system plan, and periodically revisited.
- Develop and enhance coalitions with all organizations that have a vested interest in regional transportation issues.
- Develop a system plan that provides a sound basis for subsequent, more detailed planning studies.

Plan are constructed, DART will make the transition to primarily an operating agency. This places renewed importance on maintaining and enhancing the existing system to accommodate additional service as well as expansion projects over time. Additionally, DART has demonstrated its ability to build and operate rail transit, giving the agency an opportunity to be at the forefront of regional transit opportunities in North Texas.

DART is proud to be a partner in regional mobility and is excited about the continuing prospects that transit brings to help shape our communities and enhance economic development. For this reason, the 2030 TSP goes beyond simply identifying a set of projects and instead focuses on the role of each plan element, discussing how the existing, planned, and future transit elements can be cost-effectively integrated into the communities they serve.

1.1 Planning Process

The 2030 TSP was developed using a three-step planning process supported by public and agency involvement. The process began with an assessment of mobility needs in the DART Service Area and a larger regional study area, including changes in demographics, travel patterns, and congestion. The second step defined corridor opportunities and various service strategies to meet the identified mobility needs. The last step focused on the evaluation of alternatives, including a trade-off analysis within financial constraints through 2030.

The 2030 TSP has gained broad-based support for the plan in accordance with the Guiding Principles (see sidebar) established by the DART Board. This was accomplished through public meetings at key milestones, meetings with member cities’ staffs and elected officials, and briefings to a range of interested organizations and stakeholders. This broad-based support, as well as an understanding of specific areas of community concern, will help set the stage for more detailed, project specific studies.

1.2 Relationship to Other Plans

While the Transit System Plan provides the overall vision and direction for DART’s future capital and operating programs, it provides input for, and is affected by, several other plans, including:

- DART Service Plan – required under DART’s enabling legislation, this plan states commitments to member cities and identifies the specific location of fixed guideway and major transit facilities
- DART Strategic Plan – identifies the key initiatives that must be completed to achieve Board goals and meet DART’s vision of success
- DART Business Plan – defines how the Strategic Plan will be achieved with performance indicators to measure success
- DART Twenty-Year Financial Plan – compiles anticipated revenues and expenditures over a 20-year period to budget resources for operations, maintenance, and growth of DART programs and services, thus providing an estimate of available resources for Transit System Plan elements
- DART Five-Year Action Plan – provides detailed information to increase bus and rail ridership through service changes over a five-year period
- North Central Texas Council of Governments (NCTCOG) Regional Metropolitan Transportation Plan – the Transit System Plan provides input to the regional plan. DART projects must be included in
Public involvement played a major role in the development of the 2030 Transit System Plan - both in building support for the plan and in identifying key community issues that need to be addressed as projects are planned and implemented.

1.3 Organization of the Plan

The 2030 Transit System Plan represents the long-range vision of future capital and operating programs for DART through the year 2030. Following an overview of growth trends and mobility issues, the plan consists of five primary sections:

- **Focus Areas** – Four focus areas were identified as the plan was developed - Downtown Dallas, Airport Access, the North Crosstown Corridor, and Southern Sector Growth. This section provides direction and supports recommendations for future service in these areas.

- **Land Use and Economic Development** – This section highlights the synergy between transit and land use, promotes transit-oriented development, and identifies strategic planning initiatives.

- **Financial Considerations** – An overview of the long-range financial outlook, including risks and opportunities, provides an understanding of DART’s 2030 financial capacity and the key issues that can affect this capacity over time.

- **Recommendations and Strategies** – This section documents recommendations and strategies for the major modes operated by DART (rail, bus, HOV, paratransit), as well as supporting systemwide mobility programs. Priority recommendations for these elements are based on reasonable financial constraints through the year 2030. Each element of the plan includes “Strategies for Success” to support implementation of the projects or programs, and to foster cooperation with other public and private stakeholders. The rail section includes a Vision Element, which highlights promising opportunities for system expansion within the DART Service Area. These projects may be technically sound, but are unfunded under projected financial conditions, or would require supportive land use or policy changes. Regional rail considerations and opportunities for expansion beyond the DART Service Area are also discussed in this section.

- **Implementation and Phasing** – This section outlines project phasing through Year 2030, including project development steps. Internal and external coordination during project development is also discussed.

A summary of plan benefits, both at the local and regional level, concludes the 2030 Transit System Plan. This final chapter focuses on how the plan relates to the Guiding Principles adopted early in the process and meets the DART Mission Statement.

1.4 Future Updates

The Transit System Plan is updated on a regular basis. In general, a minor update to the plan will be conducted every four years, and a major update will be done every eight to 12 years. Minor updates may be completed for specific elements of the plan to respond to new information. This schedule allows DART to meet several objectives:

- Provide transit system input updates to the Metropolitan Transportation Plan, which is also updated every four years
- Examine possible revisions to the TSP based on changes in financial and/or demographic projections
- Adjust implementation strategies or timeframes based on new information related to project costs, funding, project definition, or land use plans
- Coordinate and update project implementation timeframes with the DART long-range financial plan and short-range capital improvement plans
- Document changes in DART policy or strategy related to the various elements of the plan.
2.0 Growth Trends and Mobility Issues

The DART Service Area is made up of 13 member cities encompassing 700 square miles. Meeting the mobility needs of such a large metropolitan area in a cost-effective manner can be challenging, especially when growth and development patterns are not always oriented toward transit. These past growth trends appear to be changing based on recent legislative actions and policy changes and are further supported by member cities’ efforts to focus development around transit (see Chapter 4). The following sections highlight growth trends and mobility issues affecting both the DART Service Area and the larger Dallas-Fort Worth (DFW) region through the Year 2030.

2.1 Local and Regional Growth Patterns

The Dallas-Fort Worth region has been one of the fastest growing areas of the country during the last 20 years and is expected to continue this trend through the year 2030. NCTCOG regularly updates its demographic projections to predict local and regional growth patterns. The Transit System Plan used approved Year 2030 demographic projections as the basis for plan development and analysis. Sensitivity tests were also conducted using an alternative set of demographics that recognize the recent City of Dallas forwardDallas! comprehensive plan vision, which is not reflected in the approved regional forecasts. The results of these sensitivity tests are discussed in Chapter 4, Land Use and Economic Development.

Regional demographic projections reflect an increase of over 3.3 million residents and nearly two million jobs from year 2005 to 2030 for the ten-county region. This brings the regional forecast to 9.1 million persons and 5.4 million jobs. While approximately 80 percent of residents and jobs will be in the core counties of Dallas, Tarrant, Collin, and Denton, counties outside this area are also experiencing strong growth. The highest growth rates in the 1990s were in Collin and Denton counties; they captured more than 50 percent of the region’s growth in this period. These strong growth trends are forecast to continue. Growth trends indicate that population and employment will increase by 12 percent and 30 percent, respectively, for the DART Service Area. Most population growth will be outside the DART Service Area although about 50 percent of jobs will still be within the DART Service Area. This trend reaffirms the need to develop regional strategies for transit where no implementing authority exists.

These trends also indicate a need to refocus population growth in the heart of the DFW area to maintain a reasonable jobs-to-housing ratio and promote a more sustainable growth pattern. Thus, for many of the cities within the DART Service Area, the focus through year 2030 will be on redevelopment opportunities given that much of their land area is built out. Dallas, as the largest city in the region, plans to focus not only on redevelopment but also on targeted development and infill within its underutilized southern sector. These efforts will strengthen ridership on the existing DART transit network and result in targeted growth and development around DART rail stations. Most importantly, moving away from sprawl by focusing growth inward can have significant benefits such as creating shorter trips that can be made by walking, bicycling, or using transit, thereby reducing congestion.
2.2 Changes in Travel Patterns and Congestion

In terms of changing travel patterns, the region will continue to see a strong demand toward key regional activity centers/employment areas in the DART Service Area, such as downtown Dallas, the Southwestern Medical District, Stemmons Corridor, Las Colinas, Galleria/Tollway Corridor, DFW Airport, the Telecom Corridor, and Legacy. As the population increases, trip patterns to these areas are becoming more dispersed and crosstown demand is becoming stronger.

Nearly doubling the region’s population and employment translates into a comparable increase in vehicle miles of travel and fuel consumption. Although these factors increase by a factor of nearly two, congestion delay – the amount of time people are stuck in traffic – is expected to increase by a factor of five. This means that transportation improvements in the region cannot keep pace with population growth. As indicated by NCTCOG forecasts, the areas with the highest levels of congestion will continue to be seen in the northern part of the DART Service Area.

DART is committed to being a key part of the solution that keeps residents and employees moving. DART will work to sustain and promote transit-oriented land use planning and economic development, while working toward improving the quality of life in our region. In congested corridors, especially during peak periods, transit is increasingly a key part of the mobility solution (see Spotlight on Success next page).

2.3 Regional Transportation Issues

At a regional and state level, there are several initiatives and policy discussions that can affect the region’s growth patterns, the development of the transportation system, and DART’s role as a transportation provider. A brief discussion of these key issues and how they may shape the future of transportation in the region is provided below.

Sustainable Development

Regional growth trends through 2030 indicate that only one-third of the projected growth might occur within the existing Dallas-Fort Worth urbanized area, while the other two-thirds might occur in current rural areas on the fringes of the Metropole. This growth pattern brings into question the sustainability of the region and the ability of resources such as the transportation network in the fringe area to handle the growth. These concerns created the Vision North Texas effort and have led NCTCOG to establish sustainable development as the region’s new strategic approach to transportation planning.

As part of this new approach, NCTCOG is testing alternative land use scenarios to better understand the implications of growth options. Alternative land use scenarios that focus development around rail or infill areas have been found to significantly reduce the amount of miles traveled, congestion delay, and the cost and amount of new highways needed to meet demand. This also means a much higher use of the transit system. DART member cities are also embracing this approach. Overall, this creates policy implications at a regional level to shape the region’s future and supports the need to expand the role of transit, particularly rail, in the future.

Regional Transit Initiative

The Metropolitan Transportation Plan includes numerous regional rail corridors, most of which are in areas that are not served by DART or another transit authority. To respond to future transit needs, NCTCOG completed a Regional Rail Corridor Study in 2004, which provided recommendations addressing regional rail needs.

A parallel and ongoing effort was the Regional Transit Initiative (RTI). The RTI has focused on developing solutions related to institutional, funding, and legislative issues. The general consensus of the RTI is to establish a Regional Rail Authority that would partner with existing transit authorities to provide...
seamless transit in the region. The RTI recommended that the state sales tax be used to fund the Regional Rail Authority by raising the sales tax cap by one-half of one-cent. DART supports an option of exempting transit from the sales tax cap. Thus, DART member cities would retain the one-cent sales tax for transit, but could vote to raise the sales tax for economic development or other purposes.

As of 2006, the RTI focus has shifted to working with state legislators to achieve enabling legislation that would implement its recommendations. Given DART's proven track record in planning, building, and operating a successful transit system, DART is well-positioned to be a leader in regional transit and continues to be a key partner in the RTI discussions.

Tollroads and Managed HOV Lanes

In the future, there will be insufficient public financial resources to expand the roadway system to accommodate the increasing traffic demand. The inability to keep up with growth can add to projected traffic congestion and air pollution in the region. In response, state and regional transportation leaders are proposing to fund more roads through tolls. These tollroads could be built by a public-private partnership through the use of Comprehensive Development Agreements between the State of Texas and private partners.

Moving people from single occupancy vehicles to HOVs will continue to be a key part of the regional mobility solution. The expansion of the HOV lane system is a high priority in the region. Some of the HOV accommodation will be via Managed Lanes in freeway corridors that allow HOV for a reduced toll and single-occupant vehicles (SOV) for a higher toll if excess capacity is available. Several policy-level discussions have taken place and will continue to take place to solidify the framework for moving toward managed HOV lanes that incorporate a toll component and the roles that agencies such as DART have in their planning, design, and operation.

Trans-Texas Corridor

The Trans-Texas Corridor (TTC) is a proposed network of multi-use corridors including:

- Separate lanes for passenger cars and trucks
- Freight railways
- High-speed commuter rail
- Infrastructure for utilities

One of the high priority corridors is TTC-35, which generally parallels IH-35. One of the key regional issues is the potential routing of this corridor and how it will interconnect with regional transportation systems, including DART facilities. The Texas Department of Transportation recently announced a preferred route that would bypass the Dallas area to the east. DART continues to monitor the Trans-Texas Corridor and how its development will influence the transit system.

In 2005, DART Rail carried about 3,300 people in the peak hour/peak direction along US 75. In 2030, DART Rail is projected to carry about 8,000 people in the peak hour/peak direction. This example demonstrates how transit is part of the overall mobility solution in a corridor and how it plays an important role in moving people in an efficient, safe, secure, and reliable manner, especially during congested peak travel periods.

In 1950s and 1990s, and 1998 Construction and DART Rail Today.
3.0 Focus Areas

The 2030 Transit System Plan addresses a range of services and programs, all of which are important in developing, operating and maintaining a multi-modal transit network. As the 2030 Transit System Plan was developed, four specific focus areas were identified as needing attention to establish a framework for future planning activities and to highlight their importance to not only DART, but to its member cities and the general public. These focus areas are:

- Downtown Dallas and Surrounding Urban Areas
- North Crosstown Corridor
- Airport Access
- Southern Sector Growth

The additional emphasis on these focus areas is intended to assist DART and its stakeholders in understanding the needs and issues associated with each focus area. More importantly, the focus on these areas lays the groundwork for future transit system expansion while highlighting the key components of future work efforts in each.

3.1 Downtown Dallas and Surrounding Urban Areas

Downtown Dallas is a major regional activity center that is forecast to have 160,000 jobs in year 2030. It also serves as the regional hub for the DART transit network, with DART planning to develop a second light rail alignment through downtown to accommodate more trains while serving other important downtown uses. Downtown is increasingly becoming more mixed-use in nature, with plans to add thousands of households and more retail and entertainment uses. Areas surrounding downtown are also being revitalized and redeveloped, creating a core urban neighborhood around downtown Dallas. These changes bring with them new needs and new opportunities, including a potential expanded and modernized streetcar circulator system. Such a system can provide mobility and economic development benefits both within and outside of downtown Dallas.

3.1.1 Transportation Needs and Opportunities

The second LRT alignment in downtown Dallas is a committed project programmed for implementation in year 2014 (FY06 Financial Plan). The need for the second LRT alignment is based on transit capacity, demand, and operating efficiency. Needs for a supporting circulator system are more closely related to enhancement of internal mobility and supporting downtown economic development and land use objectives. The needs, opportunities and objectives of each are highlighted below.

**Second Light Rail Alignment**

Planned light rail expansion will result in average peak headways of 2.5 minutes through downtown Dallas. While planned signal priority improvements will enhance schedule reliability and travel time, having only one downtown alignment constrains DART's ability to add service and recover from incidents. The purpose and need for a second LRT alignment downtown can be summarized as follows:
Prior studies by DART and the City of Dallas have examined potential locations for the second light rail alignment. In 2006, the DART Central Business District (CBD) Alternatives Analysis (AA) was officially initiated under the Federal project development process to develop and evaluate alignment options.

The AA effort will culminate with a Locally Preferred Alternative, which will include the recommended alignment as well as support future actions related to supporting elements such as streetcar and bus.

The City of Dallas Comprehensive Transportation Plan for the Dallas Central Business District (June 2005) outlines a vision for downtown land uses as well as a transportation network that balances pedestrians, transit, bicycles, and automobiles to ensure safe and efficient movement of employees, residents and visitors. The plan includes recommendations for each mode, including a broad corridor identified for the future second light rail alignment (see map). This corridor generally follows Lamar-Field (north-south) and Commerce-Young (east-west), and includes a below-grade recommendation between Ross and Commerce. This option will be one of the potential alignment alternatives considered during the AA study.

**Circulator System Needs**

The two downtown light rail alignments will serve some short intra-CBD trips, but primarily will be used to bring people to and through downtown. A comprehensive circulator system can strengthen the light rail network by increasing connectivity between rail and other key uses and activity centers beyond a comfortable walk distance. While a range of services can meet these needs, streetcars can be the most effective in supporting revitalization efforts or tourism objectives. Buses will continue to play a key role in bringing people to downtown Dallas – both as a destination and as a transfer point to other services.

Streetcars can be successfully integrated into areas that are mixed use and pedestrian-oriented. With downtown Dallas and many of its surrounding urban neighborhoods taking on such characteristics, there
will be a need for a system to serve these shorter trips. This system will link distinct activity centers or districts to the greater regional transit network and to each other.

The City of Dallas comprehensive plan includes a Downtown Streetcar Action Plan. This effort would explore the benefits, costs and implementation of a Downtown Dallas Streetcar and would be closely coordinated with the DART CBD AA effort.

Opportunities in Surrounding Urban Neighborhoods

Although the inner loop of downtown will be the focus of future studies, there are additional opportunities for streetcar service surrounding downtown that should be considered in developing a possible system downtown. These areas include east Dallas, the Design District, south Dallas/Farmers Market, and Oak Cliff. The McKinney Avenue Streetcar serves Uptown, with its high-density mix of uses. With a planned extension from Ross to Bryan Street, interface with the light rail system will be greatly enhanced. There is also a desire to integrate the historic McKinney Avenue trolley service with a modern streetcar. This modernization effort could be the first step towards creating a modern streetcar system within and surrounding Dallas. In the future, there may also be other locations within the DART Service Area that have land use characteristics to support a streetcar application.

3.1.2 DART’s Role

DART will continue to play a lead role in the development of the second downtown light rail alignment. Part of this effort will be to cooperatively work with the City of Dallas to explore opportunities for a modern streetcar system that would complement light rail. Streetcars provide an opportunity to partner with the private sector to jointly build and operate such a system. DART is committed to exploring the potential for streetcars as part of future planning efforts. During future planning the role of DART, the City of Dallas, and the private sector will be defined in more detail so that specific corridors and implementation framework can be pursued.

3.2 North Crosstown Corridor

The original 1983 Service Plan upon which DART was founded identified the Cotton Belt railroad corridor as a future passenger rail corridor. While the Cotton Belt remains in the DART Service Plan, subsequent Transit System Plan documents (1988, 1995) did not prioritize this corridor for implementation. Although the draft 1995 plan recommended commuter rail on the Cotton Belt, public concerns resulted in the 1995 plan identifying a range of alternatives for further study to serve the east-west North Crosstown corridor movement. Subsequent studies examined a range of alternatives; however, no resolution was reached and all alternatives remained within both the DART plan and the NCTCOG Metropolitan Transportation Plan. This important east-west travel corridor was re-examined as part of the 2030 Transit System Plan effort in order to evaluate the alternatives with the latest information.

3.2.1 Corridor Needs

The northern part of the DART Service Area is one of the most congested areas in the DART Service Area. Employment centers along LBJ Freeway, the President George Bush Turnpike and the Dallas North Tollway attract a significant number of trips each day. While DART provides bus service to these areas, there is a significant need for higher-capacity transit connections that link the existing and planned radial rail system to these areas. Based on future Year 2030 projections, there will be a nearly 25,000-peak hour, person trip capacity shortfall on east-west travel corridors (freeways and major streets) in this area. This shortfall translates into traffic congestion and increasing traffic on arterial roadways as freeway congestion increases. The focus of the 2030 Transit System Plan effort was to find a transit solution(s) that could address some of this future need while also enhancing economic development opportunities (by maintaining its regional competitiveness), and quality of life in this broad corridor. These linkages will not only benefit the North Crosstown Corridor residents and employers, but also will enhance mobility and job

<table>
<thead>
<tr>
<th>North Crosstown 2030 East-West Travel Capacity Shortfall</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Peak Hour Person Trips</strong></td>
</tr>
<tr>
<td>Demand</td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td>0</td>
</tr>
<tr>
<td>40,000</td>
</tr>
<tr>
<td>80,000</td>
</tr>
</tbody>
</table>

*The demand for east-west travel in North Crosstown corridor will exceed the capacity available, even with planned roadway improvements. Transit can help be part of the solution to keep people moving.*
opportunities for people throughout the remainder of the Service Area.

3.2.2 Alternatives Considered
The 2030 Transit System Plan effort evaluated several corridors to determine their role in meeting the needs in the North Crosstown area. Bus and rail options were tested using either a more frequent Rapid service level (10-minute peak and 20-minute off-peak headway), or a less frequent Express service level (20-minute peak and 60-minute off-peak headway). Three primary corridors were examined: 1) Cotton Belt, 2) Kansas City Southern-Burlington Northern Santa Fe (KCS-BNSF combination), and 3) LBJ/Inwood (see map). Bus options were examined in the Cotton Belt, LBJ/Inwood, Belt Line, and President George Bush Turnpike corridors.

3.2.3 North Crosstown Recommendations
Using an evaluation process that focused on ridership potential, cost-effectiveness, and affordability, one rail corridor is recommended for the North Crosstown Corridor:

- Express rail service in the Cotton Belt corridor from the North Central corridor Red Line to DFW Airport

In addition to the Cotton Belt corridor service, DART recommends a limited-stop express bus service to utilize the future managed HOV lanes of LBJ Freeway to provide crosstown travel from the South Garland Transit Center to Las Colinas.

Rapid rail service in the LBJ/Inwood Corridor from the North Central corridor Red Line to the Addison Transit Center also performed well in the evaluation process. This corridor is recommended for the Vision Element (see Section 6.4.7) and will also be considered in the next update.

3.2.4 Remaining Issues
There are several key issues that will require attention when planning and design efforts get underway in this corridor. These issues, which include a range of concerns voiced by residents along the Cotton Belt corridor through north Dallas, are typically addressed in later stages of project development when more detailed environmental and engineering information is available. A key issue is technology choice. DART is committed to selecting a technology that is both environmentally- and community-friendly. In addition, the City of Dallas has stated that a below-grade, open-cut alignment is preferred through north Dallas residential areas as a method to minimize potential impacts on adjacent residences. To address the community concerns and respond to the June 2006 Dallas City Council resolution, the DART Board adopted several conditions as part of their approval of the 2030 Transit System Plan (Resolution 060177) to guide future planning efforts in the Cotton Belt Corridor (see page 11). In addition to these conditions, other coordination efforts will be necessary for the Cotton Belt Corridor. These efforts include:

- Coordination with City of Carrollton Downtown Master Plan and future rail interface issues at that location (Denton County Transportation Authority, DART Northwest Corridor light rail, potential passenger rail on BNSF Railroad).
Coordination with DFW International Airport and the Fort Worth Transportation Authority (The T) regarding airport access (see also Section 3.3).

Coordination with the City of Dallas to preserve right-of-way to incorporate a trail consistent with the City of Dallas Trail Master Plan and consistent with DART policy.

Pursuit of quiet zones where feasible to minimize noise.

Exploration of funding and cost-sharing opportunities for portions of the Cotton Belt that are outside the DART Service area.

Although the LBJ/Inwood Corridor is included in the Vision Element of the 2030 Transit System Plan, DART will coordinate with the Texas Department of Transportation on the final design and reconstruction of LBJ to not preclude light rail, and to maximize opportunities and access for express bus service.

Further information on these key issues and their role in the Project Development Strategy is included in Chapter 7, Implementation and Phasing.

### 3.3 Airport Access

Transit access to DFW International Airport and Dallas Love Field is a priority for future DART system expansion. Airport access can help to create a more seamless transportation system and improve the image of Dallas-Fort Worth as a world-class region. The proposed approach for transit access to each airport, including any outstanding issues, is discussed below.

#### 3.3.1 Dallas Love Field

Dallas Love Field airport is located adjacent to the Northwest Corridor light rail line, which initiated construction in 2006. Annual passenger activity at Dallas Love Field is approximately 7 million passengers, ten percent of which is connecting passengers. Direct light rail access to Dallas Love Field was evaluated in detail as part of the Northwest Corridor Preliminary Engineering/Environmental Impact Statement (PE/EIS) phase. During that effort, several concepts were developed to serve Love Field. One concept, a tunnel option with a station at the Love Field terminal area, was refined through the PE/EIS process. This Love Field Tunnel Option would have added a $160 million incremental cost to the project.

The DART Board of Directors and the City of Dallas executed an Interlocal Agreement (ILA) in February 2004, which included key conditions to be met in order for DART to include the tunnel option as part of the Northwest Corridor project. Since DART was pursuing a $700 million Full Funding Grant Agreement (FFGA) from the Federal Transit Administration (FTA), maintaining a “Recommended” New Starts rating on the Northwest/Southeast Minimum Operating Segment (NW/SE MOS) project with the Love Field Tunnel option was a key condition. Funding commitments were also a condition, in which DART made a $20 million contribution. Other funding partners included the North Central Texas Council of Governments (NCTCOG), the City of Dallas, and Dallas County. The primary funding source from the City of Dallas was assumed to be proceeds from a Passenger Facility Charge (PFC) at Dallas Love Field.

On November 23, 2004, DART was notified by FTA that the NW/SE MOS Federal Project with the Love Field Tunnel option was a key condition. Funding commitments were also a condition, in which DART made a $20 million contribution. Other funding partners included the North Central Texas Council of Governments (NCTCOG), the City of Dallas, and Dallas County. The primary funding source from the City of Dallas was assumed to be proceeds from a Passenger Facility Charge (PFC) at Dallas Love Field.

On November 23, 2004, DART was notified by FTA that the NW/SE MOS Federal Project with the Love Field Tunnel option would receive a “Not Recommended” rating due to “low” cost-effectiveness, thereby making the project ineligible to proceed to final design or obtain federal...
funding. As part of the November 23, 2004 DART Board of Directors resolution, the $20 million (2002$) commitment in the FY 2005 DART Financial Plan was maintained and staff was directed to recommend the most efficient and effective transit service to Love Field, separate from the NW/SE MOS Federal Project.

In September 2005, DART completed a Dallas Love Field Transit Service Options Study. The study evaluated three general families of alternatives: Bus Shuttle, People Mover, or Light Rail. All of the alternatives focused on connections to the Love Field terminal from one of two stations (Inwood or Love Field) on the Northwest Corridor.

Based on the evaluation of alternatives, a Bus Shuttle alternative is the recommended initial service to Love Field Airport. This option will be implemented immediately upon the initiation of rail service in the Northwest Corridor, and has high potential for cost-sharing options through a site-specific shuttle agreement with Southwest Airlines and/or the City of Dallas.

Previous studies assumed the Wright Amendment would remain in place, which restricts direct flights or through ticketing to and from Love Field to all but four adjacent states. Four states were removed from Wright Amendment restrictions in later actions. However, on June 15, 2006 a joint statement was signed by parties involved in the Wright Amendment issue (City of Dallas, City of Fort Worth, American Airlines and Southwest Airlines) supporting an end to flight restrictions to all states within eight years of legislative action. On September 29, 2006, as a result of this action, Congress passed the Wright Amendment Reform Act into law on October 13, 2006. This bill will allow immediate through ticketing from Love Field to cities throughout the United States, and the full repeal of the Wright Amendment within eight years.

Repeal of the Wright Amendment increases the transit market potential at Love Field, indicating that a high capacity transit option would be more viable, such as an Automated People Mover (APM) or light rail service. Recent discussions by the City of Dallas have centered on the APM option as the most promising way to connect to DART light rail. Thus, the June 15, 2006 joint statement indicates that the City of Dallas will seek approval of Passenger Facility Charges (PFC) to fund an APM within the eight-year timeframe of the Wright Amendment repeal.

A below-grade version of an Automated People Mover (APM) such as DFW Airport’s Skylink System could be used at Dallas Love Field to link passengers between DART Rail and the terminal. An APM system could be implemented at any time without any impact to the light rail system. It would consist of a below grade station and vertical circulation to connect to the south end of the Love Field Station platform. Light rail to Love Field could also be implemented with minimal impact to future operations. The key to implementing either of these options is additional funding.

DART will retain $20 million (2002$) in the DART 20-year financial plan for Love Field transit service, and will support the City in the pursuit of additional funds.

### 3.3.2 DFW International Airport

DFW International Airport (DFWIA) is one of the world’s largest and busiest airports, serving nearly 60 million passengers in 2005. As a major hub, many of these are connecting passengers. The airport is also...
expected to employ more than 80,000 people by year 2030, strengthening its role as a key economic engine for the DFW region.

The planned Northwest Corridor extension to Irving and DFWIA will provide a direct link between the airport and the regional transit system. 2030 Transit System Plan recommendations include direct access to DFWIA from the north and east via the Cotton Belt corridor, connecting this important activity center to the northernmost DART member cities. As shown in the DFWIA Access Concept, DART light rail would enter the DFW terminal area from the north, linking the airport directly to areas such as Las Colinas, Southwestern Medical District and Downtown Dallas. Similarly, express rail service from the Cotton Belt corridor, both from the east and potentially from the west (Fort Worth Transportation Authority) would enter the airport from the north.

The intermodal concept for rail service to DFW Airport is that light rail would terminate at Terminal A and express rail would terminate at Terminal B. A pedestrian plaza would connect the two stations and would provide customer universal ticketing equipment where passengers could get tickets and check baggage in order to proceed to a nearby secure-side Skylink Station in either Terminal A or B.

The DFW International Airport Rail Planning and Implementation Major Investment Study (DMJM; December 2002) evaluated several rail access alternatives to DFWIA. The recommended alternative consisted of light rail via the planned Northwest Corridor extension through Irving, commuter rail from the north via the Cotton Belt Corridor (both from the east and west), and preservation of a potential commuter rail corridor from the south via the TRE. Part of this recommendation was also a future 13th Station on the Skylink system. However, the new concept for rail from the north eliminates the need for an additional Skylink Station and instead allows for connections to the northernmost stations in Terminals A and B. The 2030 Transit System Plan recommendations are consistent with the DFWIA planning efforts. Future, more detailed studies for the Cotton Belt Corridor will refine the alignment, technology choice, and interface with the proposed Cotton Belt West corridor, including the north-south spine from the Cotton Belt into the airport.

3.4 Southern Sector Growth

The southern sector of Dallas is generally south of the Trinity River and IH 30 and encompasses a large portion of the DART Service Area. This area has significant opportunities. Given that this area has most of the City’s vacant and underutilized land, and thus significant growth capacity, the City is focusing much of its planning and economic development efforts in the area. In addition to comprehensive bus coverage, DART continues to expand its light rail network in the southern sector. The Southeast Corridor, scheduled to open by 2010, and the future Blue Line extension to a new University of North Texas campus by 2018 will increase the number of light rail stations south of downtown Dallas from 11 to 20. These rail stations offer significant opportunities for transit-oriented development, which will be closely coordinated between DART and the City of Dallas.

3.4.1 Southern Sector Demographics

Approximately one-third of Dallas residents who are jobholders live in the southern sector. However, fewer employment opportunities are available, making transit system connections to employment areas important in terms of enhancing mobility and job opportunities. It also indicates a need to develop more employment in the southern sector, creating a more balanced ratio between jobs and housing.

3.4.2 forwardDallas! Comprehensive Plan

The forwardDallas! Comprehensive Plan contains several guiding principles and strategic initiatives to direct investment to the southern sector. As part of their plan development, the City developed a revised demographic forecast that increases and redistributes employment and significantly increases the number of households beyond the current regional trend for year 2030, especially in the southern sector. Such changes can have a significant impact on DART by
increasing demand and creating new opportunities for transit service. As a result, DART tested the City’s vision scenario. The results are discussed in Chapter 4, Land Use and Economic Development.

The City recognizes the need to capitalize on the transit-oriented development opportunities provided by DART stations and along transit corridors. As a result, the forwardDallas! Plan contains several Area Plans (see map on following page) in the southern sector that directly relate to existing DART services and future expansion opportunities. These studies, in which DART will participate, include:

- Downtown Streetcar Action Plan – Will explore opportunities for streetcar as both a mobility and revitalization tool (See also section 3.1).
- Westmoreland DART Station Area – This is a pilot project for transit-oriented development at this location.
- Lancaster Corridor Plan – This study will highlight potential redevelopment opportunities along Lancaster Road, which contains three DART stations on the South Oak Cliff Blue Line.
- South Dallas-Fair Park Area – This area includes the planned Southeast Corridor light rail line.
- University of North Texas Campus Area – The South Oak Cliff Blue Line will be extended to this new campus
- Cedars-Farmers Market – This plan encompasses the area around and to the east of the DART Cedars Station.

Many southern sector area plans are related to or may be influenced by the larger Trinity River Corridor Plan.

The Trinity River Corridor plan has several components related to land use, transportation, recreation/parks, and floodplain management. The northernmost section of the Trinity River Corridor will influence future development in West Dallas.

Another key economic development initiative in Dallas relates to the Agile Port, known as Southport. This industrial area is adjacent to the larger Dallas Logistics Hub, which will be located to the south in portions of Dallas, as well as in the cities of Hutchins, Wilmer and Lancaster. While the current land use plan for this area is auto-oriented and low- to medium-density, it is expected to contain a significant number of jobs.

3.4.3 Southern Sector Recommendations

The 2030 Transit System Plan has identified several transit opportunities for the southern sector. Specific recommendations (see Chapter 6) include:

- Light rail extension from the Blue Line to the Southport area
- Light rail to the east along Scyene Road from the planned Green Line
- West Oak Cliff extension to approximately Red Bird Lane, including future analysis of an alternative alignment to the Mountain Creek area of Dallas
- Light rail into West Dallas
- Improved access to job opportunities and activity centers in the north via rail in the Cotton Belt corridor
Chapter 3: Focus Areas

- Several enhanced bus service corridors, including Ledbetter, Hampton, Fort Worth/Commerce, Singleton, and Jefferson.

The West Dallas light rail line was identified as a promising corridor based on the sensitivity tests conducted with the City’s vision scenario. Thus, a key element to fostering rail in this corridor will be a coordinated land use planning effort to select an appropriate alignment and maximize ridership potential and cost-effectiveness. DART will also participate in the Agile Port Industrial Area plan to further refine light rail access to the Southport area. This will include identification of supportive transit-oriented land use changes that can enhance ridership and cost-effectiveness of that corridor.

With a new focus on coordinated transit-land use planning and on transit-oriented development, both the City and DART are poised to capitalize on the significant investment already in place in the southern sector. Furthermore, both will be in a position to foster new opportunities that will not only strengthen the City of Dallas, but the entire DART Service Area.

The City of Dallas has several southern sector area plans that are intended to capitalize not only on the vacant, underutilized land in the area, but on the existing and planned DART Rail system.
4.0 Land Use and Economic Development

The DART mission is not only mobility-focused but also emphasizes quality of life and economic development. Transit, particularly the more frequent service and permanence associated with light rail, is known to have the ability to influence land use development patterns and create sustainable communities that drive less, use transit, and walk more. Overall, this development pattern can minimize environmental effects of sprawl and reduce energy consumption and vehicle miles of travel. This means less time in traffic congestion, a better environment for residents throughout the region, and enhanced sales tax and property tax benefits to DART and its member cities.

4.1 DART Initiatives

DART’s role in land use and economic development is threefold: to educate, facilitate, and coordinate. These efforts are done with both the public and private sectors to create transit-oriented development (TOD) and promote a more sustainable growth pattern. DART initiatives and activities are described below.

4.1.1 Education

Transit-oriented development is generally defined as development within one-half mile of a transit station that is dense, diverse, and livable – emphasizing pedestrians and transit, yet accommodating the automobile. The result is a compact growth pattern that improves livability, is efficient and cost-effective for individuals, communities and the region, and improves the environment.
DART also works in partnership with member cities and developers to seek out and secure grants that may be available for TOD projects.

4.1.3 Coordination
While DART is not responsible for land use planning, it does support and coordinate transit-supportive land use planning and works closely with member cities to coordinate planning efforts to maximize opportunities for transit-oriented development. This is done through coordination, review, and support of member city comprehensive or specific area plans and working with member cities to develop comprehensive approaches to planning for, accommodating, and funding TOD. In addition to long-range planning, DART works with member cities to ensure phased implementation of bus transit to serve new developments and activity centers.

Land use plans are a critical element in transit corridor planning, especially in corridors that are pursuing more costly, high-capacity transit improvements. In many cases, DART seeks discretionary federal funds from the Federal Transit Administration (FTA), which evaluates how well corridor land use will support proposed transit investments as part of its funding decision. Given this emphasis on transit supportive land use, DART participates regularly in FTA land use policy development.

Demographics
For the 2030 Transit System Plan effort, DART used approved regional demographic forecasts developed by NCTCOG. These forecasts were also used for the development of the regional Metropolitan Transportation Plan (MTP). Projects recommended by DART must be included in an adopted and conforming MTP to be eligible for federal funds. As part of a coordination effort with the City of Dallas comprehensive plan, as well as to understand how changed development patterns can effect investment decisions and transit demand, DART conducted sensitivity tests as part of the 2030 Transit System Plan effort. This analysis used an alternative development scenario developed by the City of Dallas during their Comprehensive Plan effort. NCTCOG also tested alternative development scenarios within the framework of the Metropolitan Transportation Plan and Vision North Texas effort. The results of these sensitivity tests are discussed in Section 4.3.2.

4.2 Member City Initiatives
DART member cities lead efforts relative to land use planning, zoning incentives, and specific initiatives for funding infrastructure improvements. With the success of the DART light rail system, most member cities are actively involved in TOD planning. They have incorporated transit supportive policies in their comprehensive plans to promote transit-oriented development through zoning, shared parking, pedestrian access and amenities, and other related policies.

4.2.1 Transit-Oriented Development
Several DART member cities have targeted station areas for strategic, transit-oriented development. These strategic initiatives are focused on taking advantage of the existing rail system, as well as preparing for new rail corridors that will open during the 2010-2018 timeframe. The 2030 Transit System Plan also presents strategic opportunities for transit-oriented development along future transit corridors.

Mockingbird Station is a nationally recognized example of a mixed-use transit-oriented development.
Existing and Planned System

There are a number of successful transit-oriented developments along the existing 45-mile DART transit system. The first four transit-oriented developments were Mockingbird Station, South Side on Lamar at Cedars Station, Downtown Plano, and Galatyn Park. Since the benefits of light rail in Dallas were relatively unknown at the time the rail system was planned, developments on the first 20-mile light rail Starter System (Mockingbird and Southside) were not planned until the rail system was under construction or already in operation. Learning from this experience, developers and cities planned for TOD in advance of rail construction. All of these projects have received national recognition and have led member cities such as Carrollton, Dallas, Farmers Branch, Irving, and Rowlett to start planning for transit-oriented development well in advance of the next expansion phase. For example, both Carrollton and Farmers Branch have developed TOD plans for stations along the Northwest Corridor, ensuring that they capitalize on the benefits that light rail will bring when service begins in 2010. Transit-oriented development around the Addison Transit Center continues to grow in anticipation of future east-west rail and reflects the importance of strategically located bus transit centers in helping to support mixed-use development.

Strategic Opportunities through 2030

Rail and bus corridors in the 2030 Transit System Plan and Vision element of the plan present significant opportunities to jointly plan transit and land uses to maximize economic development potential.

 MEMBER CITIES
PLAN AHEAD

DART is generating excitement among local cities, developers and the public and the Northwest Corridor expansion project into Carrollton, Farmers Branch and Irving is no exception.

The City of Carrollton launched its first DART transit-oriented development with the purchase of a Home Depot and some adjacent property near the future Trinity Mills Station. The city plans to lease the property and later work with developers to transform the tract into a mixed-use district that could include office buildings, high-end multifamily housing, hotels, pedestrian-friendly retail and entertainment, and community amenities.

Carrollton also is mapping out development plans at the site of the future Downtown Carrollton Station on Belt Line Road near IH 35E and the city’s Old Downtown area. City planners envision the revitalization of Old Downtown with a mix of high-density business and residential development stretching from the station. The city expanded the transit impact zone from 100 to 300 acres and implemented a new tax increment financing district to attract residential, retail and commercial projects.

The Dallas Stars have a Dr Pepper StarCenter near IH 35E and Valley View Lane in Farmers Branch, an area targeted for redevelopment to capitalize on DART Rail. The 95,000-square-foot facility includes two regulation-size hockey rinks and a second level that can double as a conference center. The City is also actively planning and looking at proposals to develop the land abutting the planned Farmers Branch Station. Many City Council members have weighed in saying that they will promote and encourage transit-oriented development on the site through a public-private partnership.

A land-use plan for Irving has integrated DART Rail into a corridor extending from the area near Texas Stadium north through the Las Colinas Urban Center. The plan anticipates transit-oriented mixed-use development around each of the rail stations in the corridor. A key element to support transit-oriented development, transit system ridership, and circulation within the Las Colinas Urban Center is to connect DART Rail with the Las Colinas Area Personal Transit (APT) system. To support these planning efforts, Irving hosted a technical advisory panel in 2004 from the Urban League Institute to help identify transit-oriented development options.
and transit system productivity. DART will work with member cities to plan for and realize these opportunities. This may include:

- Joint land use/transit corridor planning
- Corridor feasibility studies to support right-of-way preservation
- Station area planning

As the DART TOD program grows, DART may have a role in funding elements of specifically earmarked TOD projects.

### 4.3 Regional Planning Initiatives

In addition to land use and economic development initiatives by DART and local member cities, NCTCOG is exploring alternative development scenarios to help shape regional sustainable development policies.

#### 4.3.1 Vision North Texas

Vision North Texas is an effort to educate local and regional leaders about the benefits of sustainable development in the North Texas region. It has opened a dialogue on regional growth issues and choices and the benefits of regional growth policies. Key elements of regional interest are expanding the regional rail transit network, focusing denser, mixed-use development around transit stations to reduce regional vehicle miles of travel and trips, and encouraging coordinated land use planning.

#### 4.3.2 Alternative Future Sensitivity Tests

As part of its Metropolitan Transportation Plan update, as well as in support of Vision North Texas, NCTCOG evaluated alternative future development scenarios to determine the impact on transportation. The scenarios included additional infill development as opposed to continuing sprawl and focused development around rail stations. Results included significant reductions in vehicle miles of travel, congestion delays, funds needed for roadway expansion, and a significant increase in transit demand.

As part of the 2030 Transit System Plan effort, DART worked with NCTCOG and the City of Dallas to analyze an alternate future that incorporated the City’s forwardDallas! Comprehensive Plan vision. When compared to the approved regional demographic trends, the city vision scenario resulted in:

- An overall increase in rail ridership of nearly 20 percent
- Station ridership increases of approximately 30 percent to 50 percent in the southern sector
- Strengthening of ridership and cost-effectiveness for rail corridors evaluated in the southern sector
- Identification of a potential corridor in West Dallas, which showed ridership increases of 30 to 60 percent

Overall, these alternative development patterns would result in improved productivity of the existing and planned rail infrastructure and can help foster the development of rail in new areas such as West

---

**TRANSIT-ORIENTED DEVELOPMENT**

A 2005 study by economists at The University of North Texas (UNT) says DART has stimulated more than $3.3 billion in development throughout its 45-mile light rail system serving Dallas, Garland, Richardson and Plano. The return on investment in the form of transit-oriented development is greater than what taxpayers have spent to build the DART Rail System, proving that DART is a significant economic engine for the region, fulfilling its mission of providing improved mobility and a higher quality of life.

New live-work-play transit-oriented communities are springing up in the cities served by DART light rail. Projects like South Side on Lamar in South Dallas, Mockingbird Station and West Village in North Dallas, Galatyn Park in Richardson and Eastside Village in Plano are attracting national attention from developers and transit agencies looking to bring similar projects to their cities.

Additional research by the Center for Transit-Oriented Development confirms that homebuyers and renters across the country are getting on board. In fact, the number of homebuyers and renters nationwide who want to reside within walking distance of public transportation is expected to more than double in the next 20 years. With DART preparing to add about two dozen suburban transit stops in its next expansion, the National Association of Realtors predicts that the Dallas area will add 200,000 residential units in transit-oriented development by 2025 — more than a 300 percent increase.

DART began construction in 2006 on light rail extensions that will double its 45-mile system — reaching new areas of Dallas, Farmers Branch, Carrollton, Irving, and Rowlett. New real estate projects along those corridors are already underway, ensuring the continued growth in transit-oriented development in North Texas.
Dallas. A key element of this corridor’s success will be targeted land use and zoning changes to strengthen ridership potential.

4.4 Cooperative Planning

DART will continue to work with member cities and the development community to coordinate land use, transportation and economic development planning, and programs with DART transit planning and service delivery. Most work will be done independently but regular meetings with member cities will be held to cooperatively develop work programs. DART will also continue to work with NCTCOG on regional growth issues and the role of transit in enhancing sustainable development initiatives.
5.0 Financial Considerations

DART’s ability to plan and implement recommendations of the 2030 Transit System Plan is largely defined by the agency’s financial capacity through year 2030. With a nearly 25-year financial planning horizon, there are inherent risks associated with the many assumptions and projections in a long-range financial plan. By understanding key revenue sources and operating and maintenance costs, DART can estimate the magnitude of future capital and operating expansion that can be undertaken within the 2030 horizon. In addition, this analysis assists in determining the timeframes in which additional funds will be available for use in implementing recommended projects.

The financial assessment draws heavily from DART’s FY 2006 Twenty-Year Financial Plan. All dollar figures are in inflated (also called year-of-expenditure) dollars, unless otherwise noted.

5.1 Key Revenue Sources

DART’s three main revenue sources are sales tax, operating revenues, and federal funding. DART also can generate income from joint development projects. Excluding federal funds or debt issuance, sales tax revenue accounts for approximately 80 percent of DART’s annual revenues. Because small changes in sales tax collections in the near-term can have significant long-term ramifications, DART has adopted a conservative policy regarding estimated sales tax collections in future years. This policy results in the financial plan containing sales tax revenue that is lower than that forecasted by DART’s independent economists, and helps safeguard DART against the impact of future, unforeseen, negative financial events.

Operating revenues include passenger fares, advertising revenues, rental income, and federal assistance for vanpools and transit police. The financial plan assumes fare increases every five years with the next increase scheduled for FY 2008.

Over the next 20 years, federal formula and discretionary funds account for approximately 10 percent of DART’s total sources of funds. Discretionary federal funds will account for a larger share through approximately 2014 due to the $700 million Full Funding Grant Agreement that will support the build-out of the Northwest and Southeast light rail corridors.

DART was established with the ability to issue short-term debt. However, in August 2000, voters approved a referendum, enabling DART to issue up to $2.9 billion in long-term debt for transportation capital projects. Over the next 20 years, DART will issue nearly all of its authorized short- and long-term debt to fund the light rail build-out program.

5.2 Capital Expenditures

Programmed transit capital and non-transit programs will consume over $5.2 billion in the next 20 years. The 2030 Transit System Plan recommends additional capital and operating outlays through 2030 beyond what is discussed below. Key expenditures within the major modes of service operated by DART are:

- **Bus** – The primary component of the bus capital program is the periodic replacement of its revenue vehicle fleet (12-year replacement cycle), including new ultra-low emission buses. The program also calls for expenditures for vehicle and facility maintenance and various bus amenities. DART will
invest nearly $1 billion over the next 20 years in the bus capital program.

- **Light Rail** – The expansion of DART’s light rail system through Year 2018 will consume the majority of capital expenditures over the 20-year planning horizon during which DART will spend an estimated $3.4 billion for light rail construction, maintenance, and replacement projects.

- **Commuter Rail** – Programmed capital expenditures ($152 million) over the next five years for the 34-mile Trinity Railway Express include significant investment in double-tracking portions of the corridor, grade-separation at Belt Line Road, new train sets, and fleet overhaul.

- **HOV Lanes** – Over the 20-year horizon, DART has $101.6 million programmed for HOV facilities. More than half of this amount will be spent within the five-year horizon to support immediate action HOV facilities.

- **Paratransit** – Paratransit capital expenditures total $65.6 million over the 20-year horizon and are primarily composed of revenue fleet replacements every five years.

In addition, DART funds a number of systemwide mobility programs aimed at improving general mobility and supporting transit, including Transportation System Management (TSM) and Intelligent Transportation Systems (ITS) programs.

### 5.3 Transit Operating Expenses

The largest component of DART’s program – both currently and in the future – is operating expenses for the transit system.

- **Bus** – Growth in bus operating expenses will be dampened as bus service is replaced with rail service. Even with a low growth rate, bus operating expenses still comprise the single largest expense in the Twenty-Year Financial Plan, totaling just over $4.8 billion.

- **Light Rail** – Light rail operating costs will increase from $69.3 million per year in FY 2006 to $218.1 million per year in FY 2025 due to the doubling of the light rail system and compounding inflation over the 20-year life of the plan.

- **Commuter Rail** – Operating expenses for the TRE will nearly double from $20.5 million in FY 2006 to $40.9 million in FY 2025.

- **HOV Lanes** – Operating expenses for the HOV system are projected to be $223.6 million over the 20-year plan. These operating expenses could be partially offset by proposed revenue sharing of funds generated by tolls on managed HOV lanes.

- **Paratransit** – Paratransit service expenses are projected to increase from $31.0 million per year in FY 2006 to $66.0 million per year in FY 2025.

### 5.4 Financial Profile

DART’s financial profile (as reflected by the financial plan) is updated annually and is incorporated in the DART Business Plan. The financial plan is essentially a 20-year estimate of DART’s sources and uses of cash. Based on the FY 2006 Business Plan profile, DART’s financial capacity is lowest in FY 2018 as the last line section of the Phase II build-out (SOC-3) opens.

The following sections outline key financial risks and opportunities and summarize the projected capacity of DART through 2030 to fund recommended projects.
and programs associated with the 2030 Transit System Plan.

5.4.1 Risks and Opportunities

While DART’s long-range financial plan presents a most likely scenario for the next 20 years based on currently available data, there are significant risks inherent in long-range forecasting. Key risks and opportunities that can affect future financial capacity are described below.

Sales Tax – DART’s sales tax forecast is perhaps the most critical element of the long-range financial plan. The projected, compounded growth rate for sales tax is approximately 5 percent, a conservative growth rate when compared with local economic forecasts. Small shifts in the sales tax rate can have significant long-term effects on the plan. For example, a reduction in sales tax growth in the first year of the plan from 4 percent to 3 percent would cost DART about $200 million in net available cash over 20 years. On the positive side, higher than expected growth in sales tax (from a faster growing economy, from a larger service area, or from an expanded sales tax base) could increase financial capacity for higher system growth or new capital projects. Sales tax collections for FY 06 have been trending above budget.

Furthermore, positive legislative changes could potentially boost DART’s base collections.

Service Area Growth – The DART Service Area can grow in the future if additional cities vote to join DART. However, the availability of a full one-cent of sales tax capacity is an obstacle for many cities. Expansion of the DART Service Area would increase sales tax revenue, which could result in additional programs and the acceleration of construction schedules.

However, the advantages of new revenue would be weighed against the increase in capital and operating costs associated with providing transit service into new areas.

Regional Transit Initiative outcomes could either have a positive or negative impact on DART. A new regional authority might require a tax restructuring, which could benefit DART. It also might provide DART with increased ridership (and therefore revenue) as other areas currently without transit connect with our services. However, that additional ridership could require additional capital and/or operating costs to accommodate increased demand. It could also create a risk that DART will receive a lower percentage of federal funding that is allocated to this region because it will now be spread among more entities.

Federal Funding – While DART’s assumptions on the amount of federal funding that will be received are conservative, federal funding for transit (formula and discretionary) is always subject to reduction or reallocation. Over the 20-year period, DART assumes receipt of over $1.9 billion in federal funds. If these funds were reduced, DART would be faced with reductions in operating costs, capital programs, delays in construction schedules, or a combination of all three.

Capital Costs – Even assuming accurate cost projections for defined capital components, the risk of increasing capital costs can jeopardize the long-range financial plan. DART’s financial plan, including capital cost estimates, is presented in inflated or year-of-expenditure dollars. Certain costs and revenues may, however, inflate at different rates. Higher than
anticipated inflation for land, construction costs, or vehicles could reduce future financial capacity to fund the projects recommended in the financial plan.

Operating Expense Growth – At over $9.7 billion for the 20-year period, transit operating expenses are the largest use of funds in the long-range plan. Therefore, cost increases in this area create the largest risk for DART’s future financial capacity. If operating expenses increased just 1 percent per year faster than planned over the 20-year period, total transit operating expenses would be more than $1 billion higher than programmed. Currently, rapidly escalating costs for fuels and healthcare are the areas of greatest concern.

Interest Rates – DART will borrow money every year for the next ten years to fund the programmed build-out. If long-term interest rates rise significantly above expected levels during this period (particularly the next five to seven years), the cost of debt service will rise, reducing future financial capacity.

Inflation – Inflation rates are projected to remain relatively stable over the next 20 years (2.5 percent to 3.0 percent). Inflation is a double-edged sword, increasing both sales tax revenues and DART’s operating and capital expenditures.

5.4.2 Year 2030 Financial Capacity

By extending the horizon year to 2030, some additional financial capacity will be created. Extrapolating the Financial Plan to 2030 makes approximately $1.8 billion available for new capital projects (about $900 million in 2006 dollars).

Additional revenue sources will be required to allow any additional significant capital programs over that $1.8 billion threshold (most of which would then require additional funds to operate) and to be considered in this 2030 Transit System Plan.

One potential source could be the issuance of additional long-term debt. Any such issuance would require approval of the voters in DART’s member cities and generally would not be available for issuance until 2020 or beyond. Using a conservative debt coverage ratio, DART has the capacity to issue approximately $3 billion in additional long-term debt (about $1.5 billion in 2006 dollars) through 2030. The Twenty-Year Financial Plan assumes that this new debt will have an average term of 30 years and cost DART about 6 percent per year in interest and fees.

Overall, this potentially results in up to $4.8 billion being available through year 2030. This is the equivalent to about $2.4 billion in 2006 dollars. Projects implemented prior to the year 2030 horizon would reduce this amount as a portion of the $4.8 billion would be required to cover operating expenses for any years prior to 2030, as well as additional debt service costs. Capital projects such as rail and bus would be leveraged by strategically pursuing other funds, such as Federal New Starts or Small Starts funds.

As noted previously, there are inherent risks in long-range financial planning. The chart on this page illustrates how a $1 million increase in capital expenditures (one time expenditure), operating expenses (ongoing annual expenditure), or sales tax collections in 2006 can impact the financial plan over a 20-year period.

The “20-year Direct Impact” column shows the 20-year impact of the change on each specific line item. The “20-year Net Cash Impact” shows the impact of those changes on DART’s cash available for other uses, such as the projects contained within this plan.

Given these sensitivities, the Transit System Plan and its relationship to the long-range financial plan are examined regularly so necessary adjustments can be made.

The financial needs and assumptions for recommendations in this 2030 Transit System Plan are discussed in more detail in Chapter 7, Implementation and Phasing.

<table>
<thead>
<tr>
<th></th>
<th>20-YEAR DIRECT IMPACT</th>
<th>20-YEAR NET CASH IMPACT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital</td>
<td>$1.0 Million</td>
<td>$(3.2 Million)</td>
</tr>
<tr>
<td>Operating</td>
<td>$24.8 Million</td>
<td>$(47.1 Million)</td>
</tr>
<tr>
<td>Sales Tax</td>
<td>$33.1 Million</td>
<td>$59.2 Million</td>
</tr>
</tbody>
</table>

The Value of $1 Million: A $1 million increase in Capital Expenditure, Operating Expense, or Sales Tax Revenue can have significant impacts on the Twenty-Year Financial Plan.
Chapter 5: Financial Considerations

This page intentionally left blank.
6.0 Recommendations and Strategies

This chapter outlines recommendations and strategies for projects and programs associated with the core transportation elements of the 2030 Transit System Plan: HOV, Bus, Rail, Paratransit and Systemwide Mobility. One of the key factors in developing the 2030 Transit System Plan is the financial capacity of DART through the year 2030. The financial capacity provides the bounds for the cost-constrained 2030 Transit System Plan. Promising opportunities that DART will continue to monitor and explore in cooperation with its member cities are identified in the Vision Element (see Section 6.4.7), which is not subject to cost constraints.

Following this summary of the 2030 Transit System Plan recommendations are a series of sections dedicated to each element of the plan. These sections provide more detail on the recommendations and strategies associated with the mode or program.

6.1 2030 Transit System Plan

Figure 6-1 illustrates the 2030 Transit System Plan, highlighting the major capital programs for bus, rail and HOV through the year 2030. These recommendations are based on a planning process that examined the costs and mobility benefits of projects, while seeking to maximize access to key regional activity centers and opportunities for transit-oriented development. A key element of plan development was public and agency involvement at key milestones.

The 2030 Transit System Plan builds upon the success of the existing and committed transit system by adding key connections and services, and strengthening systemwide mobility programs that support and enhance the efficiency of the system and improve the customer experience.

Key highlights of the 2030 Transit System Plan are summarized below.

- 116 miles of permanent managed HOV lanes within the DART Service Area
  - This represents an additional 6 miles of permanent HOV lanes since the last transit system plan
- A comprehensive network of enhanced and rapid bus corridors to provide a higher level of service and amenities to DART customers, consisting of:
  - 77 miles of enhanced bus service corridors
  - 20 miles of rapid bus service corridors
- Strengthened and new express bus service for key radial and crosstown travel patterns
- Approximately 43-miles of additional rail service, including:
  - A 2.9 -mile extension from the Blue line to the Southport area
  - A nearly 26-mile express rail line in the east-west Cotton Belt corridor from the Red Line to DFW International Airport
  - A 4.3-mile light rail extension along Scyene Road from the Southeast Corridor rail line
  - A 4.3-mile light rail extension of the Red Line south to Red Bird Lane
  - A 6-mile light rail line into West Dallas
- A continued high level of Paratransit service, while improving cost-effectiveness through targeted technological and operational changes and transitioning customers to fixed route where feasible.
- Strengthening of key systemwide mobility programs to support improved operations and system efficiencies, enhanced customer information, access and comfort, strengthened safety and security, and increased transit ridership.
Chapter 6: Recommendations and Strategies

FIGURE 6-1
2030 Transit System Plan

2030 Rail
- Express Rail
- Rapid Rail

2030 Bus
- Express Bus
- Enhanced Bus
- Rapid Bus

2030 Managed HOV Lanes
- DART Participation
- No DART Participation

2030 Paratransit (service provided systemwide)

2030 Systemwide Mobility
6.2 Managed HOV Lanes

The Transit System Plan includes a program for continuing DART involvement in the planning, design, construction, operations, enforcement and maintenance of Managed High Occupancy Vehicle (HOV) lanes throughout the region. Managed HOV lanes are an evolution of HOV lanes to include managing by price in addition to vehicle occupancy and access locations. The Managed HOV program is consistent with the Board approved HOV Transitway Policy that establishes the framework for DART funding commitments and DART participation in project development.

The HOV element of the Transit System Plan is important for several reasons:

- HOV lanes provide an air quality benefit to the region and assist in meeting increasingly stringent air quality conformity standards;
- HOV lanes provide time savings for buses, and other eligible vehicles, resulting in a competitive advantage over main lanes in the same corridor, and providing a faster, reliable transitway for DART buses;
- HOV lanes provide another means for DART customers to obtain mobility; and,
- HOV lanes are a cost-effective way for DART to move people effectively and contribute to enhanced regional mobility given its typical subsidy of less than $0.20 per passenger.

Managed HOV lane recommendations are illustrated in Figure 6-2 and discussed in the following sections.

6.2.1 Regional Managed HOV Plan

The NCTCOG Metropolitan Transportation Plan documents the regional plan for HOV facilities in the region, and also sets forth regional policies related to managed HOV lanes.

In addition to the benefits of traditional HOV lanes, managed HOV lanes offer additional benefits by introducing pricing as a tool to manage the demand on the facility. Additional benefits of managed HOV lanes are:

- Increase person and vehicle throughput in the corridor
- Preserve travel time savings and trip reliability
- Generate revenue to pay for operation and maintenance costs
- Provide an alternate route around major incidents

Managed HOV lanes also provide a public safety benefit to the region by providing unobstructed lanes for emergency response vehicles to bypass congestion.

Regional Policy Issues

The Managed HOV Lanes element of the Transit System Plan is consistent with the regional managed lane policies set forth by the Regional Transportation Council. The DART Service Area is in an air quality non-attainment area; thus, the managed HOV lanes are a critical component of accommodating growth and managing congestion. All managed HOV lanes must provide carpoolers with a cost savings as well as the time savings to encourage carpooling.
FIGURE 6-2
2030 Transit System Plan
HOV Element

2030 Managed HOV Lanes

- DART Participation
- No DART Participation
In addition, some of the toll roads in the DART Service Area will have carpooling integrated into the tolling and enforcement systems. This will allow DART HOV customers to experience seamless travel through the different facilities in the region.

6.2.2 DART Role

In 2006, DART operated, enforced and maintained 31 miles of interim HOV facilities:
- East RL Thornton (IH 30) contraflow lane
- Stemmons (IH 35E) concurrent flow lanes
- LBJ (IH 635) concurrent flow lanes
- South RL Thornton (IH 35E) reversible lane / Marvin D. Love (US 67) concurrent flow lanes

Interim HOV facilities are intended to provide immediate mobility and air quality benefits until permanent facilities can be constructed. TxDOT (16.7%), DART (16.7%) and the US Department of Transportation (66.6%) fund interim HOV projects. DART provides 100% of the operation, enforcement and management, and shares maintenance responsibilities with TxDOT. DART funds 10% of the facility construction cost for permanent HOV lanes. All permanent facilities will be evaluated for congestion pricing strategies. As the region shifts towards a managed HOV lane network that incorporates a pricing component, DART’s role may also change. However, the following key objectives of the HOV network will remain important to DART:
- Maximize person-carrying capacity
- Ensure trip reliability and travel time savings
- No cost for transit vehicles

6.2.3 Managed HOV Lane Recommendations

DART recommendations for Managed HOV facilities are consistent with those contained in the NCTCOG Metropolitan Transportation Plan. These recommendations range from interim projects to permanent facilities that include design elements beneficial to transit and carpoolers.

Planned Interim Managed HOV Facilities

In response to continued air quality concerns, several interim projects or interim facility extensions are in the planning phase and will be implemented by July 2007. These projects include:
- No cost or reduced tolls for 2+ carpools
- Tom Landry (IH 30) managed reversible flow lane
- LBJ (IH 635 Eastern Section) managed concurrent flow lanes
- East RL Thornton (IH 30) Extension

Funding for these projects is included in the DART Financial Plan.

Permanent Managed HOV Facilities

Many elements of the permanent managed HOV lane network are being completed or are planned for construction in the near future. These facilities include:
• LBJ (IH 635 Western Section) managed concurrent flow lanes.
• Tom Landry (IH 30) managed reversible flow lanes.

Part of completing the 2030 Managed HOV System Plan will be to replace the interim projects with permanent managed HOV facilities. For example, the East RL Thornton (IH 30) contraflow lanes need to be upgraded to permanent reversible flow lanes. Once completed, the 2030 HOV network is anticipated to carry nearly 650,000 people per day. More than 20 percent of this will be associated with the use of LBJ managed lanes.

6.2.4 Transit Considerations

As planning and design progresses for permanent HOV facilities, DART will remain involved ensuring that access and benefits for carpools and transit is maximized. This involvement is especially important where DART recommends rapid or express bus service within Managed HOV Lane corridors (see Section 6.3), as well as in the LBJ corridor where an envelope or crossing for light rail may be necessary. As permanent facilities are designed, the following items should be evaluated and considered:

• Direct access ramps to and from major arterials
• Direct access ramps to and from major transit facilities (rail stations, transit centers)
• Potential new transit centers or park-and-ride locations to encourage and promote carpool and transit use within the managed HOV lanes

6.2.5 Cost Summary

Table 6.1 summarizes 2030 Transit System Plan HOV facility recommendations, including type, length and limits. All facilities are planned for implementation by Year 2030. Comprehensive Development Agreements for managed HOV lanes may influence the schedule and cost of each project. Thus, the anticipated year of opening and budget for each project is not listed. Based on system plan level estimates, the Twenty Year Financial Plan would need to include an amount of approximately $250 million (2006 dollars) through 2030 to fund DART’s share of the permanent HOV facilities listed in Table 6.1.
The DART bus network carries more than 40 million people annually, providing expansive coverage throughout the Service Area. There are several short-term objectives for improving bus service to retain existing customers, attract new customers, and better match service with demands. These short-term plans and programs are documented in the DART Five Year Action Plan, which is updated regularly, and focus on reallocation of resources to maximize ridership and enhance cost-effectiveness of the bus system. The 2030 Transit System Plan builds upon these short-range plans and targets specific corridors in which an enhanced level of service and associated capital investment is warranted. Future Action Plan updates will refine the 2030 Transit System Plan recommendations to support service implementation. The following sections discuss how the role of bus service over time are:

1. Increased transit ridership
   - Enhance passenger amenities throughout the system
   - Utilize TSM and ITS elements to improve travel time
   - Improve customer information at bus stops and facilities
   - Develop branding for key services to improve customer recognition
2. Improve service in core bus corridors
   - Pursue enhanced and rapid bus service in identified corridors, including TSM and ITS improvements
   - Reallocation service to strengthen and feed core routes
   - Coordinate HOV facility development to ensure access and connectivity for DART bus service
   - Strengthen express bus service in key corridors
   - Monitor and actively seek other funding sources for capital improvements in enhanced and rapid corridors
3. Strengthen cost-effectiveness of the bus network
   - Focus on reallocation of resources where appropriate
   - Implement innovative, demand-based services where fixed route service is not effective
4. Enhance crosstown service
   - Implement crosstown service to address key regional trip patterns
5. Monitor market conditions and development
   - Conduct surveys to understand customer needs
   - Monitor new developments and implement new bus service as appropriate

6.3.1 The Changing Role of Bus Service
DART bus routes perform a variety of functions, including:

- **Local Routes** – distribute passengers to various locations throughout a neighborhood
- **Express Bus Routes** – provide nonstop connections between an outlying transit facility and downtown Dallas or other key employment centers
- **Feeder Routes** – collect passengers in a local area and connect them to a transit center or rail station
- **Crosstown Routes** – provide a regional level of travel, with local trips tied in to a travel pattern that crosses the Service Area

- **Circulator Routes** – pulse frequently between transit facilities and high-density employment or retail centers

The DART 2006-2010 Five Year Action Plan analyzes current service design, changing needs, and market conditions to identify shorter-term challenges that can be addressed with new service strategies. The key strategies that will expand and change the role of bus service over time are:

- Enhanced bus service in key corridors, with more attractive passenger amenities and ITS improvements
- Redesigned rail feeder service, concentrating fixed route resources on rush hour frequency and providing flexible, more responsive van-based midday and evening service
- Crosstown express service to improve linkages for non-radial travel patterns
- Flexible services to provide cost-effective solutions in less dense areas or areas difficult to serve with traditional transit

6.3.2 Bus Recommendations
The 2030 Transit System Plan goes beyond the Five Year Action Plan, identifying long-range bus corridor opportunities and providing a framework to guide implementation.
Chapter 6: Recommendations and Strategies

FIGURE 6-3
2030 Transit System Plan
Bus Element

2030 Bus
Express Bus
Enhanced Bus
Rapid Bus

Transit Center
Bus Transfer Center
Park-and-Ride
Enhanced – lower-cost capital improvements to enhance travel speed and ridership, ITS, vehicles, and associated branding/marketing campaigns

Rapid – higher level of investment resulting from exclusive bus guideway, ITS, specific vehicles, and associated branding/marketing campaigns

Each strategy requires some level of technology, operating, and/or capital investments to improve service delivery and customer experience. The level of investment is higher in Rapid corridors than in Enhanced corridors. Examples include:

- ITS improvements (see Section 6.6.1) which enhance operating efficiencies and customer information
- Vehicles which facilitate faster boarding and alighting through low floors, wider aisles, rail-like seat configuration, and ramps, which replace wheelchair lifts
- Fare prepayment so passengers can board the vehicle more quickly
- TSM improvements, especially at intersections, such as queue-jumper lanes, signal priority, and dedicated turn lanes for buses (see Section 6.6.2)

The following sections discuss future strategies related to express, enhanced, and rapid service.

6.3.3 Express Bus Corridors

Traditionally, express service has connected outlying park-and-rides, typically in suburban areas, with high-density employment in downtown Dallas. Dispersed employment locations and increasing reverse commute needs require new approaches to express service.

The 2030 Transit System Plan proposes to strengthen key radial express corridors not served by rail and to improve crosstown express services including the Dallas North Tollway, IH 30 east, LBJ, and IH 35E south. Crosstown express routes will connect people to radial rail corridors and key transit facilities, allowing passengers to connect seamlessly to their final destination.

Where possible, express routes will continue to use the expanding HOV network. For example, express buses on IH 30 East will use HOV facilities, as will a portion of the Ferguson Road Rapid service, improving travel time to downtown Dallas. Direct ramps between park-and-rides and HOV facilities will further enhance connectivity and travel time, benefiting express bus service in corridors such as the LBJ managed HOV lanes. As both a stakeholder and contributor, DART remains actively involved in the planning and design of future HOV facilities and will continue to support an HOV network that meets the needs of express service, maximizing benefits for passengers.

6.3.4 Enhanced Bus Corridors

Enhanced bus service will provide a higher level of service in core transit corridors. Core transit corridors are usually radial and have multiple routes serving the
corridor on varying frequencies. Enhanced service will consolidate the through-traffic of a corridor into one strong route and restructure local service to act as feeders and circulators to the enhanced corridor.

In addition to ITS, signal, intersection, and vehicle improvements, hallmarks of enhanced service include:

- Improved frequency on the main corridor, comparable to light rail frequency, eliminating the need to consult a schedule during rush hour
- Stops only at major intersections, where other routes connect to the corridor or where retail, commercial, and residential development are strongest
- Improved passenger amenities, such as larger shelters with bike storage, pay phones or emergency phones, and lighting
- A unique, identifiable brand that helps customers recognize the route as an enhanced service

Skipping local stops, streamlining vehicles, and investing in higher frequency service all contribute to a shorter trip along the corridor. Special attention will be paid to connecting routes and circulators to ensure a seamless trip.

The 2030 Transit System Plan recommends 77 miles of enhanced bus corridors. The majority of these corridors are within Loop 12, which is generally the most urbanized area of the DART Service Area and contains several of the agency’s highest ridership bus routes. Studies by other agencies, such as Los Angeles Metro, which recently implemented the Metro Rapid Program, find that enhancements related to bus signal priority, low floor buses, headway-based schedules and fewer stops have reduced passenger travel times by as much as 29 percent. As a result, ridership has increased by 40 percent in Metro’s two demonstration corridors, with one-third of the ridership increase from new riders who have never before ridden transit.

The DART enhanced bus network would strive to achieve results similar to the Metro Rapid program. Overall, the goal is to achieve operating efficiencies, build ridership and enhance the customer experience along key corridors. These corridors link residential areas to major employment centers such as downtown Dallas, Southwestern Medical District, and the future Southport area, as well as enhance service for intra-corridor travel needs.

Los Angeles Metro has identified 26 additional corridors for their Metro Rapid program, which emphasizes bus signal priority, low floor buses, headway-based schedules and fewer stops. This will ultimately create a network of 450 miles of Metro Rapid service to complement their rail system. The DART enhanced and rapid bus network will have similar characteristics.

6.3.5 Rapid Bus Corridors

Rapid bus service is similar to enhanced bus service in that it is a limited stop, high-frequency service. The goal of rapid bus service is to be faster and more reliable with a targeted average operating speed of 20 to 29 mph. The key to achieving this is the guideway — an exclusive busway, managed HOV lane or exclusive bus lane on an arterial — for all or a key segment of the route. Rapid service also emphasizes ITS and TSM improvements to enhance operations at stations and intersections. Vehicles will be designed for ease of access and could include level boarding and multiple doors with proof of payment or smart card systems.
card fare collection to speed boarding. The stations will be specially designed and include real time transit information and other amenities.

Two rapid bus corridors are recommended, Northwest Highway and Ferguson. Ferguson Road was studied as part of the IH 30 Major Investment Study and would connect east Dallas neighborhoods to downtown Dallas, completing the last segment of the route on the IH 30 managed HOV lanes. Northwest Highway is a major east-west route that would link residential areas around the South Garland Transit Center and White Rock Station on the east and high-density residential areas in northwest Dallas near the Bachman Station to the wide range of retail, office and commercial uses in this corridor. These include Northpark Mall and Preston Center, as well as several retail and office centers in between.

Investment levels in these two corridors would be higher than in enhanced bus corridors to provide areas of exclusive bus guideway where feasible.

6.3.6 Operating Facility Needs

In 2006, DART consolidated into three operating facilities for its bus fleet. DART will continue to monitor the need for new or expanded facilities to accommodate fleet increases and technological changes. As new enhanced and rapid bus services are implemented, DART will evaluate the need for new or modified facilities to accommodate different technologies or a specialized vehicle fleet, as part of new service delivery or regular fleet replacement programs.

6.3.7 Cost Summary

Table 6.2 summarizes the 2030 bus recommendations. The total cost estimate for capital improvements in recommended bus corridors is $159.5 million.

In all cases, DART will pursue other local, regional, state and federal funding sources to leverage DART funds. A new Small Starts funding program outlined in SAFETEA-LU may be a program suitable for enhanced and rapid bus corridors.

It should be noted that some of the bus corridors serve the same travel market as future rail corridors such as the West Dallas Corridor and Southport Corridor. In some corridors both bus and rail service may be justified. However, where there is duplication, the bus corridor service can be interim in nature as corridors transition to rail. This can help to build the transit market and, in some cases, preserve right-of-way.

The Vancouver B-Line is a good example of a Rapid Bus application that uses an exclusive busway, provides enhanced passenger stations, and uses low-floor, articulated buses to move people quickly and efficiently in a heavily travelled corridor.
Table 6.2
Summary of 2030 Bus Corridor Recommendations and Capital Costs

<table>
<thead>
<tr>
<th>CORRIDOR</th>
<th>FROM</th>
<th>TO</th>
<th>MILES</th>
<th>CAPITAL COST ESTIMATE (2005 $)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Express</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>East RL Thornton (I-30)</td>
<td>Downtown Dallas</td>
<td>Lake Ray Hubbard Transit Center</td>
<td>-</td>
<td>Strengthen Existing Service</td>
</tr>
<tr>
<td>Stemmons Freeway (I-35E)</td>
<td>Downtown Dallas</td>
<td>Glenn Heights Park-and-Ride</td>
<td>-</td>
<td>Strengthen Existing Service</td>
</tr>
<tr>
<td>Dallas North Tollway</td>
<td>Downtown Dallas</td>
<td>Northwest Plano Park-and-Ride</td>
<td>-</td>
<td>Strengthen Existing Service; Programmed Park-and-Ride</td>
</tr>
<tr>
<td>LBJ Freeway (I-635)</td>
<td>South Garland Transit Center</td>
<td>Las Colinas</td>
<td>25</td>
<td>$2,900,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>Subtotal</strong> 25</td>
</tr>
<tr>
<td><strong>Enhanced</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Simpson Stuart / Bonnie View</td>
<td>Blue Line</td>
<td>IH 20</td>
<td>2.9</td>
<td>$3,200,000</td>
</tr>
<tr>
<td>Ledbetter</td>
<td>Loop 12/Kiest</td>
<td>Buckner Station (Green Line)</td>
<td>14.4</td>
<td>$16,400,000</td>
</tr>
<tr>
<td>Singleton</td>
<td>Downtown Dallas</td>
<td>Bernal Transfer Location</td>
<td>6.0</td>
<td>$6,800,000</td>
</tr>
<tr>
<td>Fort Worth/Commerce</td>
<td>Downtown Dallas</td>
<td>Cockrell Hill Transfer Location</td>
<td>5.6</td>
<td>$6,300,000</td>
</tr>
<tr>
<td>Jefferson</td>
<td>Downtown Dallas</td>
<td>Cockrell Hill Transfer Location</td>
<td>8.2</td>
<td>$9,300,000</td>
</tr>
<tr>
<td>Hampton</td>
<td>Red Bird Transit Center</td>
<td>Inwood Station (Green Line)</td>
<td>10.0</td>
<td>$11,400,000</td>
</tr>
<tr>
<td>Cedar Springs</td>
<td>Downtown Dallas</td>
<td>Love Field</td>
<td>6.4</td>
<td>$7,200,000</td>
</tr>
<tr>
<td>Gaston</td>
<td>Downtown Dallas</td>
<td>Grand Avenue</td>
<td>5.9</td>
<td>$6,800,000</td>
</tr>
<tr>
<td>Preston</td>
<td>Northwest Highway</td>
<td>Northwest Plano Park-and-Ride</td>
<td>17.1</td>
<td>$19,400,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>Subtotal</strong> 76.5</td>
</tr>
<tr>
<td><strong>Rapid</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Northwest Highway</td>
<td>South Garland Transit Center</td>
<td>Bachman Station</td>
<td>13.8</td>
<td>$47,900,000</td>
</tr>
<tr>
<td>Ferguson</td>
<td>South Garland Transit Center</td>
<td>Downtown Dallas via I-30 HOV Lanes</td>
<td>6.3</td>
<td>$21,900,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>Subtotal</strong> 20.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>Total</strong> 121.6</td>
</tr>
</tbody>
</table>

**Note:** Enhanced and Rapid Bus Capital Cost does not include vehicle cost; however, the financial plan does account for additional bus purchases beyond the regular fleet replacement program. Capital costs are based on typical per mile costs for TSM, ITS and passenger facilities related improvements. Express bus costs reflect new vehicles for new service in this corridor.
6.4 Rail

DART rail carries more than 60,000 people daily and has become an integral part of the communities it serves. With the planned doubling of the light rail network and service radiating from downtown Dallas into every quadrant of the DART Service Area, light rail is becoming the backbone of the DART system. The Trinity Railway Express also serves an important function, and is an example for possible future expansion of commuter rail throughout the region.

As the DART rail system grows, interconnectivity with other elements of the DART system, as well as with the services of other agencies, becomes even more important to provide as seamless a system as possible.

6.4.1 Rail Recommendations

The 2030 Transit System Plan recommends five rail projects, and identifies several promising corridors in the Vision Element that should be reassessed in future system plan updates (see Section 6.4.7). Figure 6-4 illustrates 2030 rail recommendations. These corridors were identified as having promising ridership potential and cost-effectiveness, as well as being important to local and regional economic development initiatives. They also connect key residential and activity centers to the rail system. A discussion of each follows below.

Cotton Belt Corridor

The Cotton Belt Corridor will provide a key east-west link across the northern part of the DART Service Area, linking several member cities to each other and to DFW Airport. This line will also link the region to growing employment and activity centers along the line, such as the University of Texas at Dallas and a new Texas Instruments facility. The Cotton Belt represents the most cost-effective and affordable approach to link the northern part of the Service Area to DFW Airport.

A less frequent express service strategy is recommended for this nearly 26-mile corridor, using 20-minute peak headways. This type of service can be accomplished using a variety of rail technologies, either Federal Railroad Administration (FRA) compliant or non-compliant lightweight vehicles (see Section 6.4.2 for more information on technology). This corridor has the potential to phase in more frequent service and/or stations over time (particularly in the section from downtown Carrollton to the Red line) to further support transit-oriented development and access along the corridor.

Given residential community concerns along the corridor, especially in north Dallas, DART will work...
FIGURE 6-4
2030 Transit System Plan Rail Element

2030 Rail

Express Rail
Rapid Rail

Express rail service is associated with a 20/60-minute peak/off-peak headway while Rapid rail service is associated with a 10/20-minute peak/off-peak headway.
closely with the adjacent property owners and affected member cities on the development of this corridor and the technology choice. DART will focus on environmentally and community-friendly technologies that have characteristics comparable to DART light rail vehicles. This will help to minimize potential impacts and integrate the project into the neighborhood. Section 3.2.4 outlines the key conditions adopted by the DART Board for rail service in this corridor. These conditions include up to $50 million towards mitigation in the corridor.

Scyene Road Corridor

The Southeast Corridor Major Investment Study (May 2000), which recommended light rail to Pleasant Grove, also recommended that DART consider light rail in the Scyene Road corridor during its next Transit System Plan update. The Scyene Road corridor presents an opportunity to interline with the planned Irving/DFW corridor through downtown Dallas. A new Scyene Corridor line provides additional, needed capacity in the Baylor/Fair Park areas, while also serving a new travel market in the northern part of southeast Dallas.

This corridor would consist of approximately 4.3 miles of double-track light rail within the Scyene Road corridor to approximately Masters Drive.

Southport Corridor

Southport is one of the key economic initiatives for Dallas’ southern sector. Southport is the northernmost section of the larger planned Dallas Logistics Hub, an expansive industrial and intermodal center that has the potential to create 30,000 to 40,000 jobs. Several options were evaluated for this corridor, including bus, light rail or regional rail. Given the importance of this economic initiative for the City of Dallas and the region, the DART Board approved light rail service to the Southport area.

This corridor would consist of an approximately 2.9-mile light rail extension from the planned Blue Line to the University of North Texas campus. The Southport line would likely branch off near Camp Wisdom/Simpson Stuart, continuing east to Bonnie View and then terminating near Bonnie View/IH 20 at the Southport gateway. DART will participate in the City’s Agile Port Industrial Area Plan effort to further refine this corridor.

West Dallas Corridor

The West Dallas corridor was examined from downtown Dallas to the former Naval Air Station north of Mountain Creek Lake. The ridership and cost-effectiveness of this corridor improved significantly when City of Dallas land use vision demographics were used, and when the corridor was truncated within Loop 12, where ridership is most productive. There are several possibilities for a high capacity transit corridor in this area, ranging from Singleton Boulevard or Fort Worth/Commerce Avenue, to the existing Union Pacific railroad corridor. This area represents tremendous opportunity given the influence of the planned extension of Woodall Rodgers Freeway to...
Chapter 6: Recommendations and Strategies

Singleton Boulevard, the first Santiago Calatrava bridge, and the Trinity River Corridor project. Coupled with the forwardDallas! Plan designation as a mixed-use, urban core land use area, all of these efforts will help to transform this corridor into an area more supportive of a rail transit investment.

This corridor would be an approximately 6-mile light rail line from downtown Dallas to the Loop 12 area. DART will work closely with the City of Dallas to select an appropriate transit corridor and refine transit-supportive land use plans.

**West Oak Cliff Red Line Extension**

The existing Red Line currently terminates at Westmoreland Station. An extension to Red Bird Lane near the Dallas City limits has been identified in prior Transit System Plans as potential expansion, and would serve residential and growing employment areas in this part of Southwest Dallas.

This extension would consist of approximately 4.3 miles of double-track light rail within existing DART-owned railroad right-of-way. During subsequent studies, alternative alignments and terminus points will be examined, including an alternative alignment to the Mountain Creek area as identified in the forwardDallas! Plan. Interface with potential regional rail or expansion of light rail further to the southwest should new member cities join DART will be key considerations in the selection of a terminus and final alignment.

**Love Field Connection**

Transit access to Dallas Love Field airport is discussed in Chapter 3 as a focus area of the 2030 Transit System Plan. DART will retain its $20 million commitment towards a Love Field connection. As part of the joint statement agreed to by key parties involved in the Wright Amendment issue (signed June 15, 2006), Love Field flight restrictions would expire 8 years after legislation to repeal the Wright Amendment is passed. President Bush signed the Wright Amendment Reform Act into law on October 13, 2006. The City of Dallas will seek approval to use Passenger Facility Charges (PFC) to fund DART access to Love Field via a people mover within this timeframe to connect DART rail to the Love Field terminal. The 2030 Transit System Plan assumes that the City will take the lead to fund, build, and operate this project, with DART cooperation, financial support, and technical assistance.

**6.4.2 Vehicle Technology**

Electric-powered LRT is the logical vehicle choice for most corridors given that they will be extensions of or interlined with the existing LRT system. The Cotton Belt corridor has the best potential for alternative technology, whether it is a FRA compliant vehicle, or non-compliant self-propelled light rail vehicle. Use of one common technology or vehicle types can create efficiencies for maintenance facilities and create purchasing power benefits. Thus, as the Denton County Transportation Authority (rail from Denton to Carrollton) and the T (Cotton Belt west of DFW Airport) evaluate technologies for their planned rail lines, there may be opportunities to create a second common vehicle technology with one or both of these corridors.

A key consideration for the Cotton Belt corridor, as in other corridors, is the desire for an environmentally- and community-friendly vehicle that has characteristics comparable to DART light rail. DART will continue to monitor technological advances that can be applied not only to this corridor but to the entire rail fleet in order to maximize environmental and cost benefits and support future vehicle technology decisions. Key conditions relative to the Cotton Belt corridor vehicle are contained in Section 3.2.4.

**6.4.3 Streetcars**

Streetcars are another form of rail that can be used to enhance mobility in mixed-use, pedestrian-oriented areas. Streetcars have also been known to strengthen revitalization efforts in the areas it serves. Section 3.1 discusses streetcar opportunities and their role in supporting the transit system.

**6.4.4 Rail Stations**

The most important element of the DART rail system is the stations. Stations not only serve as the gateway to the entire rail network, but often are a catalyst for creating denser, more transit- and pedestrian-friendly areas. While general locations may be identified at the system plan level, the target location and function of stations are usually defined during the Alternatives Analysis phase. Subsequent preliminary engineering and environmental studies further refine the locations, and may include “deferred” stations. Stations can be deferred for reasons such as insufficient demand, future transit-oriented development opportunities or waiting until additional transit linkages come on line. Deferred stations are committed, but are not funded by DART until warranted.

The Lake Highlands Station on the Blue Line was previously deferred due to insufficient demand and community opposition, but transit-oriented development opportunities and renewed support warrant its construction. Funding of up to $10 million
6.4.5 Operating Facility Needs

In 2006, DART had a fleet of 115 light rail vehicles (LRV). By 2010, these 115 LRV’s will be modified to include a low-floor center section, creating Super LRV’s (SLRV). These SLRV’s are part of the DART low-floor initiative to enhance system accessibility. These SLRV’s also create additional capacity within one vehicle, allowing DART to operate a three-car SLRV train that has capacity comparable to a four-car regular LRV train.

DART currently has one light rail operating facility immediately southeast of downtown Dallas. This facility was expanded in 2006 to accommodate 125 light rail vehicles. A new facility in the Northwest Corridor will be opened in 2010 to accommodate approximately 100 vehicles (the equivalent of 75 super LRV’s). Combined, these two facilities will accommodate requirements for the programmed light rail buildout through 2018. The TRE also maintains an operating facility in Irving.

6.4.6 Cost Summary

Table 6.3 summarizes the capital costs of 2030 rail recommendations. Rail projects comprise the largest capital program of the 2030 Transit System Plan, at approximately $1.6 billion. These estimates are based on order-of-magnitude per mile costs derived from recent DART projects. Cost estimates will be refined during subsequent studies. Furthermore, DART will strategically identify projects that can be competitive in obtaining Federal or other funds to ensure timely implementation of all system plan recommendations.
6.4.7 Vision Corridors

In addition to recommended rail corridors, several potential corridors within the DART Service Area are identified in the Vision Element (see Figure 6.5). These vision corridors may be candidates for future rail, or it may be that another mode is more suitable (bus, shuttle). Each of these corridors is discussed below, including actions that would make a rail investment potentially warranted.

**LBJ/Inwood Corridor**

This corridor has significant ridership potential given that it provides access to a dense employment corridor that also is one of the most congested freeway facilities in the state. The alignment for the LBJ/Inwood corridor is not specifically defined at the system plan level due to the range of possible variations. However, it would generally connect the existing Red Line in the vicinity of the LBJ/Central Station (or some point to the south) to the Addison Transit Center. The alignment could be within the LBJ freeway corridor for a portion of its route until it turns north in the vicinity of the Galleria and Dallas North Tollway. Given right-of-way constraints within the LBJ corridor, a tunnel configuration may be necessary unless other non-freeway street, utility and/or private rights-of-way can be used. It is recommended that this corridor be reassessed for inclusion in the next transit system plan.

**LBJ Corridor Extension to Blue Line**

The LBJ/Inwood Corridor from the Red Line to Addison Transit Center was also evaluated to the Blue Line, including being interlined with the Blue Line further east to Garland. The majority of transfer activity with the transit network occurs with the
While there is additional demand further east into Garland, this can be addressed by bus service within the LBJ managed HOV lanes. During subsequent studies for the LBJ/Inwood Corridor it is recommended that the feasibility of not precluding this extension be addressed.

LBJ Corridor from Galleria area to Green Line

While not evaluated in the 2030 Transit System Plan effort, it is recommended that an extension west of the Dallas North Tollway, from the Galleria area to the Green Line, be considered during the next system plan update to provide additional east-west capacity in this congested corridor.

Southeast Corridor Extension to IH 20

By 2010, DART will have light rail service to Buckner Boulevard in the Southeast Corridor. An extension of this corridor to the IH 20 area was evaluated in the 2030 planning effort but did not have ridership and cost-effectiveness commensurate with other recommended corridors. The performance of this corridor did improve under sensitivity tests conducted using the City of Dallas land use vision scenario (see Chapter 4). It is recommended that land use changes and public input be monitored in this corridor, and that it be reassessed in future updates when new regional demographics are available.

Garland/Bush Turnpike Corridor

This corridor represents an extension from the Downtown Garland Station to the President George Bush Turnpike near Firewheel Center, along the Kansas City Southern (KCS) railroad or SH 78 corridor. A rail extension in this corridor would require that an additional Blue Line be operated from the Firewheel area to downtown Dallas, or that it be part of an east-west LBJ rail corridor. The first option would result in two branches of light rail from Downtown Garland. As capacity needs on the Blue Line increase, there may be a need to add frequency. DART will continue to monitor this need, and if warranted, an additional branch to this area could be considered.

BNSF Corridor

The BNSF Corridor extends from the South Irving Station on the TRE line to the future Downtown Carrollton Station, continuing north into Frisco. The TRE and the City of Dallas own the corridor from south Irving to downtown Carrollton. The BNSF Corridor has the potential to serve areas such as Mercer Crossing, Las Colinas and south Irving. NCTCOG evaluated passenger rail for the section north of downtown Carrollton in the Regional Rail Corridor Study (see section 6.4.8). Implementation of rail in this corridor is closely tied to regional rail needs and passenger demand south of Carrollton toward Irving and Dallas. Passenger service in this corridor will continue to be evaluated in future system plan updates and monitored as regional rail discussions continue. Connections to this potential rail corridor are reflected in both the Downtown Carrollton Master Plan and the DART Northwest Corridor Irving/DFW light rail expansion project.

The Trinity River Corridor project includes several area land-use plans to take advantage of the improvements associated with the project. This map depicts concepts for the La Bajada area of West Dallas, which is within the West Dallas Vision Corridor of the DART 2030 plan.

Source: City of Dallas
6.4.8 Expansion Opportunities

The 2030 Transit System Plan focuses on service recommendations within DART’s 13-member city Service Area boundary. However, over the past several years there has been increased interest from non-member cities in receiving or coordinating transit services with DART. Because most cities in the region have chosen to dedicate sales tax revenues to purposes other than transit, they do not have a 1% sales tax available to join DART and fund transit services. Promising opportunities for transit expansion are highlighted below.

New Member City Potential

To understand mobility needs and opportunities outside the DART Service Area, DART evaluated the potential for rail service into several non-member city communities. For rapid, or light rail, this evaluation assumed that a city was a member of DART and thus had a feeder bus network to support a light rail line to their community. Numerous cities showed moderate to high potential to support rail into their communities (see map), including:

- Allen/McKinney
- Cedar Hill/Duncanville
- Frisco
- Grand Prairie/Arlington
- Lancaster

The New Member City Potential map to the right illustrates potential rail corridors into non-member cities surrounding the DART Service Area. These potential rail corridors were close to or met the technical benchmarks for ridership and/or cost-effectiveness. With the exception of an Express Rail corridor into Frisco, which showed high ridership potential without a feeder bus network, all other corridors assumed the City was a member of DART and had a feeder bus network to support a more frequent rapid, or light rail, line.
As regional transit discussions continue, DART will monitor the potential to expand transit into these as well as other cities on the fringe of the DART Service Area, particularly where mutual benefits are possible to both DART and the city.

**Regional Rail Considerations**

DART remains actively involved in discussions related to regional rail. Several potential regional rail corridors (see map this page) are included in the Metropolitan Transportation Plan.

Since the majority of any regional transit service provided within North Texas will either enter the DART Service Area or will require close coordination with the DART system, DART’s role is important. Most regional rail corridors would either connect to the DART rail network, requiring a transfer to an outlying DART rail station, or terminate in downtown Dallas, likely at Union Station. This raises issues related to:

- Transit system capacity at regional rail transfer points
- Costs of providing additional capacity or service to accommodate higher demand
- Union Station capacity

With their approval of HB 2702, the Texas Legislature has mandated the creation of a Regional Transit System Review Committee. The Committee is expected to publish a report of its findings and recommendations related to regional transit, funding, and financing options by the end of 2006.

The circles on this map illustrate key locations where regional rail could potentially interface with DART.

- Mesquite
- Sachse/Wylie
This page intentionally left blank.
Paratransit 6.5

DART Paratransit Service provides accessible, curb-to-curb public transportation to people with disabilities who are unable to use DART buses or trains. This service is provided in accordance with Board policy and in compliance with the Americans with Disabilities Act (ADA) of 1990. The overall goal of paratransit service is to achieve an optimal balance of service quality and service cost. With a goal of accommodating 100 percent of paratransit trip requests, achieving this balance is difficult. In 2005, DART had approximately 8,700 eligible patrons in its database and an average of 1,950 weekday trips. The 2030 Transit System Plan outlines strategies that will help control operating costs while maintaining a reasonable level of service for these customers.

6.5.1 Recent Changes and Trends

In 2005, DART provided nearly 600,000 annual trips at an operating cost of $23 million. This represents a slight increase in paratransit ridership from year 2000, partially due to the practice of zero trip denials, which was implemented in 2001. Like DART’s experience, national paratransit ridership is also on the rise. With continuing increases in life expectancy, it is highly likely that DART’s paratransit demands will continue to increase. DART paratransit service generally costs several times more per passenger trip than fixed route transit. Thus, controlling operating costs is a paramount concern.

To maintain a high level of customer service and improve overall operating and administrative efficiency, DART implemented several changes over the last several years. These changes include:

- Technology/communications improvements, such as implementation of Trapeze automated routing and scheduling software and an Interactive Voice Response (IVR) system
- New vehicle technology systems (Automated Vehicle Locator and Vehicle Business System that include Global Positioning Satellite and wireless communication)
- Operational changes such as reduction of the window for reservations
- New paratransit eligibility determination processes
- Enforced suspension for paratransit no shows and cancellations.

6.5.2 Efforts to Manage Costs and Demand

In the long-term, DART’s paratransit operating expenses will continue to be controlled through enhanced internal and external coordination, as well as operations, technology, and administrative initiatives. However, it is anticipated that future paratransit costs will increase due to higher demand and higher costs for labor, fuel, contracts, and related expenses. Key efforts in the future will be to continue integration of paratransit into the overall DART system, focusing on programs that enhance accessibility and allow some customers to switch to more cost-effective, fixed route service.

Fixed Route Access and Innovative Services

All of DART’s fixed route transit vehicles are currently accessible to customers with disabilities. Low floor buses and low floor rail vehicles will improve accessibility. In addition, bus stop and pedestrian access improvements can enhance access to fixed
route services, allowing some customers to use fixed route service for all or part of their trip.

DART Paratransit Services estimates that 69 percent of certified paratransit users have the potential to take fixed route under certain conditions. For example, some riders cannot use fixed route in times of extreme heat, and others cannot use it because there are physical barriers (no curb cut, uneven sidewalks etc). Other innovative, demand-responsive services, such as DART On-Call, late night/weekend service, flexible route/point deviation, and site specific shuttles, will provide additional opportunities to manage paratransit demand by moving some customers to other more cost-effective and accessible services. Section 6.6.7, System Accessibility, provides more information on these initiatives.

Regional Public Transportation Coordination

United We Ride (UWR) is an initiative of the Federal Interagency Coordinating Council on Access and Mobility (CCAM), established by President George W. Bush under the Executive Order on Human Service Transportation Coordination. Strategies are being developed at a regional level with the participation of DART Paratransit Services that will enhance the capacity of the region and state to deliver comprehensive and coordinated human service transportation that meets the needs of the transportation-disadvantaged population (i.e., individuals with lower incomes, older adults, and persons with disabilities across the lifespan). More information regarding this effort is outlined in the System Accessibility (Section 6.6.7) section.

Technology and Communications

Technology continues to improve the way transit providers serve their customers. Future technological advancements will focus on more geographic information systems/global positioning satellite interface with the drivers of the Paratransit vehicles, and greater automation of reservation functions.

Optimize Paratransit Performance

DART Paratransit, working with DART Service Planning, can focus on several factors to optimize Paratransit performance:

- Examine the feasibility to cluster trips to similar destinations
- Encourage customers to pre-schedule reoccurring trips in order to develop a “core” schedule and more efficiently schedule trips
- Enforce conditional and seasonal eligibility
- Examine different service concepts for the spatial and temporal deployment of vehicles

These efforts, along with the additional methods to manage costs and demand, can assist DART with achieving a more accessible and cost-effective transit network.
6.6 Systemwide Mobility
Supporting the core services of DART and enhancing DART’s ability to meet its mission are a series of Systemwide Mobility strategies. These strategies support all of DART’s services and range from key initiatives such as Intelligent Transportation System (ITS) improvements, transit priority projects under the Transportation System Management (TSM) program, to programs related to Safety and Security and enhanced system accessibility. They also include strategies for passenger facilities, programs to manage travel demand, and initiatives to integrate bicycle and pedestrians into the system through facility and access enhancements. All of these supporting elements work toward improving the efficiency of and access to the DART system.

6.6.1 Intelligent Transportation Systems
Intelligent Transportation Systems (ITS) are performance-enhancing technologies used nationwide in surface transportation, including transit operations. The appeal of ITS technologies to transit agencies such as DART lies in the ability of the technologies to help improve operations, enabling customers to be served more effectively and efficiently. In past years, DART has experimented with, and sometimes deployed, ITS technologies. DART has also developed an ITS Strategic Plan within the last several years.

2030 Vision
Broadly, DART’s vision for 2030 is to use ITS to improve customer experience, increase operator and system effectiveness and efficiency, and to provide other tangible and intangible benefits to the region’s broader stakeholder community. A summary of the vision for these key stakeholder groups is provided below:

- Customers will have access to real-time information available from a wide range of dissemination technologies and can feel safe, secure, and at ease on the system through universal “smart” fare cards, next-stop annunciators, and surveillance, monitoring, and alarm systems. These systems are designed and implemented to be fully accessible.
- DART operators will have broad situational awareness of the current status of the system to detect and respond to incidents, as well as track, locate, and monitor the condition of HOV lanes and bus, light rail, TRE, and paratransit vehicles. Operators will also be able to closely coordinate with other modal agencies to share, exchange, and manage relevant data and information.
- Other Stakeholders, including employers, taxpayers, and other agencies, will benefit from enhanced mobility of the transportation network, solidifying the Dallas-Fort Worth region as a good place to work and live.
Chapter 6: Recommendations and Strategies

Connectivity
In order to achieve the 2030 vision, DART will need to focus on increasing and improving “connectivity” within the region over the short and longer term. There are two important aspects of connectivity. The first is DART connecting to other agencies and the public, while the second is DART effectively connecting its disparate parts. DART will continue to play a major role in the technical development of intelligent transportation and related systems and recognizes that this is not a short-term endeavor but a long-term commitment.

The concept for the DART Information Sharing Network (see illustration on next page) highlights the internal connectivity and information flow, as well as the connection to the broader Dallas-Fort Worth Regional Network, through which DART will communicate with other agencies. It is envisioned that the DalTrans Control Center (being built through a partnership with TxDOT, DART, and Dallas County) will play a significant regional clearinghouse role.

ITS Applications and Development
DART currently has some ITS applications and infrastructure in place. In order to implement the 2030 vision, a number of steps need to be taken to develop ITS applications. Through 2030, technologies can reasonably be forecast to continue to improve and, in some cases, take on new shapes that may not be currently envisioned. Among many possible ITS application areas, possible priorities for new or expanded deployments include the following:

- **Customer Information Systems (“Smart” Traveler)** – A high priority for DART is to provide customers with a range of traveler information – both pretrip and enroute. A regional 511 service, currently at an early stage of development, can be linked to DART’s information services to facilitate broad-based access to multi-modal information. Examples of additional applications likely to be in place across the DART Service Area before 2030 include:
  - Next stop annunciators on all transit vehicles
  - Information kiosks at all stations and other locations
  - Dynamic message signs on HOV lanes and at transit stations
  - Dynamic message signs at key bus stops
  - “Pushing” messages to customers’ personal communication devices
  - Access to traveler information by personal communication devices
  - Interactive Voice Response System
  - Web-based paratransit availability information and reservations
  - Public address systems
  - Wayfinding systems
  - Improved real-time status information from customer service representatives

- **“Smart” Vehicles** – Valuable information is generated at the vehicle level. There is a range of ITS applications that can be placed on a vehicle, integrated through a local network, and then tied to control centers via one or more communications links. At the national level, the Intelligent Vehicle Initiative (IVI) is funding research and development...
This illustration represents the major elements of the DART Information Sharing Network concept.
to provide more “smarts” to transit vehicles. Some potential applications likely to be implemented by 2030 include:

- Smart card for vehicle log-in for better data capture, security, etc.
- Transit signal priority (vehicle-based) to help drivers stay on schedule
- Automated fare collection equipment that uses smart cards
- Automatic passenger counters to determine vehicle loads for planning and real-time operational adjustments, e.g., adding another bus to the route
- Video cameras to enhance safety and security
- Public address systems to enhance safety and security
- Proximity sensors for collision avoidance

**“Smart” Infrastructure** – As with the vehicle, infrastructure will also be made “smarter” between now and 2030. Infrastructure in DART’s case may be applied to its Managed HOV lanes, its rail track or transit routes, its control centers, stations, and other facilities. The interaction between the vehicles and infrastructure will be one aspect of this increased intelligence. Between now and 2030, the following applications are likely to be in place on HOV lanes and transit infrastructure:

- Joint operations with TxDOT at DalTrans, ultimately including full integration
- Increased video coverage with increasingly sophisticated cameras
- Expansion of changeable message sign network with greater ability to manipulate messages and to provide useful traveler information
- Enhanced performance data sensors and related system equipment
- Managed HOV technologies, including enforcement
- Smart shelters and stops
- Video cameras to enhance safety and security
- Automated vehicle guidance or vehicles that can sense the street environment

Through system integration, the power of the data and information are enhanced. By the year 2030, one can envision a well-integrated “system” of ITS applications that empowers DART – through the availability of timely and accurate information – to make smarter decisions.
6.6.2 Transportation System Management

DART has a Transportation System Management (TSM) program that is primarily designed to cover small scale capital improvements on arterial streets in an effort to maintain and enhance the infrastructure which DART uses for its services. These improvements help to maintain transit travel times and on-time performance for DART transit services in light of growing congestion. The TSM program also includes transit priority improvements focused on improving transit travel times and transit reliability to make transit more competitive with automobile travel. While maintaining the transportation system is important, the TSM program should place renewed focus on incorporating transit priority treatments for existing and future transit street corridors, both bus and rail.

Transportation System Management (TSM) Programs

The DART TSM program historically has been focused on small-scale improvements related to street repair and maintenance and signal improvements. The major elements of the DART TSM program include:

- Street Improvements
- Signal Improvements
- Transit Priority Improvements
- Transit Operations/Safety Improvements

In the past, much of the funding for this program came from the Local Assistance Program (LAP) from which funding was directed to projects that supported transit and/or initiation of new transit services in DART member cities. With the LAP program being phased out, funding for TSM projects is included in the budget as appropriate, subject to annual budget considerations and Board approval. Regional, state, and federal funding often supplement many of the TSM programs.

Street Improvements

Street improvements generally fall into two categories. First, improvements to upgrade principal streets that are used by DART services and second, improvements developed in response to damage caused by DART buses. The latter falls under the DART Street Repair Program, which was established through DART Policy (Resolution 940335). Maintaining streets used by DART buses has many benefits, including reduced wear and tear on buses and autos, a smoother ride for the customer, and better schedule adherence, while also maintaining good relations with DART member cities and the public. Given these benefits and in accordance with DART Policy, DART will continue to fund such street improvement programs. Selection of projects in the future should give priority to corridors identified for enhanced and rapid bus services.

Signal Improvements

The TSM program also includes signal improvements. Delay at traffic signals can cause nearly 50 percent of the delay experienced by transit vehicles. Thus, focused signal improvements can provide benefits for DART services, whether bus or rail. Traffic signal preemption interrupts the normal traffic signal cycle to provide a green light. Traffic signal priority modifies the normal signal operation cycle to better accommodate transit vehicles. Most DART signal improvement projects are done in cooperation with local member cities and are often completed in conjunction with a roadway, intersection, or signal coordination/timing project. In the future, DART
and its member cities should focus signal priority improvements in major transit street corridors, particularly those identified for enhanced and rapid bus services. This will ensure added benefits to customers and operations by enhancing transit travel times and schedule reliability.

Transit Priority Improvements
Transit priority improvements include a range of techniques designed to improve transit vehicle speed and service reliability and transit system efficiency. They include physical improvements to guideways, traffic signal changes, corridor and system operating changes, and regulatory changes. They are often relatively low-cost ways designed to reduce transit vehicle delays. Implementation of transit priority techniques can improve operating speed and reliability, ultimately resulting in increased ridership and lower operating costs.

Transit priority techniques should be applied to any rail or bus service where improvements in speed and reliability are important. Transit priority improvements can also enhance the overall effectiveness of a transit network. For example, transit priority measures for feeder bus service routes serving a rail line can create a transit network that maximizes the major capital investment’s effectiveness. Minor physical changes to the street or transit stop that improve the operation and speed of transit vehicles can also enhance travel time by enhancing customer boarding and alighting and minimizing traffic interference. Traffic interference also can be minimized through regulations such as parking restrictions, turn restrictions, or yield to bus laws.

Bus only lanes such as this one in downtown Dallas are tools that help transit vehicles to maintain schedule reliability and enhance travel times.

Transit System Operations and Safety and Security Improvements
Other system-level changes that impact transit speed are operations improvements, fare collection improvements, and improved vehicle design. Many of these are ITS-related programs (see Section 6.6.1) and can contribute to a safer and more secure operating environment for transit.
6.6.3 Passenger Facilities

Passenger facilities are very important to the customer and can influence retention of existing riders and attraction of new ones. As such, it is important that DART continues to improve and build upon its current inventory of facilities to meet the demands of the current system, as well as to respond to future 2030 Transit System Plan recommendations. DART passenger facilities fall into two general categories: on-street and off-street. Both play an important role in supporting the overall transit system.

Off-Street Passenger Facilities

Off-street passenger facilities include transit centers, transfer facilities, and park-and-ride facilities. These larger facilities typically serve locations where several routes converge and transfer activity occurs between two or more travel modes, such as rail, bus, vanpool, carpool, pedestrian, bicycle, paratransit, and single occupant vehicle. Amenities at these facilities may include garage or ground level parking, lighting, security surveillance, kiss-and-ride lanes, bicycle parking racks and lockers, bathrooms, water fountains, vending machines, soft and hard landscape, and shelter. Amenities not only increase the facility’s effectiveness but also promote transit use and patron comfort.

The size and elements of off-street facilities, including the amount of land required, is based on short-term and long-term forecasts of trip activity by mode. During the project development process for HOV, bus, and rail corridors, DART develops such forecasts and examines the need for off-street facilities, making recommendations as appropriate. Since parking is a key element of many off-street facilities, DART monitors these facilities and develops strategies to address identified issues or concerns on a regular basis. Parking issues, especially where demand exceeds capacity, are addressed on a case-by-case basis to determine expansion needs or identify parking management strategies.

On-Street Passenger Facilities

The DART On-Street Bus Facilities Program provides bus benches, shelters, and various improvements in the public right-of-way. On-street facilities increase the safety, efficiency, and effectiveness of the transit system, while enhancing the customer experience by providing information, seating, and shelter. The major elements of the DART On-Street Bus Facilities Program include benches, standard shelters, double /modular shelters, and enhanced shelters. Along with other capital and ITS elements, on-street passenger facilities will play a key role in serving customer needs in identified enhanced and rapid bus corridors. Potential streetcar corridors can also benefit from this program.

At the end of 2005, the DART On-Street Bus Facilities Program accounted for 1,757 of the total nearly 12,000 bus stop locations throughout the DART Service Area. The facility breakdown is as follows:

- Benches – 1,149
- Standard Shelters – 572
- Double /Modular Shelters – 14
- Enhanced Shelters – 19
- Special Design Shelters – 3

It is assumed that the current number of bus stops will not decrease by the year 2030. The number of bus stops may increase as new developments occur,
or if new member cities join. It also is assumed that bus ridership will increase, resulting in more riders per bus stop, therefore increasing the number of bus stops that will be eligible for a bench. It also may be desirable to reevaluate the current requirements for benches (a minimum of 25 to 49 daily boardings) and shelters (minimum of 50 daily boardings) in order to provide a higher level of amenities that will encourage more ridership. These two items combined could potentially result in every bus stop having at least a bench or shelter.

Building on the success of the current program and the recent earmark of $15 million for on-street passenger facilities in the federal transportation bill SAFETEA-LU, the number of each facility is projected to increase between now and 2030 (see illustration this page).

The implementation of amenities over time will be coordinated with the development of enhanced and rapid bus corridors, so that on-street facilities can be focused in those corridors. This may include specialized designs or color schemes to complement the “branding” of specific corridors.

Through the year 2030, DART will seek to provide some level of passenger amenity at each bus stop.

One of DART’s goals is to significantly increase the number of shelters at high activity bus stops to further enhance the attractiveness of the transit system.
Travel Demand Management (TDM) focuses on changing travel behavior to achieve a more efficient transportation system. Rather than building or widening roads, TDM manages trip demand by shifting people to more efficient modes (carpools, vanpools, transit, bicycling) to increase the passenger capacity of the transportation system. This has many benefits, including reduced congestion and air pollution.

DART is a major participant in planning and implementation of TDM strategies and also supports and coordinates TDM programs offered by other agencies. Key DART TDM programs are summarized below.

**Employer Trip Reduction Programs**

The DFW region, including DART, coordinates and implements a variety of programs focused on reducing trips to major employers. Participation in an Employer Trip Reduction (ETR) program is voluntary. DART’s primary role in the ETR program is to market the program to employers and to assist employers in setting up their program and monitoring the progress.

TDM manages trip demand by shifting people to more efficient modes (carpools, vanpools, transit, bicycling) to increase the passenger capacity of the transportation system, resulting in the reduction of congestion and air pollution.

DART has the most direct impact by providing transit benefits through employer pass programs or site specific shuttle agreements. In 2005, there were about 160 employers participating in DART employer pass programs and 11 site-specific shuttles carrying more than 1,100,000 passengers annually.
Chapter 6: Recommendations and Strategies

Rideshare Programs

Rideshare programs, through carpooling, ride match services, and vanpools, reduce the number of vehicle trips and vehicle miles traveled, resulting in less congested roadways and improved air quality. DART provides a free region-wide computerized ride match system, and a vanpool program. In 2005, DART had 83 vanpools, its highest ever participation level. Key advantages of ridesharing are lower costs and more reliable travel times through the use of the growing HOV lane network. With vanpool program costs largely covered by the customers and NCTCOG, DART has a low subsidy per rider of approximately $0.50.

Coordination with Transportation Management Associations

Transportation Management Associations (TMAs) are public/private partnerships formed to address mobility problems in defined areas through the use of TDM strategies. DART maintains a TMA Strategic Plan that identifies the type of services that an existing/potential TMA would offer employees and defines DART’s role in the provision of these services. TMAs have the ability to promote DART and enhance transit use in employment areas with problems such as congestion, lack of parking, or high parking costs.

Marketing TDM Programs

The success of a TDM program is largely dependent on the associated marketing, advertising, and promotional efforts. Market research to identify customer’s needs and preferences is an integral part of promoting the social, economic, and air quality benefits of transit use, ensuring TDM programs are relevant.

DART marketing efforts promote TDM-related programs such as the monthly pass plus program in an effort to get more employees and employers to use transit.

Complementary Mobility Services

Complementary or supplemental mobility services, such as station cars, taxis, car rental, and personal mobility devices and vehicles, are additional TDM strategies that DART should explore as ways to reduce automobile dependence and increase transit use. These services can complement and strengthen public transportation since the users often use transit for part of their trip.
6.6.5 Bicycle/Pedestrian Integration

Integrating bicycles and pedestrians within the transit system results in a more accessible and user-friendly system. More importantly, such efforts can benefit DART and the region in terms of higher ridership, reduced parking demand, and reduced congestion that can contribute to improved air quality by shifting trips from automobiles to walking or bicycle.

Bicycle Integration

DART promotes the use of bicycles as part of the Bike-and-Ride Policy and provides storage spaces at most of its facilities (racks or lockers). The DART Bike-and-Ride Policy was amended on April 11, 2006 to further promote and encourage multi-modal commuting.

Bicycle Access

DART promotes Bike-and-Ride by designing easy and safe bicycle access within transit centers and stations. Bicycle access within transit facilities generally shares pathways with pedestrians. During design of facilities both pedestrian and bicycle access are considered and incorporated as appropriate. Access from off-site areas to the facility is the responsibility of member cities and typically follows either street right-of-way or bicycle paths/trails. DART recommends that member cities place a priority on improving bicycle, as well as pedestrian, access to all transit facilities, including bus stops, as part of their ongoing comprehensive or area planning efforts.

Bicycle paths can be provided on DART right-of-way. The DART Hike-and-Bike Trail Use on DART Right-of-Way policy states the DART-owned rights-of-way may be made available to other governmental entities for utilization as hike, bike transportation, or recreation use under certain conditions related to DART’s current or future transit use of the right-of-way.

Bicycle Parking and Amenities

DART provides bicycle parking at most transit centers and rail stations. Bicycle racks are typically placed near the station platform close to activity. Bicycle lockers are also provided at some stations and can be rented for a nominal fee for a three-, six- or 12-month period. The recently amended Bike-and-Ride Policy gives priority and a reduced rental rate to DART transit pass holders.

The availability of bicycle parking facilities is publicized on the DART website to encourage multimodal commuting. In the long-term, bicycle amenities should be examined and modified as necessary to match demand and to ensure at least one rack at every major transit facility. There should also be a consistent approach for placement of amenities to keep racks out of the elements (such as under canopies) or to utilize “signature canopies” at bicycle parking locations to increase visibility, protection, and recognition.

Bicycles on Transit Vehicles

A key change to the amended Bike-and-Ride Policy is the removal of time restrictions that previously limited the ability of commuters or bicyclists to take bicycles on buses or rail vehicles. This new policy is facilitated by low-floor rail vehicle sections and the planned addition of exterior bicycle racks to buses. As part of the amended policy, DART will provide information to the public to identify which routes or trips may not readily accommodate bicycles.
Chapter 6: Recommendations and Strategies

Pedestrian Integration

Many DART customers access transit by walking. Customers are generally willing to walk up to one-quarter mile for bus transit and one-half mile for rail transit. While DART provides pedestrian facilities within its own property, most of the walking influence area is under the jurisdiction of the member cities or adjacent property owners. As with bicycle access, improved pedestrian accessibility can increase ridership and reduce parking demand and vehicle trips, as well as support transit-oriented development.

Walking can be made more convenient and attractive by providing sidewalks and integrating pedestrian pathways within and around adjacent developments. Traffic calming measures and lighting can enhance safety and security for pedestrians. In addition, ensuring that these facilities are wheelchair accessible can further support systemwide accessibility objectives.

DART recently published Transit-Oriented Development Guidelines for developing around DART Rail. This manual is an informational handbook to assist the public and the development community in understanding DART’s approach to designing transit facilities as well as communicating the basics of transit-oriented development. Several guidelines for pedestrian access to DART transit centers and rail stations are included.

Funding Opportunities

DART is committed to working with its member cities and NCTCOG to pursue funding opportunities that support the integration of bicycle and pedestrian facilities into the transit network.

Having successfully completed a test program, DART is seeking state funding to assist in placing bike racks on the entire bus fleet in the near future.
6.6.6 Safety and Security

The strategic direction for public safety and infrastructure protection comes from the DART Strategic Plan (provide safe/secure service) and the DART Mission Statement (“to build, establish, and operate a safe, efficient, and effective transportation system”). DART has a comprehensive Safety and Security Program to address these directives. While security and safety have always been important considerations in planning and design, they take on increasing importance in the post-9/11 environment. For this reason, the 2030 Transit System Plan highlights important safety and security considerations in the planning, design, and operation of the existing and future transit system.

Transit safety and transit security are different in that transit safety deals primarily with programs and procedures to avoid unintentional harm during normal operations, while transit security focuses on avoiding and responding to intentional system threats. The overall goal of transit safety and security is to reduce risk whether intentional or unintentional, and provide strategic emergency response in the event of an unforeseen incident. As a provider of mobility services, DART has a broader role in regional emergency preparedness and response, including mass evacuation.

Existing DART Programs and Plans

The Transportation Equity Act for the 21st Century (TEA-21) required safety and security to be included as a priority factor in transportation planning. DART maintains several programs and practices related to safety and security, including:

- DART System Safety Program Plan – This plan represents DART safety policy, defining safety goals and objectives, tasks, responsibilities, schedule of activities, and programs.
- Incorporation of Safety and Security in Design – All facilities and systems designs are reviewed for safety and security exposures and formally certified through the Safety and Security Certification Plan (see below). DART Systems Safety Design Criteria are part of the DART Design Criteria Manual.
- DART Safety and Security Certification Plan – Certification verifies satisfactory compliance with safety and security requirements and seeks to achieve a state of acceptable risk that parallels the systems security goal of reducing threats and vulnerabilities to the most practical levels through the effective use of available resources.

DART participates in readiness drills to ensure agency preparedness during emergencies and other safety or security-related incidents.

DART Police actively collaborate with police from local jurisdictions, the Transportation Security Administration, and Federal Transit Administration. DART Emergency Management also coordinates with Urban Area Security Initiative partners to ensure transit security is integrated into regional security programs. Department of Homeland Security transit-specific grants are available to enhance the physical security of DART assets and the personal security of passengers and employees. Such grants have been used for the Trinity Railway Express (TRE).

Intelligent Transportation Systems (ITS) support safety and security initiatives through communications systems that provide on-vehicle surveillance, facility surveillance, sensors/alarms, and incident response coordination, command, and control. DART is conducting a pilot project for surveillance cameras at fixed locations and on transit vehicles. If successful, DART will determine the optimal plan for expanding surveillance capabilities throughout the system. DART is also participating in a regional interoperable communications study. The ITS Section of the 2030 plan (Section 6.6.1) includes more information on DART’s ITS strategies.

Integrating Safety and Security into Planning and Design

The Safety and Security element of the 2030 Transit System Plan focuses on the prevention of accidents, criminal activities, or terrorist incidents. Transit services, new and remodeled transit facilities, equipment, and infrastructure must be designed and constructed to promote safety and security and minimize the consequences of hazards or a criminal or terrorist attack. This can be achieved through:

- Safety- and Security-Conscious Planning
- Safety- and Security-Oriented Design

Safety-conscious planning is an awareness and examination of the operating characteristics of a mode, which includes how it interfaces within its environment. Greater exposure to risk will require increased safety measures to minimize that risk. Principles of security-conscious planning relates to development of a transit system that is diverse, flexible, and resilient and that provides a variety of modes and mobility options.

Safety-oriented design is largely applied through the existing system safety plans and programs that work toward eliminating unacceptable hazards and mitigating those that cannot be eliminated. As DART continues to build out its transit system, the engineering and architectural design of infrastructure and buildings should be security-oriented. This approach can help protect major agency assets – bus vehicles, rail vehicles, transit infrastructure, and communications. These assets are protected through access and facility management, reduced exposure of vehicles or infrastructure to possible damage, and crime prevention through environmental design.
6.6.7 System Accessibility

Accessible transit is provided to persons with disabilities. It includes accessible fixed-route transit services and associated transit facilities, flexible route transit services, and Americans with Disabilities Act (ADA) complementary paratransit services. DART ADA paratransit service provides curb-to-curb transportation to people with disabilities who are unable to use regular fixed-route buses or trains (see Paratransit Section). DART actively encourages persons with disabilities to use the same vehicles and facilities used by the general riding public when possible.

The 2030 Transit System Plan highlights system accessibility as a method to integrate traditional paratransit users into the broader transit system. This enhances the mobility choices of persons with disabilities while improving the cost-effectiveness of the overall DART system.

Enhancing systemwide accessibility and making accessible transit an integral part of the DART system can benefit the aging population and people with disabilities that find it difficult to use transit services, but are not eligible for ADA Paratransit service. A more accessible system also makes transit easier to use and often enables faster boarding and alighting of vehicles.

Federal Initiatives

Although DART is a primary provider of accessible public transportation in its service area, there are also human service agencies that provide transportation to people with disabilities, older Americans, low income, and other clients. Two key federal initiatives will influence the provision and coordination of accessible transit in the future. These programs are the New Freedom Program and United We Ride.

The New Freedom Program (a program in SAFETEA-LU) directs funding specifically to assist with the transportation of persons with disabilities. It provides funding for public transportation alternatives beyond those required by ADA to assist individuals with disabilities, including transportation to and from job and employment support services. United We Ride is an initiative of the Federal Interagency Coordinating Council on Access and Mobility (CCAM) and is the impetus behind the Regional Public Transportation Coordination effort. In 2003, the Government Accountability Office (GAO) issued a report on “Transportation Disadvantaged Populations,” which identified 62 different federal programs across eight federal agencies that provide funding for community transportation services. Based on the GAO report, the CCAM outlined interim, coordination-based solutions that the CCAM believes will strengthen existing transportation services, making them more cost-effective and accountable. This will help providers become more responsive to consumers.

In 2003, the Texas Transportation Code was amended to add Chapter 461, “Statewide Coordination of Public Transportation.” The focus of Chapter 461 is the coordination of transportation funding and resources among the Health and Human Services Commission, the Texas Workforce Commission, and the Texas Department of Transportation. The state plan is being developed at a regional level by NCTCOG and is expected to be complete in fall 2006. The plan will include short- and long-term coordination strategies, some of which could effect DART. As a participant,
DART Paratransit Services will continue to monitor the plan development and DART’s role in achieving the program goals.

**DART System Accessibility**

All DART buses and trains meet ADA requirements, offering wheelchair lifts and other features to accommodate riders with disabilities. New DART buses are low-floor, making it easier to enter and exit. The entire bus fleet is expected to be low-floor as buses are replaced over the next approximately ten years. DART also has a low-floor initiative in progress for light rail vehicles, which will eliminate the need for high blocks, allowing persons in wheelchairs, with strollers, or with bicycles to enter directly without the need to use lifts or stairs. As the light rail vehicle fleet is replaced, DART will procure low-floor light rail vehicles.

All of DART’s major transit facilities are also accessible. As fleet changes occur, facilities will be modified to enhance interface and accessibility. While many existing bus stops are accessible to persons with disabilities, many still require improvement. In addition to enhancing the accessibility of DART services and facilities, DART should continue to work with member cities to improve access to DART rail stations, transit centers, and bus stops so that opportunities to use such services are maximized.

**Innovative Transit Services**

DART Innovative Transit Services include a number of existing and planned non-fixed-route services. These services improve accessibility by providing curb-to-curb service and by improving service span. There are four general types of innovative services for which DART will procure a service provider to cost-effectively operate:

- **DART On-Call** – specialized, demand responsive feeder service designed for specified areas, serving a designated transit facility
- **Late Night/Weekend service** – augments existing fixed route service
- **Flexible route/point deviation** – accessible, van-based, fixed route service that will deviate up to four blocks from the route to make predetermined pickups
- **Shuttle Services** – van-based, fixed schedule services that serve a transit facility and an employment area, occasionally providing curb-to-curb service within a designated area

These flexible services are designed to replace fixed-route services to more closely match demand and enhance cost-effectiveness. These services will enhance accessibility and promote use of the transit system by persons with disabilities, providing an accessible, demand-responsive and often curb-to-curb service that can connect them to a fixed-route that otherwise may be difficult to reach.

DART will improve accessibility to transit services and facilities for its customers with disabilities, as well as continue to examine and implement innovative transit services that provide demand-responsive, accessible service in a more cost-effective manner than regular fixed-route service.
7.0 Implementation and Phasing

Implementation of the 2030 Transit System Plan recommendations is dependent upon several factors, the most important of which is funding. As discussed in Chapter 5, the extent and timing of 2030 Transit System Plan recommendations are subject to a financially-constrained projection of funding availability through year 2030. This projection assumes the issuance of additional long-term debt and additional non-DART funding to leverage DART sales tax revenues.

7.1 Existing Commitments

The previous Transit System Plan (adopted 1995) contains system expansion commitments through the year 2018 for light rail as well as numerous other projects. These projects are included in the current DART Twenty-Year Financial Plan and are summarized in Table 7.1. As shown, DART has several programmed LRT projects. In addition to interim HOV facilities and extensions, the DART funding contribution for three permanent HOV facilities are also included in the Twenty-Year Financial Plan.

7.2 Service Enhancements

As the DART transit system matures and grows, enhancements to the existing system become even more important to keep up with growth and increasing system demands. These enhancements would generally consist of capital projects that enable DART to upgrade segments of the older parts of the system to be compatible with new lines being built over the next several years. For example, the new Northwest and Southeast corridors are being constructed with a new cab signal system, but much of the original Starter System and Phase I rail lines use a block signal system. In many areas this block signal system relies on driver line of sight. A more sophisticated cab signal system would enhance DART’s ability to increase service levels over time.

<table>
<thead>
<tr>
<th>Table 7.1</th>
<th>Existing Commitments through Year 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PROJECT</strong></td>
<td><strong>FROM</strong></td>
</tr>
<tr>
<td><strong>Light Rail Expansion</strong></td>
<td></td>
</tr>
<tr>
<td>Southeast Corridor</td>
<td>Downtown Dallas</td>
</tr>
<tr>
<td>Northwest Corridor to Farmers Branch and Carrollton</td>
<td>Victory Station</td>
</tr>
<tr>
<td>Northwest Corridor to Irving/DFW Airport</td>
<td>Bachman Station</td>
</tr>
<tr>
<td>North Las Colinas</td>
<td>Belt Line Road</td>
</tr>
<tr>
<td>Belt Line Road</td>
<td>5.1</td>
</tr>
<tr>
<td>Northeast Corridor Rowlett Extension</td>
<td>Downtown Garland</td>
</tr>
<tr>
<td>Dallas CBD Second LRT Alignment</td>
<td>-</td>
</tr>
<tr>
<td>South Oak Cliff Extension to UNT Campus</td>
<td>Loop 12</td>
</tr>
<tr>
<td><strong>HOV Facilities</strong></td>
<td></td>
</tr>
<tr>
<td>Interim</td>
<td></td>
</tr>
<tr>
<td>US 75</td>
<td>IH 635</td>
</tr>
<tr>
<td>IH 635 HOV Extension</td>
<td>Existing Terminus</td>
</tr>
<tr>
<td>IH 30 (East RL Thornton) Extension</td>
<td>Existing Terminus</td>
</tr>
<tr>
<td>Permanent</td>
<td></td>
</tr>
<tr>
<td>IH 30 West HOV Lane</td>
<td>IH 35E</td>
</tr>
<tr>
<td>LBJ Managed HOV Lanes</td>
<td>Luna Road</td>
</tr>
<tr>
<td>SH 114</td>
<td>SH 183</td>
</tr>
<tr>
<td><strong>Passenger Facilities</strong></td>
<td></td>
</tr>
<tr>
<td>Northwest Plano Park-and-Ride</td>
<td>-</td>
</tr>
</tbody>
</table>

*Note: Revenue services dates based on FY 06 Financial Plan. Table represents new major capital investments only. Additional projects and programs are documented in the FY 06 Financial Plan.*
These enhancements could also include corridor or station enhancements such as additional track or power to accommodate express trains or more frequent service, or funding contributions toward previously deferred or new infill stations. These improvements are not specifically identified, but future funds are allocated through 2030 (up to $50,000,000) for this purpose as needs arise. It is recommended that DART regularly assess the need for capital enhancements, particularly where they can create cost-efficiencies and increase ridership. Where available, DART would seek supplemental funding sources for such projects.

### 7.3 Project Phasing Through 2030

The 2030 Transit System Plan identifies additional projects and programs to be implemented through the year 2030. Implementation timeframes are estimated and will be reevaluated regularly as the annual budget and associated Twenty-Year Financial Plan are updated. Changing agency needs, changed financial conditions, and any associated amendments to the Service Plan or Financial Plan could impact these timeframes. As outlined in Chapter 5, the Twenty-Year Financial Plan has been extrapolated to year 2030, and assumes that capacity for additional long-term debt is available to help fund 2030 recommendations. The Financial Plan incorporates estimated costs for recommended system plan elements, identifies funding sources, and makes reasonable non-DART funding assumptions.

2030 Transit System Plan recommendations are phased in project groupings for implementation by year 2030. As projects proceed through the project development process, more refined implementation dates that reflect this phasing approach will be incorporated into the Twenty Year Financial Plan and subsequent Transit System Plan updates. These future updates will provide additional details regarding the approach and timeframe for any required long-term debt issuance, which will require voter approval (see Chapter 5.0 for more information).

Table 7.2 outlines proposed project phasing and project costs for bus and rail elements of the 2030 Transit System Plan. Project phasing for HOV facilities is primarily developed by TxDOT and is incorporated by reference to the NCTCOG Metropolitan Transportation Plan.

#### 7.3.1 Project Phasing without Long-Term Debt

In the case that DART does not pursue long-term debt in the future, or if voters do not approve such a referendum, project phasing would be limited. Without long-term debt, there is approximately $900 million (2006$) available for new capital and operating programs through year 2030. This estimate is based on projecting the FY 06 Financial Plan to year 2030. This amount of financial capacity would result in the following project phasing strategy above and beyond committed projects and the set-aside for capital service enhancement projects:

- Phase 1 rail projects – Cotton Belt and Southport
- Phase 1 bus projects
- DART financial contribution for all managed HOV lane facilities

Based on current financial projections, DART would need to obtain additional non-DART funds (regional, state, Federal) to construct both Phase 1 rail projects by 2030. Thus, DART will pursue all avenues of available funding and cooperative funding to maintain and/or accelerate construction of proposed projects. Positive trends in sales tax revenue and/or new member cities can also positively affect DART’s ability to implement projects without long-term debt. Because of this, DART will regularly reconcile the 2030 recommendations with updated Twenty-Year Financial Plans.

### 7.4 Project Development Strategy

A key element of project phasing relates to the interim steps of project development that must be taken to ensure timely and successful project implementation. Project development steps can consist of feasibility studies, coordinated land use/transit studies, Alternatives Analyses, environmental documentation, engineering and design. All of the steps include an appropriate level of community and stakeholder involvement.

The following sections outline project development strategies for each transit system plan element to guide work programs over the next several years. Specific elements of the work plans will be incorporated into division-level programs specific to each program or mode.

#### 7.4.1 Managed HOV Lanes

DART will continue to participate in the design, construction and operation of both interim and permanent HOV facilities in the DART Service Area. HOV facilities may be built by traditional TxDOT design and construction, Comprehensive Development Agreements (CDA) or Tollway Authorities. The extent of DART participation in the HOV facilities identified in this Plan will be determined by specific corridor agreements.
The HOV facility project schedule is documented in the Metropolitan Transportation Plan (MTP), and is developed in cooperation with TxDOT, the North Texas Tollway Authority (NTTA), and DART. As part of the current MTP update, additional corridors for HOV facilities are being examined. The TSP will be amended as required as the result of any MTP recommendations. Project schedules may also be affected by the MTP update, the implementation agency and approach, and the type of financing selected.

7.4.2 Bus

Project development for long-term bus recommendations will be developed in coordination with the Five Year Action Plan process, which is updated regularly. The Action Plan provides guidance for transit service enhancements for a five-year period. It focuses on reallocation of resources to maximize ridership, enhance cost-effectiveness of the bus system, as well as identifies new resources or services to meet growing demand. The following studies are recommended for the near-term to support a phased approach to implementing the 2030 bus corridor recommendations:

- Conduct a review of the enhanced and rapid bus corridor network focusing on:
  - Capital costs and the opportunity to take advantage of planned ITS and TSM programs of other agencies and member cities
  - Operating plans, including restructuring of other routes
  - Vehicle technology and operating facility issues
  - Candidates for low-cost priority corridors that can be phased in through reallocation of capital and operating resources and minimal added costs
  - Funding opportunities through regional, state or Federal projects, including FTA Small Starts

### Table 7.2

2030 Transit System Plan - Bus and Rail Project Phasing

<table>
<thead>
<tr>
<th>PHASE</th>
<th>SERVICE STRATEGY</th>
<th>PROJECT</th>
<th>MILES</th>
<th>CAPITAL COST ESTIMATE (2005 $)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rail</td>
<td>1 Rapid</td>
<td>Southport</td>
<td>2.9</td>
<td>$180 M</td>
</tr>
<tr>
<td></td>
<td>1 Express</td>
<td>Cotton Belt</td>
<td>25.7</td>
<td>$515 M (includes up to $50 M for mitigation)</td>
</tr>
<tr>
<td></td>
<td>2 Rapid</td>
<td>Scyene Road</td>
<td>4.3</td>
<td>$249 M</td>
</tr>
<tr>
<td></td>
<td>2 Rapid</td>
<td>West Oak Cliff Extension</td>
<td>4.3</td>
<td>$242 M</td>
</tr>
<tr>
<td></td>
<td>2 Rapid</td>
<td>West Dallas</td>
<td>6.0</td>
<td>$400 M</td>
</tr>
<tr>
<td></td>
<td><strong>Total Rail</strong></td>
<td></td>
<td><strong>43.2</strong></td>
<td><strong>$1,586 M</strong></td>
</tr>
<tr>
<td>Bus</td>
<td>1 Express</td>
<td>LBJ (IH 635) Managed HOV Lanes</td>
<td>25.0</td>
<td>$2.9 M</td>
</tr>
<tr>
<td></td>
<td>1 Enhanced</td>
<td>Simpson Stuart/Bonnie View</td>
<td>2.9</td>
<td>$3.2 M</td>
</tr>
<tr>
<td></td>
<td>1 Enhanced</td>
<td>Jefferson Boulevard</td>
<td>8.2</td>
<td>$9.3 M</td>
</tr>
<tr>
<td></td>
<td>1 Enhanced</td>
<td>Hampton Road</td>
<td>10.0</td>
<td>$11.4 M</td>
</tr>
<tr>
<td></td>
<td>1 Enhanced</td>
<td>Singleton Boulevard</td>
<td>6.0</td>
<td>$6.8 M</td>
</tr>
<tr>
<td></td>
<td>1 Enhanced</td>
<td>Gaston Avenue</td>
<td>5.9</td>
<td>$6.8 M</td>
</tr>
<tr>
<td></td>
<td>1 Enhanced</td>
<td>Cedar Springs</td>
<td>6.4</td>
<td>$7.2 M</td>
</tr>
<tr>
<td></td>
<td>2 Enhanced</td>
<td>Ledbetter</td>
<td>14.4</td>
<td>$16.4 M</td>
</tr>
<tr>
<td></td>
<td>2 Enhanced</td>
<td>Fort Worth/Commerce</td>
<td>5.6</td>
<td>$6.3 M</td>
</tr>
<tr>
<td></td>
<td>2 Enhanced</td>
<td>Preston Road</td>
<td>17.1</td>
<td>$19.4 M</td>
</tr>
<tr>
<td></td>
<td>2 Rapid</td>
<td>Northwest Highway</td>
<td>13.8</td>
<td>$47.9</td>
</tr>
<tr>
<td></td>
<td>2 Rapid</td>
<td>Ferguson</td>
<td>6.3</td>
<td>$21.9</td>
</tr>
<tr>
<td></td>
<td><strong>Total Bus</strong></td>
<td></td>
<td><strong>121.6</strong></td>
<td><strong>$159.5</strong></td>
</tr>
</tbody>
</table>

Note: Projects are grouped into phases to indicate implementation priority. Although current financial analyses and assumptions indicate that projects can be implemented between years 2025 and 2030, revenue service dates will be developed as implementation timeframes get closer and updated financial information is available. These revenue service dates will be incorporated into future Transit System Plan and DART Twenty Year Financial Plan updates and will be based on the latest available information at that time.
• Conduct a land use/transit corridor study for the West Dallas Corridor that focuses on integrating existing land use plans and identifying possible land use changes that will further support enhanced bus corridor performance and maximize ridership for the future rail corridor in this area.

Future Action Plan updates will incorporate findings from these more detailed corridor-planning studies. Capital funds for 2030 bus corridors are generally not available until the 2025-2030 timeframe. Thus, DART will focus on opportunities to phase enhanced and rapid bus projects, implementing features over a period of years to match the investment with demand.

7.4.3 Rail

The 2030 Transit System Plan anticipates Federal funding through the Federal Transit Administration (FTA) for some projects. The method of funding affects the implementation strategy and the type and extent of studies that must be completed.

The FTA has an extensive project development process for projects seeking discretionary funding. This process has been significantly refined over the past several years given increased competition for limited transit funds. Key steps in the process are shown in the Project Development Process illustration.

For the most complex rail projects, the entire process from Alternatives Analysis to revenue service, can take 10 to 12 years. This takes into account FTA review and approvals that allow DART to advance the project into Preliminary Engineering and Final Design stages of the process. For less complex, locally funded rail projects, DART follows this same process although it takes less time to complete, usually 6 to 8 years.

Based on current financial projections, which include long-term debt approval and approximately 25% federal funding consistent with past experience, DART anticipates that 2030 rail recommendations would be phased in during years 2025 to 2030. While this schedule could change to be sooner or later depending on changed financial conditions, Table 7.3 outlines the general approach for near-, mid-, and long-term activities that will guide project development of each corridor.

As shown in the table, near-term activities are focused on specific issues that apply to one or more corridors. Corridor specific issues are summarized below:

• **Cotton Belt** - As a crosstown route that may not be interlined with the existing system, connectivity and interface issues and opportunities at the Red Line, Green Line and DFW Airport will need to be examined in more detail for the Cotton Belt, working with the appropriate entities at each location. This will ensure that opportunities will be preserved and documented.

• **Southport** – DART will continue to coordinate with the Dallas Logistics Hub development team, and will participate in the City of Dallas Agile Port Industrial Area plan. The connection to the Southport Corridor will be studied as part of the detailed planning effort for the Blue Line extension to the University of North Texas campus.

• **Scyene Corridor** – Connectivity options to the Scyene Corridor from the planned Green Line will be examined and documented.

• **West Oak Cliff Extension** – DART will coordinate with the City of Dallas on the Westmoreland Station Area redevelopment plan to preserve and plan for this extension.

• **West Dallas Corridor** – As outlined in the Bus section, it is recommended that DART and the City of Dallas jointly conduct a land use/transit corridor study for the West Dallas area. While several enhanced bus corridors are identified, the longer-term investment in a light rail line through this area must be supported by appropriate land use changes. The forwardDallas! Comprehensive Plan and several small area plans have been developed.
in the past. These plans need to be integrated and refined to maximize ridership potential and transit-oriented development opportunities for the most suitable high capacity transit corridor. These changes should also be incorporated into the regional demographic forecast. Another critical element for the West Dallas Corridor relates to possible options for linking into the existing downtown transit mall or the future second downtown LRT alignment.

In the near-term, preferably following the next regional demographic update, all corridors will be assessed relative to their potential competitiveness for Federal New Starts funds. Since transit-supportive land use is also an important factor in New Starts evaluations, DART will work with member cities to identify areas in which transit-oriented development opportunities are greatest so that the foundation for future station area planning can be set.

**Vision Element**

The Vision Element in Section 6.4.7 identifies certain corridors that were identified as having a potentially strong travel market to warrant rail transit, but are either not affordable by 2030, would need to be part of a system level operating plan change in which additional service or headways were required, relate to regional rail initiatives, or need additional land use planning to increase the ridership potential and cost effectiveness. All of these corridors will continue to be monitored and be examined in future Transit System Plan updates. Specific activities to support potential project development for these corridors are as follows:

- **LBJ/Inwood Corridor (Red Line to Addison)**
  - This corridor will be monitored and coordinated with TxDOT as they undertake reconstruction of the LBJ corridor in order to preserve alignment options.

- **LBJ Corridor (Red Line to Blue Line)**
  - This possible extension to the Blue Line will be monitored in order to preserve opportunities, especially relative to planned improvements along the LBJ corridor east of US 75.

- **LBJ Corridor (Galleria area to Green Line)** – The potential for rail in this section of the LBJ corridor will continue to be monitored, especially relative to improvements along the LBJ corridor and at the IH 35E interchange near the Green Line.

- **Southeast Corridor** – DART will participate with the City of Dallas as they conduct neighborhood

---

**Table 7.3**

**Summary of Rail Project Development Approach**

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>COMMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Near-Term</strong></td>
<td></td>
</tr>
<tr>
<td>Alignment Options and Systems Interface Studies</td>
<td><strong>Cotton Belt</strong> - Focus on system connectivity and interface at key interface point (DFW Airport, Green Line, Red Line); refine costs</td>
</tr>
<tr>
<td></td>
<td><strong>Southport</strong> - Examine potential interface options as part of South Oak Cliff extension (to UNT campus) effort</td>
</tr>
<tr>
<td></td>
<td><strong>West Dallas</strong> - Joint land use/transit corridor study to refine alignment options and examine connectivity constraints and opportunities into downtown Dallas concurrent with CBD AA effort</td>
</tr>
<tr>
<td>Transit-Oriented Development Opportunities</td>
<td>Conduct appropriate level for all corridors in association with member cities</td>
</tr>
<tr>
<td>Vehicle Technology Research</td>
<td><strong>Cotton Belt</strong> - Research and education; coordination with other agencies as they evaluate and select vehicle technology (The T, DCTA)</td>
</tr>
<tr>
<td>Assess New Starts Funding Potential</td>
<td>Conduct for all corridors to assist in strategically pursuing New Starts and other funds</td>
</tr>
<tr>
<td><strong>Mid-Term</strong></td>
<td></td>
</tr>
<tr>
<td>Alternatives Analysis, including Station Area</td>
<td>Conduct Alternatives Analysis for all corridors</td>
</tr>
<tr>
<td>Planning and Design Concepts</td>
<td><strong>West Oak Cliff</strong> - Include City of Dallas alternate alignment to Mountain Creek area, taking into consideration regional rail connectivity opportunities</td>
</tr>
<tr>
<td></td>
<td><strong>Cotton Belt</strong> - Select technology during this stage as part of Locally Preferred Alternative definition</td>
</tr>
<tr>
<td>Environmental Document/ Preliminary Engineering</td>
<td>Develop appropriate environmental documentation and preliminary engineering for all corridors</td>
</tr>
<tr>
<td><strong>Long-Term</strong></td>
<td></td>
</tr>
<tr>
<td>Final Design/Construction</td>
<td>Conduct for all corridors at appropriate time</td>
</tr>
</tbody>
</table>

Chapter 7: Implementation and Phasing
and area planning in this corridor in order to monitor land use plans and public support for potential future rail expansion.

- **Garland/Bush Turnpike Corridor** – Potential service in this corridor will be examined as an operating scenario with the LBJ/Inwood Corridor, and will also be monitored as a potential branch of the Blue Line if passenger demand south of downtown Garland warrants additional capacity in the future.

- **BNSF Corridor** – Connectivity with a potential passenger rail service in this corridor will continue to be part of planning efforts at key interface points along the corridor. DART will also continue to monitor the potential for regional rail north of Carrollton.

### 7.4.4 Paratransit

Paratransit is an ongoing service that DART will provide to eligible customers and does not consist of any major capital projects. Through 2030, DART will focus on those strategies outlined in Section 6.5 to enhance cost-effectiveness, improve operations efficiencies, enhance user-friendliness, and increase coordination with DART fixed route and new innovative, flexible transit services.

DART will also continue to monitor the Regional Public Transportation Coordination effort. If necessary, the Paratransit Strategies of the 2030 TSP may be amended in the future to support implementation of any DART projects or programs recommended as part of the regional effort.

### 7.4.5 Systemwide Mobility

Systemwide Mobility elements support the core modes operated by DART to enhance the overall efficiency, operation, safety, security and access to the system. They also serve to increase ridership and enhance customer information and comfort. While many of these elements are integrated into larger projects and are considered as part of the planning and design process, some are stand-alone programs that will continue to be operated by DART through 2030. The strategies outlined for each specific element in Section 6.6 will guide their implementation and growth over time.

### 7.5 Coordination

As the 2030 Transit System Plan is implemented, coordination, both internally and externally, will continue to be critical to the success of programs and projects.

The participation and commitment of staff across many levels – from executive leadership to construction management and designers to day-to-day operators and customer service representatives – is necessary to continue building on DART’s successes. Internal coordination among DART departments and divisions for the various plan elements will occur through regular coordination meetings. Specific coordination efforts for some projects and programs will be necessary.

External coordination with the 13 member cities and other agencies, ranging from the Federal Transit Administration and local, regional, state and Federal resource agencies to other transportation authorities such as TxDOT, DCTA, the T, and NTTA will also be important to plan implementation. As appropriate, policy and technical work groups will be defined for specific projects to involve key representatives and staff throughout project development.

### 7.6 Public Involvement

The public is one of the key stakeholders of the 2030 Transit System Plan. While many members of the public currently use the transit system, many more will have an opportunity to use the system in the future as its reach extends further across the Service Area, connecting their neighborhoods to major activity and employment centers through new rail corridors, HOV lanes, and enhanced bus services. It will also improve their ability to travel across the region with new connections to services of other agencies such as the T and DCTA, while setting the stage for possible expansion into areas not currently within an agency boundary.

The public is not only a customer of the system, they are also in many cases a neighbor. Whether a stakeholder is a commercial property owner or an adjacent homeowner, DART is committed to implementing projects that fit within the context of the community that they will serve. Just as member city staff and elected officials will be involved in project development, specific community and stakeholder work groups will also be formed to address key community issues along the various project corridors.

Public involvement not only ensures that a good project will be implemented, but can provide the support necessary for a vote that gives DART authority to issue long-term debt or the cooperation and backing critical to successfully obtaining regional, state or Federal funds.
8.0 Local and Regional Benefits

The DART Board adopted Guiding Principles for the 2030 Transit System Plan early in the planning process (see page 2). The Guiding Principles set out the objectives for the Transit System Plan and can be summarized by the following:

The goal of the DART 2030 Transit System Plan is to enhance accessibility to transit and improve mobility, maintain fiscal responsibility, promote land use and economic development, achieve a better quality of life and gain support for the Plan.

The following sections discuss how the 2030 Transit System Plan achieves the objectives of the Guiding Principles, providing a range of local and regional benefits that will support a more sustainable future for not only the DART Service Area and the communities it serves, but also the entire region.

8.1 Mobility

Identify future market needs and new market opportunities

The 2030 Transit System Plan development process began with a mobility needs assessment and review of corridor opportunities to serve those needs. Emphasis was placed on corridors that had the potential to serve new, growing, or congested travel markets. The 2030 Transit System Plan also continues to provide a range of services, from employer pass programs and HOV lanes for carpools and vanpools, to new rail corridors and enhanced bus services that

Managed HOV Lanes

The managed HOV lanes element is based on the Metropolitan Transportation Plan, which has been cooperatively developed by NCTCOG, NTTA, TxDOT and DART. The 2030 Managed HOV Lanes element will increase HOV use from the current 100,000 persons daily on the existing 31-mile interim HOV lane network, to nearly 650,000 persons daily on a 116-mile HOV network throughout the DART Service Area. With an investment of approximately $250 million for the DART share of HOV facility costs, the HOV system will continue to be a cost-effective way to improve mobility, provide travel options and travel time savings, enhance air quality and reduce congestion delay throughout the Service Area.

Managed HOV Lane element will consist of a 116-mile network that will provide travel time savings for nearly 650,000 people per day.

Strengthened express bus service and a new enhanced and rapid bus network will increase bus system ridership by limiting stops and providing faster travel times to key destinations throughout the DART Service Area.

Bus Element

The 2030 enhanced and rapid bus network is intended to market a service brand that will encourage new riders. In FY 05, the DART Bus network carried approximately 150,000 daily riders. In 2030, with new express, enhanced and rapid bus services, the bus network is projected to carry nearly 250,000 daily riders. Strengthened service on key express routes and new express service in the LBJ managed HOV lanes are forecast to carry more than 16,000 additional riders a day. Nearly 20,000 additional riders are anticipated to use the enhanced bus network. Fewer stops and faster travel times to key destinations will be important to encourage this higher ridership potential.

Rail Element

Rail will be expanded into new areas, extending the DART system into key employment corridors and activity centers, linking residential communities to the entire regional network, and providing a catalyst
to create new markets. Currently, the DART network consists of 45 miles of light rail and carries more than 60,000 people a day. The TRE, at 35 miles, carries about 8,000 people a day between downtown Dallas and Fort Worth.

With the planned light rail buildout and 2030 transit recommendations in place, the DART light rail network will consist of 110 miles and is projected to carry 160,000 riders a day. Express rail service will increase from 35 miles on the existing TRE to a total of 60 miles with the addition of the Cotton Belt corridor. A summary of the mobility benefits of proposed 2030 rail corridors is provided below:

- Express rail service in the Cotton Belt corridor will carry 7,300 daily riders, providing an east-west link between the planned Green and Red Lines, and connecting the northern part of the Service Area and other parts of the DART Service Area to major employment and activity centers, such as DFW Airport, UTD, and retail, office and entertainment uses in Addison.
- The Southport light rail extension is projected to serve approximately 1,000 riders at its two potential stations. DART will work closely with the City of Dallas to develop transit-supportive uses along this extension.
- A new rapid rail line to the West Dallas area is projected to carry approximately 3,300 riders when using approved regional demographics for the year 2030. Ridership potential increased to 5,300 when alternative City of Dallas vision demographics were used. This illustrates the importance of supportive land use changes to maximize ridership potential and cost-effectiveness.

Paratransit

Paratransit will continue to provide mobility benefits for persons unable to use regular fixed transit services. As system accessibility is enhanced through low-floor vehicles, improved pedestrian access, and new flexible services, it is envisioned that the transit network will be more accessible for current paratransit users, providing them with increased mobility while enhancing cost effectiveness of the DART system.

Provide a System that attracts new customers, particularly single occupant vehicle users, while serving transit dependent customers

Market studies have indicated a significant untapped market for transit. The 2030 plan offers a range of projects and programs to take advantage of these primarily choice rider markets, ranging from TDM programs, expanded HOV facilities, new rail corridors to key employment and activity centers, and enhanced bus services that minimize stops and enhance travel times. With increasing congestion and travel costs for automobile travel, a wider range of people is expected to take transit. Thus, continuing to offer a range of mobility choices is important, especially to capture single-occupant vehicle users and choice riders.

The 2030 plan also recognizes the needs of transit dependent customers. Within the city of Dallas alone, the proposed rail plan results in about two-thirds of the population being within 1.5 miles of a rail station; this coverage is equitable between the northern and southern sectors of the city. Furthermore, the enhanced bus recommendations are largely within Loop 12, with many corridors proposed to provide a higher level of service in the southern sector to key employment areas such as downtown Dallas, Southwestern Medical District and Southport/Dallas.
Chapter 8: Local and Regional Benefits

Logistics Hub. In 2030, nearly 33,000 low-income households are expected to be within ¼ mile of the enhanced and rapid bus network. The five proposed rail lines would serve another 4,900 low-income households within ½ mile of potential station areas.

Plan recommendations will increase transit availability particularly for crosstown trips. Transit travel times and reliability will be competitive with automobile travel. In many corridors, high capacity transit on a reliable schedule will be a significant benefit to commuters, especially during peak hours. Within Dallas County alone, the 2030 plan is projected to save nearly 800 hours of congestion delay per day based on the forecast reduction in vehicle miles of travel. Travel time savings and less time in traffic will benefit both choice and transit dependent users of the DART system.

**Provide an integrated transportation system with the appropriate level of capacity, accessibility, and performance to meet customer needs**

The 2030 plan was developed through a technical process that sought to match travel demand needs with a service strategy that could provide an appropriate level of service and accessibility for the specific corridor. The different elements of the plan create an integrated network that meets future mobility needs in a cost-effective and affordable manner.

Recommended projects and programs will enhance access to employment and activity centers. By 2030, the Cotton Belt corridor will have more than 1,000,000 jobs within a 3-mile buffer. Rail service in this corridor will enhance access to jobs for the entire region.

**Systemwide mobility elements, such as Intelligent Transportation Systems, Safety and Security, and Travel Demand Management, support the development of an integrated transportation system that offers a wide range of coordinated, safe and efficient mobility options.**

Additional programs such as TDM pass programs, flexible route services, and site specific shuttles will further promote use of transit.

Transit performance, especially for the bus system, will be improved by applying transit priority and ITS technologies that enhance speeds and schedule reliability on the often congested arterial street network.

Intelligent transportation systems are identified as a key strategy for improving systemwide mobility. These applications will further DART’s ability to meet customer needs through “smart traveler,” “smart vehicles”, and “smart infrastructure”. Additional systemwide mobility elements will also work towards creating an integrated transportation system that offers a wide range of coordinated mobility options.

**Consider opportunities to preserve rights-of-way for future transit use**

DART will continue to preserve rail right-of-way for possible expansion opportunities both within and outside of the DART Service Area. With most of the existing railroad corridors in the DART Service Area being used or planned to be used for rail service, future transit projects may be within other public rights-of-way such as street, freeway, or utility corridors. The Vision Element identifies several potential future rail corridors, most of which are within DART or public-owned right-of-way (such as LBJ Freeway). DART will work closely with member cities and other agencies to preserve right-of-way where appropriate so that future expansion opportunities are not precluded, but can be anticipated and planned for.
8.2 Fiscal Responsibility

**Provide a system that is efficient, cost-effective and affordable**

The recommendations for the 2030 Transit System Plan are affordable within a cost-constrained long-range Financial Plan. 2030 financial projections incorporate reasonable assumptions for non-DART funding and long-term debt to leverage DART funds. Long-term debt is subject to voter approval and would be pursued at the appropriate time.

2030 recommendations for bus and rail elements were developed through a technical process that compared the ridership and cost-effectiveness of these projects to prior DART investments, while providing cost-effective and affordable service to key regional activity centers. A key element of the decision-making process also related to city and regional land use and economic development objectives. This process enabled DART to balance the need for competitive and cost-effective projects that can maximize Federal and other funding opportunities with economic development objectives. Future efforts in recommended corridors should focus on transit-supportive land use changes to further enhance ridership and competitiveness.

8.3 Land Use And Economic Development

**Promote a region that is transit-oriented and places priority on transit**

The 2030 Transit System Plan includes a chapter dedicated to land use and economic development. This chapter discusses the benefits of transit-oriented development and includes strategies to promote a region that ties land use decisions to transit, and places priority on transit as a method to create more livable communities and an enhanced quality of life in our region.

**Support transportation and land use planning that helps achieve a better quality of life within the North Texas region**

DART supports coordinated transportation and land use planning, and has staff dedicated to the role of educating, facilitating, and coordinating this effort. Sensitivity tests with alternative land use development scenarios were conducted as part of the system plan effort and also by the NCTCOG. Overall, land uses that emphasize density around transit stations resulted in significant improvements to transit ridership while decreasing vehicle miles of travel and congestion delay. This type of sustainable development approach can have real benefits in terms of reduced emissions and better air quality, as well as encourage development that promotes more livable and walkable communities.

**Provide a system that is compatible with the community it serves and minimizes environmental impacts**

DART has adopted Mitigation Policies that are consistent with local, state and Federal guidelines regarding impact assessment and mitigation requirements. In 1997, DART also adopted a Betterments Policy to further support integration of transit investments into existing residential neighborhoods. The 2030 recommendations for bus, rail and HOV lanes all fall primarily within existing DART-owned rail rights-of-way, or other public corridors. As projects are developed, DART will work closely with adjacent property owners to maximize benefits and minimize impacts of the project.

**Support Member Cities’ economic development objectives by coordinating improved transit services**

All DART member cities seek to maximize economic development. Transit, especially light rail, has the ability to promote and support economic development initiatives. The existing 45-mile DART light rail system has stimulated more than $3.3 billion in development within the member cities that it serves. Other transit programs also can enhance economic development opportunities by providing access and mobility to congested areas and major employment or activity centers. DART will continue to work closely with its member cities to coordinate transit services to areas targeted for economic development.

**Encourage initiatives to invest at or near transit facilities**

The Plan encourages transit-oriented land use and economic development around transit facilities. The 2030 plan will add approximately 43 miles of rail and nearly 100 miles of enhanced and rapid bus corridors. Taking into consideration potential vision corridors as well, there will be significant opportunities to coordinate development and land use plans throughout the Service Area. DART will continue to cooperate and coordinate with member cities and developers to foster these opportunities.

8.4 Planning Process

**Establish a common vision for transportation that is regionally accepted, progressively implemented through a comprehensive system plan, and periodically revisited**
The 2030 Transit System Plan includes a range of projects and programs that will enhance the overall regional transportation system. Chapter 7, Implementation and Phasing, documents how the recommendations will be progressively implemented over time. As stated in Chapter 1, the Transit System Plan will be updated on a regular basis to respond to new information that may influence implementation timeframes.

Develop and enhance coalitions with all organizations that have a vested interest in regional transportation issues

Within the member cities and the entire region are numerous organizations that may be affected by the plan. Throughout the public involvement process, DART has sought to strengthen relationships and coordinate with these organizations so that plan recommendations are consistent with their vision and responsive to their issues and concerns. These organizations range from other transit agencies to neighborhood groups. As the plan is refined and implemented, these relationships will become even more important.

Develop a System Plan that provides a sound basis for subsequent, more detailed planning studies.

The 2030 Transit System Plan was developed through a sound technical process that provides a solid basis for future, more detailed work efforts. The plan recognizes the importance of balancing the need to identify competitive projects that can maximize Federal and other non-DART funds with local and regional economic development initiatives.

Furthermore, the plan is founded on a transparent public involvement process. Public meetings, focus area meetings, focus groups, member city meetings and numerous briefings were held to explain the process and findings and gather input. Public meetings on the 2030 Transit System Plan sought to strengthen the broad-based support for the plan. This plan also recognizes the concerns that were voiced by residents of the Cotton Belt corridor through north Dallas. These issues and the framework by which they will be addressed are discussed throughout the plan. In this corridor, as well as all others, DART is committed to developing a transit investment that can be successfully integrated into the communities that it serves by addressing potential impacts with appropriate mitigation measures.

8.5 Summary

The 2030 plan has mobility benefits related to enhanced access to and through the DART Service Area, reduced vehicle miles of travel and less congestion delay. These mobility benefits translate into fewer air quality emissions and an improved quality of life. Coupled with targeted transit-oriented development along the system, transit is helping to change the nature of growth in the DART Service Area to support a more sustainable future. Cost-effective and affordable 2030 plan recommendations seek to expand services in congested travel corridors and connect to major activity centers and employment corridors, while linking new communities to the network.

In summary, the 2030 plan meets the objectives of the guiding principles and presents a plan for continuing to build on the successes established by DART over the last two decades. This plan will enable DART to continue to meet our mission of providing mobility, improving the quality of life, and stimulating economic development. More importantly, the 2030 Transit System Plan includes a range of projects and programs to increase transit use, promote coordinated land use and transit planning, and encourage a more sustainable growth pattern.

DART is proud to be a partner in regional mobility and excited about the prospects that this 2030 plan as well as regional transit expansion into the entire DFW region brings. These investments and services will bring real benefits to our communities and improve quality of life for generations to come.
Appendix A - Summary of Member City Input
## Summary of Member City Input on the Technical Report for the Draft 2030 Transit System Plan

<table>
<thead>
<tr>
<th>MEMBER CITY</th>
<th>INPUT</th>
<th>DATE</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Addison</td>
<td>Resolution #06-020</td>
<td>8/22/2006</td>
<td>Endorses the draft 2030 TSP in support of Cotton Belt (from DFW to Red Line) with one technology along the entire line. Addison believes 1) that the capital cost estimates described in the draft TSP are appropriate and should be maintained at a moderate level to allow for other Southern Dallas rail projects to be constructed; 2) that the DART Executive Board should decide on the mode to transport passengers, the frequency of trains, the number and location of stations, and all other elements related to the design, engineering, and construction at the time of the project’s Alternative Analysis Phase; and 3) that the DART Executive Board should determine the mitigation and betterment policies to address neighborhood concerns and issues in a manner that is consistent with past experiences.</td>
</tr>
<tr>
<td>Addison</td>
<td>Letter from Mayor</td>
<td>8/29/2006</td>
<td>Letter commending the DART Board and staff for their tireless efforts in developing a draft 2030 TSP. Commends the staff for recognizing that the Cotton Belt was the most cost effective project and the top priority for future rail development. They are opposed to the Natinsky proposal because of the high cost, the untimely designation of the technology, the lack of seamless Express rail service to DFW Airport, and the precedence it sets for future rail developments.</td>
</tr>
<tr>
<td>Addison</td>
<td>Letter from Mayor</td>
<td>9/25/2006</td>
<td>Letter addressed to DART Board member urging the DART Board to make a decision regarding plans for rail service along the Cotton Belt rail line that would be advantageous for the entire North Texas community. The City feels in order for the economy to grow, workers, students and families need affordable, reliable public transportation. The Cotton Belt line would help ensure that they meet the needs of the burgeoning population and attract more businesses to keep Addison strong. Also, since DART owns the Cotton Belt, they feel DART would be able to apply the additional funds towards projects in the Southern Sector of Dallas county, which is also experiencing a growth in population now that the Trinity River Project is under way. The Mayor related that Addison is a founding member of DART and its citizens have been ardent supporters of the DART system and have been waiting patiently for Cotton Belt DART service to improve their community. They believe now is the time to fulfill their basic transportation needs and make the Cotton Belt rail line a priority.</td>
</tr>
<tr>
<td>Carrollton</td>
<td>Letter from City Manager</td>
<td>9/18/2006</td>
<td>Noted that the BNSF Corridor linking the Downtown Carrollton station to the South Irving Station is not included in the draft 2030 TSP, although this section of rail has regional significance and is a very cost effective element of the overall regional rail system that will evolve in future years. The City received copies of letters of support to DART from Farmers Branch and Irving urging that the BNSF corridor at least be included as part of the Vision section of the 2030 TSP. Also, the City endorses the comments of Irving and Farmers Branch in regard to the importance of the BNSF Line for sustainability of the region. The City requested that DART include the BNSF corridor from the Downtown Carrollton Station to the South Irving Station in the Vision section of the 2030 TSP.</td>
</tr>
<tr>
<td>Carrollton</td>
<td>Letter from Mayor</td>
<td>9/18/2006</td>
<td>Letter urges the DART Board to make a timely decision to keep rail service along the Cotton Belt line in the 2030 TSP. The City would like the Cotton Belt line to connect the University of Texas at Dallas, DFW Airport, the Telecom Corridor and the new Texas Instruments plant along the President George Bush Tollway since they are all businesses that keep the economy thriving. They feel the line would improve air quality and relieve traffic congestion, and is the most fiscally responsible choice for rail service in the DFW area, which allows DART to use excess funds to develop the Southern Sector (Dallas County’s next area of growth).</td>
</tr>
</tbody>
</table>
Summary of Member City Input on the Technical Report for the Draft 2030 Transit System Plan

<table>
<thead>
<tr>
<th>MEMBER CITY</th>
<th>INPUT DESCRIPTION</th>
<th>DATE</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carrollton</td>
<td>Letter from City</td>
<td>9/22/2006</td>
<td>Pleased to see the Cotton Belt, from DFW Airport through Carrollton and ending in Richardson, included in the 2030 rail expansion plan with a priority one designation. Also likes DART's staff approach in moving away from stating a preferred rail technology and moving towards using a performance-based selection. Comfortable with the designation of the Cotton Belt as an Express Rail with 20-minute peak headways (with technology to be determined in the future). Not supporting alternative recommendations being advocated by other member cities to change the designation of the Cotton Belt to a more expensive Rapid Rail designation because it may make the Cotton Belt too expensive to implement within the projected time frame. Letter also referred to a concern that the financial model used may be overly optimistic. Carrollton is developing a plan for its Downtown Carrollton Hub Station that includes railroad platforms for the future BNSF and the Cotton Belt commuter lines.</td>
</tr>
<tr>
<td></td>
<td>Manager</td>
<td></td>
<td>Thanked DART for the opportunity to review its proposed 2030 Transit System Plan. Under the &quot;Bus Recommendations&quot; section of the TSP, the City wants DART to recognize the demand-responsive service the agency provides as continuing to be an option in the future (DART On-Call). Beyond the System Plan, the City would like demand-responsive service to be considered for implementation in Carrollton given the ridership potential in certain areas. Additionally, they would like bus service along Midway Road to be considered, since it should interconnect more effectively with bus routes in other cities.</td>
</tr>
<tr>
<td></td>
<td>Resolution #3021</td>
<td>10/3/2006</td>
<td>Resolution commends DART Executive Board and staff for time, effort, and hard work in developing the draft 2030 TSP. The city endorses the draft 2030 TSP, including the rail elements that prioritize the Cotton Belt Rail Line Express Service with the route beginning from DFW Airport to the Red Line in Richardson and that one technology is utilized along the entire corridor. The City believes the capital cost estimates are appropriate and should be maintained to allow for other southern Dallas rail projects to be constructed. The City requests the BNSF Corridor be added to the Vision element of the plan. The City also states that the DART Executive Board, at the time of a rail project's Alternatives Analysis phase, should decide on the mode to transport passengers, the frequency of trains, the number and location of stations, and all other elements related to design, engineering and construction. Lastly, the City believes the DART Executive Board should determine the mitigation and betterment policies to address neighborhood concerns and issues in a manner that is consistent with past experiences.</td>
</tr>
<tr>
<td>Dallas</td>
<td>Resolution #061835</td>
<td>6/28/2006</td>
<td>The City of Dallas endorses the following prioritized list: 1) South Oak Cliff (Blue) LRT Line extension to SouthPort at I-20/Bonnieview; 2) the Cotton Belt LRT Line from Bush Turnpike to Downtown Carrollton only if the technology used is light rail, the alignment is below grade from at least 1,500 feet east of Meandering Way to 2,000 feet west of Preston Road, freight rail service is eliminated, stations are provided at Knoll Trail, at Preston Rd. (neighborhood station), and west of Coit Rd., enhanced landscaping and sound attenuation using cantilevered barriers provided adjacent to single-family residential areas, and; cooperation is provided in the development and implementation of a trail within the Cotton Belt Corridor (shown on the City of Dallas Trail Master Plan); 3) Southeast (Green) LRT Line Extension on Scyene to Masters; 4) West Oak Cliff (Red) LRT Line extension to Redbird or Mountain Creek; 5) West Dallas LRT Line from Dallas CBD to Loop 12/Jefferson Blvd.; 6) Cotton Belt Express Rail Line from Downtown Carrollton to DFW Airport; 7) LBJ/Pkwy Center LRT Line from the North Central (Red) Line to the Cotton Belt; 8) LBJ/Forest LRT Line from the Garland (Blue) Line to the North Central (Red) Line; 9) Southeast (Green) LRT Line Extension to I-20; and 10) LBJ LRT Line from the DNT/Galleria to the Northwest (Green) Line. Section 3 of the resolution is a request that DART Board rename the &quot;Brookhollow&quot; Station, on the Northwest LRT (Green) Line, the &quot;Love Field&quot; Station.</td>
</tr>
</tbody>
</table>
### Summary of Member City Input on the Technical Report for the Draft 2030 Transit System Plan

<table>
<thead>
<tr>
<th>MEMBER CITY</th>
<th>INPUT</th>
<th>DATE</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dallas</td>
<td>Letter from City Manager</td>
<td>9/29/2006</td>
<td>Letter transmits the City’s Resolution #061835 and comments regarding the DART 2030 TSP. Feels the plan comprehensively addresses all of DART’s core services and reflects the substantial work that the staff has done. Pleased to see the inclusion of the Scyene LRT spur and the extension of the West Oak Cliff LRT line among the rail transit recommendations, but they are extremely disappointed the report doesn’t reflect the top rail transit priorities supported unanimously by the Dallas City Council. The City’s top priority is the South Oak Cliff LRT line to I-20/Bonnieview since they believe the inland port area is becoming the economic engine driving development in the southern sector. In addition, the inclusion of the Cotton Belt as its second priority represents a dramatic shift of support for rail transit in north Dallas provided DART adheres to the Council’s conditions designed to make the rail line compatible with the community. They urge DART and its Board to give careful consideration to the City’s rail transit priorities as identified in the Council Resolution.</td>
</tr>
<tr>
<td>Farmers Branch</td>
<td>Letter from City Manager of Farmers Branch</td>
<td>9/11/2006</td>
<td>City requests that the Burlington Northern Corridor be shown as a Vision Corridor in the 2030 TSP to be considered for possible implementation before any discussion of future DART new member city potential. Prior 2004 Resolution (#2004-059) expressed three priorities for the new DART System Plan: Burlington Northern Santa Fe alignment, the Inwood Spur/LBJ alignment, and the Cotton Belt Railroad alignment. The City feels these corridors are important to successful rail service and connectivity for the businesses and residents of Farmers Branch.</td>
</tr>
<tr>
<td>Garland</td>
<td>Resolution</td>
<td>9/19/2006</td>
<td>Endorses the DART 2030 TSP as presented to the City Council, including the HOV, bus, rail, paratransit and systemwide mobility elements, the provision of HOV lanes in the IH-30 and IH-635 (LBJ) corridors, enhanced and express bus service to the South Garland Transit Center and rail service across the northern tier of suburbs using the Cotton Belt Corridor. The City Council also endorses the Vision Element of the Plan, which recognizes the strong travel market from Downtown Garland to the Firewheel Town Center and the rapid rail system connection from LBJ Central to the blue line and encourages DART to periodically review the TSP and provide rail service for that travel when conditions warrant. State that the DART Board should address neighborhood concerns throughout the system with mitigation and betterment actions that are consistent with past and current DART policies.</td>
</tr>
<tr>
<td>Irving</td>
<td>Resolution #9-7-06-319</td>
<td>9/7/2006</td>
<td>Interested in the extension of the TRE from the South Irving Station north to the Las Colinas Urban Center and beyond to the DART member cities of Farmers Branch and Carrollton. City disappointed to find that the Draft 2030 TSP Technical Report had limited discussion on the existing transit-oriented development currently occurring in the Las Colinas Urban Center and the potential for increased transit ridership and transit-oriented development due to the connection of the Area Personal Transit (APT) System to the DART Northwest Corridor LRT in 2011. The City would like DART to consider development plans that exist and are planned for the City of Irving, and for the BNSF commuter rail corridor (as an extension of the TRE) to be further studied and included in the Final 2030 Transit system Plan as a “Vision Element” with a higher priority than projects in potential DART new member cities. A copy of Resolution #9-7-06-319 was included regarding the aforementioned inclusion of the BNSF in the “Vision Element”.</td>
</tr>
<tr>
<td>Plano</td>
<td>Letter from Mayor</td>
<td>9/18/2006</td>
<td>Urges DART Board to keep the Cotton Belt rail line a priority in its 2030 Plan. Sees the Cotton Belt rail line as the most cost-effective solution to the problem of traffic congestion and air pollution, allowing their citizens more time with family and providing an added benefit to help bring new business to Plano.</td>
</tr>
</tbody>
</table>
## Summary of Member City Input on the Technical Report for the Draft 2030 Transit System Plan

<table>
<thead>
<tr>
<th>MEMBER CITY</th>
<th>INPUT</th>
<th>DATE</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plano</td>
<td>Letter from Mayor</td>
<td>9/20/2006</td>
<td>The City of Plano supports the Cotton Belt Alignment and prefers a mode that is compatible with the Red Line, so that the two lines can merge services and have a joint terminus point at the Parker Road Station. The following suggestions were offered: 1) They do not favor a terminus point at the Bush Turnpike Station because of its limited accessibility for regional users (as compared to the Parker Road Station), 2) Encourage DART to explore solutions to alleviate overcrowding on rail cars. Would support improvements to the downtown Dallas core that would reduce the headway between trains and increase the capacity of the Red Line, 3) Would like DART to immediately expand parking and develop longer-range plans for meeting the growing parking demand, 4) Would support the addition of new member cities and extension of the Red Line, which should relieve parking demand at Parker Road Station and permit transit-oriented development. The extension would require grade separations at Parker Road, Spring Creek Parkway, and Legacy Drive. A new station at Spring Creek Parkway would also be desirable. Additional modeling efforts should be pursued to determine a terminus point so that northern suburban cities can plan for any future transit service, and 5) Would support inclusion of a future line within the BNSF corridor into Frisco as a long term goal if DART membership is expanded.</td>
</tr>
<tr>
<td>Richardson</td>
<td>Resolution, #06-28</td>
<td>9/11/2006</td>
<td>Commends DART and endorses the draft 2030 TSP Technical Report recommendations, which includes a rail element that designates the Cotton Belt rail line as an Express Service route extending from DFW Airport to the DART Red Line in the City of Richardson (using a single technology along the entire corridor). The City believes the capital cost estimates described in the draft TSP Technical Report are appropriate and should be managed to allow for other prioritized rail projects within the plan, and that the DART Executive Board should decide on the vehicle technology, the frequency of trains, and the number and location of stations at the time of the projects Alternatives Analysis Phase. The City believes the DART Executive Board should determine the appropriate mitigation and betterment policies to address public issues and concerns in a manner that is cost effective and consistent with past experiences.</td>
</tr>
<tr>
<td>Richardson</td>
<td>Letter from Mayor</td>
<td>9/12/2006</td>
<td>Letter thanking DART Board of Directors, and DART staff for the hard work put into developing the TSP Plan. It is gratifying to them that DART designated the Cotton Belt as a top priority in expanding DART’s rail system. Letter transmitted above Resolution.</td>
</tr>
<tr>
<td>Richardson</td>
<td>Letter from Mayor</td>
<td>9/14/2006</td>
<td>Letter requesting DART Board keep plans for rail service along the Cotton Belt rail line in the 2030 TSP. City of Richardson feels rail along the Cotton Belt in the best interest of the City of Richardson and North Texas. They are truly committed to well-planned infrastructure projects that provide efficient, cost effective public transportation that connects people from all corners of the metroplex to jobs, schools and entertainment.</td>
</tr>
</tbody>
</table>
Appendix B - Summary of Public Comments
### Summary of Member City Input on the Technical Report for the Draft 2030 Transit System Plan

The Technical Report for the Draft 2030 Transit System Plan was made available for public review from July 28, 2006 through September 30, 2006. Eight public meetings were held during this timeframe to present the technical recommendations and obtain feedback. Several written and verbal comments were submitted. The following is a summary of the key topics for which public comments were received on the Technical Report for the Draft 2030 Transit System Plan. A complete summary of input, including public meeting transcripts, is available through DART Community Affairs.

<table>
<thead>
<tr>
<th>TOPIC</th>
<th>COMMENT</th>
<th>RESPONSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>BNSF Corridor</td>
<td>In addition to Member City input on this issue, the Dallas County Utility and Reclamation District (DCURD) passed Resolution #2006-09 and the Greater Irving Chamber of Commerce passed Resolution 2006/2007-01 supporting the inclusion of the Burlington Northern Santa Fe rail corridor in the DART 2030 Transit System Plan as a vision corridor.</td>
<td>The BNSF Corridor is included on Figure 6-5 “Vision Element”.</td>
</tr>
<tr>
<td>Cotton Belt</td>
<td>More than 250 written comments were submitted related to this topic, with most in support of the City of Dallas resolution regarding proposed service in the Cotton Belt Corridor as preferred to be light rail and below-grade through residential areas (see Appendix A, City of Dallas input). The majority of comments cited key issues being technology choice, safety, traffic, noise/vibration, property value, and air quality/pollution concerns if a diesel-powered vehicle is used. In addition, more than 2,800 petition cards were submitted by the Cotton Belt Smart for DART coalition in support of providing rail service in this corridor.</td>
<td>DART is committed to selecting an environmentally- and community-friendly technology to provide Express Rail service in this corridor. Section 3.2 includes Corridor Development Conditions adopted by the DART Board to guide future planning efforts. Detailed studies in later phases of the project development process will identify potential impacts and appropriate mitigation measures. Community representatives will be an integral part of this process.</td>
</tr>
<tr>
<td>Dallas CBD</td>
<td>One comment was received requesting additional information on the Downtown Dallas Alternatives Analysis for the second LRT alignment. One additional comment suggested that no tunnel be constructed downtown due to the cost.</td>
<td>Information was provided per request.</td>
</tr>
<tr>
<td>General</td>
<td>Several general comments were received relating to issues such as bus routes, general support for the plan, service-related issues, more transit-oriented development, and increased police presence.</td>
<td>Comments were noted or forwarded to other departments for response/information as appropriate.</td>
</tr>
<tr>
<td>HOV Lanes</td>
<td>Three comments were received related to HOV Lanes. One stated that the Texas Department of Transportation should operate the HOV lanes, one supported an extension of the IH 30 HOV lane to Garland and Rowlett, and does not support HOV lanes because carpooling is not convenient.</td>
<td>Comments noted. An extension of the IH 30 HOV lane is included in the 2030 Transit System Plan.</td>
</tr>
<tr>
<td>Rail Expansion</td>
<td>Five comments were submitted regarding support for rail expansion, especially into areas outside of the DART Service Area.</td>
<td>Expansion opportunities outside of the DART Service Area are addressed in Chapter 6 of the 2030 Transit System Plan.</td>
</tr>
</tbody>
</table>
### Summary of Member City Input on the Technical Report for the Draft 2030 Transit System Plan

<table>
<thead>
<tr>
<th>TOPIC</th>
<th>COMMENT</th>
<th>RESPONSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rail Stations</td>
<td>Eight comments were received in support of including the previously deferred Lake Highlands Station in the 2030 Transit System Plan. This included input from several community leaders, Councilman Bill Blaydes, District 10, Exchange Club of Lake Highlands, Lake Highlands Area Improvement Association, and Dallas Northeast Chamber of Commerce (by resolution). One comment was received in support of a possible station in the Knox-Henderson area.</td>
<td>The Lake Highland Station is included in the 2030 Transit System Plan (see Section 6.4.4 “Rail Stations”). There are no plans for a station in the Knox-Henderson area.</td>
</tr>
<tr>
<td>Southport</td>
<td>In addition to City of Dallas input, two written comments were received relative to transit service to the future Southport area. The first comment focused on need to provide access to Paul Quinn College as part of that corridor. The second comment stated that since Southport may fail, light rail to that area should not be considered.</td>
<td>The 2030 Transit System Plan recommends enhanced bus service to the Southport area, with the potential for Regional Rail on the BNSF south corridor to serve the area in the future.</td>
</tr>
</tbody>
</table>