# DALLAS AREA RAPID TRANSIT

Northwest/Southeast Light Rail Minimum Operable Segment (NW/SE MOS)

# GREEN LINE BEFORE STUDY

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# 1.0 INTRODUCTION

Dallas Area Rapid Transit (DART) is one of the nation's premier transit agencies and has earned the respect of the transit industry by operating high quality transit services while advancing one of the most aggressive light rail transit (LRT) expansion programs in the country. Key to this expansion program is the Green Line, a nearly 28-mile light rail line that combines the Northwest (NW) and Southeast (SE) corridors of the DART Service Area, serving southeast Dallas and areas of north Dallas, Farmers Branch, and Carrollton. Through the Federal Transit Administration (FTA) New Starts program, DART successfully negotiated a $700 million Full Funding Grant Agreement (FFGA) for a 20.9-mile Minimum Operable Segment (MOS) of the Green Line, known as the NW/SE MOS. This study meets one of the requirements of the FFGA: to document the before and after conditions of the federal project. The following sections of Chapter 1 discuss:

- The legal and regulatory background that led to the development of this Before and After Study;
- A description of the location and setting of the project, including information about the DART Service Area and its history; and
- A description of the Green Line, including planning history prior to definition of the federal project.

## 1.1 LEGAL AND REGULATORY BACKGROUND

The Transportation Equity Act for the 21st Century (TEA-21) required FTA to issue regulations on the manner in which candidate projects for capital investment grants and loans for new fixed guideway systems and extensions to existing systems (New Starts) will be evaluated and rated. The FTA's Final Rule on Major Capital Investment Projects (December 2000) established those procedures and criteria. The successful completion of a New Starts application is followed by authorization by the Department of Transportation, under its Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) program (August 2005), to award FFGA financing to transit agencies.

FTA's Final Rule requires recipients of FFGA funding to complete a study to compare and contrast the conditions of an area before and after a federally funded project is implemented. Agencies that receive FFGA funding must submit a plan for the collection and analysis of information leading to the identification of the impacts of the project and the accuracy of forecasts prepared during project planning and development. Thus, the primary purposes of the before and after study are to:

- Describe and analyze the impacts of the new fixed guideway capital project on transit services and transit ridership;
- Evaluate the consistency of predicted and actual project characteristics and performance; and
- Identify sources of differences between predicted and actual outcomes.

DART received a FFGA for the NW/SE MOS in July 2006. As an element of the FFGA, DART submitted a before and after study plan for both the Northwest and Southeast corridors. These plans are incorporated in this document by reference.

Consistent with FTA's requirements for Before and After Studies, this document presents the before conditions of the Green Line NW/SE MOS relative to several project characteristics (including scope, capital costs, ridership and revenue, operating and maintenance costs, among others) at key points in time:

1. May 2001 New Starts Submittal – the application into preliminary engineering (PE) following the Major Investment Study (MIS);
2. September 2004 New Starts Submittal – the application into final design following the completion of the Final Environmental Impact Statement (FEIS); and
3. August 2005 New Starts Submittal – prior to the FFGA award during final design and before construction.

## 1.2 LOCATION AND SETTING

### 1.2.1 Metropolitan Area

The DART light rail system is centered in downtown Dallas and extends into the larger Dallas metropolitan area, a large inland market center with railroads, interstate highways, and international airports. As the Dallas metropolitan area has grown, Dallas area civic and business leaders capitalized on its infrastructure to build the region's economy. Currently, the central city is growing at a faster rate than it has in many decades. Thousands of new homes, condominiums, and apartment units are being constructed within five miles of the Dallas central business district (CBD) and are rapidly being absorbed by buyers and renters. Outside the CBD, suburban areas flourish, adding new retail and office development at a steady pace.

At the time of the 2000 U.S. Census, the Dallas-Fort

Worth-Arlington, TX Metropolitan Statistical Area (MSA) spanned 12 counties and had a population of over 5.2 million. Over the past decade, this area has seen continuous growth. The U.S. Census Bureau's 2008 American Community Survey shows the population of the MSA has grown to approximately 6.3 million, while the North Central Texas Council of Governments (NCTCOG) projects that the population will to rise to over nine million by 2030. This growth will result in additional stress to an already strained transportation network, which is part of why the Green Line is essential to DART's service expansion.


*The Mosiac apartments near Akard Station*

## 1.2.2 DART Service Area

DART was created in 1983 by voters in 13 cities in Dallas and Collin Counties, Texas. DART's LRT 20-mile starter system began service in June 1996, linking downtown Dallas with the South Oak Cliff (Blue Line) and West Oak Cliff (Red Line) areas. The starter system was complete by June 1997 with an extension northward to Park Lane in Dallas. The LRT starter system exceeded ridership expectations and was completed on schedule and on budget.

Based on the success of the starter system, DART continued to plan for system expansion in its 1995 Transit System Plan. The expansion program through December 2002 included an extension of the Red Line into Richardson and Plano and the Blue Line into Garland. In 2007, DART began design and construction on additional system expansions, including:

- Construction of the Green Line, opening in phases by December 2010;
- A new infill station (Lake Highlands Station) on the Blue Line, opening in December 2010;
- The Blue Line extension to Rowlett, opening by December 2012; and
- The Orange Line through Irving and to Dallas/ Fort Worth International Airport (DFW Airport) scheduled to open in phases from 2011 to 2013.

**Figure 1-1** illustrates the DART Service Area, highlighting existing and planned rail through 2013. DART's multi-modal transit network currently includes 48 miles of LRT, 39 rail stations, 35 miles of commuter rail (the Trinity Railway Express [TRE]) operated jointly with the Fort Worth Transportation Authority (The T), 84 miles of high-occupancy vehicle (HOV) lanes, approximately 130 bus routes, and an extensive paratransit program. The DART bus and rail network moves more than 220,000 people daily, with the LRT system carrying nearly 70,000 of these riders.

The LRT lines are the backbone of the system and provide fast, convenient transportation to work, shopping, and entertainment destinations within the DART Service Area. To accommodate both DART LRT expansion and potential regional projects, DART currently is planning a second downtown LRT alignment that is scheduled to open in 2016. Other planned expansions of the DART LRT system include an extension of the southern terminus of the Blue Line from Ledbetter Station to the UNT Campus near IH-20 in 2018. The 2030 DART Transit System Plan outlines future expansion through the year 2030. These current and future services are illustrated in **Figure 1-2**.

# 1.3 GREEN LINE DESCRIPTION

The Green Line began as two separate planning corridors, the NW Corridor which extends north from downtown Dallas to Carrollton, and the SE Corridor, which extends south from downtown to Pleasant Grove (see **Figure 1-1**). The 1997 NW Corridor Needs Assessment was the first step in defining the purpose and need for the NW Corridor. At that time, and during the Major Investment Study process, the NW Corridor was expanded to include a northwest travel pattern through Irving to DFW Airport. This Irving/ DFW Airport corridor is the future Orange Line.

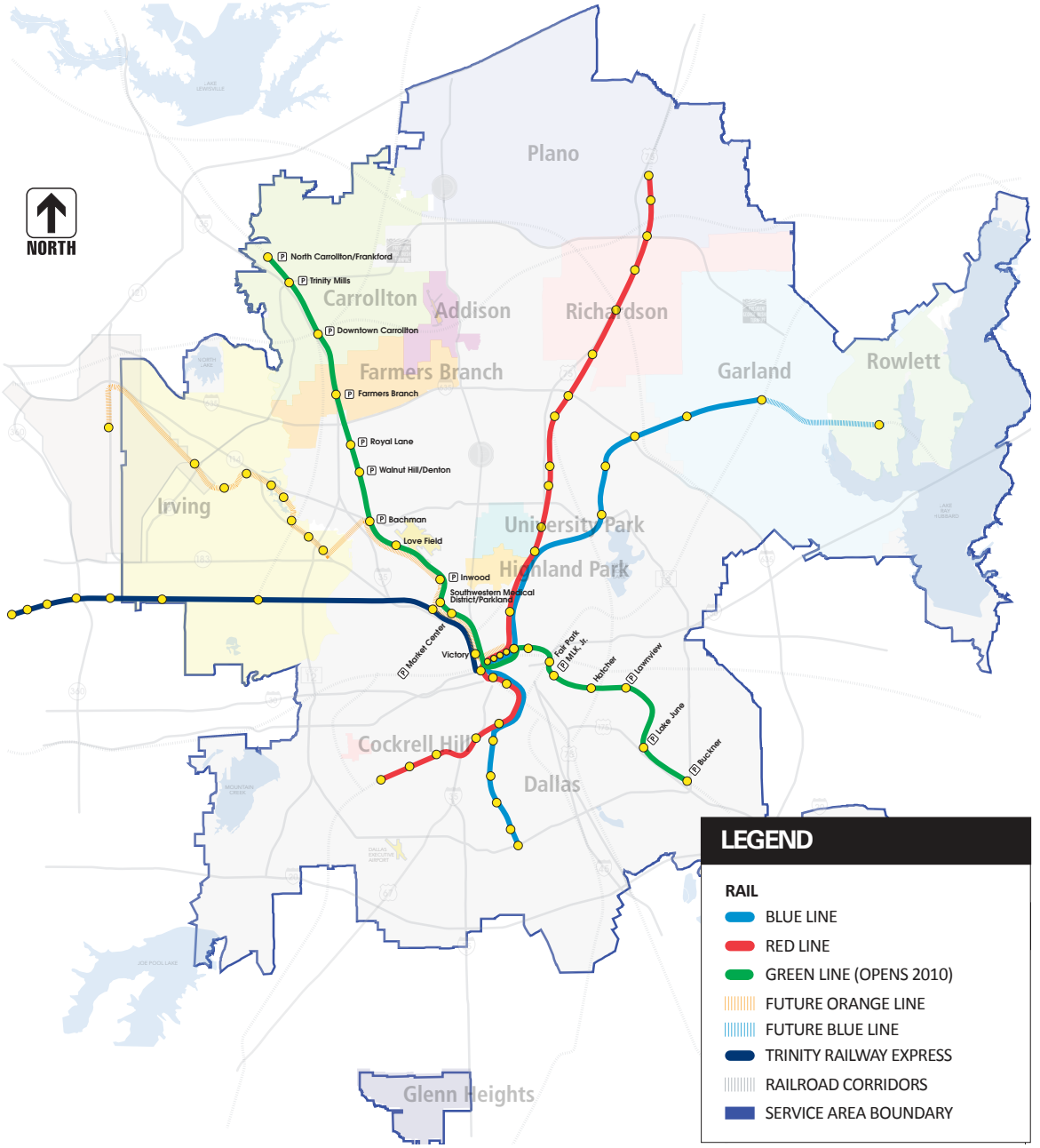
The NW and SE Corridors were studied separately at the MIS and EIS phases but were combined to create the NW/SE MOS. This combination was determined the most efficient segment to qualify

for federal funding and subsequently received FTA clearance to advance into more detailed planning and engineering. The 20.9-mile NW/SE MOS is the heart of the 35-mile, $2.6 billion LRT expansion (including the Orange Line) planned through 2013, and is projected to carry 45,900 riders a day, by year 2025.

The NW portion of the Green Line will originate at the North Carrollton/Frankford Station in Carrollton and extend approximately 17.8 miles to the CBD, with 12 stations along the corridor. The northernmost section between Carrollton and Farmers Branch will be locally funded. The Trinity Mills Station in this section will provide a platform transfer to the Denton County Transportation Authority's (DCTA) commuter rail line (currently under construction) that will serve suburban communities and run from Denton to Carrollton. The federally funded segment of the northwest portion of the Green Line begins at Farmers Branch Station and terminates just north of Victory Station—a distance of approximately 11 miles. It will feature eight stations: Farmers Branch, Royal Lane, Walnut Hill/Denton, Bachman, Love Field, Inwood, Southwestern Medical District/Parkland, and Market Center.

The Green Line travels through existing stations in the Dallas CBD, including Victory, West End, Akard, St. Paul, and Pearl. South of the Pearl Station, the federally funded portion of the project continues southeast to Buckner Boulevard—a distance of approximately 10 miles, completely within the City of Dallas and Dallas County. It features eight stations: Deep Ellum, Baylor University Medical Center, Fair Park, MLK, Jr., Hatcher, Lawnview, Lake June, and Buckner. Green Line operations commenced in September 2009 between the Victory and MLK stations, with the remainder scheduled to open in December 2010.

FIGURE 1-1: DART Service Area




Rail expansion scheduled through 2013

## 1.4 PLANNING HISTORY

Transportation improvements for the NW and SE Corridors have been considered during each of DARTS's planning processes since its 1983 Final Service Plan. In the Final Service Plan, the NW Corridor (originally referred to as the Stemmons Corridor) rail improvements included two phases. In Phase I, a rail line from downtown Dallas to IH-635 along the Union Pacific Railroad (UPRR) was recommended; Phase II included an extension to Belt Line Road in Carrollton. The 1983 Final Service Plan also included the SE Corridor to Bruton Road as a Phase 1 project, with a Phase II extension to Buckner Boulevard.

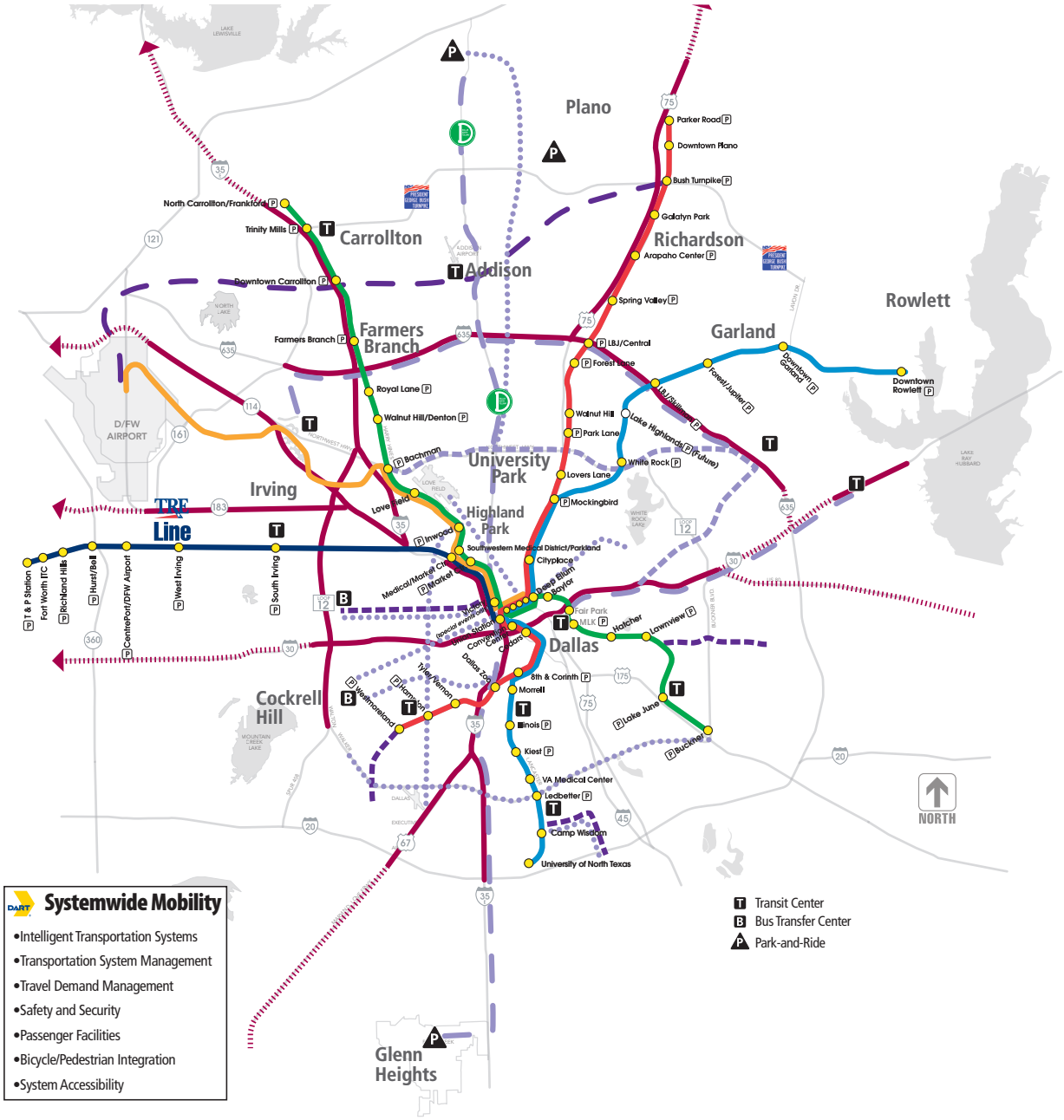
The 1989 Transit System Plan identified a LRT alignment along the UPRR to Valley View Lane in Farmers Branch and future expansion to the North Carrollton Transit Center at Trinity Mills Road in Carrollton. DART also purchased the UPRR in 1990 to preserve the right-of-way for the NW Corridor. The 1989 Transit System Plan maintained the recommendation of LRT in the SE Corridor.

The 1995 Transit System Plan update refined the 1989 recommendations to improve both affordability and cost. As a result, this plan update changed the NW Corridor recommendation to a commuter rail line. The SE Corridor was maintained as LRT. These recommendations were the starting point for the needs assessment phase, described below.

### 1.4.1 Northwest and Southeast Corridor Needs Assessment

In 1997, DART undertook Needs Assessments for both the NW and SE Corridors. Each assessment identified

FIGURE 1-2: 2030 Transit System Plan (Adopted October 2006)



six needs that would be investigated in a formal Major Investment Study (MIS):

- Enhance mobility;
- Add capacity in heavily traveled corridors;
- Reduce automobile congestion;
- Enhance the quality and reliability of transit service;
- Improve safety and operating efficiency of major radial roadway facilities; and
- Strengthen economic conditions in the study areas.

The NW Corridor Needs Assessment identified several primary activity centers with a significant amount of employment that would benefit from improved mobility and reliable service. These activity centers included the Dallas CBD, the Dallas Parkway Corridor, Medical/Market Center, DFW Airport, Love Field Airport, and Las Colinas. Several transportation alternatives, including no-build, transportation system management (TSM), HOV, LRT, and commuter rail, were defined and evaluated according to their ability to benefit activity centers and achieve the above-mentioned needs. In addition, public involvement was identified as critical to the success of the proposed alternatives that would receive additional consideration in a more intensive study.

The SE Corridor Needs Assessment identified six key activity centers: Dallas CBD, Baylor Hospital, Deep Ellum, Fair Park, Mesquite Industrial Park, and Medical/Market Center. The study noted that, while both the Dallas CBD and Medical/Market Center were outside of the proposed corridor, the activity centers were vital destinations for employment and entertainment for the residents in the SE Corridor. The study recognized that the highest employment centers were in the study area of the NW Corridor. As in the NW Corridor Needs Assessment, several transportation alternatives were identified for the SE Corridor, including no-build, TSM, HOV, LRT, commuter rail, and busway. Additionally, public involvement was identified as critical to the success of the proposed alternatives to establish service priorities within the corridor.

Performed simultaneously, the NW and SE Corridor Needs Assessments were completed in December 1997 and April 1998, respectively, and the conclusions reached in these studies led to formal Alternatives Analyses/MIS of both the corridors.

### 1.4.2 Northwest Corridor Alternatives Analysis/Major Investment Study

The NW Corridor MIS developed and refined a variety of transportation alternatives based on the study purpose and need, DART Guiding Principles, and input from work groups and the public. The SE Corridor MIS was conducted in much the same way but in a separate work effort.

Based on an analysis of travel patterns and public and agency input, the primary travel patterns for the NW Corridor were defined as north-south and northwest-southeast. These patterns follow the travel routes of residents in the Carrollton-Farmers Branch area along IH-35E between downtown Dallas and Carrollton and along IH-35E/SH-114 from the northwest area to downtown Dallas. These travel patterns also include the reverse commute travel needs from south Dallas to employment centers within the NW Corridor.

The NW Corridor MIS evaluated a wide range of transportation and transit solutions to respond to the growing mobility problems in the corridor. The goal of the MIS was to identify a Locally Preferred Investment Strategy (LPIS) to prioritize and frame transportation investments, including DART expansion, within the study area. Through an extensive public involvement program, detailed evaluation and trade-off analysis, the MIS yielded what is now the northwest portion of the Green Line to Carrollton and the Orange Line with service to Irving and DFW Airport. These two major investments, once defined, were then advanced through separate project development tracks.

Multiple service level options were evaluated and refined throughout the course of the MIS, including no-build; TSM/Travel Demand Management (TDM); highway and HOV alternatives; three primary and two refined commuter rail alternatives; and six primary and three refined LRT alternatives. For each of the LRT alternatives, bus networks were modified to reflect the LRT alternatives and were based on DART's Bus/Rail Interface Plan. Modifications ensured that feeder bus service to the proposed LRT stations augmented access and increased overall transit ridership.

While commuter rail was the 1995 Transit System Plan recommendation, LRT was a more cost effective way to provide service to the employment areas and serve the NW to SE travel pattern. In addition, overwhelming public and agency support for LRT made commuter rail a less attractive alternative.

The LPIS was adopted by the DART Board of Directors in February of 2000. The LPIS was a multi-modal alternative, addressing three major component groups: TSM/TDM, highway and HOV lane improvements, and LRT. While DART would lead efforts for the LRT element, the Texas Department

of Transportation (TXDOT), NCTCOG, and local jurisdictions would lead the implementation of TSM/TDM, highway, and HOV lane elements of the LPIS.

The selected NW Corridor LRT alternative generally paralleled IH-35E northwest from the Dallas CBD to the City of Carrollton. The MIS alignment included twelve stations with seven providing park-and-ride facilities.

In April of 2000, the DART Board of Directors authorized preliminary engineering and EIS to advance the NW Corridor to Carrollton.

### 1.4.3 Southeast Corridor Alternatives Analysis/Major Investment Study

The SE Corridor MIS developed and refined a variety of transportation alternatives based on the study purpose and need, DART Guiding Principles, and input from work groups and the public. The ultimate goal was to determine a LPIS through the thorough examination of mode alternatives, technology, and alignment options to create a comprehensive transportation improvement strategy.

The SE Corridor, previously referred to in multiple planning documents as the Pleasant Grove Corridor, extends approximately 10.2 miles from the DART transit mall in the CBD to Loop 12/Buckner Boulevard. Previous planning efforts identified this segment as a candidate for LRT. Additional study was recommended to evaluate engineering and environmental implications of LRT and consider other modes and alignments.

The SE Corridor study area comprised an area generally bounded by IH-30 on the north, IH-635/IH-20 to the east and south, and IH-45 to the west. The study area included the Good-Latimer/Deep Ellum/Baylor area north of IH-30 and the CBD. The study corridor is completely within the City of Dallas.

A two-phased development and evaluation process was undertaken. Phase 1 included conceptual evaluation while Phase 2 comprised a detailed evaluation. This process provided a technical framework through which potential transportation improvement alternatives could be developed, compared, and analyzed to determine which opportunity best met the needs of the transit-dependent population. Alternatives considered included No-Build, TSM/Congestion Management Strategies (CMS), Bus Rapid Transit (BRT), transit/HOV lanes, and LRT. Based on the evaluation measures and criteria, the No-Build, TSM/CMS, and eight LRT alignments were recommended for additional study in during Phase 2.

During Phase 2, the ten advanced alternatives were subjected to additional evaluation to ascertain effects on mobility, social and economic, and the environment; cost effectiveness/affordability; public and agency support; and other relevant issues. Each performance measure was rated and compared. Alternative 4, UP, Parry/Southern Pacific (SP) LRT received the highest rank.

The DART Board of Directors approved Alternative 4 to Lake June in February 2000 but requested additional analysis and community input for an alternative alignment along Lake June Road to Buckner Boulevard. The study results indicated that the original SPRR alignment to Buckner would provide the best combination of ridership, cost, and public support with minimal environmental and community impacts due to the use of former railroad ROW.

As a result, the LPIS was amended in May 2000 to reflect the SPRR option. In addition to LRT, the LPIS encompassed many projects that addressed multiple mobility issues in the SE Corridor, including bus route modifications, roadway improvements, and TSM program improvements.

The DART Board of Directors authorized preliminary engineering and EIS in April of 2000 to advance the SE Corridor, which would connect downtown Dallas to Deep Ellum, Baylor, South Dallas, Fair Park, Buckner Terrace, and Pleasant Grove. Nine potential at-grade station locations were identified in the LPIS, including a potential station at Bruton Road which was eliminated during the subsequent EIS process.

### 1.4.4 The Green Line Federal Project Definition

Following completion of the MIS efforts and approval by the DART Board of Directors to initiate the PE/EIS phase of project development of each corridor, DART prepared a separate New Starts submittal for each corridor to request entry into PE in May 2000. At that time, the cost effectiveness index (CEI) was the primary tool to evaluate projects. The CEI for the separate projects did not warrant FTA approval into PE. At the suggestion of FTA, DART combined the two corridors as one interlined project and evaluated a range of MOS options to maximize cost effectiveness.

The creation of this contiguous corridor achieved a more competitive cost-effectiveness rating and created a holistic transportation option by connecting transit-dependent riders from the southeastern section of Dallas County with the economic centers

located in the northwestern section of Dallas County.

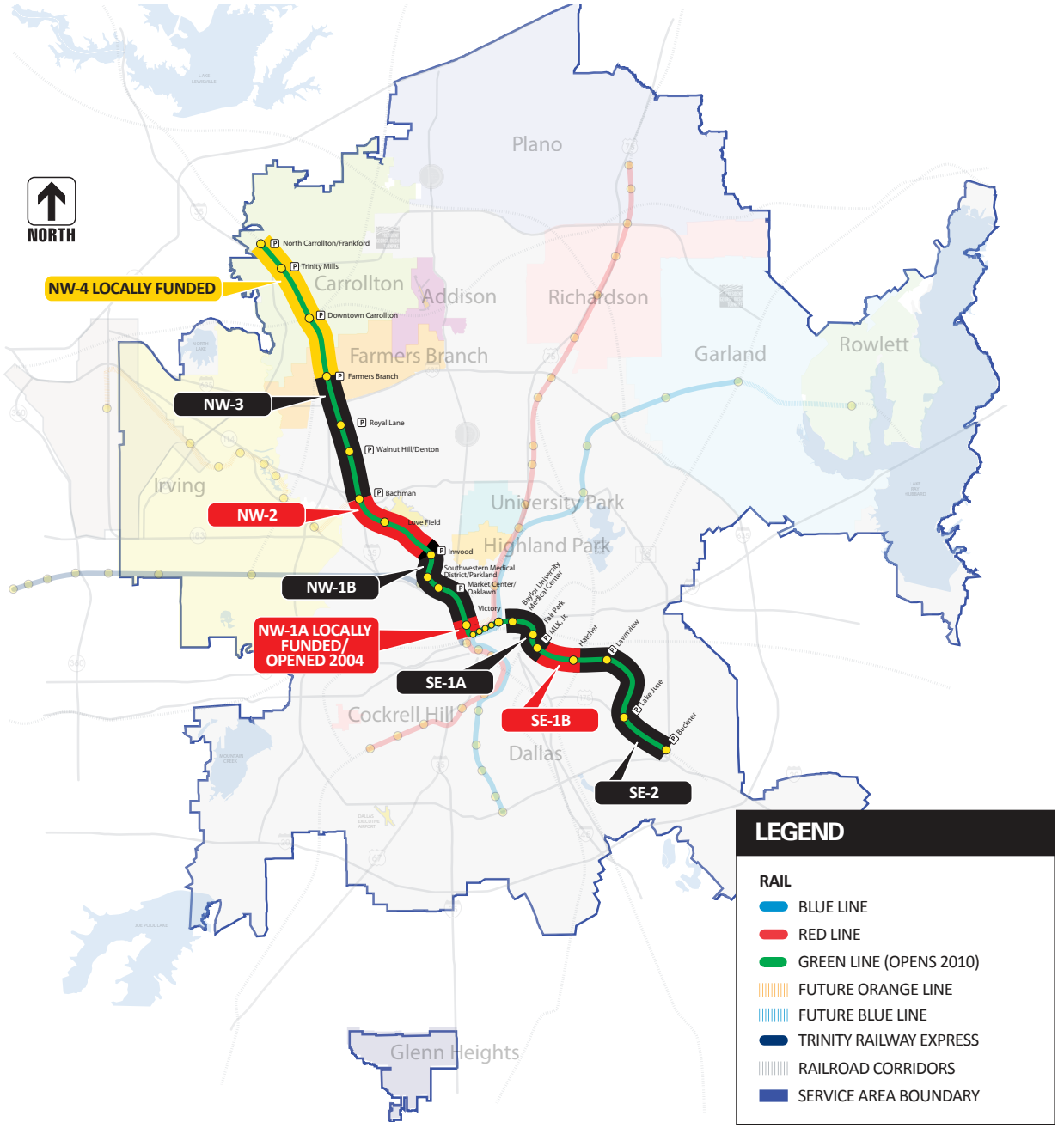
The official federal project detailed in the FFGA combined the NW and SE Corridors as the NW/SE Minimum Operable Segment (NW/SE MOS) of the Green Line. As shown in **Figure 1-3**, the northernmost portion of the NW Corridor, Line Section NW-4, is locally funded and therefore not part of the federally funded project. Similarly, Line Section NW-1A, from the Dallas West End Station to Victory Station, was found to have independent utility. As such, it was locally funded and opened in November 2004. It is included for reference, as some earlier cost estimates included it as part of the project and all ridership projections and user benefit references include this segment. The federally funded portion of the Green Line from Pearl Station to MLK Station opened for service in September 2009. The remainder of the Green Line is scheduled to open in December 2010.

The NW/SE MOS was designed as a cost-effective investment to accomplish five major objectives:

## IMPROVE ACCESS TO JOBS AND SPECIAL VENUES

By 2025, the MOS study area will contain 20 percent of the region's employment. Jobs within one-half-mile of project boarding points will increase by 23 percent to approximately 150,000. Two thirds of that employment is in the NW Corridor, with the remainder concentrated in the Deep Ellum, Baylor, and Fair Park areas of the SE Corridor. In addition, by 2025, residents are expected to outnumber jobs by three to one in the southeastern portion of the corridor, indicating that the MOS will be a vital link to jobs in the NW Corridor and throughout the Service Area.

FIGURE 1-3: NW/SE MOS Federal Project



## PROVIDE A RELIABLE SERVICE THAT ENHANCES EFFICIENCY AND MOBILITY

In the NW Corridor, traffic on IH-35E is expected to grow 45 percent by 2025. Already, 53 percent of the freeway and roadway segments in the corridor operate at Level of Service (LOS) "F," and that figure is expected to rise to 75 percent, even with programmed improvements. Forecasted North American Free Trade Agreement (NAFTA) truck traffic will further exacerbate this problem. The TSM Baseline alternative, which would provide bus service comparable to the MOS, would be subject to these unpredictable conditions.

Furthermore, 32 percent of the households within one-half-mile of proposed stations in the SE Corridor are low-income. More than 16 percent of residents do not have access to an automobile, with some areas exceeding 50 percent. The lack of reliable transportation coupled with increased traffic congestion will continue to limit opportunities for residents in the SE Corridor to reach jobs in the northwest and other parts of the region.
The MOS will provide a reliable mode with consistent day-to-day travel times as compared to the unpredictable, mixed-traffic conditions on freeways and arterials that will only worsen over time.

## INCREASE CORRIDOR CAPACITY WHILE GENERATING USER BENEFITS AND TRAVEL TIME SAVINGS

The MOS rail investment is one element of a multi-modal investment strategy for each corridor focused on improving commute travel time. Each corridor strategy sought to increase capacity through a cost-effective mix of rail, general-purpose lanes, HOV lanes, and other bottleneck and street improvements.

By 2025, regional traffic congestion will cause North Texans to spend an average of 106 hours per year stuck in traffic, at an annual cost of $8.2 billion, which is triple current delay costs. This is based on a doubling of the region's population, employment, and vehicle miles of travel (VMT)—but worsening congestion delay. The 2004 Urban Mobility Report (Texas Transportation Institute) for the Dallas area provides evidence of the positive benefits of transit. Between 1996 and 2002, during which the 20-mile DART LRT Starter System opened and the TRE commuter rail line was extended to Fort Worth, the annual delay saved by public transportation more than doubled to 10,636,000 hours. That translates to an annual congestion cost savings of $188 million, 7 percent of the total congestion cost of $2.6 billion.

Because of its high employment attraction, the NW segment generates substantial travel time benefits especially for choice riders. The SE segment also provides significant travel time savings, but these savings are attributed to the large concentration of transit-dependent riders currently using bus service but who will benefit from more reliable and efficient rail service.

## ENHANCE AIR QUALITY

The DFW region is not in compliance with the U.S. Environmental Protection Agency's (EPA) air quality requirements and the area of nonattainment has grown throughout the years. EPA requirements will be more strict with the transition from a one-hour average ozone standard to an eight-hour standard. The region was ordered to comply with the one-hour standard by 2007 and with the new eight-hour standard by 2010. The MOS will contribute to air quality improvements in the region by reducing 118 tons of pollutant emissions per year.

## PROVIDE ECONOMIC AND LAND USE BENEFITS

Along with their integral role in addressing North Texas' critical transportation issues, FTA and DART investments in rail projects have demonstrated economic benefits, including:

- Creation of 32,000 jobs with a $3.7 billion regional economic impact during construction of the North Central and Northeast LRT lines;
- Average property value increase of 39 percent for residential uses and 53 percent for office buildings near DART rail versus comparable properties not served by rail; and
- More than $1.3 billion in private development around rail stations.

*The Ambrose apartments at Baylor University Medical Center Station*

Building on this success, Dallas, Farmers Branch, and Carrollton are developing plans for transit-oriented development in anticipation of the MOS, with Farmers Branch already breaking ground on its plans.

## 1.5 GREEN LINE CORRIDOR PROJECT PHASES

The following sections describe the status of the project as it progressed through project development at three points. These three points are examined in this study to document the "before" conditions:

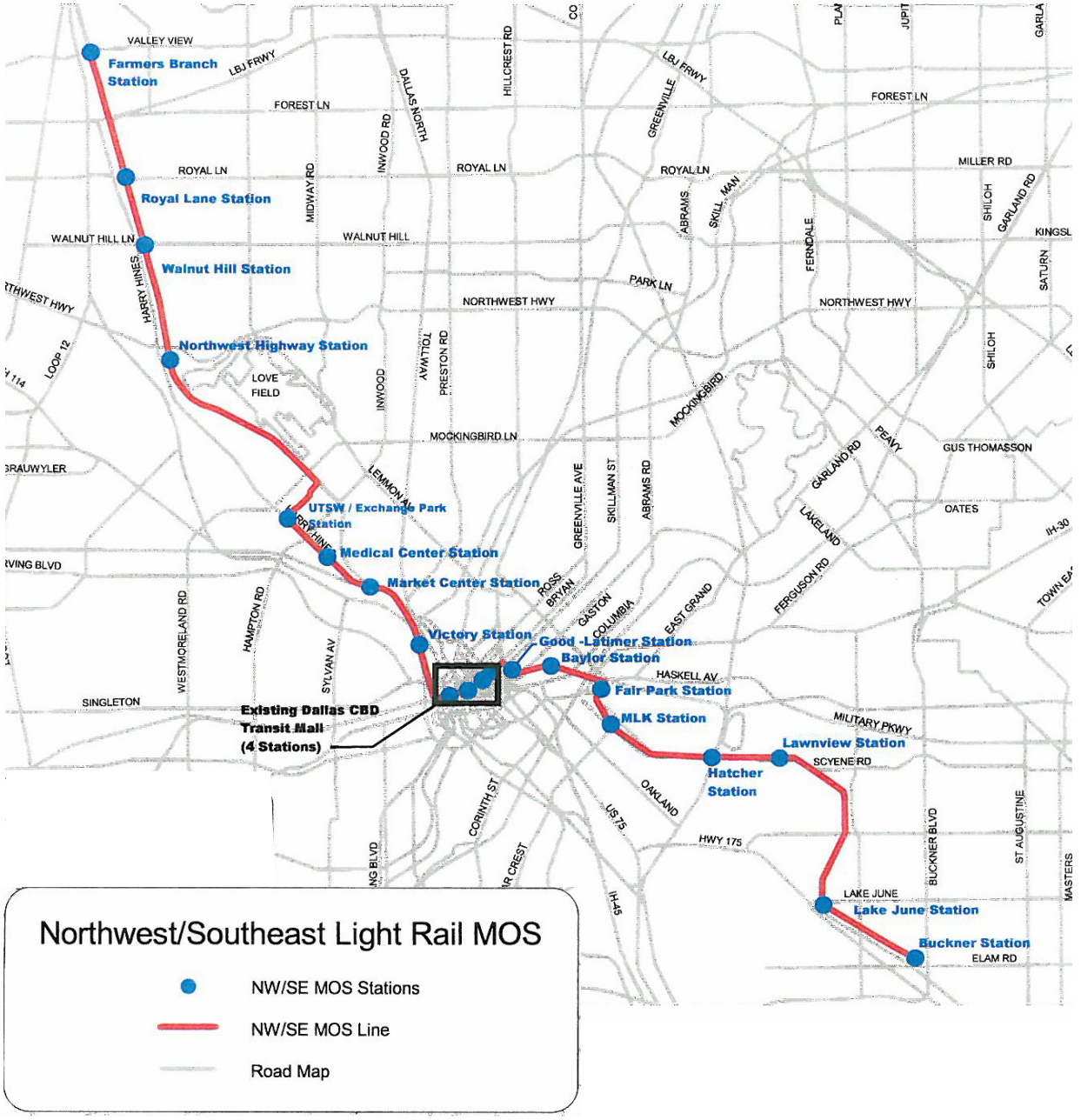
1. May 2001 New Starts Submittal – the application into preliminary engineering (PE) following the Major Investment Study (MIS);
2. September 2004 New Starts Submittal – the application into final design following the completion of the Final Environmental Impact Statement (FEIS), and
3. August 2005 New Starts Submittal – prior to the FFGA award during final design and before construction.

### 1.5.1 Application to FTA for Preliminary Engineering (May 2001)

The "federal project," as defined for the FTA Section 5309 New Starts submission, included the SE Corridor project and a majority of the NW Corridor. This formed a single, federally funded, comprehensive, and cost-effective project to meet the wide range of mobility, community, and financial needs in both the NW and SE Corridors. A separate EIS was prepared for each corridor primarily for ease of management, but also because the corridors are not contiguous; they are connected via the existing alignment in the Dallas CBD.

In 2001, the 22-mile MOS (see **Figure 1-4**) reflected an LRT line from Farmers Branch (NW Corridor) through the Dallas CBD (including Victory Station) to

FIGURE 1-4: NW/SE MOS May 2001 New Starts Submittal



Buckner Boulevard (SE Corridor). This federal project was intended to link key activity and employment centers in the MOS, including Dallas Love Field Airport, Medical Center District (Parkland, Children's, Zale Lipshy, St. Paul, and University of Texas Southwestern Medical Center), Market Center, Victory Park, American Airlines Center, the Dallas CBD, Baylor Health Care System (HCS), Deep Ellum, and Fair Park with the rest of the regional rail system. DART's dedicated local sales tax, as well as long-term bond financing, would be used to match federal funding to locally fund the remainder of the NW Corridor LRT line from Farmers Branch to Frankford.

The initial application to FTA for the MOS was submitted in May 2001. The estimated costs were presented in 2001 dollars with capital costs anticipated at $894 million and operating costs at $36.8 million (1999$). Annual ridership for the 2025 horizon year was estimated at 12.6 million (not including special event ridership), translating to a cost effectiveness of $13.14 per new rider. FTA approved entry into PE in July 2001.

### 1.5.2 Final EIS Approval/Application for Final Design (September 2004)

In October 2003, DART submitted to FTA the NW Corridor Final EIS that described the transportation and environmental impacts associated with the construction and operation of the NW Corridor LRT line to Farmers Branch and Carrollton in Dallas and Denton Counties, a 17.6-mile LRT project of which 10.7 miles would be federally funded. NW-1A from the CBD to Victory was pulled from the project by this point as it received a Categorical Exclusion and was scheduled to open in November 2004.

Concurrent with the NW Corridor FEIS submittal, DART also submitted the SE Corridor FEIS that described the transportation and environmental impacts associated with the construction and operation of a LRT project to improve transit service in the SE Corridor of the DART Service Area.

The LRT alternative consisted of an approximately 10.2-mile extension of LRT service, connecting downtown Dallas with the communities of Deep Ellum, Baylor, South Dallas, Fair Park, and Pleasant Grove. Connections to other elements of the DART transit system were also included in the project. The LRT alternative would provide a reliable travel time for transit patrons in the SE Corridor and provide an alternative to the single occupant vehicle.

DART received a Record of Decision (ROD) in February 2004 for the combined NW/SE MOS federal project Following the ROD, DART requested approval to initiate Final Design with its September 2004 New Starts submittal. **Figure 1-5** illustrates the NW/SE MOS project at the time of the September 2004 submittal. FTA approved entry into Final Design in June 2005.

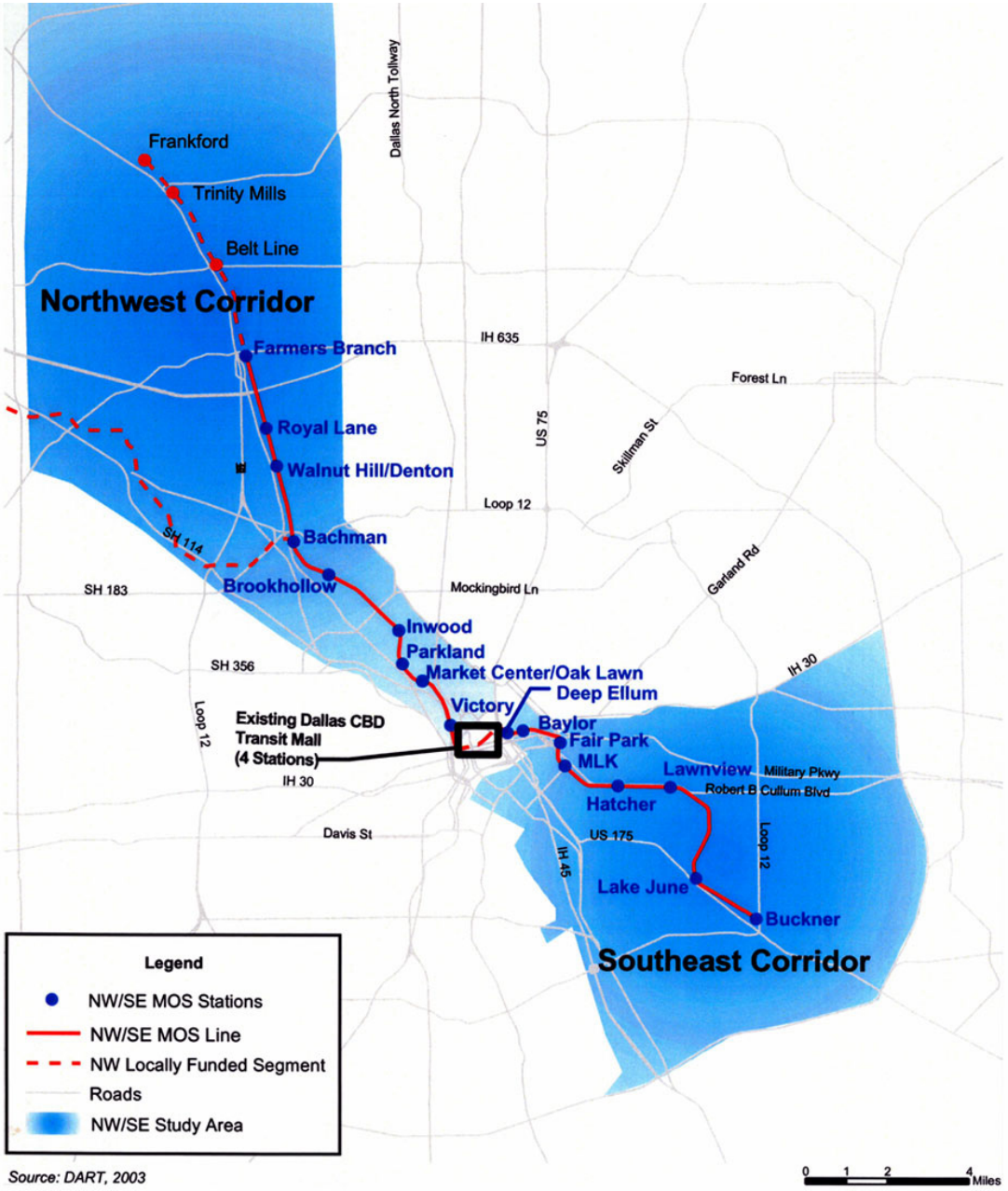
### 1.5.3 FFGA (August 2005)

The final New Starts submittal was made in August 2005 to support the approval of the FFGA for the Green Line MOS. This submittal represents the last point of comparison for the "before" conditions represented in this study.

DART was awarded a $700 million FFGA on July 3, 2006 for the 20.9-mile MOS, which is now referred to as the Green Line. The remainder of this document represents DART's compliance with the federal regulations for the "before" portion of the Before and After Study.

Chapter 2 provides additional, detailed information on the EIS and final design stages of the Green Line development.

FIGURE 1-5: NW/SE MOS September 2004 New Starts Submittal



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# 2.0 DOCUMENTATION OF FORECASTS

With its New Starts submittal in May of 2001, DART began the process of finalizing the scope of the Green Line and presenting the project's cost and benefits to FTA. The Major Investment Studies of the NW and SE corridors and additional consultation with FTA yielded the project limits (logical termini), modal technology, and level of service assumptions that framed the environmental analysis and preliminary engineering phase of Green Line development. New Starts submittals were delivered to FTA annually leading up to the FFGA in 2006. However, the specific submittals of May 2001, September 2004, and August 2005 were used to present the forecasts of the Green Line MOS. The May 2001 New Starts submittal was the first official set of forecasts assembled for the combined NW/SE MOS. The September 2004 and August 2005 submittals present the final ridership forecast and capital cost refinements completed prior to the FFGA. **Table 2-1** summarizes the Green Line MOS forecasts for these three submittals.

This chapter presents the documentation of forecasts for the Green Line MOS for the following project elements at each of the three submittal points outlined above:

- Physical scope,
- Capital costs,
- Levels of service,
- Operation and maintenance (O&M) costs,
- Ridership, and
- Fare revenue projections.

Additional detail about significant changes to the scope and other aspects of the project, not available within the New Starts submittals, were taken from the environmental documentation and design reports.

## 2.1 SUMMARY OF PROJECT CHANGES

**Table 2-1** presents a summary of key project elements for the three New Starts submittals that are the basis for this "before" study. The vast majority of the changes to the project can be attributed to

TABLE 2-1: GREEN LINE (NW/SE MOS) NEW STARTS SUBMITTAL SUMMARY

| NEW STARTS | MAY 2001 SUBMITTAL (BASED ON MIS) | SEPTEMBER 2004 SUBMITTAL (BASED ON PE/FEIS) | AUGUST SUBMITTAL 2005 (BASED ON EARLY FINAL DESIGN) |
|---|---|---|---|
| SCOPE | Length: 5.3 Above Grade<br>16.1 At Grade<br>0.6 Below Grade<br>Total: 22 Miles*<br>Stations: 16 (10 w/Parking)*<br>Vehicles: 50 LRVS<br>*includes NW-1A to Victory | Length: 7.8 Above Grade<br>12.7 At Grade<br>0.4 Below Grade<br>Total: 20.9 Miles<br>Stations: 16 (10 w/Parking)<br>Vehicles: 55 SLRVS (18 New/37 Retrofit) | Length: 7.8 Above Grade<br>12.7 At Grade<br>0.4 Below Grade<br>Total: 20.9 Miles<br>Stations: 16 (10 w/Parking)<br>Vehicles: 56 SLRVS (18 New/38 Retrofit) |
| CAPITAL COSTS | $894.1 Million (1999$)<br>$1.124 Billion (YOE$) | $1.172 B (2004$)<br>$1.490 B (YOE$) | $1.193 B (2005$)<br>$1.550 B (YOE$)<br>$1.490 B (YOE$ - FFGA) |
| LEVEL OF SERVICE (LRT only) | 7 days per week 5 AM to 12:30 AM<br>Frequencies:<br>10 Minutes Peak<br>20 Minutes Off-Peak/Weekends | 7 days per week 5 AM to 12:30 AM<br>Frequencies:<br>10 Minutes Peak<br>20 Minutes Off-Peak/Weekends | 7 days per week 5 AM to 12:30 AM<br>Frequencies:<br>10 Minutes Peak<br>20 Minutes Off-Peak/Weekends |
| OPERATIONS & MAINTENANCE COSTS | Project: $36.8 M Annually (1999$)<br>System: $316.1 M Annually (1999$) | Project: $47.6 M Annually (2004$)<br>System: $390.5 M Annually (2004$) | Project $49.6 M Annually (2005$)<br>System: $401.6 M Annually (2005$) |
| ANNUAL RIDERSHIP<br><br>FARE REVENUE | Project: Opening (2011): N/A<br>Forecast (2025): 12.6 M<br>System: Opening (2011): N/A<br>Forecast (2025): 57.5 M<br>Farebox: $30.3 M (2001$)<br>$60.9 M (2025$) | Project: Opening (2011): 12.0 M<br>Forecast (2025): 13.7 M<br>System: Opening (2011): 54.0 M<br>Forecast (2025): 62.9 M<br>Farebox: $39.4 M (2004$)<br>$127.6 M (2025$ | Project: Opening (2011): 12.0 M<br>Forecast (2025): 13.7 M<br>System: Opening (2011): 54,0 M<br>Forecast (2025): 62.9 M<br>Farebox: $38.3 M (2005$)<br>$126.0 M (2025$) |

SOURCE: DART NEW STARTS SUBMITTALS 2001, 2004, AND 2005: FFGA 2006.

NOTE: ANNUAL RIDERSHIP DOES NOT INCLUDE SPECIAL EVENT RIDERSHIP OF 4,112,860 (MAY 2001) AND 7,540,117 (SEPTEMBER 2004 AND AUGUST 2005)

the resolution of issues, both environmental and operational, on the NW segment of the MOS. The SE portion remained fairly constant.

The following sections of this chapter discuss in detail the project elements during each of the three New Starts submittals. This discussion includes an explanation of the reasons for changes in forecasts between each submittal.

## 2.2 PROJECT SCOPE

This section discusses changes in project scope over the course of the three New Starts submittals, providing an overview of key scope changes that in turn influenced the project costs. **Appendix A** contains a detailed table of project scope changes as the NW and SE corridor planning and design efforts progressed. A detailed description of the NW/SE MOS as contained in the FFGA is also included in **Appendix A**. The following project scope elements are addressed in this section:

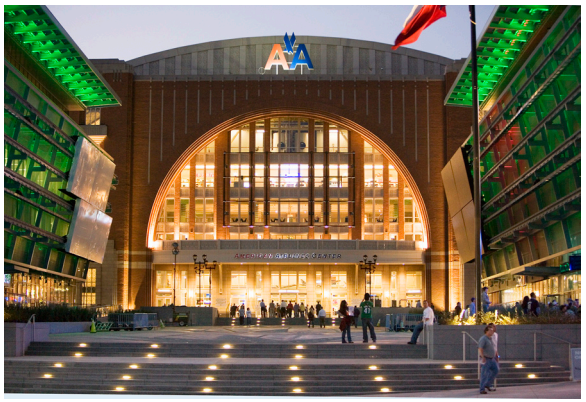
- Facility length, alignment, and profile;
- Stations; and
- Rolling stock and support facility.

### 2.2.1 Facility Length, Alignment, and Profile

The Green Line MOS submitted in the 2001 FTA New Starts application included 22 miles of rail (5.3 above-grade, 16.1 at-grade, and 0.6 below-grade) and included NW-1A from the West End Station to Victory Station. Several changes to the alignment and profile occurred during the environmental and preliminary engineering phases of the project and by the time of the FFGA, the project included 20.9 miles of rail (7.8 above-grade, 12.7 at-grade, and 0.4 below-grade). The substantive changes and other considerations that affected the length, alignment, and profile of the Green Line are summarized below.

#### VICTORY STATION

Construction of the segment of the NW Corridor from the existing CBD alignment in the West End to Victory Station (Line Section NW-1A) was accelerated due to its independent utility. FTA approved a Categorical Exclusion in May 2001 allowing the project to complete design and construction. This segment entered into revenue service in November 2004. Its independent utility was based on its ability to serve American Airlines Center during special events, as well as to provide an alternative transfer point for the TRE thereby relieving pressure at Union Station. As a result, the costs and physical scope of this segment were removed from the Green Line MOS project definition after the May 2001 submittal. However, ridership and other benefits associated with this segment of the Green Line were still included in the New Starts submittals leading up to the FFGA.



*Victory Plaza near Victory Station*

#### MEDICAL DISTRICT ALIGNMENT CHANGE

A major alignment change occurred during the development of the NW FEIS when the alignment was shifted from the MIS-approved Harry Hines Boulevard alignment to an existing DART-owned railroad ROW that bordered the eastern side of the Medical District. **Figure 2-1** illustrates the alignment options considered during the EIS process for this area, including the Harry Hines Base alignment, the selected railroad ROW alignment, and several options in between (labeled A, B, C, and D on map). The Harry Hines Boulevard alignment was originally preferred because it provided direct service to the existing Parkland Hospital and hospitals in the northern part of the district. However, new plans for a Parkland Hospital expansion, input from Medical District leadership, and new transit-oriented development plans in the area provided the rationale for shifting the alignment to the railroad ROW. The new alignment eliminated a variety of adverse impacts along Harry Hines Boulevard, supported future new and redevelopment around Parkland Hospital, and reduced the overall length of the alignment.

#### PROFILE CHANGE BETWEEN SHORECREST DRIVE AND LBJ FREEWAY

During the environmental analysis of the NW segment, the vertical alignment of nearly 2.5 miles of track was converted from at-grade to aerial between Northwest Highway and LBJ Freeway. By designing an aerial structure, DART was able to mitigate a number of impacts. The key benefit of this profile change was eliminating 13 at-grade road crossings in the section north of the Bachman Station. The majority of these crossings serve as access between industrial areas and Denton Drive, several of which have significant truck

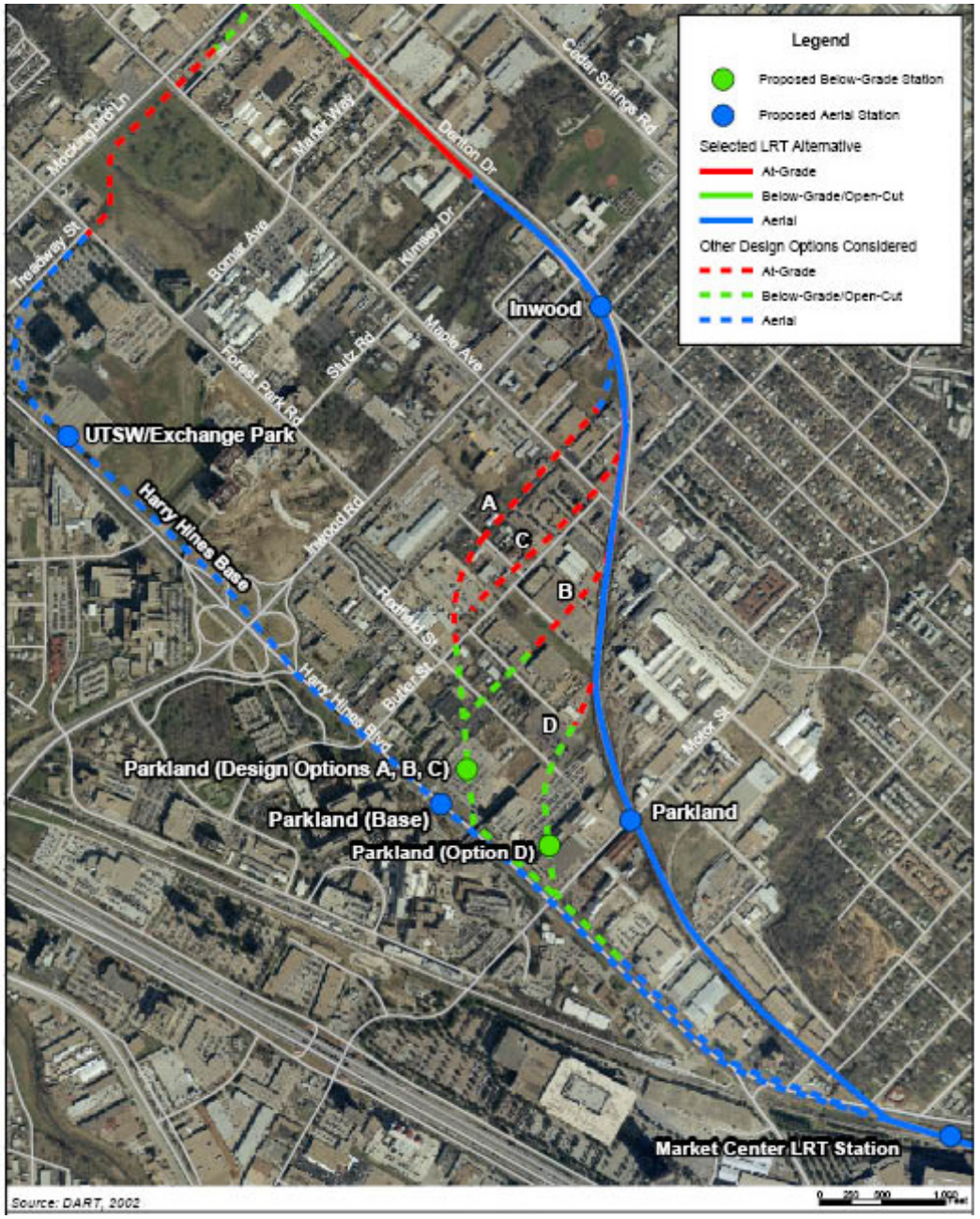
traffic and would have required major improvements at each intersection including traffic signals and turn lanes to prevent trucks blocking crossings. This would have negatively impacted both automobile traffic on Denton Drive and resulted in slower travel speeds for LRT. Secondly, the aerial structure grade-separated the light rail from freight operations on parallel track. The aerial design also eliminated flood plain impacts near Shorecrest Drive, south of the Bachman Station. While this profile change resulted in additional project costs, the benefits warranted the change.

*Construction of aerial structure at Walnut Hill Lane*

## ALIGNMENT AND PROFILE CHANGES NEAR LOVE FIELD

The NW MIS recommended that a direct tunnel option to serve the Dallas Love Field terminal be examined in the PE/EIS phase. As a result, DART evaluated a Love Field Design Option (see **Figure 2-2**) in addition to the base alignment within the existing DART-owned rail ROW along the western boundary of Dallas Love Field airport. Based on the additional costs, this option did not meet New Starts cost-effectiveness thresholds and was not selected. However, the base alignment was modified between 2001 and 2004 to include a new Love Field Station (formerlyBrookhollow Station).

FIGURE 2-1: Medical District Alignment Alternatives (Final EIS - 2003)



This new station would serve Southwest Airlines headquarters, the Love Field West neighborhood, and ultimately link an automated people mover (APM) to the terminal area. This APM option was an alternative to the direct tunnel. A feasibility study and schematic design for the APM were recently completed by the City of Dallas.

In addition to adding the Love Field Station, the horizontal and vertical alignment profile was changed for the Mockingbird Lane underpass. The underpass length was reduced by 0.2 mile due to the shift in the Medical Center alignment near Mockingbird Lane. The Mockingbird Underpass is identified in **Figure 2-2**.

## 2.2.2 Stations

The Green Line MOS will add 16 stations to the DART system, which are summarized in **Table 2-2**. Ten stations will have parking facilities. Three of these ten will use or modify existing park-and-ride facilities adjacent to the new LRT stations. These include the Farmers Branch Park-and-Ride, J.B. Jackson, Jr. Transit Center (co-located with the MLK, Jr. Station), and Lake June Transit Center. **Table 2-2** includes a discussion of station location and configuration changes leading up to the FFGA.

## 2.2.3 Rolling Stock and Support Facility

The rolling stock requirement for the Green Line MOS was refined from 2001 to 2005. The key change during this timeframe was the decision to use Super LRVs (SLRV) rather than standard LRVs for the LRT system. In May 2001, the rolling stock assumption was 50 LRVs, using three-car trains to accommodate peak-hour ridership and maintain DART standards of a 1.75 peak hour load factor or better. In the September

FIGURE 2-2: Love Field Alignment Alternatives (Final EIS - 2003)

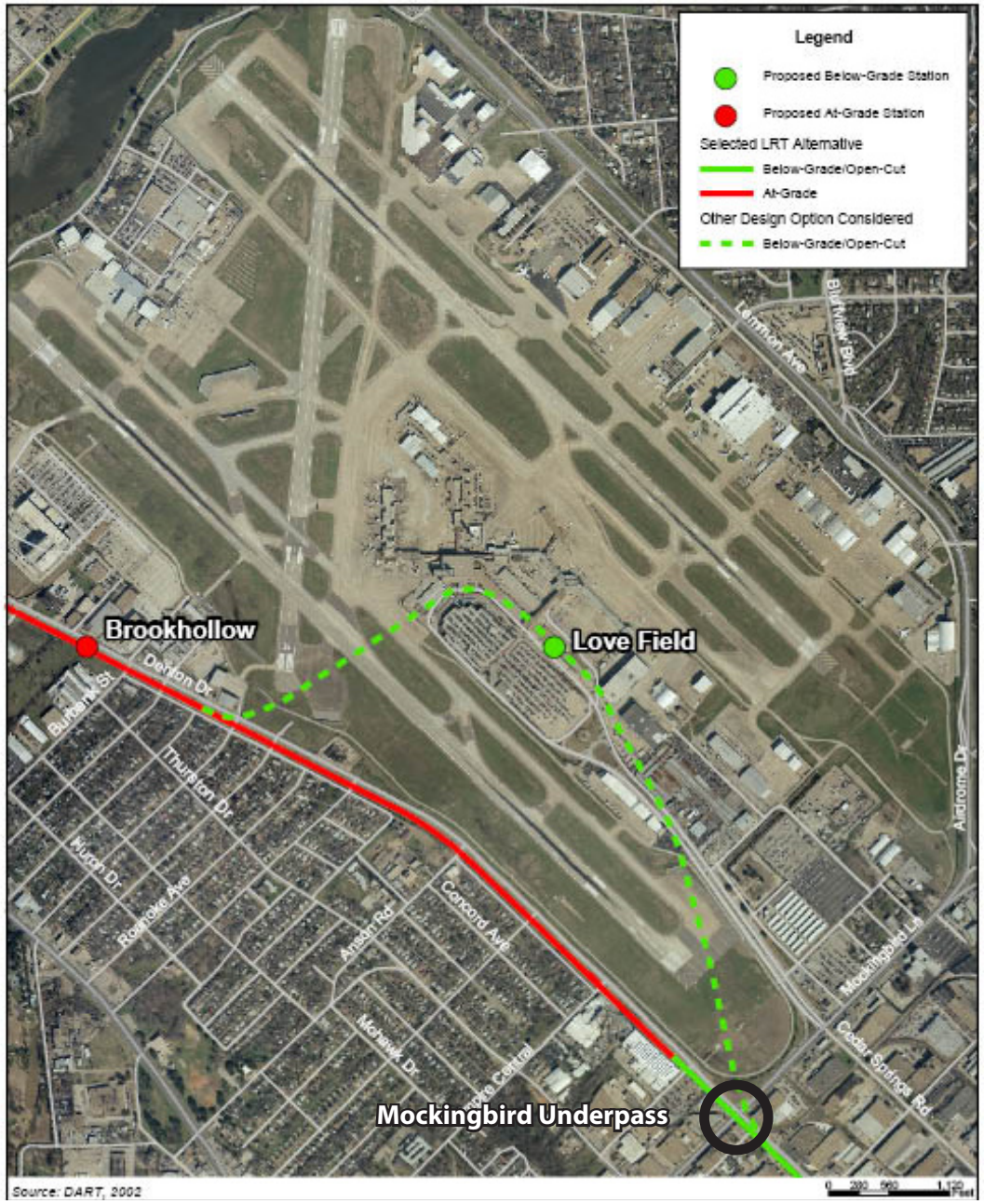


TABLE 2-2: STATION TYPE AND ESTIMATED PARKING SPACES

| NEW STARTS | MAY 2001 SUBMITTAL (BASED ON MIS) | SEPTEMBER 2004 SUBMITTAL (BASED ON PE/FEIS) | AUGUST SUBMITTAL 2005 (BASED ON EARLY FINAL DESIGN) |
|---|---|---|---|
| Farmers Branch | At-grade | 179 | No significant changes |
| Royal Lane | Aerial | 235 | No significant changes |
| Walnut Hill/Denton | Aerial | 361 | No significant changes |
| Bachman | Retained fill | 443 | Originally at-grade but modified during final design to be a three-track station on retained fill to facilitate movements/flexibility with the DFW/ Irving Corridor and the Northwest Rail Operating Facility (NWROF) to the north. Station platform location shifted south slightly and parking layout was modified to accommodate track changes. |
| Love Field (formerly Brookhollow) | At-grade | None | Added during environmental phase to serve Southwest Airlines, Love Field West neighborhood, and facilitate a connection to a potential future airport automated people mover (APM) to airport terminal. |
| Inwood | Aerial | 386 | Originally on Harry Hines Boulevard with no parking based on MIS alignment. Shifted to final location when Medical District alignment changed during EIS, and parking added. |
| Southwestern Medical District/ Parkland | Aerial | None | Originally on Harry Hines Boulevard based on MIS alignment. Shifted to the railroad ROW when Medical District alignment changed during EIS. Mostly on-street bus transfer activity modified to include an off-street bus transfer area with new site. |
| Market Center | Retained Fill | 230 | Changed to aerial station during EIS when Medical District alignment changed. In 2004 station shifted 300 feet south to reduce aerial structure and became retained fill. Pedestrian connection over Harry Hines from parking lot eliminated and replaced with at-grade street crossing. |
| Victory | At-grade | None | No changes; opened in 2004 |
| Deep Ellum | At-grade | None | No significant changes |
| Baylor | At-grade | None | No significant changes |
| Fair Park | At-grade | None | No significant changes |
| MLK, Jr. | At-grade | 205 | No significant changes |
| Hatcher | At-grade | None | No significant changes |
| Lawnview | At-grade | 356 | The station layout within the identified site was modified to avoid floodplain issues and to help accommodate access to adjacent parcels. Change resulted in the addition of 8 parking spaces. |
| Lake June | At-grade | 472 | No significant changes |
| Buckner | At-grade | 544 | No significant changes |
| **Total Parking** | | **3,408** | |

Source: NW Corridor EIS, 2003; SE Corridor EIS, 2003; Environmental Studies and Letters to file for project changes (various).

2004 submittal, the rolling stock reflected the use of two-car SLRV trains, which provide a passenger capacity similar to a three-car LRV train. Fifty-five SLRVs were required, which equated to the retrofit of 37 LRVs with a "C" car to create an SLRV, and 18 new SLRVs. The August 2005 submittal refined this slightly by increasing the number of retrofit vehicles to 38, bringing the total to 56 SLRVs. The shift from LRVs to Super LRVs represented an overall reduction in capital costs on the project.

It also was determined during the environmental phase that DART would require an additional rail maintenance facility to support the increase in fleet size. A separate site evaluation study completed in May of 2002 recommended that the Northwest Rail Operating Facility (NWROF) be located adjacent to the Green Line near Lombardy and Denton Drive, approximately one mile north of the Bachman Station and junction with the future Orange Line. Three potential sites were included in the DEIS with the selected site identified in the FEIS. In the 2004 New Starts submittal, a portion (32.7 percent) of the construction cost of the NWROF was incorporated into the overall cost of the Green Line MOS. The remainder of NWROF costs was allocated to the Irving Orange Line and other locally funded LRT extensions.

## 2.3 CAPITAL COST

The following sections outline the capital cost methodology and present the capital costs for each of the three New Start submittals. A discussion of changes that occurred between the submittals is provided to explain why the capital cost changed as the project progressed. It is important to note

*SLRV in downtown Dallas*

that in 2005 FTA implemented use of Standard Cost Categories (SCC). Thus, the capital cost for the 2004 submittal is presented in the old format and new SCC format.

## 2.3.1 Methodology

The cost estimating methodology was generally the same from 2001 to 2004, with the exception of the compounding of contingencies and add-on allowances, which was different in 2001. In addition, by 2004, unit costs were refined based on completion of preliminary engineering. The methodology from 2004 to 2005 is the same but line items were modified based on the transition to Standard Cost Categories. The methodologies for each submittal are outlined below.

### MAY 2001 SUBMITTAL

The methodology used to generate the May 2001 submittal capital cost estimate is documented in a letter to the FTA Project Management Oversight Contractor (PMOC) dated October 25, 2001. This information was used in the PMOC assessment of capital cost estimate effort. The general methodology was as follows:

| | |
|---|---|
| $A | Construction Cost (applying unit costs to construction quantities) |
| +20% of A | Design Contingency |
| +10% of A | Construction Contingency |
| +32% of A | Add-on Allowances (administrative, support, planning, design, insurance, etc.) |
| +13% of A | Real Estate (based on past corridor experience); does not include ROW owned by DART |
| +1% of A | Environmental |
| +LRV cost | Number of Vehicles @ $3,000,000 each |
| $B | Total Project Cost |

As shown above, the contingencies and add-ons were all applied to $A Construction Cost and were not compounded. At this time, the use of standard LRVs was assumed at a price of $3,000,000 each. For this level of conceptual engineering, allowances were assumed for items such as utilities ($75 per route foot) as a placeholder. For maintenance facility needs, an allowance of $20 per route foot was included.

### SEPTEMBER 2004

During the EIS process, the methodology was refined so that the 20% design contingency was added to create a Construction Cost with design contingency on which all other contingencies were factored. The methodology is as follows:

| | |
|---|---|
| $A | Construction Cost (applying unit costs to construction quantities) |
| +20% of A | Design Contingency |
| $B | Construction Cost with Design Contingency |
| +10% of B | Construction Contingency |
| +32% of B | Add-on Allowances (administrative, support, planning, design, insurance, etc.) |
| +13% of B | Real Estate (based on past corridor experience); does not include ROW owned by DART |
| +1% of B | Environmental |
| +LRV Cost | Number of new SLRVs and "C" cars to retrofit LRVs |
| $C | Total Project Cost |

## 2.3.2 Cost Refinements

There were several modifications to the FTA New Starts templates and capital cost requirements during the course of Green Line development, including the use of SCC for the 2005 submittal. This has created a number of challenges that impact the comparison of the New Starts submittals to actual project development. **Table 2-3** provides a summary of the project capital costs, by line items, for each submittal.

The most significant difference is the line item coding used for each submittal. For comparative purposes the costs in the 2004 submittal have been broken down twice to match the line item codes in the 2005 submittal. Overall, the capital cost of the project increased from $894 million (1999$) to $1.171 billion (2004$) between the 2001 and 2004 and then to $1.192 billion in (2005$) 2005. The projected startup date for the 2001 submittal was for year 2007-8. Based on the economic downtown of 2001 and 2002, the startup dates were adjusted to 2009-10 in subsequent submittals. In 2001, the year of expenditure (YOE) estimate was $1.12 billion. The YOE estimate in 2005 was $1.55 billion. The YOE capital cost in the FFGA was refined from the 2005 New Starts submittal to $1.49 billion based on reduction in finance charges. **Appendix B** contains the detailed standard cost code worksheets for the 2005 submittals.

### 2.3.3 Discussion of Cost Changes

The changes in the capital cost of the Green Line MOS from 2001 to the FFGA were primarily due to changes in project scope, refinement of unit costs based on actual costs of the Red Line and Blue Line expansion during the EIS process, construction cost inflation, as well as a refinement to the compounding methodology between the May 2001 and September 2004 submittals.

The May 2001 submittal presented the capital costs in 1999$ at $894.1 million. As noted in the methodology section, the 2001 submittal applied all contingencies and add-ons to the basic civil cost, not to the cost plus design contingency total, which was used in the 2004 submittal. In order to compare the 1999$ cost estimate to the final estimate in 2005, the construction costs were inflated using the DART standard of 4% per year. Applying the revised methodology to this inflated cost estimate yields a total cost of $1,151.41 million (2005$) based on the project elements in the May 2001 submittal. Comparing this to the 2005 project estimate of $1,192.65 represents an approximate $40 million difference in costs from 2001 to 2005. This cost difference is primarily attributable to scope changes (which either increased or decreased the cost) and refinement of unit and project costs based on greater engineering detail. These refinements increased the cost over time, thus drawing down on the project contingencies.

The most significant scope changes took place during the EIS process where the NW project alignment was changed in some locations and the vertical alignment was modified. There were no major scope changes in the SE Corridor, only refinements to the MIS alignment. Key scope changes that affected the project cost (positively or negatively) from 2001 to

TABLE 2-3: CAPITAL COST GREEN LINE MOS

| ORIGINAL FTA COST LINE ITEMS | 2001 SUBMITTAL (1999 $) | 2004 SUBMITTAL (2004 $) | 2004 CONVERTED TO NEW CODES | 2005 SUBMITTAL (2005 $) | NEW FTA COST LINE ITEMS | FTA ALI CODES 2005 |
|---|---|---|---|---|---|---|
| Trackwork | $75.10 | $95.64 | $185.50 | $197.70 | Guideway and Track Elements | 140110 |
| Structures | $207.40 | $179.10 | $63.74 | $55.10 | Stations, Stops, Term., Intermodal | 140220 |
| . | - | - | $12.07 | $12.50 | Support Facilities | 140330 |
| Pavement, Parking Lots, etc | $153.70 | $161.02 | $166.57 | $236.86 | Sitework and Spec. Conditions | 140440 |
| Signals, Electrification | $166.20 | $218.35 | $132.12 | $184.57 | Systems | 140550 |
| Right-of-Way | $55.00 | $118.54 | $118.54 | $110.36 | ROW, Land, Existing Improvements | 140660 |
| Right-of-Way Prep. | $86.70 | $283.85 | - | - | | |
| Rail Vehicles | $150.00 | $115.10 | $115.10 | $115.08 | Vehicles | 130000 |
| Professional Services Allocated Across Line Items | - | - | $331.18 | $245.74 | Professional Services | 140880 |
| Contingency Allocated Across Line Items | - | - | $46.78 | $34.68 | Unallocated Contingency | 140990 |
| | | | | | Finance Charges | 141010 |
| Total Cost | $894.10 | $1,171.60 | $1,171.60 | $1,192.65 | Total Cost | |
| Projected Start-Up Date | 2007-8 | - | 2009-10 | 2009-10 | | |
| YOE Cost | $1,124.00 | - | $1,490.00 | $1,550.00 | | |

Source: New Starts Submittals

2004 include:

- Line Section NW-1B - The MIS alignment approved in February 2000, along with early project refinements during conceptual engineering and the DEIS, was the basis for the May 2001 submittal. During the EIS development, coordination with the Medical Center District changed the alignment from a mostly aerial alignment along Harry Hines Boulevard to an aerial structure along the DART-owned UP RR right-of-way (see Section 2.1.1). This modification also modified the station by adding parking to the northernmost Inwood Station, and adding an off-street bus transfer area to the southernmost station near Parkland. This alignment change resulted in a shorter alignment and thus reduced the project cost.
- Line Section NW-2 - The decision to remain on the DART-owned RR ROW to the west of Love Field resulted in the addition of the Love Field Station. This change also allowed the Mockingbird underpass to be shortened by 0.2 mile.
- Line Section NW-3 - An analysis during the EIS process examined maintaining the MIS assumed at-grade alignment in this line section versus a mostly aerial structure between Shorecrest Drive and LBJ Freeway (see Section 2.1.1). While the structure over Shorecrest Drive was driven by floodplain, the change to aerial structure north of the Bachman Station was driven by traffic and property access impacts, operational concerns and safety risks. This project change increased overall project cost.
- Additional costs associated with the NW/SE MOS project share of the Northwest Rail Operating Facility (NWROF). Earlier estimates assumed a $20 per route foot allowance for a facility. Given the need to construct a new stand-alone facility this increased the overall project cost.
- The transition to an SLRV fleet resulted in a lower vehicle cost. The May 2001 submittal assumed $150,000,000 (1999$) in LRV costs for 50 vehicles, while the final submittal supporting the FFGA assumed 18 new SLRVs and a retrofit of 38 LRVs with a "C" car at a cost of $115,085,000 (2005$).

In comparing an inflation-adjusted May 2001 project cost to the August 2005 cost estimate, the categories in which project costs increased the most were related to sitework and special conditions, which includes utilities, systems, and communications. The design and construction contingencies in the 2001 estimate (less the unallocated contingency in the 2005 estimate) covered most of the increase in project costs. Right-of-way costs were also higher (by nearly $27 million in 2005$) than originally anticipated.

Overall, the methodology used resulted in a final cost estimate within 5% of the original May 2001 estimate after the May 2001 estimate was adjusted for inflation and the compounding method corrected. While the overall project cost was similar, there were a variety of project scope changes and cost refinements that resulted in increases or decreases in the cost. These decreases in cost, plus the draw down on contingency as the engineering progressed, resulted in fairly consistent total cost estimates over time.

## 2.4 LEVEL OF SERVICE

### 2.4.1 Light Rail Service Levels

Throughout the project development process and for each of the three New Starts submittals, the LRT service levels remained consistent. The operating plan included two lines. One would operate from the northern terminus of the MOS in Farmers Branch, through downtown Dallas along the CBD transitway mall, to Buckner Boulevard on the SE line. This line is the federal segment of the future Green Line. The peak operating plan included a second line that would operate from Bachman Station through the CBD, then turn north to provide additional capacity in the North Central Corridor. This would provide additional capacity for the core part of the NW segment and also serve as the precursor to the future Irving/DFW Corridor expansion. Both lines were assumed to operate at 10-minute peak and 20-minute off-peak (mid-day, evening, and weekend) headways.

In the May 2001 New Starts submittal, it was assumed that the Green Line would operate with 3-car LRV consists in the peak and 2-car consists in the off-peak. The second line would operate with 1- or 2-car consists depending on demand. Weekend service would operate on either the weekday base or evening service, depending on observed demand. The initial project's operating plan complied with existing agreements for LRT operations in the Dallas CBD.

For the 2004 and 2005 New Starts submittals, the use of Super LRVs was assumed. Because Super LRVs have a higher carrying capacity, both lines were assumed to use a two-car SLRV consist. This change is shown in the LRT Operating Plan from the 2004 New Starts submittal, **Figure 2-3**.

Operating hours for LRT would be from approximately 5:00 a.m. until 12:30 a.m., seven days a week. Morning peak period service would be provided Monday through Friday between 6:00 a.m. and 9:00 a.m. and

FIGURE 2-3: LRT Operating Plan 2004 New Starts Submittal

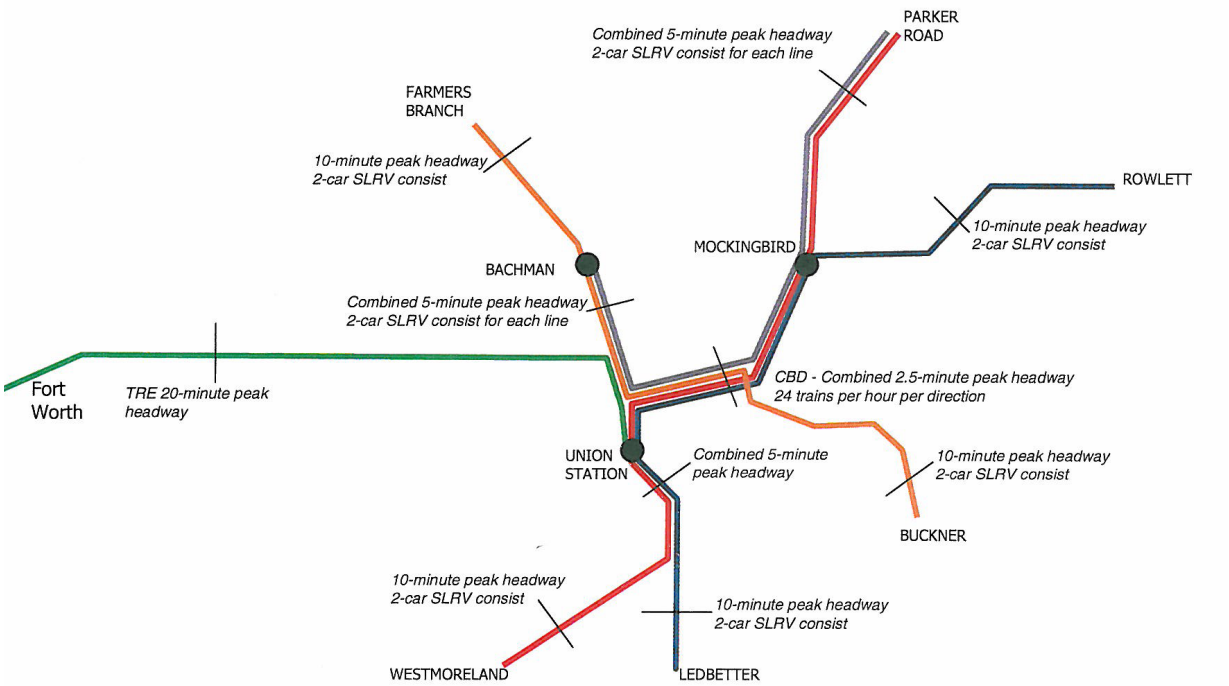



TABLE 2-4: GREEN LINE MOS LEVEL OF SERVICE ASSUMPTIONS FOR 2025 SYSTEM

| 2025 SYSTEM | MAY 2001 NEW STARTS SUBMITTAL | SEPTEMBER 2004 NEW STARTS SUBMITTAL | AUGUST 2005 NEW STARTS SUBMITTAL & FFGA 2006 |
|---|---|---|---|
| Annual Bus Revenue Hours | 2,644,610 | 2,802,560 | 2,746,170 |
| Peak Buses | 1,001 | 950 | 926 |
| Annual LRT Train Hours | 236,000 | 237,000 | 233,050 |
| Peak LRT Cars | 114 | 120 | 118 |
| Annual Commuter Train Hours | 11,470 | 20,271 | 20,271 |
| Peak CRT Cars | 12 | 21 | 21 |
| Annual Paratransit Revenue Hours | 216,153 | 440,406 | 440,406 |
| Total Vehicle/Train Hours | 3,108,293 | 3,500,232 | 3,439,897 |
| System O&M | $316.46 | $390.46 | $401.60 |

Source: Operating Plan Section from each New Starts Submittal

afternoon peak service between 3:00 p.m. and 6:00 p.m. The schedule mirrors DART's existing LRT system.

LRT service would have a maximum operating speed of 65 mph with average train speed of about 28 mph. The train speed is influenced by civil engineering design conditions, alignment location conditions, and time spent at each passenger station (dwell time). Dwell times averaged 20 seconds for each station stop. The proposed LRT service was estimated to add 2,828,800 annual vehicle operating miles and 114,400 annual vehicle operating hours to the No-Build Alternative LRT system.

These service level assumptions were maintained throughout the project development process without modification. **Table 2-4** provides service level assumptions for the 2025 system.

## 2.4.2 Bus Feeder Service Levels

Service would be designed to meet the anticipated demand in 2025 and provide for as many connections as possible between buses and the LRT service. In general, rail service replaces bus operations within the specific corridor and there are bus routes that will be eliminated as a result of the Green Line implementation. However, DART has a track record of reallocating bus service to expand the service area and improve access.

There are currently 15 local bus routes, 2 express routes, 9 crosstown routes, and 2 suburban bus routes serving the Green Line Corridor. The two express routes (204 and 247) will be eliminated. The remainder of the routes will be re-aligned to serve new rail stations on the Green Line. The future bus plan in the SE segment of the Green Line also incorporates the

addition of three new routes that will feed the light rail. The Northwest Corridor and Southeast Corridor LRT Bus Operating Plan and bus route descriptions from the FEIS documents for each corridor are located in **Appendix C**.

## 2.5 ANNUAL O&M COST

The annual O&M cost of the project was a critical component in determining the cost-effectiveness of the project. The O&M estimates were based on a cost model developed for DART in 1999 and updated for subsequent submittals as required. The cost model (see **Appendix C**) is based on actual DART staffing levels and expenses, and estimates the cost to operate, maintain and administer the DART transit system for any set of operating characteristics. Each New Starts application was submitted with an operating plan and an associated set of operating statistics for each mode to support the O&M cost estimate.

**Table 2-5** presents the O&M cost forecasts for each submittal. These figures estimate annual O&M costs for the horizon year of 2025 in current year dollars. There were three primary changes in project assumptions that resulted in the significant increase in the annual O&M costs for both the project and the system between the 2001 and 2004 submittals.

1. Five years of escalation between 1999$ and 2004$
2. Fleet modification from LRVs to SLRVs was estimated to increase annual O&M costs by $3-$4 million.
3. NWROF requires some duplicate functions from the existing rail maintenance facility, some of which were applied to the Green Line MOS.
4. Operating statistics between 2001 and 2004 were increased for the following items which contributed to a higher system O&M cost in 2004 and 2005.

   a. Commuter rail annual revenue train-miles nearly doubled with the extension of the TRE from Centreport to Fort Worth.

   b. System bus hours increased.

   c. Light Rail annual revenue car-miles increased by approximately 12% due to an assumed 2-car SLRV consist for the line from Bachman Station to Buckner Station rather than typical 1-car SLRV in 1999 operating plan.

## 2.6 RIDERSHIP AND FARE REVENUES

One of the primary purposes of generating a before and after study for New Starts projects is to evaluate the tools used to develop the forecasts regarding the project. The regional travel demand model is the primary tool used by DART. It has been updated since the FFGA for the Green Line MOS. Thus, DART has elected to provide an additional forecast for ridership on the Green Line based on a more recent effort for comparison with both the FFGA forecast as well as actual ridership counts once the project is in service. This section compares forecasts of ridership and fare revenues for the three submittals being analyzed.

TABLE 2-5: ANNUAL O&M COST ESTIMATE FORECASTS

| 2025 SYSTEM | MAY 2001 SUBMITTAL (BASED ON MIS/DEIS INFO) | SEPTEMBER 2004 SUBMITTAL (BASED ON PE/FEIS) | AUGUST 2005 SUBMITTAL & FFGA 2006 |
|---|---|---|---|
| Current Year Dollars | (1999$) | (2004$) | (2005$) |
| Green Line MOS | $36.8 M | $47.6 M | $49.6 M |
| System | $316.1 M | $390.5 M | $401.6 M |

Source: 1999, 2004, and 2005 O&M Cost Model Methodology and Results Reports (Manuel Padron & Associates)

### 2.6.1 Patronage Forecasts for New Starts

The North Central Texas Council of Governments (NCTCOG), the MPO for the Dallas/Fort Worth Metropolitan Area, is the agency responsible for developing, maintaining, and implementing the travel demand forecasting model used in the region. The Dallas/Fort Worth Regional Travel Model (DFWRTM) is a traditional four-step, trip-based travel model. Planning for the Green Line used a mainframe-based model, requiring connection to the computing facility at Texas A&M University. While the MPO initiated a transition to a PC-based TransCAD model in 2003, DART and FTA agreed to continue with the mainframe model to maintain consistency among New Starts submittals and the environmental documents. The availability of electronic files for this report was minimal, limiting the reporting of results to those available in the mainframe printouts and spreadsheets created at the time. **Appendix D** contains an explanation of the process and inputs, as well as a flowchart of the travel model process. **Appendix E** contains model outputs.

**Table 2-6** summarizes ridership forecasts for each submittal. The 2001 New Starts submittal did not have an opening day estimate but did include a

TABLE 2-6: RIDERSHIP FORECASTS USED IN NEW STARTS SUBMITTALS

| | SUBMITTAL | | | | | |
|---|---|---|---|---|---|---|
| | MAY 2001 | | SEPTEMBER 2004 | | AUGUST 2005 | |
| **OPENING DAY** | **Daily** | **Annual** | **Daily** | **Annual** | **Daily** | **Annual** |
| MOS | N/A | N/A | 40,300 | 12,049,700 | 40,300 | 12,049,700 |
| Total System | N/A | N/A | 183,600 | 53,978,400 | 183,600 | 53,978,400 |
| **YEAR 2025** | | | | | | |
| MOS | 41,570 | 12,554,140 | 45,900 | 13,724,100 | 45,900 | 13,724,100 |
| Guideway System | N/A | N/A | 129,100 | 38,600,900 | 129,100 | 38,600,900 |
| Total System | 197,400 | 57,502,620 | 214,000 | 62,937,570 | 214,000 | 62,937,570 |

Source: 2001, 2004, and 2005 New Starts submittals

forecast for the horizon year 2025. At this point in the project development process, DART was requesting permission to enter preliminary engineering on the project and was not required to submit opening day information.

Both the 2004 and 2005 New Starts submittals were based on the same set of model projections completed in early 2004. Still using the same mainframe platform for the model, the new estimates included both opening day and horizon year forecasts.

The Year 2025 ridership forecast for the MOS increased from 41,570 to 45,900 for two key reasons:

- An updated set of demographics based on the 2000 census were used in the regional model for the 2004 submittal. The 2001 submittal used 2025 demographics based on 1990 census. This updated demographic set positively impacted ridership.
- Train speeds were adjusted based on Train Performance Calculation simulations conducted during the PE phase. These improved rail speeds, thus positively impacting ridership.

**Table 2-7** summarizes the projected opening day ridership for stations on the Green Line for two model runs. Based on the 2005 New Starts submittal, which used the mainframe-based model, the daily ridership for NW/SE MOS was 40,279. This network did not include the three northernmost stations in the locally funded segment or the now planned DCTA A-Train connection at Trinity Mills Station. As shown in **Figure 2-3** it did include a second line in the Northwest Corridor that terminated at Bachman Station to mimic the future Orange Line.

Given the many upgrades to the regional travel demand model and current use of the TransCAD-based model, DART has incorporated the results of a more recent model run conducted in December 2008 for the year 2013 into Table 2-7 as well. This represents a more accurate transit network based on what will be in place by 2013 for after conditions and demographic data that will be more comparable to an "after" comparison. As such, this model run reflects the Green Line in operation to North Carrollton/ Frankford Station, and the Orange Line in operation to DFW Airport with peak operations split between

TABLE 2-7: OPENING DAY DAILY LRT STATION PASSENGER VOLUMES

| STATION | GREEN LINE OPENING DAY DAILY RIDERSHIP * NEW STARTS 2005 | GREEN LINE OPENING DAY DAILY RIDERSHIP ** TransCAD MODEL - 2008 | DIFFERENCE |
|---|---|---|---|
| Farmers Branch | 2,288 | 2,757 | 469 |
| Royal Lane | 918 | 1,986 | 1,068 |
| Walnut Hill/Denton | 772 | 1,106 | 334 |
| Bachman | 1,456 | 2,080 | 624 |
| Love Field (formerly Brookhollow) | 1,325 | 915 | -410 |
| Inwood | 1,423 | 1,361 | -62 |
| Southwestern Medical District/ Parkland | 1,616 | 2,897 | 1,281 |
| Market Center | 1,040 | 783 | -257 |
| Victory | 3,040 | 915 | -2,125 |
| Dallas CBD | 16,156 | 10,750 | -5,406 |
| Deep Ellum | 289 | 174 | -115 |
| Baylor University Medical Center | 712 | 1,134 | 422 |
| Fair Park | 477 | 887 | 410 |
| MLK, Jr. | 1,476 | 911 | -565 |
| Hatcher | 1,796 | 673 | -1,123 |
| Lawnview | 1,451 | 1,820 | 369 |
| Lake June | 2,111 | 1,804 | -307 |
| Buckner | 1,933 | 2,592 | 659 |
| **MOS STATION TOTALS** | **40,279** | **35,546** | **-4,733** |
| **GREEN LINE NON-MOS STATIONS** | | | |
| Downtown Carrollton | N/A | 1,659 | 1,659 |
| Trinity Mills | N/A | 3,218 | 3,218 |
| North Carrollton/ Frankford | N/A | 731 | 731 |
| **NEW TOTAL** | **40,279** | **41,154** | **875** |

Source: * 2002 Base Year Model Run with MOS UP 7 Transit Network; ** 2013 Rail Operations Model Run (December 2008)

the North Central and Southeast Corridors. This run also includes the DCTA A-Train with a transfer at Trinity Mills Station.

The year 2013 projection of 41,154 daily riders is similar to the total opening day ridership forecasted under the mainframe model. However, key differences are that the ridership for the additional three stations is included, the Trinity Mills ridership is higher due to the transfers from DCTA, and the CBD station ridership is lower given that a significant portion of the ridership is now associated with the separate Orange Line. While the 2013 run shows a modest ridership of 915 at the Victory Station for the Green Line, this station will have a higher ridership, some of which will be associated with the Orange Line. Most of the daily ridership at Victory is due to transfers from the TRE for trips that continue to a CBD station. Some of these TRE transfers will also occur at Union Station (to the Red and Blue lines). The year 2013 projection done in 2008 also incorporates some minor modifications to feeder bus routes from the original model runs done for New Starts. It does not however, reflect the final feeder bus routes for the Green Line, which was finalized in year 2010 prior to opening.

These ridership numbers will be compared to actual ridership on the Green Line two years after opening, after the Orange Line is open. The After Study will discuss the reasons for differences from the projection, including any modified service levels that may be in effect at the time of the After Study.

## 2.6.2 Special Event Ridership Forecasts

For each of the New Start submittals, an estimate of special event ridership was also included. The Green Line will serve several special generators that are not fully captured in the regional travel demand model. These include Dallas Love Field, the Dallas Market Center, American Airlines Center, numerous events and venues in downtown Dallas, and Fair Park. Fair Park has the highest potential for special generator ridership given that it hosts the annual Texas State Fair, which alone draws more than 3.5 million people during a three-week period in October. Fair Park also hosts several other events in various venues and museums. An estimate of annual special event ridership for each of the submittals is provided in **Table 2-8** and contained in **Appendix E**.

TABLE 2-8: ANNUAL SPECIAL EVENT RIDERSHIP ESTIMATES FROM NEW STARTS SUBMITTALS

| | PROJECT ONLY | INCREASE OVER BASELINE |
|---|---|---|
| 2001 Submittal | 4,801,268 | 4,112,863 |
| 2004/2005 Submittal | 7,540,117 | 5,662,606 |

SOURCE: NEW STARTS SUBMITTALS for 2001, 2004, and 2005

The 2001 Submittal followed FTA guidance in place at the time for estimating special generator ridership. The estimates for mode share generally ranged from 10 to 20 percent. Fair Park was assumed to have the highest mode share of 20 percent based on the future direct access to the venue from two stations (Fair Park and MLK, Jr.). The American Airlines Center estimate was based largely on national experience with major sporting facilities, and assumed 17 percent. Downtown events ranged from 10 to 20 percent, and the Dallas Market Center assumed a 10 percent mode share. This information was used to calculate the incremental ridership and in turn the cost-effectiveness index for the project.

In 2003, annual special event ridership was adjusted to incorporate a growth rate for key events such as the State Fair. These adjustments resulted in a new 7,540,117 annual ridership estimate which carried through the remaining New Start submittals.

In addition to the annual special event ridership, the cost-effectiveness measure for the 2004 and 2005 New Starts Submittals was modified to focus on incremental hours of user benefit. The special generator ridership potential was captured through the calculation of off-model user benefits. Three primary special events/venues (American Airlines Center, Fair Park, and downtown Dallas/West End) were used in the special events analysis model, which uses the total trip attractions to the venue and the current transit mode share to calculate user benefits. The special generator worksheets and assumptions for the 2005 Submittal are included in **Appendix E.** The assumed annual trip attractions and current mode share are as follows in **Table 2-9**:

TABLE 2-9: ASSUMED ANNUAL TRIP ATTRACTIONS AND CURRENT MODE SHARE

| | ANNUAL TRIP ATTRACTIONS | MODE SHARE |
|---|---|---|
| American Airlines Center | 2,534,000 | 7% |
| West End | 1,995,000 | 10% |
| Fair Park | 11,380,000 | 15% |

SOURCE: 2005 NEW STARTS SUBMITTAL

To support the mode share estimates assumed in these and earlier submittals, DART conducted additional analysis and surveys. To understand the impact of special events on the LRT system, DART completed a report entitled Special Event Impact on Light Rail Ridership through an Analysis of Day Pass Sales at Ticket Vending Machines (June 2004). Based on TVM sales, average weekday ridership was 4.7 percent higher during the 2003 State Fair than a comparable period before the State Fair. Only bus shuttle service from LRT stations was provided in 2003. American Airlines Center event days resulted in a 1.9% increase from January to May 2004, with special event TRE service and no direct LRT service to the venue at that time. In 2003, observed transit mode share at American Airlines Center (from TRE and bus shuttle service from West End LRT Station) was 7 percent. Sales at TVM's only represent about 16 percent of average weekday ridership so the actual impact of events was assumed to be higher.

To further support mode share assumptions at the State Fair, DART conducted a survey at the 2004 State Fair. This survey found that 15.6 percent of all fair attendees included some form of public transportation to get to the fair. In response to a hypothetical question of using the LRT system to get to Fair Park if there were at station there, 86.6 percent of respondents would use it. Similar surveys in 2005 and 2006 found that between 16-17 percent of attendees used public transit to get to the fair.

The most recent survey at the State Fair took place during the 2009 State Fair, when the first section of the Green Line from Victory to MLK, Jr. Station was in service. Based on the survey, more than 22 percent of respondents used public transit for at least one leg of their trip to the fair; 20 percent used LRT, approximately double prior year usage. Information from additional surveys for special generators, including operational changes to the LRT system to handle loads during the State Fair and its key events will be documented and compared to this earlier data as part of the After study.

### 2.6.3 Fare Revenue Forecasts for New Starts

The expectation for farebox revenues is based on a percentage of operating cost experienced by the system over time. DART's farebox revenue has been relatively constant at 19% of operating cost for bus and rail combined. The percentage is higher for rail than bus, so the implementation of new rail service allows the assumption that future farebox revenue will be a higher percentage of O&M cost.

The New Starts submittals incorporate a forecast for system farebox revenues with the Green Line MOS included in the system generated from the project's financial plan. Shown in **Table 2-10**, the forecasts for farebox revenue were adjusted for each submittal based on current levels and the assumptions for future farebox recovery. For the 2004 and 2005 submittals, farebox recovery was estimated to be significantly higher than the original estimate in 2001. Two primary assumptions were modified in addition to escalating the dollar amounts to account for inflation. The percentage of O&M cost is higher because after Green Line implementation, the DART system will have a higher proportion of rail service, which has been shown to have a higher farebox recovery. The DART financial plan also included the assumption that the fare structure will be modified sometime in the future to elicit a higher farebox recovery.

TABLE 2-10: SYSTEM FAREBOX REVENUE PROJECTIONS WITH GREEN LINE MOS

| 2025 FAREBOX | MAY 2001 SUBMITTAL (BASED ON MIS/ DEIS INFO) | SEPTEMBER 2004 SUBMITTAL (BASED ON PE/ FEIS) | AUGUST 2005 SUBMITTAL & FFGA 2006 |
|---|---|---|---|
| | (1999$) | (2004$) | (2005$) |
| System O&M Cost | $316.1 M | $390.5 M | $401.6 M |
| Estimated Farebox Revenue | $60.09 M | $127.6 M | $126.0 M |
| Percentage | 19.3% | 32.7% | 31.4% |

Source: New Starts Template 13 for 2001, 2004, and 2005

## 2.7 SUMMARY

DART is scheduled to initiate service on the remaining portion of the Green Line in early December 2010. Construction has proceeded on schedule and on budget. Early indications based on traffic patterns, current bus patronage, and ridership on the currently operating portion of the Green Line suggest that the forecasts are achievable.

It is important to consider that existing conditions have changed that will have both positive and negative impacts on the effectiveness of the Green Line. The most significant change has been the decline in the economy. While conditions are better in Dallas than many other parts of the country, a sluggish economy has had an adverse effect on ridership as well as DART's overall financial capacity. Another change is the introduction of suburban service from Denton County. This was not incorporated into the Green Line FFGA forecast, but it will most likely improve utilization of the light rail.

Such changes will add to the complexity of the After Study, but DART has realized the importance of establishing a more realistic baseline of before conditions, in addition to outlining the forecasts from the project development process. Chapter 3 of this report summarizes extensive background data that has been collected to illustrate the changes in existing conditions leading up to opening day. This data has been collected for each station so that the impacts of economic forces as well as differences between projected and actual levels of service and ridership can be compared.

# 3.0 BEFORE CONDITIONS

The history of the Green Line has been described in detail in Chapters 1 and 2 of this document. The purpose of this chapter is to outline the conditions before the construction of the rail line in a format that enables comparison with after conditions, which will be assessed two years subsequent to the opening of revenue service.

## 3.1 TRANSIT SERVICE

### 3.1.1 Rail Service

In 2008, prior to the opening of Phase 1 of the Green Line, DART's light rail system consisted of 45 miles of double-tracked LRT and 35 stations. This includes the segment from Victory to West End, which opened in November 2004 for special event service only. DART Rail operates in the municipalities of Dallas, Garland, Richardson, and Plano. Service is seven days a week from approximately 5 AM to 12 AM. During weekdays, the rail operates on a 10-minute peak/20-minute off-peak headway. Late night service after 9 PM is generally on a 30-minute headway. On weekdays during the peak hour, the Red Line operates on a 5-minute headway in the southbound direction between Parker Road and Cedars Station to meet demand. On weekends, DART rail operates on a 20-minute headway, with service after 7 PM generally on a 30-minute headway.

In September 2009, DART opened Phase 1 of the Green Line from Victory to MLK, Jr. Station. This replaced the special event service from West End to Victory with regular daily service. This early opening brought the system to 48 miles and 39 stations.

In addition to light rail transit, DART, in cooperation with The T, operates the Trinity Railway Express (TRE) between Dallas Union Station and the Fort Worth T&P Station. This 34-mile commuter rail line operates six days a week. Weekday service is generally on a 20-minute peak/60-minute off-peak headway. Saturday service is generally every 60-90 minutes. There is no Sunday service unless required by a special event.

### 3.1.2 Bus Service

The DART Green Line Corridor is served by 28 fixed bus routes as shown in **Table 3-1**. The service includes 15 local routes, two express routes, two suburban routes, and nine crosstown routes. In addition, **Table 3-2** summarizes the revenue service hours for the bus routes operating in the corridor.

TABLE 3-1: BUS ROUTES SERVING GREEN LINE CORRIDOR

| SERVICE | ROUTE |
|---|---|
| Local | 2, 12, 19, 26, 29, 42, 35, 37, 39, 44, 50, 60, 76, 165, & 185 |
| Express | 204, 247 |
| Crosstown | 400, 405, 408, 409, 428, 453, 466, 475, & 486 |
| Suburban | 331 & 342 |

SOURCE: DART (MARCH-MAY 2007)

In early 2007, DART was offering 1,420.76 hours of peak revenue service in the Green Line Corridor and 978.24 hours of non-peak service. These data are for a single weekday.

*J.B. Jackson, Jr. Transit Center*

The SE portion of the corridor is also served by two bus transfer centers: the J.B. Jackson, Jr. Transit Center and the Lake June Transit Center, which are located at 1423 J.B. Jackson, Jr. Boulevard and 6400 Lake June Road, respectively. J.B. Jackson, Jr. Transit Center is served by three local bus routes (12, 26, 50), one crosstown route (409), and three express routes (205, 202, and 264). Amenities include 200 free parking spaces, climate-controlled waiting area, bike racks, restrooms, vending machines, and a station monitor. Two local bus routes (42 and 165), one transit center feeder route (342) and one crosstown route (475) serve the Lake June Transit Center. Amenities include 443 free parking spaces, sheltered seating with air conditioning, restrooms, bike racks, vending machines, and a station monitor.

The NW segment of the corridor is currently served by

TABLE 3-2: WEEKDAY BUS REVENUE SERVICE HOURS GREEN LINE CORRIDOR

| REVENUE SERVICE | LOCAL LINES | EXPRESS LINES | SUBURBAN LINES | CROSSTOWN LINES | TOTAL |
|---|---|---|---|---|---|
| Peak Hours | 808.68 | 51.95 | 33.13 | 527.00 | 1420.76 |
| Off-Peak Hours | 523.68 | 16.83 | 9.63 | 428.10 | 978.24 |

SOURCE: DART, 2007

the North Carrollton Transit Center (NCTC), located at 2533 Dickerson Parkway, and the Farmers Branch Park-and-Ride, located at 12800 Denton Drive. The NCTC is located outside of the NW/SE MOS federal project limits and offers 1,047 parking spaces for bus patrons and carpoolers. It is served by routes 185, 204, 333, and 344.

The Farmers Branch Park and Ride is at the northern terminus of the NW/SE MOS. It has 300 spaces and is served by routes 44, 185, 204, 331, 400, 486, as well as a Farmer Branch on-call service.

## 3.2 OPERATING AND MAINTENANCE COSTS

**Table 3-3** illustrates the operating and maintenance costs by mode for the DART system for FY 2007. Currently, the largest expenditures are attributable to vehicle operations, vehicle maintenance and general administration for bus, which is the most widespread and frequently used mode in service. LRT has the highest non-vehicle maintenance cost due to the rail, catenary and station upkeep. More detail is included in the cost methodology outlined in Appendix C.

The operating statistics depicted in **Table 3-4** have been generated from the FY 2007 DART National Transit Database (NTD) Report. These statistics, which include productivity, efficiency, and effectiveness characteristics, will be compared to similar system numbers after the Green Line has been operating for two years (FY2012 NTD) to show how the new facility impacts the DART system. The FY 2007 NTD Report is used to provide a snap shot of the system prior to any perceived impact on service or travel patterns as a result of the Green Line.

TABLE 3-3: DART O&M COSTS BY MODE

| MODE | VEHICLE OPERATIONS | VEHICLE MAINTENANCE | NON-VEHICLE MAINTENANCE | GENERAL ADMINISTRATION | TOTAL |
|---|---|---|---|---|---|
| Bus | $119,769,727 | $45,847,491 | $8,777,782 | $37,511,909 | $211,906,909 |
| LRT | $28,270,203 | $16,623,466 | $14,816,022 | $20,106,218 | $79,815,909 |
| Commuter Rail | $6,895,454 | $4,736,964 | $3,471,336 | $5,816,043 | $20,919,797 |
| Demand Response | $19,492,022 | $7,848,129 | $360,498 | $5,158,179 | $32,858,828 |
| VanPool | $497,642 | $113,976 | $0 | $537,531 | $1,149,149 |
| Total System | $174,925,175 | $75,170,026 | $27,425,638 | $69,129,880 | $346,650,592 |

SOURCE: NATIONAL TRANSIT DATABASE, FY 2007 DART NTD REPORT

Leading up to the opening of the Green Line in December 2010, DART will be implementing a series of bus and rail service reductions as a result of lower sales tax revenues. The ridership gains and economies of scale attributable to the introduction of service on the Green Line may be tempered by these budgetary reductions.

## 3.3 CORRIDOR DEMOGRAPHICS

The overall demographics for the Green Line are noted in **Table 3-5**. These station sub-areas were defined in the DART NW/SE MOS FY07 New Starts Submission from August 2005, and represents data from Template 12 and Template 4 of the application. Template 12 is part of the Land Use Information section. The data in this section is related to a half-mile radius of each of the 16 station areas and was based on 2002 data from NCTCOG. Template 4 is part of the Mobility Improvements and Environmental Benefits section. This data was calculated from 2000 Census numbers that were multiplied by a GIS-calculated fraction representing the portion of the census tract located within the study area.

The demographic characteristics of the station areas provide an overview of the existing socio-economic conditions of each area and insight into how each area will likely benefit from the introduction of light rail transit. Recording demographic data at "before" and "after" stages can help explain ridership trends that emerge from the "after" conditions assessment

TABLE 3-4: DART KEY OPERATING STATISTICS

| MODE | O&M EXPENSE PER HOUR | O&M EXPENSE PER PASSENGER | UNLINKED TRIPS PER HOUR | VEHICLES OPERATED IN MAXIMUM SERVICE | FAREBOX RECOVERY PERCENTAGE |
|---|---|---|---|---|---|
| Bus | $106.44 | $3.98 | 26.76 | 740 | 13.03% |
| LRT | $327.98 | $4.46 | 73.52 | 115 | 11.06% |
| Commuter Rail | $825.24 | $14.17 | 58.23 | 36 | 6.13% |
| Demand Response | $72.86 | $39.96 | 1.82 | 199 | 5.50% |
| VanPool | $24.14 | $2.33 | 10.34 | 103 | 37.40% |
| Total System | | | | | 9.96% |

SOURCE: NATIONAL TRANSIT DATABASE, FY 2007 DART NTD REPORT

TABLE 3-5: TEMPLATE 12 CORRIDOR DEMOGRAPHICS

| STATION(S) AREA | TOTAL POPULATION | HOUSING UNITS | EMPLOYMENT | POPULATION DENSITY (PERSONS/ SQ. MI.) | EMPLOYMENT DENSITY (JOBS/ SQ. MI.) | 2000 TOTAL HH* W/IN ½ MILE OF BOARDING POINT | NUMBER OF LOW-INCOME HH* W/IN ½ MILE OF BOARDING POINT | PERCENTAGE OF LOW-INCOME HH* |
|---|---|---|---|---|---|---|---|---|
| Farmers Branch | 1,328 | 475 | 3,969 | 1,692 | 5,056 | 590 | 42 | 7.1% |
| Royal Lane | 1,338 | 500 | 7,328 | 1,711 | 9,371 | 904 | 150 | 16.6% |
| Walnut Hill/ Denton | 803 | 321 | 10,228 | 1,027 | 13,079 | 664 | 66 | 9.9% |
| Bachman | 3,302 | 1,265 | 4,206 | 4,206 | 6,285 | 1,749 | 400 | 22.9% |
| Love Field (formerly Brookhollow) | 925 | 280 | 6,711 | 1,178 | 8,549 | 267 | 40 | 15.0% |
| Inwood, Southwestern Medical District/ Parkland, Market Center | 8,086 | 3,031 | 33,509 | 3,878 | 16,071 | 3,563 | 673 | 18.9% |
| Victory | 1,680 | 637 | 7,815 | 2,140 | 9,955 | 956 | 104 | 10.9% |
| Deep Ellum, Baylor University Medical Center, Fair Park, MLK, Jr. | 7,082 | 3,187 | 42,567 | 2,848 | 17,116 | 2,430 | 695 | 28.6% |
| Hatcher | 4,887 | 1,749 | 1,101 | 6,225 | 1,403 | 1,177 | 547 | 46.5% |
| Lawnview | 1,221 | 514 | 230 | 1,555 | 293 | 583 | 145 | 24.8% |
| Lake June | 2,634 | 759 | 877 | 3,355 | 1,117 | 670 | 178 | 26.6% |
| Buckner | 2,628 | 907 | 1,800 | 3,348 | 2,293 | 921 | 280 | 30.4% |

SOURCE: TEMPLATE 12, 2005 NEW STARTS SUBMITTAL; * HH=HOUSEHOLDS

of the Green Line Corridor. Some station areas have a high percentage of low-income households, such as the Deep Ellum, Baylor University Medical Center, Fair Park, and MLK, Jr. area at 28.6 percent; Hatcher at 46.5 percent; Lake June at 26.6 percent; and Buckner at 30.4 percent. Bringing light rail to these areas will likely provide improved access to employment and other activities in the DART Service Area for low-income individuals and those who may have limited or no access to an automobile.

Other station areas have a high employment density coupled with a proportionally low population density. This suggests that many employees working in the station area must travel from outside the area to reach their employment. Stations with high employment densities include Walnut Hill/Denton at 13,079 jobs per square mile; the Inwood, Southwestern Medical District/Parkland, and Market Center area at 16,071 jobs per square mile; and the Deep Ellum, Baylor University Medical Center, Fair Park, and MLK, Jr. area at 17,116 jobs per square mile. Providing light rail stations in these areas will allow employees and those seeking employment to more readily access these and other nearby employment centers.

## 3.4 OTHER FACTORS AFFECTING COST AND RIDERSHIP

### 3.4.1 Construction Cost Index Values

Construction cost index values provide an indication of materials and labor cost trends over a period of time. When compared to actual construction cost estimates for the Green Line Corridor, these values can show at the "before" stage whether costs are rising at a rate comparable to the anticipated or estimated rate of increase. Tracking construction cost index values through the life of the project can show at the "after" stage a trend for construction costs that can help explain any escalation in actual construction costs above prior estimations.

Engineering News Record (ENR) provides Construction Cost Index (CCI) values for the Dallas area. Prior to 2006, these values were collected for the month of December of any year. In 2006, ENR began calculating values for every month of the year. For consistency, only December values are presented. The CCI is an aggregated index like the consumer price index. The base year for the index is 1913, and the base value is $100. It is made up of the elements presented below.

- 200 hours of common labor at the 20-city average of common labor rates
- 25 hundredweight of standard structural steel shapes at the fabricated 20-city price
- 1.128 tons of Portland cement at the 20-city price
- 1,088 board-feet of 2x4 lumber at the 20-city price

TxDOT uses its own aggregated index called the Highway Cost Index (HCI) that is made up of four

TABLE 3-6: CONSTRUCTION COST INDICES FOR GREEN LINE CONSTRUCTION COST ESTIMATE YEARS

| | CONSTRUCTION COST INDEX (CCI) | HIGHWAY COST INDEX (HCI) * |
|---|---|---|
| 1999 | $3,968.50 | $115.83 |
| 2002 | $3,895.46 | $118.52 |
| 2006 | $4,922.24 | $191.99 |
| | | |
| % change 1999-2002 | -1.84% | 2.32% |
| % change 2002-2006 | 26.36% | 61.99% |
| % change 1999-2006 | 24.03% | 65.75% |
| | | |
| Compound annual growth rate 1999-2002 | -0.62% | 0.77% |
| Compound annual growth rate 2002-2006 | 6.02% | 12.82% |
| Compound annual growth rate 1999-2006 | 3.12% | 7.49% |

SOURCE: ENR, 2008; TXDOT, 2008. *NOTE: TWELVE-MONTH AVERAGE FOR DECEMBER OF YEAR

categories: earthwork, subgrade and base course, surfacing, and structures. Each of these categories is broken down into several elements that comprise control items. Construction cost estimates for the DART Green Line were made in 1999, 2002, and 2006 dollars, respectively. The cost indices from Engineering News Record and TxDOT are presented in **Table 3-6**.

Both indices show a small change for the time period between 1999 and 2002; the CCI figure shows a decrease in prices and the HCI figure indicates an increase. Based on a compounded annual growth rate, both indices indicate a change of less than one percent per year. Both indices show a marked increase in the time period between 2002 and 2006. The TxDOT index grew by a much larger percentage than the ENR index; in fact, it is twice the compound annual growth rate. The overall result for the complete time period between the time of the MIS estimates and the FFGA estimates is a nearly one-third increase in the ENR CCI figure and a nearly two-third increase in the TxDOT HCI figure. As noted above, labor costs are included in the CCI but not the HCI.

## 3.4.2 Consumer Price Index

One way to assess the changing economic character of an area is to examine the changes in the Consumer Price Index (CPI). This value is obtained for a predetermined bundle of goods and is available for a variety of parameters and geographical areas to indicate changes in inflation. Increases in the CPI suggest that the construction cost estimates for the Green Line have also likely experienced an increase. The CPI can also be an indicator of changes in consumer behavior. If high or hyper inflation occurs, there would be a significant increase in the CPI, indicating that costs of goods and services are becoming more expensive. In response, consumers may alter habits by owning fewer cars or driving less and using transit more. Examining "before" and "after" conditions of the CPI can offer insight into any observed changes in actual construction costs and ridership. The data presented in **Table 3-7** depicts the CPI for urban consumers in the Dallas/Fort Worth metropolitan area. The years in the table represent the years in which cost estimates were prepared for the Green Line in such documents as the MIS, the EIS, and the FFGA.

TABLE 3-7: CONSUMER PRICE INDEX (CPI) FOR ALL ITEMS FOR URBAN CONSUMERS IN THE DALLAS/FORT WORTH METROPOLITAN AREA

| YEAR | 1999 | 2002 | 2005 | 2006 | 2007 | TOTAL INCREASE |
|---|---|---|---|---|---|---|
| CPI | 158.0 | 172.7 | 184.7 | 190.1 | 193.25 | - - |
| Increase | - - | 9.3 % | 6.9 % | 2.9 % | 1.7 % | 22.3 % |

SOURCE: BUREAU OF LABOR STATISTICS, 2008.

## 3.4.3 Price of Gasoline

The mode choice model for the Green Line was developed by NCTCOG. This model calculated the cost of vehicle miles using 1984 as the base year. The total cost per vehicle mile is outlined in **Table 3-8**.

TABLE 3-8: COMPONENTS OF OPERATING COST PER MILE IN NCTCOG MODEL

| ELEMENT | COST |
|---|---|
| 1984 Miles Per Gallon | 17.43 |
| Fuel Price Per Gallon | $1.152 |
| Fuel Price Per Mile | $0.066 |
| Maintenance Cost Per Mile | $0.066 |
| Oil Cost Per Mile | $0.004 |
| Calculated Cost Per Vehicle Mile | $0.14 |

SOURCE: NCTCOG, 2008.

Data for the retail price of gasoline in the Dallas area from the Automobile Association of America (which obtains its data from the Oil Price Information Service) is only available back to 1996. The US Department of Labor Bureau of Labor Statistics does provide the cost of gasoline in 1984 (as part of the Consumer Price Index); however, it is only available at the city average. Using data from early January 2009, the cost of a gallon of regular unleaded gasoline is 7.8% less in Dallas than the US city average. If this proportion has roughly held over the past 25 years, then the cost of a gallon of regular unleaded gasoline in 1984 was approximately $1.140.

Typically, travel demand models keep costs constant once the model is calibrated. Therefore, **Table 3-9** presents the adjusted cost of gasoline used in the model compared to the actual price. The adjusted cost was calculated using the CPI Calculator on the Bureau of Labor Statistics website. The actual price of gasoline is from the Bureau of Labor Statistics. They provide the cost for all US cities for each month in a year. The figures in **Table 3-9** use the highest month for that year (December 1999, October 2002, and July 2006).

TABLE 3-9: ADJUSTED COST OF GASOLINE FROM THE NCTCOG MODEL VERSUS ACTUAL COST OF GASOLINE

| | ADJUSTED COST* | ACTUAL COST** |
|---|---|---|
| 1984 | $1.15 | $1.14 |
| 1999 | $1.85 | $1.20 |
| 2002 | $1.99 | $1.34 |
| 2006 | $2.23 | $2.77 |

NOTES: * 1984 FIGURE IS COST OF GASOLINE USED IN NCTCOG MODEL. VALUES FROM OTHER YEARS WERE ADJUSTED USING THE CPI INFLATION CALCULATOR (WWW.BLS.GOV\DATA\INFLATION_CALCULATOR.HTM) ACCESSED 1/8/09.

** ACTUAL COSTS WERE CALCULATED USING BUREAU OF LABOR STATISTICS HISTORICAL DATA AND THEN USING THE PROPORTION OF THE COST OF GASOLINE IN DALLAS TODAY TO THE US CITY PRICE TO THE PAST PRICES.

This information indicates that gas prices actually increased at a higher rate from 2002 to 2006 than the model anticipated. Since the model used the CPI Inflation Calculator to calculate the numbers in the "adjusted cost" column, it follows that gas prices increased much more than the actual inflation rates experienced between 2002 and 2006. From 2002 to 2006, actual gas prices increased 106.7 percent. Such a rapid and steep increase in gas prices can increase transit ridership by causing a mode shift from personal vehicles to transit. Examining gas prices at "before" and "after" stages can help explain changes in ridership from what was projected in the "before" stage to what was actually experienced in the "after" stage.

## 3.4.4 Highway Congestion/Service Levels

Level of Service (LOS) is a method of assessing the operation of a roadway. It is calculated as the ratio between the volume of vehicles on a road and the road's capacity. Volume and capacity are calculated as vehicles over a period of time, e.g. vehicles per day (VPD). LOS results are presented as a "letter grade" from A to F, with A meaning free flow conditions and F being highly congested, especially during peak periods of the day. The relation between this ratio and the grade are presented in **Table 3-10**. The 2000 Highway Capacity Manual states that "most urban communities set level of service D as the minimum level of acceptable service for peak hour operation and plan for level of service C or better for all other times of the day." Since daily averages include peak-hour figures, the minimum acceptable daily average LOS for an urban area is also typically LOS D. For this reason, the following discussion of Green Line Corridor levels of service focuses on unacceptable levels of service, LOS E and F.

TABLE 3-10: NCTCOG DEFINITION OF LOS

| LOS CATEGORY | DEFINITION |
|---|---|
| LOS A/B | <0.45 |
| LOS C | 0.45-0.65 |
| LOS D | 0.65-0.8 |
| LOS E | 0.8-1 |
| LOS F | >1 |

SOURCE: NCTCOG, 2008.

NOTE: LOS = VOLUME/CAPACITY

NOTE: * VOLUME IS THE AMOUNT OF VEHICLES ON A SEGMENT OF ROAD. CAPACITY IS CALCULATED BY NCTCOG AS THE HOURLY DESIGN VOLUME OF THE ROAD MULTIPLIED BY TEN TIMES THE NUMBER OF LANES.

A typical six-lane divided city street is expected to carry 18,000-55,000 vehicles/day to maintain an acceptable LOS. Therefore, 95,000 vehicles/day describes a very high-volume road. A typical six-lane highway with an acceptable LOS has a volume of 103,200 vehicles/day.

The intent of providing information about the operation of roadways in the Green Line Corridor is to show the relationship between the transit and roadway elements of the transportation system. The roadways discussed in this LOS analysis are either "competing," roadways that are generally parallel to the Green Line Corridor, or "non-competing," roadways that are not parallel to the Green Line Corridor. Congestion on competing roadways serves as an incentive to travelers to use transit, while the operating efficiency of non-competing roadways has an impact on accessing transit stations. Conversely, the ability of transit to create capacity on competing roadways and add volume to non-competing roadways will be an important component of the "after" portion of this analysis. All of the traffic data was collected prior to the construction of the Green Line to ensure true existing conditions before

implementation of the LRT. 2004 NCTCOG traffic count data was the most recent data available.

**Table 3-11** provides a list of competing roadways in the Green Line Corridor. The primary competing roadways for the NW segment are IH 35E (Stemmons Freeway), Harry Hines Boulevard, and Denton Drive. Broadway and Maple Avenue are also competing roadways for shorter segments. As shown in **Table 3-11**, IH 35E carries more than 200,000 vehicles per day on several segments. This major freeway generally operates at a LOS E or F. Harry Hines is a major six-lane arterial parallel to the Green Line which is mostly at LOS C or D. At the start of the Green Line construction, the majority of Denton Drive was a 2-lane roadway; one segment from Webb Chapel Extension to Mockingbird had been reconstructed as a four-lane undivided roadway prior to the Green Line. During Green Line construction, the City initiated reconstruction south of Mockingbird as a 4-lane undivided roadway as well. Denton Drive is immediately adjacent to a significant portion of the NW Green Line and generally operates at LOS C or D.

The SE segment of the Green Line does not have a continuous competing roadway. However, portions of US 175, Perry and RB Cullum Boulevard, Scyene and Jim Miller serve the same travel patterns in some areas. US 175 carries the highest volumes. All of these roadways operate at an acceptable LOS B, C, or D. Numerous other streets provide access in the area and may compete for short segments.

TABLE 3-11: COMPETING ROADWAY SEGMENTS - GREEN LINE CORRIDOR

| ROAD SEGMENT | | | DAILY VOLUME[1] | HOURLY VOLUME[2] | LANES | HOURLY CAPACITY[3] | V/C RATIO[n] | LOS |
|---|---|---|---|---|---|---|---|---|
| **STEMMONS FWY (IH 35E)** | | | | | | | | |
| PGB TURNPIKE | to | SANDY LAKE RD | 173,479 | 17,348 | 8 | 17,000 | 1.02 | F |
| SANDY LAKE RD | to | LUNA RD | 168,044 | 16,804 | 8 | 17,000 | 0.99 | E |
| LUNA RD | to | BELT LINE RD | 172,195 | 17,220 | 8 | 17,000 | 1.01 | F |
| BELT LINE RD | to | CROSBY RD | 164,047 | 16,405 | 8 | 17,000 | 0.96 | E |
| CROSBY RD | to | VALWOOD LN | 193,025 | 19,303 | 8 | 17,000 | 1.14 | F |
| VALWOOD LN | to | VALLEY VIEW LN | 195,239 | 19,524 | 8 | 17,000 | 1.15 | F |
| VALLEY VIEW LN | to | L B J FRWY | 183,946 | 18,395 | 8 | 17,000 | 1.08 | F |
| LBJ FRWY | to | ROYAL LN | 215,225 | 21,523 | 10 | 21,250 | 1.01 | F |
| ROYAL LN | to | MERRELL RD | 231,836 | 23,184 | 10 | 21,250 | 1.09 | F |
| MERRELL RD | to | MANANA DR | 230,130 | 23,013 | 10 | 21,250 | 1.08 | F |
| MANANA DR | to | N W HWY | 114,393 | 11,439 | 8 | 17,000 | 0.67 | D |
| N W HWY | to | STOREY LN | 118,285 | 11,829 | 8 | 17,000 | 0.70 | D |
| STOREY LN | to | MOCKINGBIRD LN | 131,034 | 13,103 | 8 | 17,000 | 0.77 | D |
| MOCKINGBIRD LN | to | WYCLIFF | 265,453 | 26,545 | 12 | 25,500 | 1.04 | F |
| WYCLIFF | to | OAK LAWN AVE | 279,640 | 27,964 | 12 | 24,600 | 1.14 | F |
| **HARRY HINES** | | | | | | | | |
| BUTLER | to | INWOOD RD | 34,668 | 3,467 | 6 | 4,650 | 0.75 | D |
| INWOOD RD | to | MOCKINGBIRD LN | 27,369 | 2,737 | 6 | 4,650 | 0.59 | C |
| MOCKINGBIRD LN | to | EMPIRE CENTRAL | 27,114 | 2,711 | 6 | 4,650 | 0.58 | C |
| EMPIRE CENTRAL | to | ROANOKE AVE | 30,550 | 3,055 | 6 | 4,650 | 0.66 | D |
| ROANOKE AVE | to | REGAL ROW | 23,090 | 2,309 | 6 | 4,650 | 0.50 | C |
| REGAL ROW | to | SHORECREST | 24,424 | 2,442 | 6 | 4,650 | 0.53 | C |
| SHORECREST | to | WB CHAPEL EXT | 24,000 | 2,400 | 6 | 4,650 | 0.52 | C |
| WB CHAPEL EXT | to | COMMUNITY DR | 36,058 | 3,606 | 6 | 4,650 | 0.78 | D |
| COMMUNITY DR | to | N W HWY | 30,008 | 3,001 | 6 | 4,650 | 0.65 | D |
| N W HWY | to | LOMBARDY LN | 34,268 | 3,427 | 6 | 4,650 | 0.74 | D |
| LOMBARDY LN | to | ROYAL LN | 29,461 | 2,946 | 6 | 4,650 | 0.63 | C |
| ROYAL LN | to | L B J FRWY | 27,506 | 2,751 | 6 | 4,650 | 0.59 | C |
| **MAPLE AVE** | | | | | | | | |
| CEDAR SPRINGS RD | to | OAK LAWN AVE | 13,532 | 1,353 | 4 | 1,800 | 0.75 | D |
| OAK LAWN AVE | to | WYCLIFF AVE | 15,246 | 1,525 | 4 | 1,800 | 0.85 | D |
| WYCLIFF AVE | to | LUCAS DR | 17,206 | 1,721 | 4 | 1,800 | 0.96 | E |
| LUCAS DR | to | MEDICAL DISTRICT DR | 15,806 | 1,581 | 4 | 1,800 | 0.88 | E |
| MEDICAL DISTRICT DR | to | INWOOD RD | 10,636 | 1,064 | 4 | 1,800 | 0.59 | C |
| INWOOD RD | to | MOCKINGBIRD LN | 7,760 | 776 | 4 | 1,800 | 0.43 | B |
| **BROADWAY** | | | | | | | | |
| VALWOOD | to | BURNING TREE LN | 9,149 | 915 | 2 | 900 | 1.02 | F |
| BURNING TREE LN | to | CROSBY RD | 7,559 | 756 | 2 | 900 | 0.84 | E |
| CROSBY RD | to | BROADWAY ST | 6,000 | 600 | 2 | 900 | 0.67 | D |
| BELT LINE RD | to | NORTHSIDE DR | 5,761 | 576 | 2 | 900 | 0.64 | C |
| NORTHSIDE DR | to | LUNA RD | 5,547 | 555 | 2 | 900 | 0.62 | C |

TABLE 3-11, continued: COMPETING ROADWAY SEGMENTS - GREEN LINE CORRIDOR

| ROAD SEGMENT | | | DAILY VOLUME[1] | HOURLY VOLUME[2] | LANES | HOURLY CAPACITY[3] | V/C RATIO[n] | LOS |
|---|---|---|---|---|---|---|---|---|
| **DENTON DR** | | | | | | | | |
| VALLEY VIEW | to | LBJ | 6,049 | 605 | 2 | 900 | 0.67 | D |
| LBJ | to | FOREST LANE | 7,102 | 710 | 2 | 900 | 0.79 | D |
| FOREST LANE | to | NORTHAVEN RD | 7,927 | 793 | 2 | 900 | 0.88 | E |
| NORTHAVEN RD | to | ROYAL LANE | 7,460 | 746 | 2 | 900 | 0.83 | D |
| ROYAL LANE | to | MERRELL RD | 6,089 | 609 | 2 | 900 | 0.68 | D |
| MERRELL RD | to | WALNUT HILL LN | 5,503 | 550 | 2 | 900 | 0.61 | C |
| WALNUT HILL LN | to | LOMBARDY LN | 5,950 | 595 | 2 | 900 | 0.66 | D |
| LOMBARDY LN | to | COMMUNITY DR | 4,500 | 450 | 2 | 900 | 0.50 | C |
| COMMUNITY DR | to | WEBB CHAPEL EXT | 4,215 | 422 | 2 | 900 | 0.47 | C |
| WEBB CHAPEL EXT | to | SHORECREST DR | 9,356 | 936 | 4 | 1,800 | 0.52 | C |
| SHORECREST DR | to | LOVERS LANE | 14,133 | 1,413 | 4 | 1,800 | 0.79 | D |
| LOVERS LANE | to | MOCKINGBIRD LN | 12,429 | 1,243 | 4 | 1,800 | 0.69 | D |
| MOCKINGBIRD LN | to | MANOR WAY | 6,844 | 684 | 2 | 900 | 0.76 | D |
| MANOR WAY | to | INWOOD | 5,692 | 569 | 2 | 900 | 0.63 | C |
| INWOOD | to | MAPLE AVE | 7,140 | 714 | 2 | 900 | 0.79 | D |
| **US HWY 175** | | | | | | | | |
| HWY 310 | to | BEXAR ST | 70,242 | 7,024 | 6 | 12,750 | 0.55 | C |
| BEXAR ST | to | BRUTON RD | 74,583 | 7,458 | 6 | 12,750 | 0.58 | C |
| BRUTON RD | to | LAKE JUNE | 63,300 | 6,330 | 6 | 12,750 | 0.50 | B |
| LAKE JUNE | to | JIM MILLER | 62,526 | 6,253 | 6 | 12,750 | 0.49 | B |
| **PERRY / R. B. CULLUM BLVD** | | | | | | | | |
| HASKELL AVE | to | EXPOSITION AVE | 11,304 | 1,130 | 6 | 2,700 | 0.42 | B |
| EXPOSITION AVE | to | 1ST AVE | 11,582 | 1,158 | 6 | 2,700 | 0.43 | B |
| 1ST AVE | to | GRAND AVE | 18,728 | 1,873 | 6 | 2,700 | 0.69 | D |
| GRAND AVE | to | FIZHUGH AVE | 28,200 | 2,820 | 8 | 3,600 | 0.78 | D |
| FIZHUGH AVE | to | METROPOLITAN AVE | 18,410 | 1,841 | 6 | 2,700 | 0.68 | C |
| **SCYENE ROAD** | | | | | | | | |
| METROPOLITAN AVE | to | HATCHER ST | 17,516 | 1,752 | 6 | 2,700 | 0.65 | C |
| HATCHER ST | to | LAWNVIEW AVE | 24,268 | 2,427 | 6 | 2,700 | 0.90 | E |
| LAWNVIEW AVE | to | NUTTING DR | 17,308 | 1,731 | 6 | 2,700 | 0.64 | C |
| NUTTING DR | to | JIM MILLER | 20,221 | 2,022 | 6 | 2,700 | 0.75 | D |
| **JIM MILLER** | | | | | | | | |
| MILITARY PKWY | to | SCYENE RD | 14,702 | 1,470 | 6 | 2,700 | 0.54 | C |
| SCYENE RD | to | BRUTON RD | 21,636 | 2,164 | 6 | 2,700 | 0.80 | D |
| BRUTON RD | to | LAKE JUNE RD | 12,426 | 1,243 | 6 | 2,700 | 0.46 | B |
| LAKE JUNE RD | to | US HWY 175 | 10,718 | 1,072 | 6 | 2,700 | 0.40 | B |

1 - 2004 NCTCOG Traffic Volume
2 - 10% of Daily Traffic Volume
3 - Hourly capacity X number of Lane
n - Hourly Lane Volume per Hourly Lane Capacity

**Table 3-12** summarizes volumes and LOS on key non-competing roadways. These roadways are generally those used to access a station location. As shown in the table, all the non-competing roadways operate at an acceptable LOS A or B.

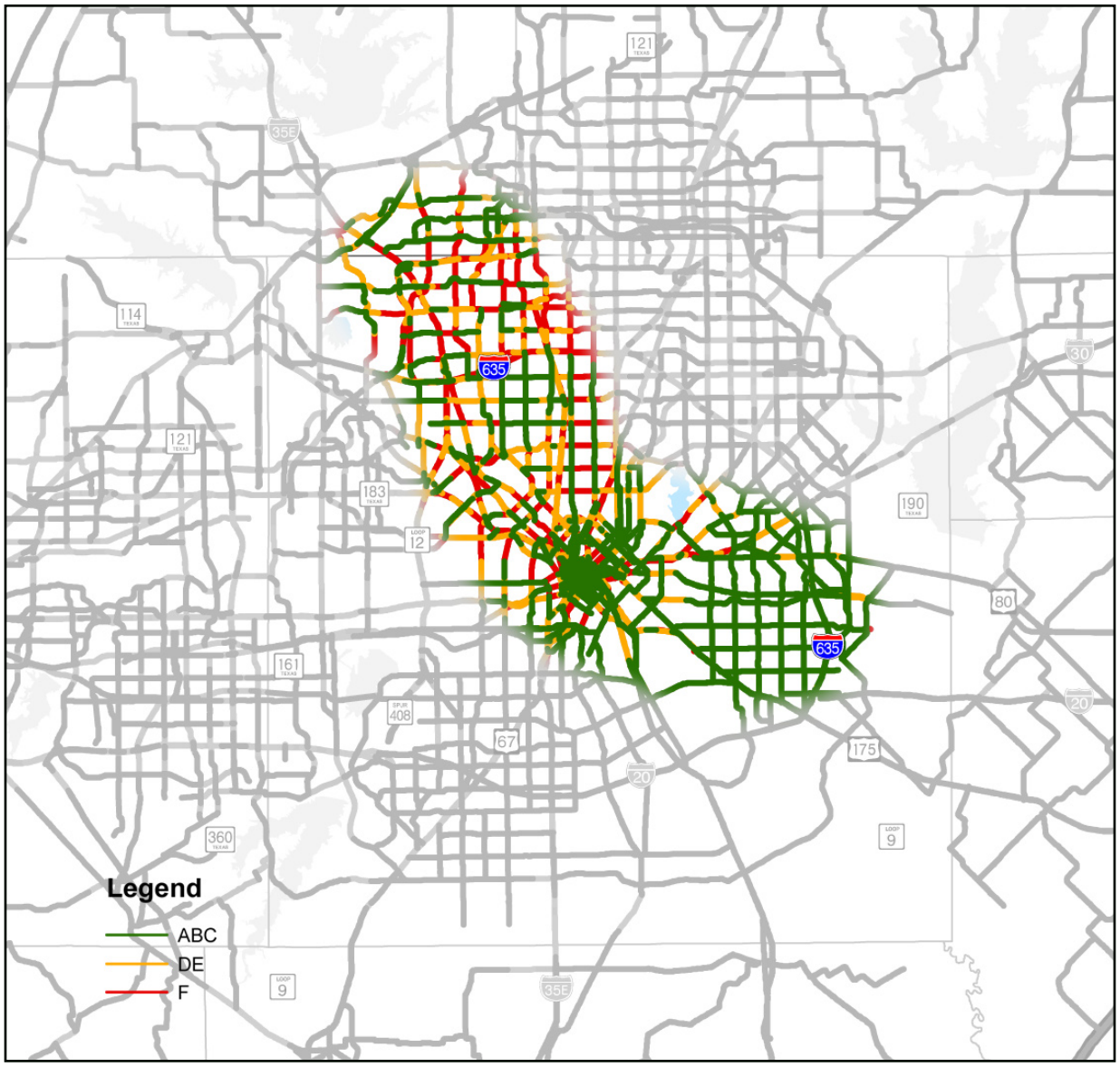
**Figure 3-1** graphically presents the LOS on the surrounding network of roadways for the NW/SE MOS. The base figure is the 2007 Peak Hour LOS map from the NCTCOG Mobility 2030 Metropolitan Transportation Plan, 2009 Amendment. The roadways highlighted in the figure constitute both competing and non-competing roadways along the Green Line Corridor.

## 3.4.5 Parking Costs

Tracking parking costs at the "before" and "after" stages of the Green Line project can help explain changes in ridership from what was projected in the "before" stage to what was actually experienced in the "after" stage. An increase in parking costs near employment centers, such as Southwestern Medical District/Parkland; the Deep Ellum, Baylor University Medical Center, Fair Park, MLK, Jr. area; and the CBD, can lead to a mode shift from automobile to transit when the employment center is readily accessible to light rail transit.

Parking costs for the Dallas CBD were most readily available. Phone calls to companies operating parking facilities outside the CBD confirmed that prices were within the range of prices charged for parking in the CBD. An extensive parking study was conducted in the Dallas area in 2003. According to the Downtown Dallas Association, a parking study conducted in 2005 found little change since 2003, so a new study was never released. The parking rates in the CBD vary widely depending on access to highly desirable locations.

FIGURE 3-1: NCTCOG 2007 Peak Hour LOS along Green Line Corridor




*Source: NCTCOG Mobility 2030 Metropolitan Transportation Plan, 2009 Amendment (February 9, 2009)*

TABLE 3-12: NON-COMPETING ROADWAY SEGMENTS - GREEN LINE CORRIDOR

| ROAD SEGMENT | | | DAILY VOLUME[1] | HOURLY VOLUME[2] | LANES | HOURLY CAPACITY[3] | V/C RATIO[n] | LOS |
|---|---|---|---|---|---|---|---|---|
| **OAK LAWN AVE** | | | | | | | | |
| STEMMONS FWY | to | HARRY HINES | 12,010 | 1,201 | 4 | 4,804 | 0.25 | A |
| HARRY HINES | to | TOLLWAY | 34,232 | 3,423 | 4 | 13,693 | 0.25 | A |
| **WYCLIFF (EAST OF HARRY HINES)** | | | | | | | | |
| HARRY HINES | to | TOLLWAY | 23,262 | 2,326 | 6 | 13,957 | 0.17 | A |
| **MEDICAL DISTRICT** | | | | | | | | |
| HARRY HINES | to | MAPLE AVE | 40,232 | 4,023 | 4 | 16,093 | 0.25 | A |
| **INWOOD RD** | | | | | | | | |
| MAPLE AVE | to | LEMMON AVE | 31,237 | 3,124 | 6 | 18,742 | 0.17 | A |
| **MOCKINGBIRD LN** | | | | | | | | |
| MAPLE AVE | to | CEDAR SPRINGS | 36,252 | 3,625 | 6 | 21,751 | 0.17 | A |
| **BURBANK (WEST OF DENTON DR)** | | | | | | | | |
| STEMMONS FWY | to | DENTON DR | 8,036 | 804 | 2 | 1,607 | 0.50 | B |
| **NORTHWEST HWY** | | | | | | | | |
| DENTON DR | to | COMMUNITY DR | 56,856 | 5,686 | 6 | 34,114 | 0.17 | A |
| **LOMBARDY** | | | | | | | | |
| DENTON DR | to | ABERNATHY AVE | 14,871 | 1,487 | 4 | 5,948 | 0.25 | B |
| **WALNUT HILL LN** | | | | | | | | |
| DENTON DR | to | MONROE DR | 23,136 | 2,314 | 6 | 13,882 | 0.17 | A |
| **ROYAL LN** | | | | | | | | |
| DENTON DR | to | GRISSOM LN | 26,364 | 2,636 | 6 | 15,818 | 0.17 | A |
| **LBJ FWY** | | | | | | | | |
| DENTON DR | to | GRISSOM LN | 224,302 | 22,430 | 8 | 179,442 | 0.12 | A |
| **VALLEY VIEW LN** | | | | | | | | |
| STEMMONS FWY | to | DENTON DR | 17,524 | 1,752 | 6 | 10,514 | 0.17 | A |
| DENTON DR | to | BEE ST | 20,246 | 2,025 | 6 | 12,148 | 0.17 | A |
| **VALWOOD PKWY** | | | | | | | | |
| HARRY HINES | to | DENTON DR | 21,486 | 2,149 | 6 | 12,892 | 0.17 | A |
| DENTON DR | to | DISTRIBUTION WAY | 16,142 | 1,614 | 6 | 9,685 | 0.17 | A |
| **BELT LINE RD** | | | | | | | | |
| STEMMONS FWY | to | N BROADWAY ST | 30,376 | 3,038 | 6 | 18,226 | 0.17 | A |
| N BROADWAY ST | to | N DENTON DR | 28,776 | 2,878 | 6 | 17,266 | 0.17 | A |

1 - 2004 NCTCOG Traffic Volume
2 - 10% of Daily Traffic Volume
3 - Hourly capacity X number of Lane
n - Hourly Lane Volume per Hourly Lane Capacity

TABLE 3-12, continued: NON-COMPETING ROADWAY SEGMENTS - GREEN LINE CORRIDOR

| ROAD SEGMENT | | | DAILY VOLUME[1] | HOURLY VOLUME[2] | | HOURLY CAPACITY[3] | V/C RATIO[n] | LOS |
|---|---|---|---|---|---|---|---|---|
| **MALCOLM X BLVD** | | | | | | | | |
| JUNIUS ST | to | INDIANA ST | 4,156 | 416 | 4 | 1,662 | 0.25 | A |
| **HALL ST** | | | | | | | | |
| WORTH ST | to | INDIANA ST | No Count | 0 | 4 | No Count | 0.00 | N/A |
| **ELM ST** | | | | | | | | |
| N EXPOSITION AVE | to | W WASHINGTON | 2,353 | 235 | 2 | 471 | 0.50 | B |
| **MAIN ST** | | | | | | | | |
| COMMERCE ST | to | W WASHINGTON | 13,788 | 1,379 | 4 | 5,515 | 0.25 | A |
| **GRAND AVE** | | | | | | | | |
| S TRUNK AVE | to | S GOOD LATIMER | 8,682 | 868 | 4 | 3,473 | 0.25 | A |
| **MARTIN LUTHER KING, JR BLVD** | | | | | | | | |
| MEADOW ST | to | JB JACKSON, JR | 11,002 | 1,100 | 4 | 4,401 | 0.25 | A |
| **HATCHER ST** | | | | | | | | |
| TODD ST | to | SCYENE RD | 17,170 | 1,717 | 4 | 6,868 | 0.25 | A |
| SCYENE RD | to | LAGOW ST | 10,738 | 1,074 | 4 | 4,295 | 0.25 | A |
| **LAWNVIEW AVE** | | | | | | | | |
| SCYENE RD | to | HOLLIS AVE | 5,136 | 514 | 2 | 1,027 | 0.50 | B |
| **BRUTON RD** | | | | | | | | |
| CF HAWN FWY | to | N JIM MILLER RD | 22,891 | 2,289 | 6 | 13,735 | 0.17 | A |
| **LAKE JUNE RD** | | | | | | | | |
| CF HAWN FWY | to | LONSDALE AVE | 19,838 | 1,984 | 6 | 11,903 | 0.17 | A |
| **ELAM RD** | | | | | | | | |
| HILLBURN DR | to | S BUCKNER BLVD | 16,628 | 1,663 | 6 | 9,977 | 0.17 | A |
| **BUCKNER BLVD** | | | | | | | | |
| CF HAWN FWY | to | ELAM RD | 55,327 | 5,533 | 4 | 22,131 | 0.25 | A |

1 - 2004 NCTCOG Traffic Volume
2 - 10% of Daily Traffic Volume
3 - Hourly capacity X number of Lane
n - Hourly Lane Volume per Hourly Lane Capacity

In 2003, parking garage rates ranged from $1-6 per hour with a maximum daily rate of $21.65. Monthly passes ranged from $45 to $145. Reserved monthly parking spaces ranged from $65 to $250. Surface parking rates were less expensive with hourly parking rates ranging from 60¢ to $6 per hour and a maximum of $1.75-10 per day. Monthly rates at surface parking lots were $15 to $135.

Several downtown parking lots or garages are adjacent to existing DART LRT stations. Rates for these facilities from the 2003 parking survey will be compared to parking costs at the same facilities when the "after" analysis is conducted. Near the Pearl Station, a Platinum-operated surface lot on Pearl across from Plaza of the Americas has a monthy rate of $92.00 and the Sheraton garage is $90.00. Near St. Paul Station, a CPS-operated surface lot is $85.00 per month, the Ross Avenue Plaza garage is $70.00, and the Center Park North/Trammel Crow garage is $90.00. Several parking options surround Akard Station, ranging from $80.00 to $230.00. The range of monthly rates for parking facilities adjacent to West End Station range from $35.00 to $105.00, with some parking lots offering only hourly and/or daily rates.

## 3.4.6 Transit Wage Rates

Wage rates for transit employees are set by a contract between the union and the transit agency. Employee wages are one of the major components of an agency's total operating cost. **Table 3-13** shows hourly wage rates for two job classifications: an operator with five years of experience and a senior mechanic. Since wage rates are set in a multi-year contract, rates are available from 1999 (the year the MIS was conducted) through 2009. These data were made available by the DART Human Resources Department. Changes in wage rates can help explain changes in an agency's operating costs.

TABLE 3-13: HOURLY WAGE RATES FOR TWO JOB CLASSIFICATIONS

| YEAR | OPERATOR WITH 5 YEARS EXPERIENCE | SENIOR MECHANIC |
|---|---|---|
| 1999 | $15.07 | $17.47 |
| 2000 | $15.45 | $18.34 |
| 2001 | $15.92 | $18.80 |
| 2002 | $16.56 | $19.37 |
| 2003 | $16.56 | $19.37 |
| 2004 | $17.22 | $20.14 |
| 2005 | $17.91 | $20.95 |
| 2006 | $18.44 | $21.58 |
| 2007 | $19.00 | $22.22 |
| 2008 | $19.57 | $22.89 |
| 2009 | $20.36 | $23.81 |

SOURCE: DART HUMAN RESOURCES DEPARTMENT, 2009.

## 3.5 LAND USE

As part of the FFGA, DART agreed to document the before and after conditions of land use along the Green Line. Changes to land uses and development patterns near the Red and Blue Line light rail stations have been documented since operations began in 1997. These changes in development patterns and the resulting increases in property values have been documented in several studies performed by Drs. Weinstein and Clower through the University of North Texas Center for Economic Development and Research. Documenting land uses near stations along the Green Line at "before" and "after" stages provides an opportunity to analyze how the introduction of light rail could have contributed to changes in land use or property values. The changes in land use can also influence station ridership and mode of access shares. To document before conditions for land use, 2009 City of Dallas and 2008 City of Farmers Branch land use data was collected and updated, using aerial photography for accuracy. The following sections summarize policies related to land use in the two cities and known recent and future developments.

### 3.5.1 Municipal Policies Related to Land Use and Development

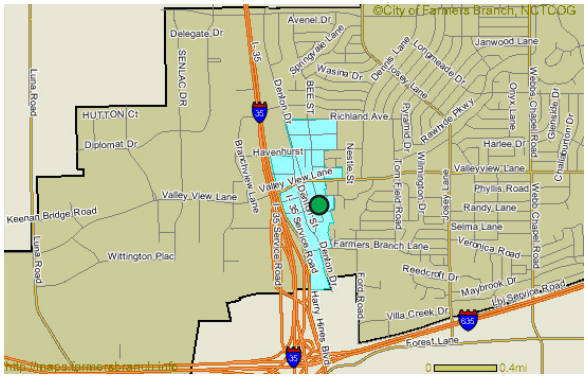
#### CITY OF FARMERS BRANCH

The City of Farmers Branch created a detailed station area plan in preparation for the extension of the DART Green Line. The following guiding principles were adopted in the plan in July 2002:

- Mixed-use development- retail, restaurant, professional services, office, and residential within walking distance of the station facility;
- Improved transit accessibility- promote its use, emphasizing walking over automobile use;
- Improvements in street design, pedestrian amenities, and multi-modal connections;
- Visual connections to the transit station;
- Sidewalks, trails, trees, benches, and active public open space; and
- On-street parking- reducing the need for large parking lots.

The City also established a tax increment financing (TIF) district near the Farmers Branch DART station, depicted by the blue shading in **Figure 3-2**. TIFs are created to help support economic development and encourage private development in a specific area of a city. Tax increment financing allows the City to use tax revenue increases (the "increment" that tax revenue increases from the time the TIF district is designated) within the TIF district to fund infrastructure improvements or other projects that will entice private developers to build within the TIF district. The following types of projects are eligible for TIF funding, according to Chapter 311 of the Texas Tax Code:

FIGURE 3-2: Farmers Branch TIF District #2




public roadways, utilities, streetscapes, lighting, public parking, environmental abatements, demolition, and façade purchases (in special circumstances).

Farmers Branch has also developed a form-based code for the 154-acre area around the future Farmers Branch Station. Form-based codes rely on the forms of structures in a neighborhood for organized development, rather than the functions of structures, as in typical zoning regulations. Form-based codes organize development of a neighborhood through regulations that stipulate the requirements of structures and how they relate to their environment. The Farmers Branch form-based code won a Driehaus Award at the Congress for New Urbanism in 2007. The City used form-based code to create the plans for the future mixed-use development adjacent to the station.

#### CITY OF DALLAS

A form-based zoning amendment to Chapter 51A of the Dallas Development Code was approved by the Dallas City Council on February 25, 2009. However, according to personnel with the City of Dallas, this is not a law but an option provided for future developments [1]. A comprehensive plan related to form-based zoning is available in the document titled "forwardDallas! Comprehensive Plan" [2]. This document was published by the strategic planning division of the City of Dallas. It categorizes the comprehensive plan into several elements including land use, economics, housing, transportation, urban design, environment, and neighborhood. Some of the elements applicable to the area surrounding the new DART Green Line are listed below.

### Land Use Element

Under land use, the policy recommends the following implementation decisions:

- Maximize development opportunities around DART stations.
- Initiate Area Plans to identify and evaluate land for high-density, mixed-use development near transit centers.
- Establish mixed-use zoning designations in strategic locations and invest in transit-oriented development (TOD) pilot projects.
- Develop a cross-town transportation linkage plan in collaboration with DART to provide an efficient local and regional transportation network.
- Develop a commuter bike trail network throughout the city.
- Invest in airport connections, including access to the regional transportation system.

### Economic Element

The following economic elements are applicable to station areas:

- Develop mixed-use zoning districts to maximize TOD at the most appropriate locations within one quarter to one half-mile of DART stations;
- Identify priority stations and develop Area Plans to spur TOD; and
- Encourage small business development and entrepreneurial activity within DART station areas and accommodate needs of transit ridership.

TABLE 3-14: RECENT AND PLANNED DEVELOPMENT IN GREEN LINE CORRIDOR

| PROJECT | ADDRESS | STATUS | SIZE |
|---|---|---|---|
| New Rehabilitative Hospital | 1340 Empire Central Dr. | Under Construction | 40,000 SF |
| Mixed-use project | 2331 W. Northwest Hwy. | N/A | N/A |
| (New) Parkland Memorial Hospital | 5201 Harry Hines Blvd. | Planned to Begin in 2009 | N/A |
| CityVille at Southwestern Medical | 2080 Medical District Dr. | Currently Expanding; Phase 1 completed 2007 | 263 res. units; 43,000 SF retail |
| Children's Medical Center Expansion | 1935 Medical District Dr. | Under Construction; Scheduled completion 2009 | N/A |
| Biocenter at UTSW (TOD project) | 2300 Inwood Rd. | Announced; Scheduled start 2009 | 500,000 SF |
| Alexan Design District | 1400 Turtle Creek | Under Construction | 140 res. units |
| Lower Oak Lawn | 1546 Oak Lawn Ave. | Under Construction | 400,000 SF office |
| The House by Starck | 2200 Victory Ave. | Occupancy by Late 2008 | 150 res. units; 30,000 SF retail |
| W Dallas-Victory Hotel | 2440 Victory Park Lane | Completed | 252 rooms; 42,500 sf retail |
| Museum Tower | 1900 Olive St. | Announced | N/A |
| One Victory Park | 3090 Olive St. | Under Construction | 450,000 SF |
| Gables West End | 2150 N Field St. | Completed | N/A |
| Heritage at the Stoneleigh | 2927 Maple Ave. | Under Construction | N/A |
| 24-story office tower | 2133 Olive St. | N/A | N/A |
| Cityville Katy Trail | 3130 Lemmon Ave | Under Construction | 9,000 SF retail |
| Target store | 9440 Marsh Lane | Expansion Only | N/A |
| The Ambrose | 2901 Indiana Blvd. | Under Construction | 325 res. units; 15,000 SF retail |
| Swiss Avenue Medical Building | 3434 Swiss Ave. | N/A | 86,000 SF office |
| Park Row Estates | 2800 Malcolm X Blvd. | Under Construction (residential) | N/A |
| Mixed-use redevelopment | 3910 Gaston Avenue | N/A | N/A |
| Dallas Housing Authority | 4800 Hatcher St. | N/A | N/A |
| Lake June and Masters | 10317 Lake June Rd | Announced | 145,000 SF retail |
| Buckner Crossing | 5500 S Buckner | Under Construction | 105,000 SF retail |

SOURCE: CITY OF DALLAS, 2008.

### Housing Element

The housing element focuses on the following items:

- Encourage higher density housing within one quarter-mile of DART stations by amending the Dallas Development Code to establish market-tested mixed-use zoning districts, urban design standards for walkability, and urban parking standards to encourage TOD around DART stations;
- Conduct Area Plans to apply these zoning tools in priority; and
- Use economic development incentives, such as TIF, to encourage mixed-use developments and mixed

income housing developments near DART stations.

The new type of zoning was intended to make it easier to build dense, urban neighborhoods. It assists developers in creating neighborhoods where a mix of residential, retail, and office space exist within walking distance of one another and where pedestrians are the primary focus of design.

The new Southwestern Medical District TIF was created in 2005. The Southwestern Medical District TIF is located approximately 2.5 miles northwest of downtown between Harry Hines Boulevard, Inwood Road, and Maple Avenue. An illustration of plans for a development within this TIF, a portion of which has already been constructed, is shown in **Figure 3-3**. The objective of this TIF district is to encourage redevelopment of a former industrial and warehouse district and create a walkable, mixed-use, and transit-oriented neighborhood with strong connectivity to the planned DART Green Line station and adjacent Medical District.

FIGURE 3-3: Rendering of new TOD in Southwestern Medical District

Another recommendation is to initiate a land-use plan for the Buckner Terrace/East Dallas area to capitalize on the DART Lawnview Station. According to the Dallas Mayor's office, this recommendation is in the early stages of planning.

### 3.5.2 Planned Developments in the Green Line Service Area

Data regarding planned developments and zoning changes in the Green Line Corridor were obtained from two sources: the Dallas Office of Economic Development and the Board of Adjustment meeting minutes from January 2005 through December 2008 (the most recent month available). The data is summarized in **Table 3-14**.

## 3.6 STATION AREA DETAIL

The following sections present existing land use, planned development information, and opening day ridership information for each Green Line MOS station. The opening day ridership projections provide the basis for the "before" conditions. In the "after" study, these projections will be compared to actual ridership with mode of access information acquired through passenger surveys. In addition to how feeder service is provided to stations, changes in land use and development patterns at each station can have a significant effect on actual ridership.

## 3.6.1 Farmers Branch Station

### GENERAL DEVELOPMENT CHARACTER AND EXISTING LAND USE

Located in a first-ring suburb, the area around the station is characterized by open spaces, surface parking lots, and one-story buildings. The area is served by a network of streets and IH 35E, which provide access to local businesses and an existing DART park-and-ride facility.

The area surrounding this station is currently composed of light industrial, retail, and other commercial land uses. The station is within a quarter-mile of the Farmers Branch City Hall and many parks. **Table 3-15** and **Figure 3-4** depict the land use distribution within one half-mile of the station.

### KEY DESTINATIONS

- Farmers Branch City Hall
- Dr Pepper StarCenter
- Historical Park
- Oran Good Park

CHART 3-1: Opening Day Ridership Projections

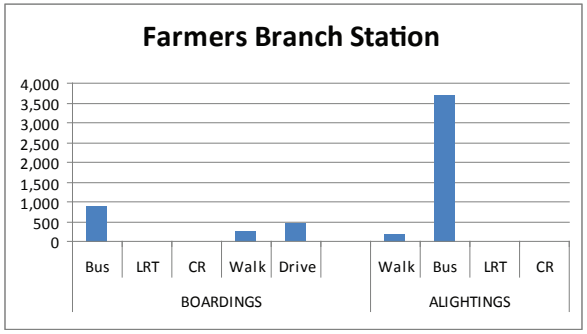
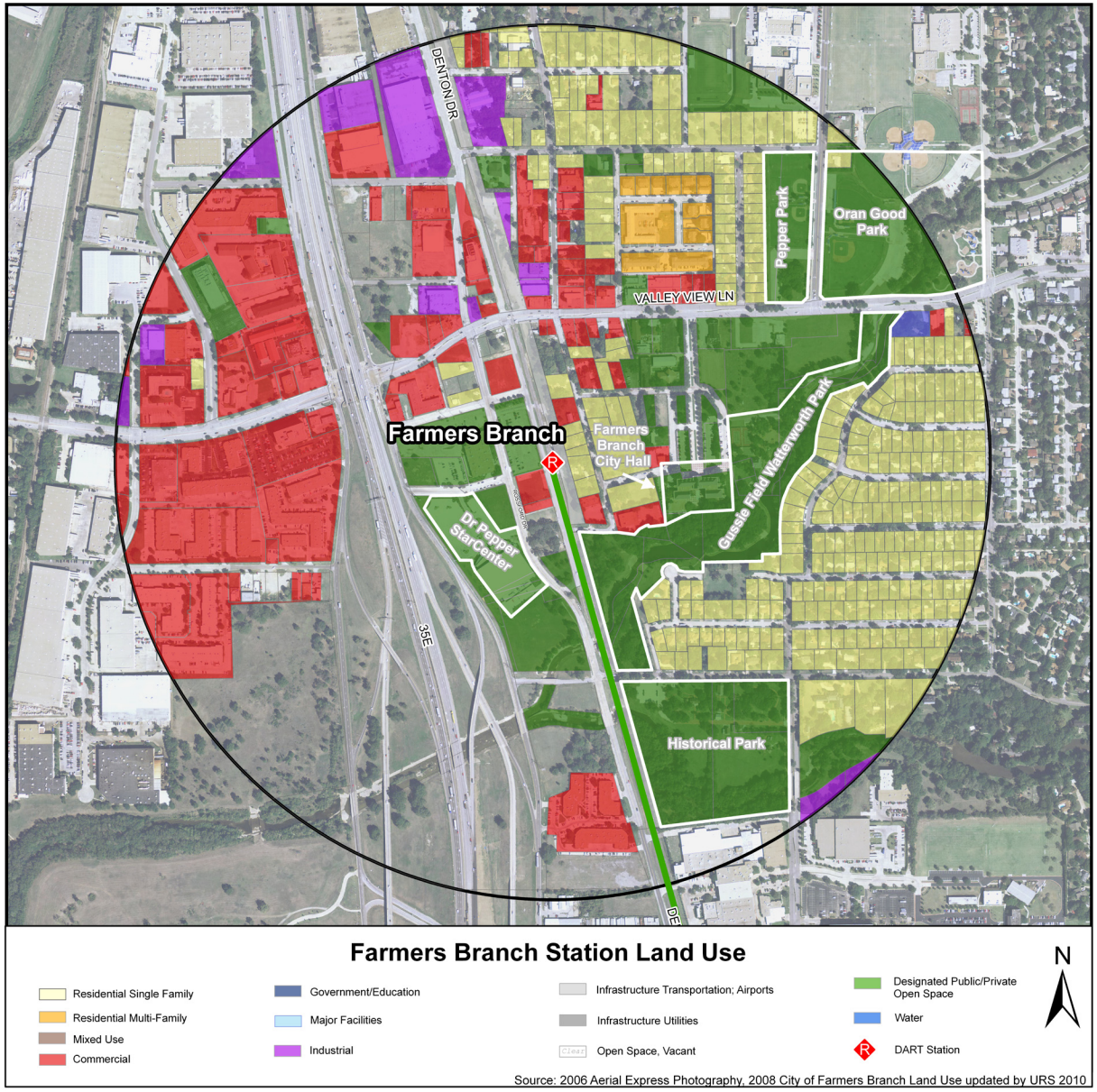



FIGURE 3-4: Farmers Branch Station Before Land Use



- Pepper Park
- Gussie Field Watterworth Park

Construction was completed on the Dr Pepper StarCenter in 1997. This facility is located 400 feet from the planned station platform and provides ice skating, hockey lessons, figure skating lessons, and hockey leagues. The second floor of the 11,000-square-foot facility functions as the Farmers Branch Conference Center and contains four conference rooms. Sidewalks are not provided from the station to the facility, but only Rossford Street must be crossed by pedestrians.

The Historical Park is a 27-acre park that is visited by 50,000 people per year. The intent of the park is to preserve the history of North Texas and Farmers Branch. Among many other activities, this park contains a vintage baseball field where adults play baseball with vintage uniforms and equipment and according to 1860s-era rules.

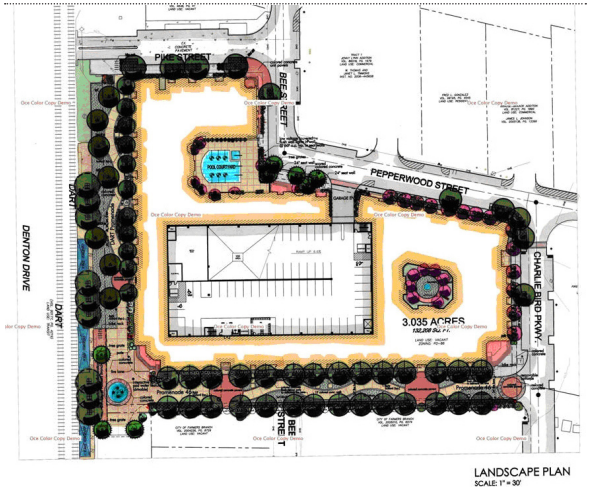
Two other mixed-use development projects in Farmers Branch may have some influence on DART ridership (Broadstone at Inwood Road and Galleria Drive and Cambridge at Midway Road and Alpha Road).

**Chart 3-1** shows the projected opening day ridership by mode of access/egress. Current projections indicate the highest activity will be alightings to bus, which is likely associated with passengers transferring to access nearby employment areas. If development occurs at the level prescribed by the Farmers Branch Master Plan, this station will be more of a destination and ped/bike access should be higher. The total opening day ridership projection for this station is 2,756 riders.

## DEVELOPMENTS PLANNED WITHIN THE STATION AREA

In preparation for the Green Line station opening, the City of Farmers Branch has undertaken a variety of development projects in recent years. The City has purchased the properties next to the existing park-and-ride to position itself for TOD. According to the City's planning department, the City purchased a total of over 16 acres around the LRT station and created a master plan for its proposed station area. Included in this plan are residential units fronting the station area, retail on the ground floor, and commercial buildings to create the feel of an urban town center.

FIGURE 3-5: Farmers Branch Development Project




The City recently completed a master developer agreement with the Farmers Branch City Center Joint Venture. The developer completed a market study, received city approval, and is likely to initiate Phase I of the project in the Summer of 2010. Phase I will consist of 210 residential units and 5,000 square feet of retail at the southwest corner of Pike and Bee Streets, immediately adjacent to the rail station. **Figure 3-5** provides an illustration of the development. Plans for 31 townhomes 300 feet from the station are also underway and anticipated to begin construction in the late Summer of 2010. No development was underway as of June 2010.

Expansion of the historical park is also planned. A trial rose garden project in collaboration with Texas A&M University is being planned near the proposed DART station. This will be the second historical rose garden in the City of Farmers Branch. This project is still in the planning stages and a time line is yet to be determined [3].

TABLE 3-15: FARMERS BRANCH STATION BEFORE LAND USE (1/2-MILE RADIUS)

| LAND USE | TOTAL ACRES | PERCENT | LAND USE | TOTAL ACRES | PERCENT |
|---|---|---|---|---|---|
| Single-Family | 91.32 | 11.33% | Industrial | 37.60 | 4.66% |
| Multi-Family | 5.86 | 0.73% | Infrastructure Transportation | 53.25 | 44.28% |
| Mixed Use | 0.00 | 0.00% | Infrastructure Utilities | 0.65 | 0.08% |
| Commercial | 109.29 | 13.56% | Open Space/Vacant | 76.57 | 9.50% |
| Government/ Education | 46.52 | 5.77% | Designated Public/ Private Open Space | 81.34 | 10.09% |
| Major Facilities | 0.00 | 0.00% | Water | 0.00 | 0.00% |
| Undesignated | 0.00 | 0.00% | Total | 502.40 | 100.00% |

SOURCE: CITY OF FARMERS BRANCH, 2009.

## 3.6.2 Royal Lane Station

### GENERAL DEVELOPMENT CHARACTER AND EXISTING LAND USE

A variety of businesses make up the Asian Trade District, which extends from LBJ Freeway to Northwest Highway on the east side of IH 35E, with some portions of the district also on the west side of IH 35E. Several new shopping centers in the district provide centralized parking and pedestrian access to many stores in a sheltered, village-type atmosphere. Most of the station area is within the Asian Trade District.

This area is largely industrial with growing retail and commercial elements. **Table 3-16** and **Figure 3-6** depict the land use distribution within one half-mile of the Royal Lane Station.

**Chart 3-2** shows the projected opening day ridership numbers by mode of access/egress. Given the size of the trade district and the model projections for mode of access, bus service will be vital to the success of the station. The total opening day ridership projection for this station is 1,986 riders.

CHART 3-2: Opening Day Ridership Projections

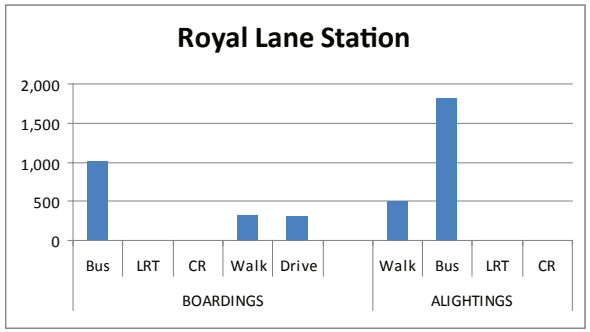
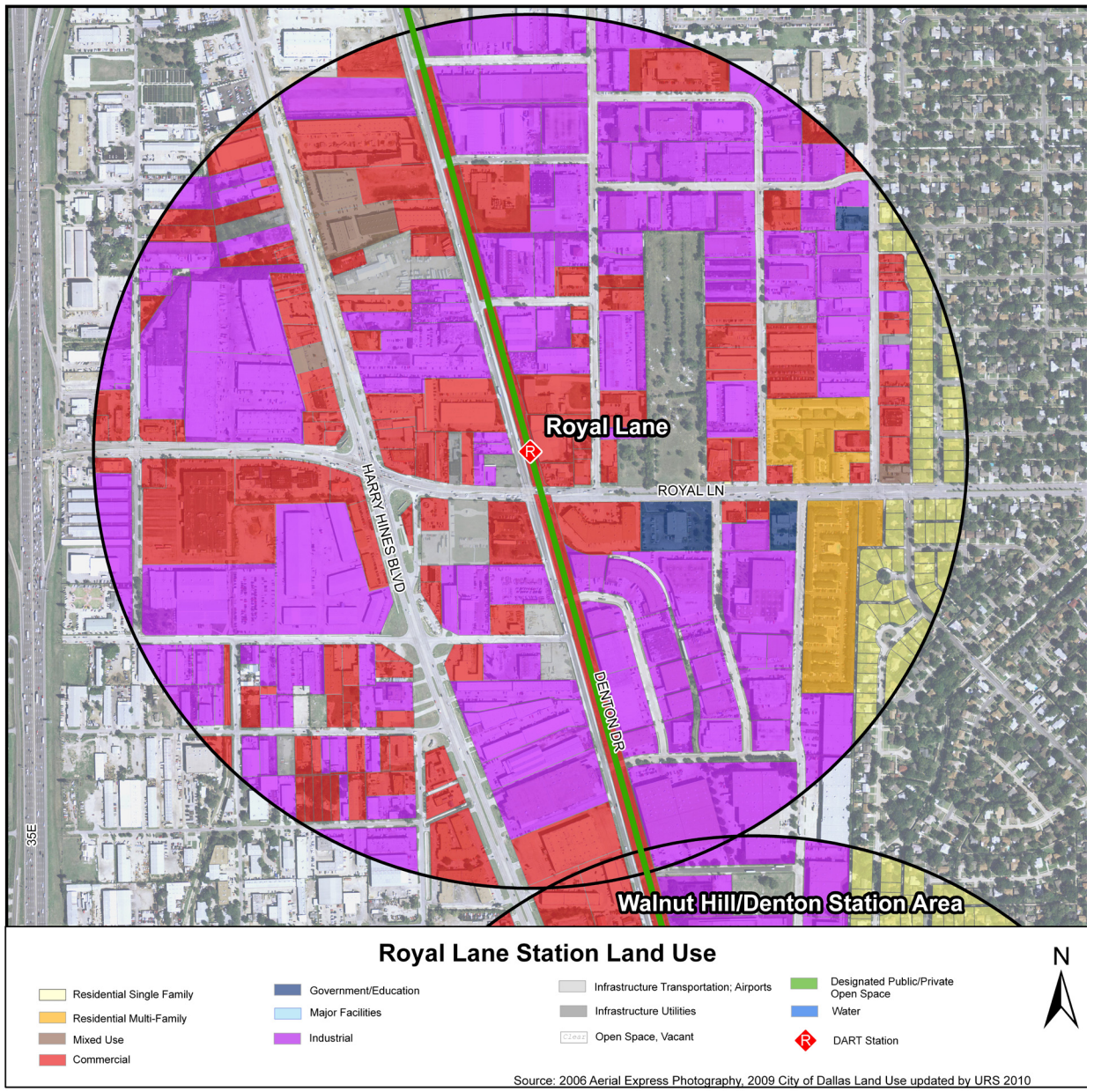



FIGURE 3-6: Royal Lane Station Before Land Use



## KEY DESTINATIONS

- Asian Trade District

## DEVELOPMENTS PLANNED WITHIN THE STATION AREA

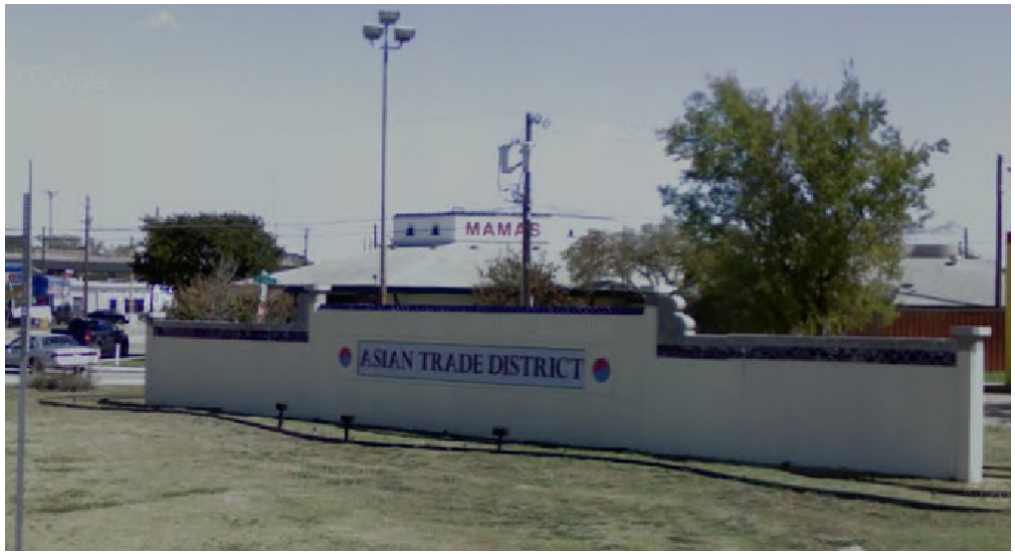
According to the Greater Dallas Asian American Chamber of Commerce, improvements are planned along Denton Drive to make the roadway more pedestrian-friendly. Such efforts would complement the two rail stations in the Asian Trade District by making the spaces between each rail station and nearby activity centers pleasant and safe for pedestrians. Concepts under consideration for Denton Drive between Walnut Hill and Royal Lane include a three-lane roadway which would provide 11-foot sidewalks, 15-foot bike lanes, sheltered left turns, on-street parking, and easy pedestrian crossings. While no specific land use plans have been developed, the Asian American Chamber remains active in area planning to take advantage of future roadway improvements and the Green Line.

TABLE 3-16: ROYAL LANE STATION BEFORE LAND USE (1/2-MILE RADIUS)

| LAND USE | TOTAL ACRES | PERCENT | LAND USE | TOTAL ACRES | PERCENT |
|---|---|---|---|---|---|
| Single-Family | 16.75 | 3.33% | Industrial | 223.95 | 44.58% |
| Multi-Family | 15.36 | 3.06% | Infrastructure Transportation | 10.01 | 1.99% |
| Mixed Use | 5.74 | 1.14% | Infrastructure Utilities | 2.22 | 0.44% |
| Commercial | 132.48 | 26.37% | Open Space/Vacant | 16.84 | 3.35% |
| Government/ Education | 4.75 | 0.95% | Designated Public/ Private Open Space | 5.73 | 1.14% |
| Major Facilities | 0.00 | 0.00% | Water | 0.00 | 0.00% |
| Undesignated | 68.57 | 13.65% | Total | 502.40 | 100.00% |

SOURCE: CITY OF DALLAS, 2009.


*Typical land uses in Asian Trade District near Royal Lane Station*




*Gateway for Asian Trade District near Royal Lane Station*

## 3.6.3 Walnut Hill/Denton Station

### GENERAL DEVELOPMENT CHARACTER AND EXISTING LAND USE

This area is industrial in nature with redevelopment potential. Most streets have some trees and sidewalks; however, the general character is auto-oriented. It lies partially within the Asian Trade District to the north.

Areas around the Walnut Hill/Denton Station are largely underutilized industrial areas, warehouse-based retail, and strip-mall retail centers with redevelopment potential. The UPS Northwest Dallas facility is a major employment center just north of the station. A cemetery is also located near the station. **Table 3-17** and **Figure 3-7** depict the land use distribution within one half-mile of the Walnut Hill/Denton Station.

**Chart 3-3** shows the projected opening day ridership numbers by mode of access/egress. Given the mix of

CHART 3-3: Opening Day Ridership Projections

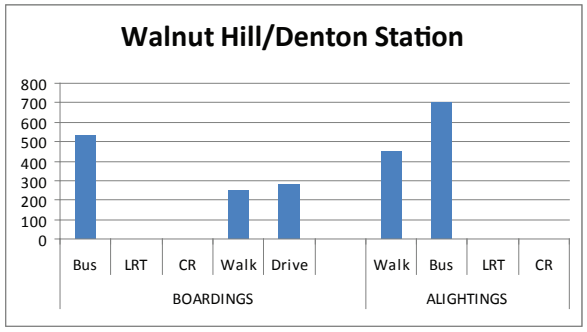



FIGURE 3-7: Walnut Hill/Denton Station Before Land Use

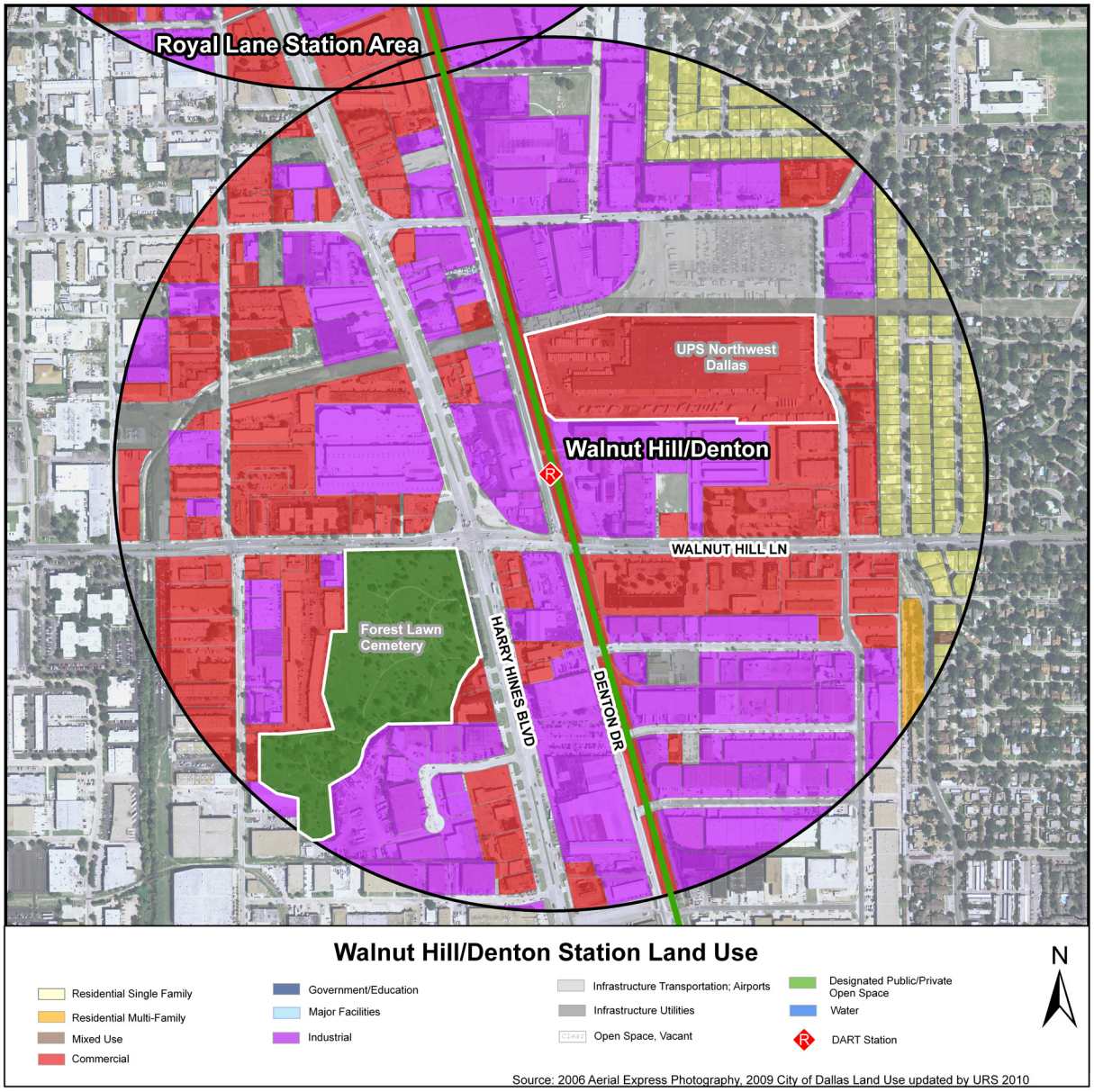
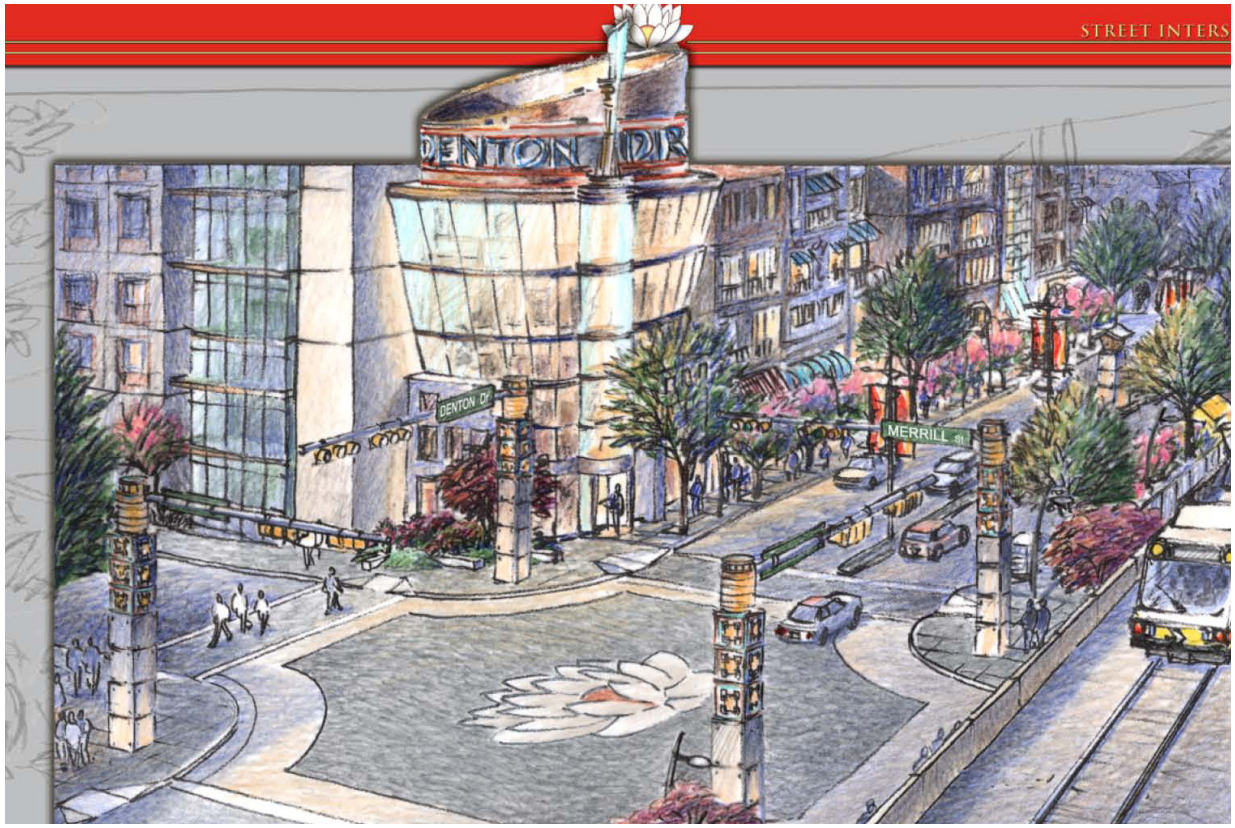


TABLE 3-17: WALNUT HILL/DENTON STATION BEFORE LAND USE (1/2-MILE RADIUS)

| LAND USE | TOTAL ACRES | PERCENT | LAND USE | TOTAL ACRES | PERCENT |
|---|---|---|---|---|---|
| Single Family | 28.99 | 5.77% | Industrial | 184.98 | 36.82% |
| Multi-Family | 2.19 | 0.44% | Infrastructure Transportation | 13.24 | 2.64% |
| Mixed-Use | 0.22 | 0.04% | Infrastructure Utilities | 14.52 | 2.89% |
| Commercial | 158.71 | 31.59% | Open Space/Vacant | 10.84 | 2.16% |
| Government/ Education | 0.00 | 0.00% | Designated Public/ Private Open Space | 25.46 | 5.07% |
| Major Facilities | 0.00 | 0.00% | Water | 0.00 | 0.00% |
| Undesignated | 63.25 | 12.59% | Total | 502.40 | 100.00% |

SOURCE: CITY OF DALLAS, 2009.




land use within the station area, the mode of access is more evenly split among bus, car, and ped/bike than most stations. Similar numbers of projected boardings and alightings indicate that this station will likely be both an origin and a destination. The total opening day ridership projection for this station is 1,106 riders.

## KEY DESTINATIONS

- Asian Trade District
- UPS Northwest Dallas facility
- Forest Lawn Cemetery

## DEVELOPMENTS PLANNED WITHIN THE STATION AREA

As mentioned under the Royal Lane Station area details, roadway improvements along Denton Drive are also planned around the Walnut Hill/Denton Station. Such improvements will make the spaces between the rail station and nearby activity centers more pleasant and safe for pedestrians. Current concepts under consideration include the expansion of Denton Drive between Walnut Hill Lane and Royal Lane into a three-lane roadway, as described in Section 3.6.3 Royal Lane Station. South of Walnut Hill Lane, Denton Drive improvement possibilities include a four-lane thoroughfare with bike lanes and five-foot sidewalks or a three-lane roadway similar to what is being considered north of Walnut Hill Lane. These improvements are intended to support future land use changes in the area.

*Conceptual rendering of future land use north of Walnut Hill/Denton Station (Source: Dallas County , HNTB)*

## 3.6.4 Bachman Station

### GENERAL DEVELOPMENT CHARACTER AND EXISTING LAND USE

The Bachman Station is located where industrial land uses give way to a dense, multi-family area with a significant minority population. To the west is the Dallas Police Department's Northwest Operations Division. Also within walking distance is the Bachman Recreation Center, operated by the City of Dallas Park and Recreation Department, and Vatterott College, an educational facility catering to working adult students seeking technical career skills. Sidewalks and access to the station from these facilities are not universally present or planned.

Surrounding land uses include mostly commercial and multi-family residential. In addition, Bachman Lake and over 12 acres of parkland are located near the station. **Table 3-18** and **Figure 3-8** depict the land use distribution within one half-mile of the Bachman Station.

CHART 3-4: Opening Day Ridership Projections

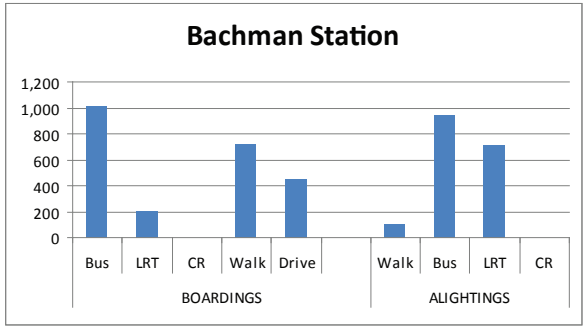



FIGURE 3-8: Bachman Station Before Land Use

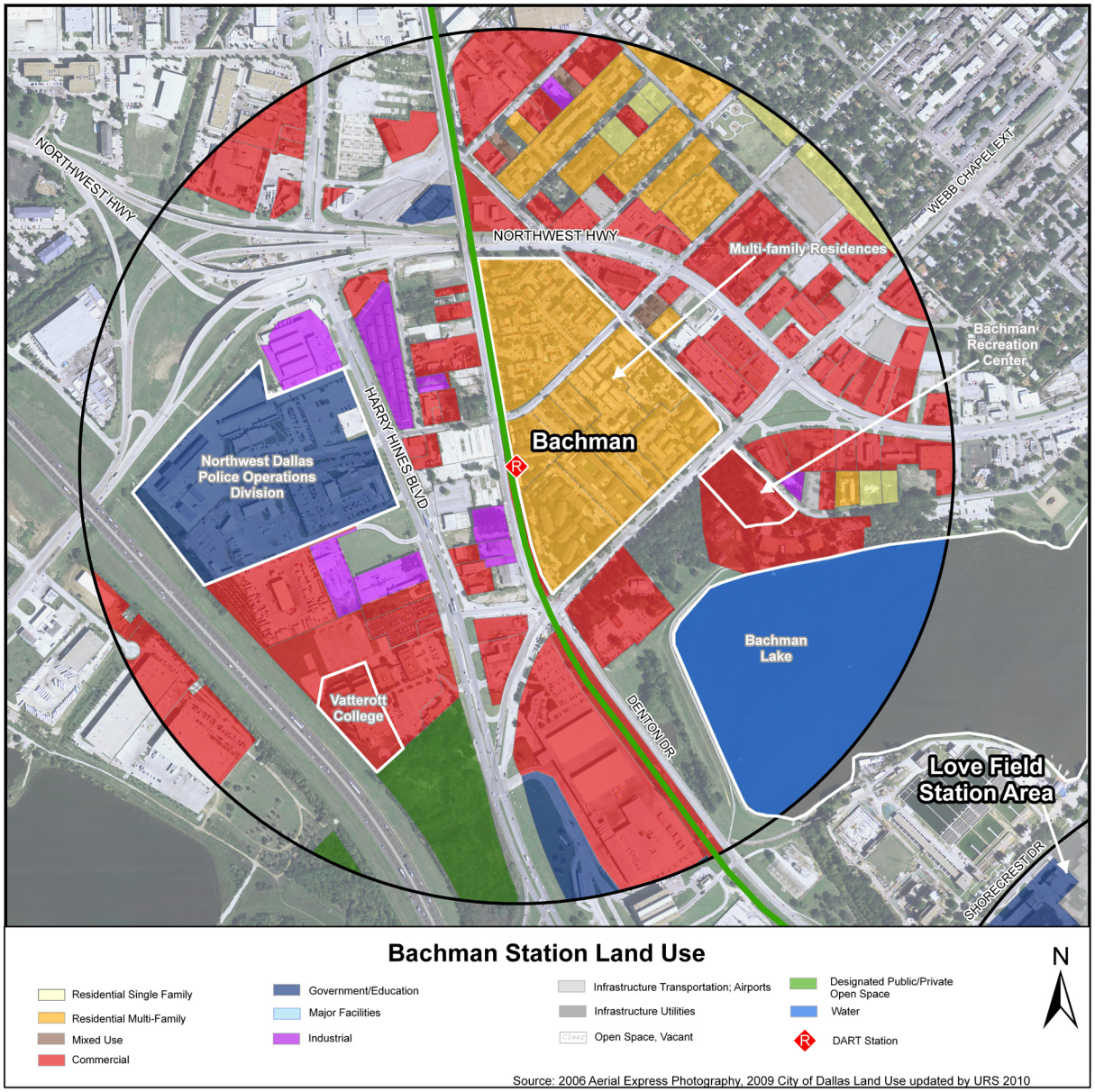


TABLE 3-18: BACHMAN STATION BEFORE LAND USE (1/2-MILE RADIUS)

| LAND USE | TOTAL ACRES | PERCENT | LAND USE | TOTAL ACRES | PERCENT |
|---|---|---|---|---|---|
| Single-Family | 5.42 | 1.08% | Industrial | 13.52 | 2.69% |
| Multi-Family | 54.43 | 10.83% | Infrastructure Transportation | 5.40 | 1.07% |
| Mixed Use | 1.32 | 0.26% | Infrastructure Utilities | 0.12 | 0.02% |
| Commercial | 137.19 | 27.31% | Open Space/Vacant | 60.76 | 12.09% |
| Government/ Education | 34.52 | 6.87% | Designated Public/ Private Open Space | 12.45 | 2.48% |
| Major Facilities | 0.00 | 0.00% | Water | 38.31 | 7.63% |
| Undesignated | 138.95 | 27.66% | Total | 502.40 | 100.00% |

SOURCE: CITY OF DALLAS, 2009.

*Bachman Station rendering*

**Chart 3-4** shows the projected opening day ridership numbers by mode of access/egress. Mode of access includes LRT alightings from the Green Line to the Orange Line connection at this station. The Orange Line is scheduled to open by the end of 2012 to Las Colinas and Belt Line Road. The number of projected boardings and alightings to bus and LRT indicate that this station will be both an origin station and a significant transfer point to access bus service and the Orange Line. The total opening day ridership projection for this station is 2,080 riders.

## KEY DESTINATIONS

- Multi-family residences
- Northwest Dallas Police Operations Division
- Bachman Recreation Center
- Bachman Lake
- Vatterott College

## DEVELOPMENTS PLANNED WITHIN THE STATION AREA

Although this area has the potential for TOD and redevelopment, no new development plans are known at this time.

## 3.6.5 Love Field Station (formerly Brookhollow Station)

### GENERAL DEVELOPMENT CHARACTER AND EXISTING LAND USE

This station is located along Denton Drive near the Southwest Airlines Corporate Headquarters. Currently, this headquarters facility employs more than 3,000 people. Southwest Airlines has expanded its main building on campus to 80,000-square feet of office, classroom, and conference facilities. Accompanying this project was a master plan to reflect growth through the year 2010. The Airlines' headquarters facility also is used as the national training center for new Southwest Airlines flight attendants, mechanics, and other aviation personnel.

The Love Field West residential neighborhood is located directly south of the station. Pine Creek Medical Center, a private, physician-owned and operated hospital, is west of the station. Other nearby destinations beyond a half-mile of the station include Brookhollow Country Club, Grauwyler Park, Grauwyler Library, and Knight

CHART 3-5: Opening Day Ridership Projections

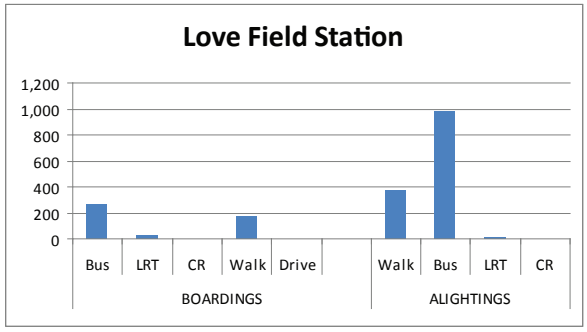



FIGURE 3-9: Love Field Station Before Land Use

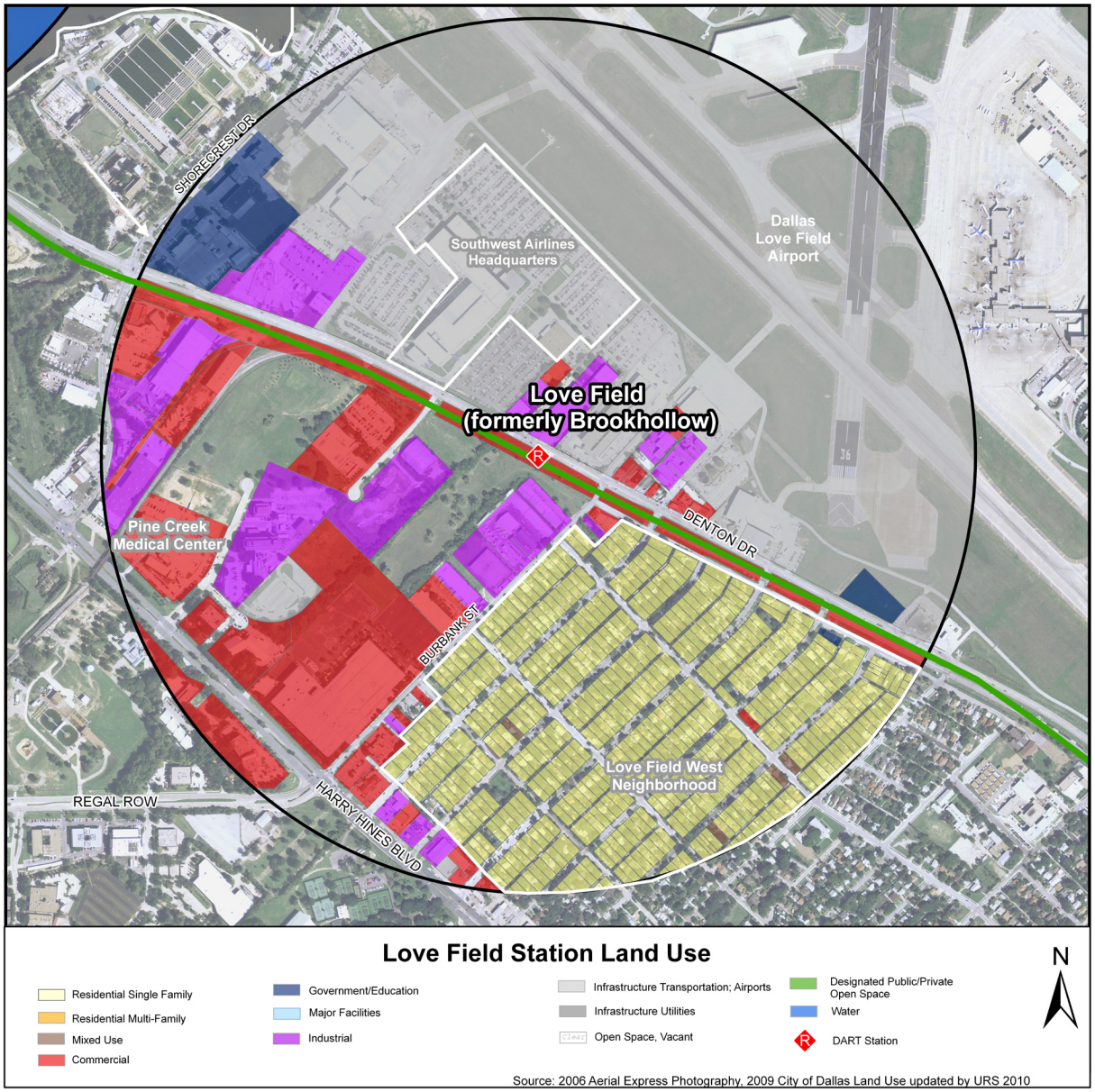


TABLE 3-19: LOVE FIELD STATION BEFORE LAND USE (1/2-MILE RADIUS)

| LAND USE | TOTAL ACRES | PERCENT | LAND USE | TOTAL ACRES | PERCENT |
|---|---|---|---|---|---|
| Single-Family | 75.94 | 15.12% | Industrial | 41.48 | 8.26% |
| Multi-Family | 0.00 | 0.00% | Infrastructure Transportation | 222.36 | 44.26% |
| Mixed Use | 0.70 | 0.14% | Infrastructure Utilities | 1.93 | 0.38% |
| Commercial | 68.70 | 13.67% | Open Space/Vacant | 29.88 | 5.95% |
| Government/ Education | 11.75 | 2.34% | Designated Public/ Private Open Space | 0.00 | 0.00% |
| Major Facilities | 0.00 | 0.00% | Water | 0.00 | 0.00% |
| Undesignated | 49.66 | 9.88% | Total | 502.40 | 100.00% |

SOURCE: CITY OF DALLAS, 2009.


*Love Field Station construction*

Elementary School. Knight Elementary School feeds into Rusk Middle School, which is adjacent to the Inwood Station. It is possible that middle school-aged students from the Knight attendance zone will ride the Green Line between the Love Field and Inwood Stations to travel to and from school. Sidewalks and access to the station from these facilities are not universally present or planned.

The majority of the surrounding land use is single-family residential. In addition, Love Field Airport is located near the station and represents approximately 50 percent of the land use calculation. **Table 3-19 and Figure 3-9** depict the land use distribution within one half-mile of the Love Field Station.

**Chart 3-5** shows the projected opening day ridership numbers by mode of access. An automated people mover (APM) is planned to connect this station to the airport terminal, which will change mode of access percentages substantially. However, the APM is still in the planning stages and would not open until 2014 or later. The high number of projected alightings at this station relative to boardings indicate that it will be predominantly a trip destination. The total opening day ridership projection for this station is 915 riders.

## KEY DESTINATIONS

- Southwest Airlines Headquarters
- Dallas Love Field Airport
- Love Field West neighborhood
- Pine Creek Medical Center

## DEVELOPMENTS PLANNED WITHIN THE STATION AREA

The Love Field Modernization Program is one of the primary developments planned within the area and includes renovation and/or expansion of the concourse, terminal, ticketing hall, and baggage claim. Renovations began at the end of 2010, and the terminal and ticketing hall will be complete by 2013. The concourse will be finished in 2014, and the baggage claim renovations will start in 2014 and be completed in 2015.

## 3.6.6 Inwood Station

### GENERAL DEVELOPMENT CHARACTER AND EXISTING LAND USE

The Inwood Station is located in a mixed-use commercial, industrial, and residential area. Within the area are two public schools that are within one quarter-mile of the station, Maple Lawn Elementary School and Rusk Middle School. Students northwest and south of the Inwood Station could use the Green Line to travel to and from school, since the Rusk Middle School attendance zone also includes the Love Field, Southwestern Medical District/Parkland, and Market Center Station areas. A variety of strip-mall and free-standing retail establishments are also located along Inwood Road within walking distance of the station. Most of the residential streets include sidewalks and ADA ramps. Pedestrian access is also provided adjacent to Inwood Road.

The majority of the land use surrounding this station is commercial and single-family residential. **Table 3-20** and **Figure 3-10** depict the land use distribution within one half-mile of the Inwood Station.

CHART 3-6: Opening Day Ridership Projections

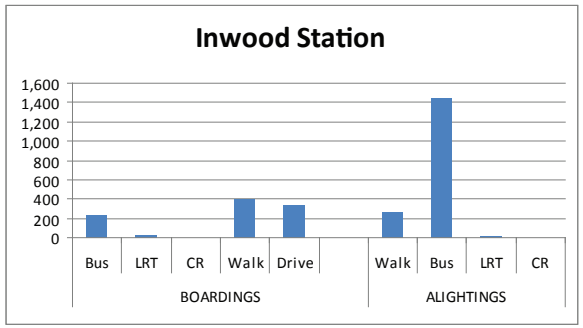



FIGURE 3-10: Inwood Station Before Land Use

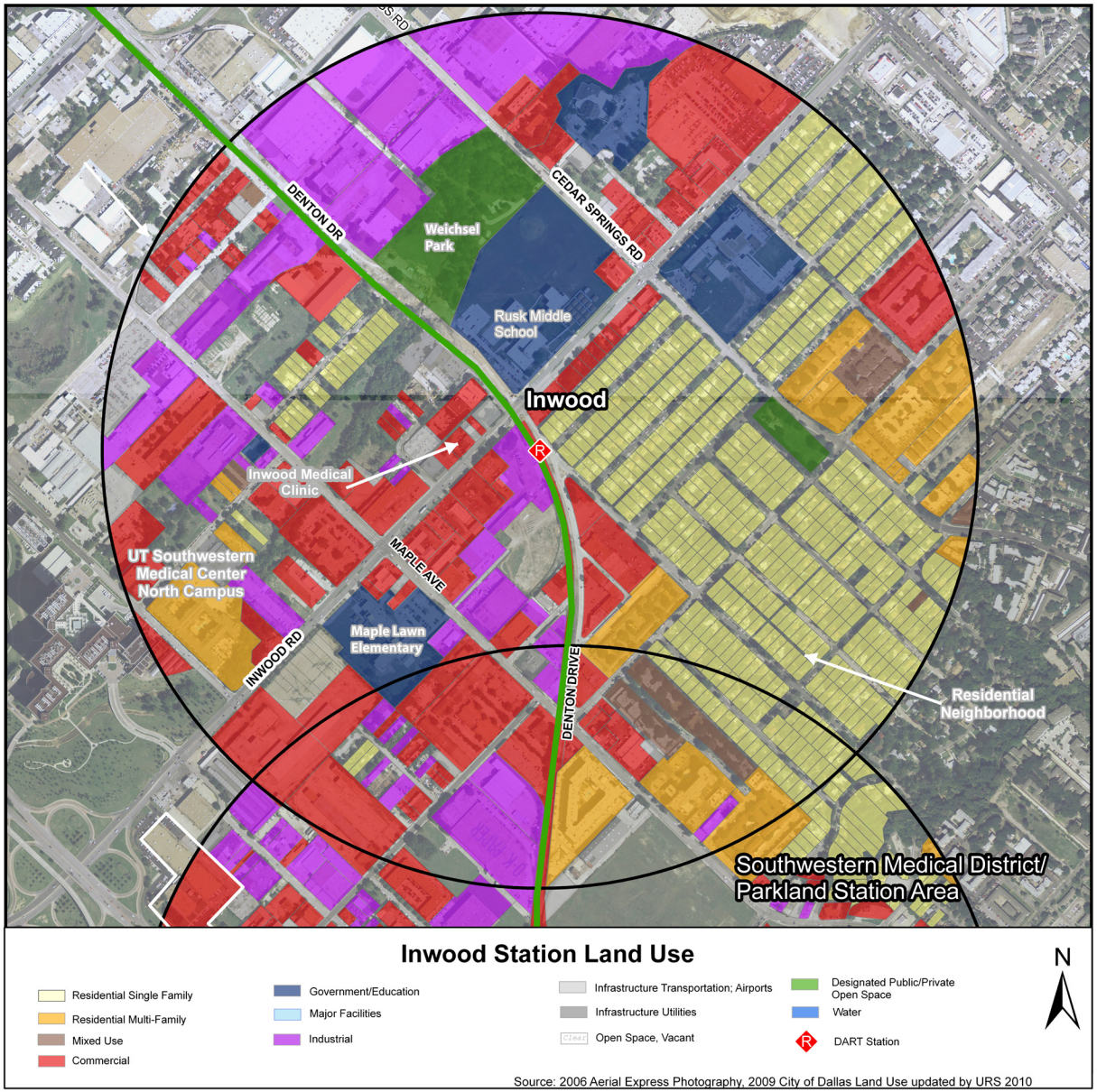


TABLE 3-20: INWOOD STATION BEFORE LAND USE (1/2-MILE RADIUS)

| LAND USE | TOTAL ACRES | PERCENT | LAND USE | TOTAL ACRES | PERCENT |
|---|---|---|---|---|---|
| Single-Family | 88.32 | 17.58% | Industrial | 72.05 | 14.34% |
| Multi-Family | 39.69 | 7.90% | Infrastructure Transportation | 8.67 | 1.73% |
| Mixed Use | 8.63 | 1.72% | Infrastructure Utilities | 4.04 | 0.80% |
| Commercial | 105.10 | 20.92% | Open Space/Vacant | 43.70 | 8.70% |
| Government/ Education | 39.25 | 7.81% | Designated Public/ Private Open Space | 14.66 | 2.92% |
| Major Facilities | 0.00 | 0.00% | Water | 0.00 | 0.00% |
| Undesignated | 78.29 | 15.58% | Total | 502.40 | 100.00% |

SOURCE: CITY OF DALLAS, 2009.

*Inwood Station construction*

**Chart 3-6** shows the projected opening day ridership numbers by mode of access. The bus access percentage may be higher for this station than projected, because shuttle services to the Love Field terminal will originate at this station until APM implementation at Love Field Station. The high number of projected bus alightings indicate that it will be a strong transfer point. Projected walk, bus, and drive boardings also suggest it will be a strong origin point for the surrounding area. The total opening day ridership projection for this station is 1,361 riders.

## KEY DESTINATIONS

- UT Southwestern Medical Center
- Residential neighborhood
- Inwood Medical Clinic
- Rusk Middle School

## DEVELOPMENTS PLANNED WITHIN THE STATION AREA

No development plans are known at this time. However, the City of Dallas adopted the Stemmons Corridor-Southwestern Medical District Area Plan in June, 2010. This plan includes a consensus development vision that encompasses the Inwood and Southwestern Medical District/Parkland Stations and will frame future land use development. The Inwood Station is identified as a strategic opportunity area by the Dallas Office of Economic Development.

*Mockingbird Underpass*

## 3.6.7 Southwestern Medical District/ Parkland Station

### GENERAL DEVELOPMENT CHARACTER AND EXISTING LAND USE

This station is located within the Southwestern Medical District, adjacent to Parkland Health & Hospital System. Parkland Health & Hospital System is Dallas County's only public hospital. Numerous other medical facilities and support services are located in this area. This hospital is the primary teaching institution of The University of Texas Southwestern Medical School and is often rated among the best hospitals in the US. In addition to Parkland, four other hospitals are located near the Southwestern Medical District/Parkland Station.

The area is also home to the Salvation Army, which provides social services to qualified citizens, and the American Red Cross- Dallas Area Headquarters, which provides disaster relief and training. The Medical District largely consists of the hospitals, teaching facilities, and affiliated support businesses and offices

CHART 3-7: Opening Day Ridership Projections

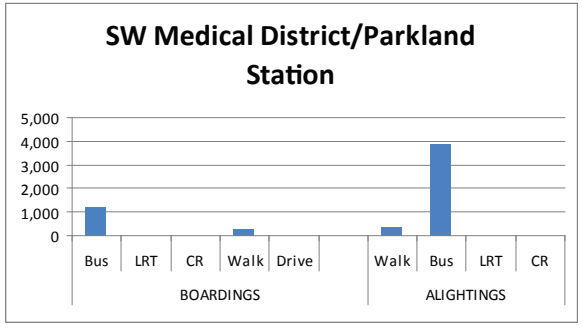
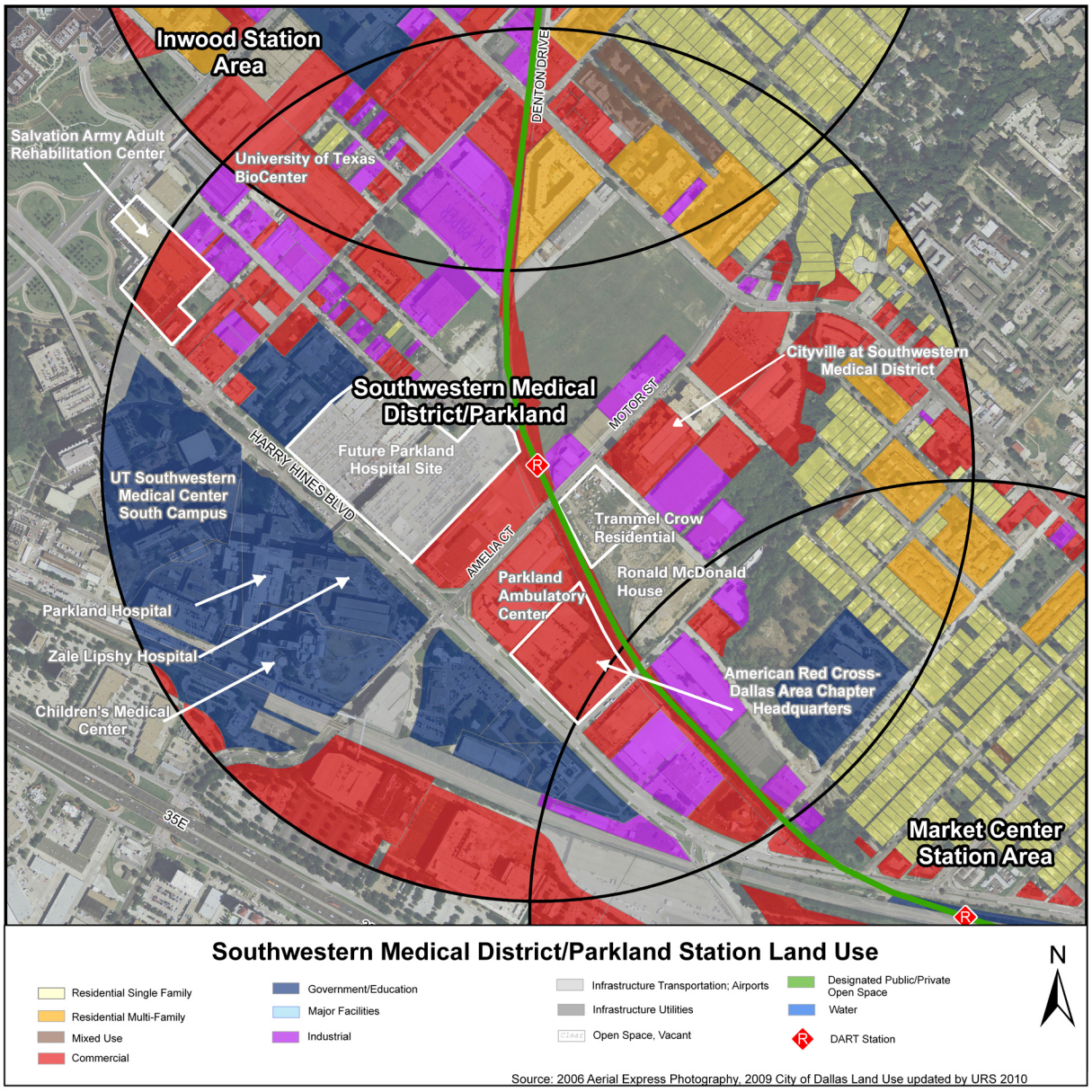



FIGURE 3-11: Southwestern Medical District/Parkland Station Before Land Use



surrounding the area. Although the Parkland Area Master Plan recommends a shift of several facilities, most notably Parkland's relocation and expansion to the east side of Harry Hines, the identifying characteristics of the district will remain.

The station falls within the Hernandez Elementary School and Rusk Middle School attendance zones, therefore it is possible that middle school-aged students who attended Hernandez Elementary will use the Green Line between this station and the Inwood Station to travel to and from Rusk Middle School.

Land uses surrounding the station include institutional, retail/restaurant, multi-family residential/ mixed, and vacant land. **Table 3-21 and Figure 3-11** depict the land use distribution within one half-mile of the Southwestern Medical District/Parkland Station.

**Figure 3-11** shows the various medical facilities in the station area. A TIF district was created in this area to encourage economic development. Within five years of the creation of the TIF district, the private sector was projected to invest more than $80 million in the District. To date, the completed projects [4] include the following:

- Cityville at Southwestern Medical District, Phase 1 (278 residential units and 45,000 square feet of retail)
- Simmons Ambulatory Center – 60,000-square foot medical facility
- Alexan Southwestern Medical (Trammel Crow Residential) – 396 units
- Ronald McDonald House – 64,000-square feet, providing lodging for 60 families
- BioCenter – 500,000 square feet of medical research space in four buildings

*Cityville at Southwestern Medical District*

**Chart 3-7** shows the projected opening day ridership numbers by mode of access/egress. Ped/ bike mode of access could be significantly higher at this station than projected because of the significant development associated with the hospital. Bus access will be important, as this station will serve as a hub for several routes and shuttles. The projected ridership at this station indicates a greater number of alightings than boardings, which implies the station to be more of a destination than an origin. The total opening day ridership projection for this station is 2,897 riders.

## KEY DESTINATIONS

- UT Southwestern Medical Center
- Parkland Hospital
- Children's Medical Center
- Zale Lipshy Hospital
- American Red Cross- Dallas Area Headquarters
- Dallas-area Salvation Army Adult Rehabilitation and Administrative Facility
- Cityville at Southwestern Medical District

## DEVELOPMENTS PLANNED WITHIN THE STATION AREA

Future projects include the Butler Street Luxury Apartments, featuring 460 units and 5,000 square feet of retail space.

Parkland Hospital expansion plans are getting

TABLE 3-21: SOUTHWESTERN MEDICAL DISTRICT/PARKLAND STATION BEFORE LAND USE (1/2-MILE RADIUS)

| LAND USE | TOTAL ACRES | PERCENT | LAND USE | TOTAL ACRES | PERCENT |
|---|---|---|---|---|---|
| Single-Family | 32.61 | 6.49% | Industrial | 46.57 | 9.27% |
| Multi-Family | 25.82 | 5.14% | Infrastructure Transportation | 29.43 | 5.86% |
| Mixed Use | 5.08 | 1.01% | Infrastructure Utilities | 4.46 | 0.89% |
| Commercial | 135.58 | 26.99% | Open Space/Vacant | 79.42 | 15.81% |
| Government/ Education | 86.16 | 17.15% | Designated Public/ Private Open Space | 0.00 | 0.00% |
| Major Facilities | 0.00 | 0.00% | Water | 0.00 | 0.00% |
| Undesignated | 57.27 | 11.40% | Total | 502.40 | 100.00% |

SOURCE: CITY OF DALLAS, 2009.

underway. Demolition of existing buildings on the site of the new Parkland campus began in July, 2010. In September, 2010, construction of the East Parking Lot on the east side of the LRT station got underway. The lot will provide 1,956 new parking spaces. Construction is expected to be completed in 2014. Once complete, the nearly two-million square-foot hospital will inlcude 862 beds. A separate clinic building, parking structures, and other support facilities are also included in the project.

As with Inwood Station, this station area is located within the Stemmons Corridor-Southwestern Medical District Area Plan, which will guide future redevelopment and connectivity.

*Southwestern Medical District/Parkland Station*

*New Parkland Hospital rendering (Source: Corgan MediaLab, BARA)*

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## 3.6.8 Market Center Station

### GENERAL DEVELOPMENT CHARACTER AND EXISTING LAND USE

This station area includes large market halls and complexes to the west and lower-income, minority residential, commercial, and retail areas on the east. Infill development activity is currently revitalizing this primarily single-family neighborhood and some areas are being gentrified. The station falls within the Medrano Elementary and Rusk Middle School attendance zones, therefore it is possible that middle school-aged students who attended Medrano Elementary will use the Green Line between this station and the Inwood Station to travel to and from Rusk Middle School.

Several hotels, including the Holiday Inn Market Center, Renaissance Hotel, and Hilton-Anatole are within walking distance of the station.

The Design District, which is an area of influence west of the station, is a warehouse/office district that supports the major fashion and design markets along IH 35E. The

CHART 3-8: Opening Day Ridership Projections

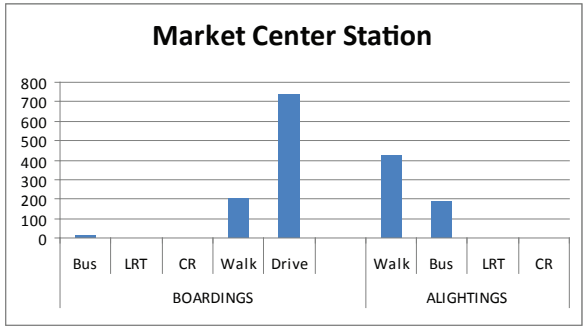



FIGURE 3-12: Market Center Station Before Land Use

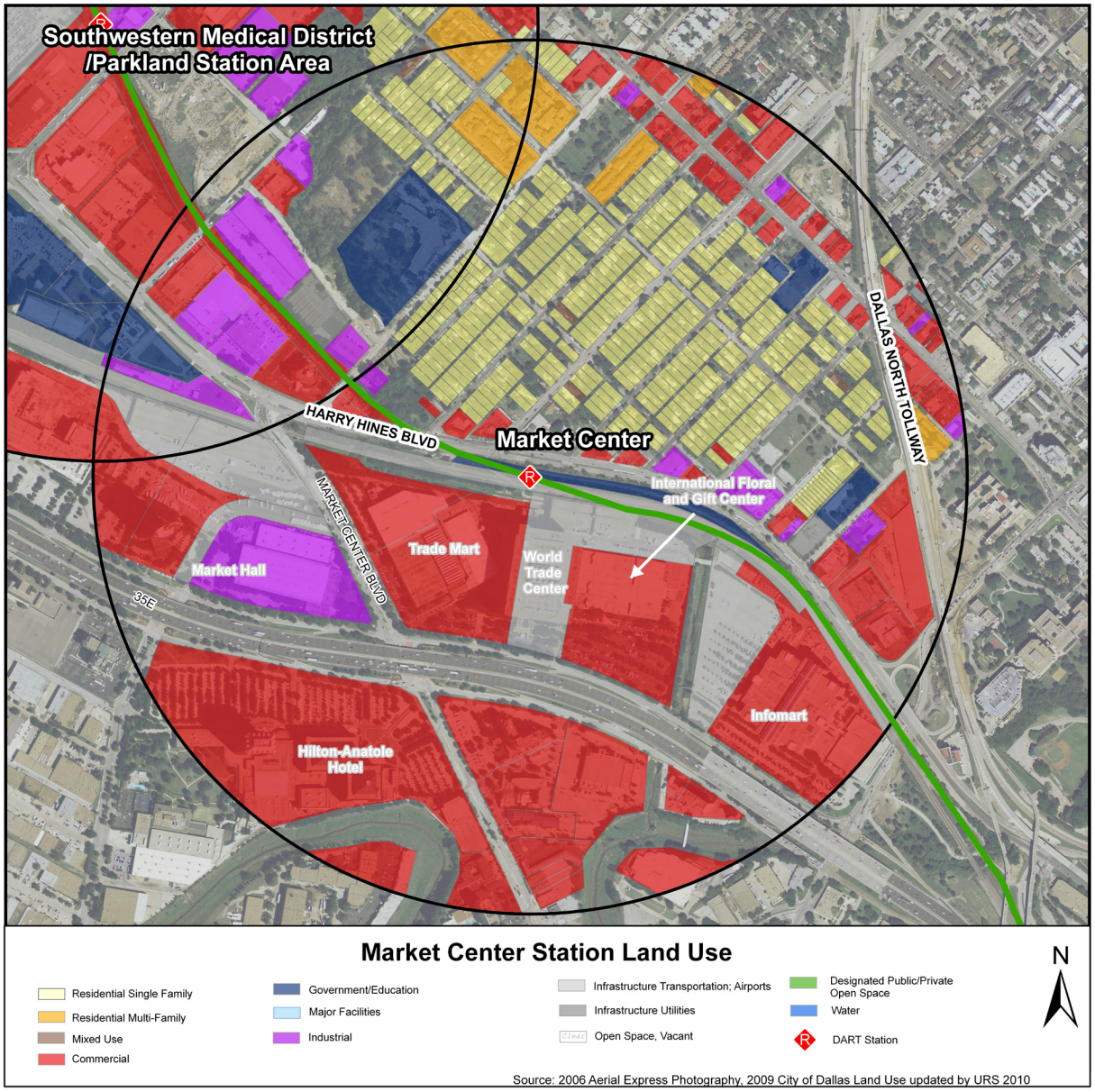


TABLE 3-22: MARKET CENTER BEFORE LAND USE (1/2-MILE RADIUS)

| LAND USE | TOTAL ACRES | PERCENT | LAND USE | TOTAL ACRES | PERCENT |
|---|---|---|---|---|---|
| Single-Family | 63.30 | 12.60% | Industrial | 29.05 | 5.78% |
| Multi-Family | 12.26 | 2.44% | Infrastructure Transportation | 39.60 | 7.88% |
| Mixed Use | 0.97 | 0.19% | Infrastructure Utilities | 3.08 | 0.61% |
| Commercial | 170.19 | 33.88% | Open Space/Vacant | 55.34 | 11.02% |
| Government/ Education | 15.22 | 3.03% | Designated Public/ Private Open Space | 0.00 | 0.00% |
| Major Facilities | 0.00 | 0.00% | Water | 0.00 | 0.00% |
| Undesignated | 113.39 | 22.57% | Total | 502.40 | 100.00% |

SOURCE: CITY OF DALLAS, 2009.

Design District will eventually be connected to the Market Center Station via the Trinity Strand Trail. This trail, which is currently under construction and set for completion between 2012 and 2014, will also connect to Reverchon Park and the Katy Trail. Turtle Creek Plaza, a centerpiece of the project, was opened in May, 2010. **Figure 3-13** provides the planned trail alignment from the Trinity Strand Trail website.

The majority of surrounding land use is commercial. In addition, there is a large area of single-family residential. **Table 3-22** and **Figure 3-12** depict the land use distribution within one half-mile of the Market Center Station.

**Chart 3-8** shows the projected opening day ridership numbers by mode of access/egress. As shown, the expected primary mode of access to this station is by car. The projections indicate that the station will be predominantly a point of trip origination, however given its location near Market Center and surrounding hotels, actual ridership could show this station to have greater use as a destination station than projected. The total opening day ridership projection for this station is 783 riders.

FIGURE 3-13: Trinity Strand Trail, 2010


## KEY DESTINATIONS

- Dallas Market Center Campus
- World Trade Center
- Trade Mart
- Market Hall
- International Floral & Gift Center
- Hilton-Anatole Hotel
- Infomart

*Market Center Station walkway over TRE/freight tracks to Market Center property*

## DEVELOPMENTS PLANNED WITHIN THE STATION AREA

No development plans are known at this time. However, this station also lies within the Stemmons Corridor-Southwestern Medical District Area Plan and has many redevelopment and linkage opportunities.

## 3.6.9 Victory Station

### GENERAL DEVELOPMENT CHARACTER AND EXISTING LAND USE

This station is located north of downtown Dallas and next to IH 35E within Victory Park, a master-planned, mixed-use development by Hillwood Development Company that includes nearly $450 million worth of projects such as condominiums, apartments, retail, office buildings, and the W Dallas-Victory Hotel & Residences. The focal point of the development is the American Airlines Center, which is home to two professional sports teams and hosts a variety of events throughout the year.

Three residential condominium projects are open and predominantly sold. Two apartment complexes are also located within the Victory Park development, while several others are within close proximity. All of these residential developments are described as "luxury." Many high-end restaurants and clothing stores occupy the ground floor retail spaces within the development.

CHART 3-9: Opening Day Ridership Projections

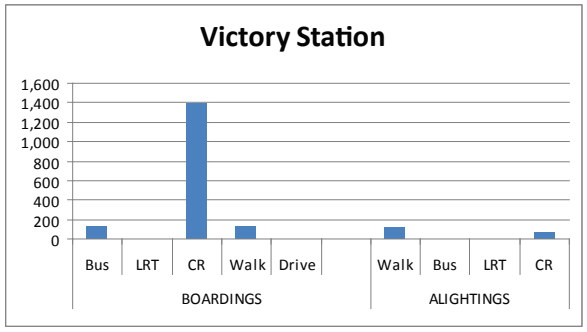



FIGURE 3-14: Victory Station Before Land Use

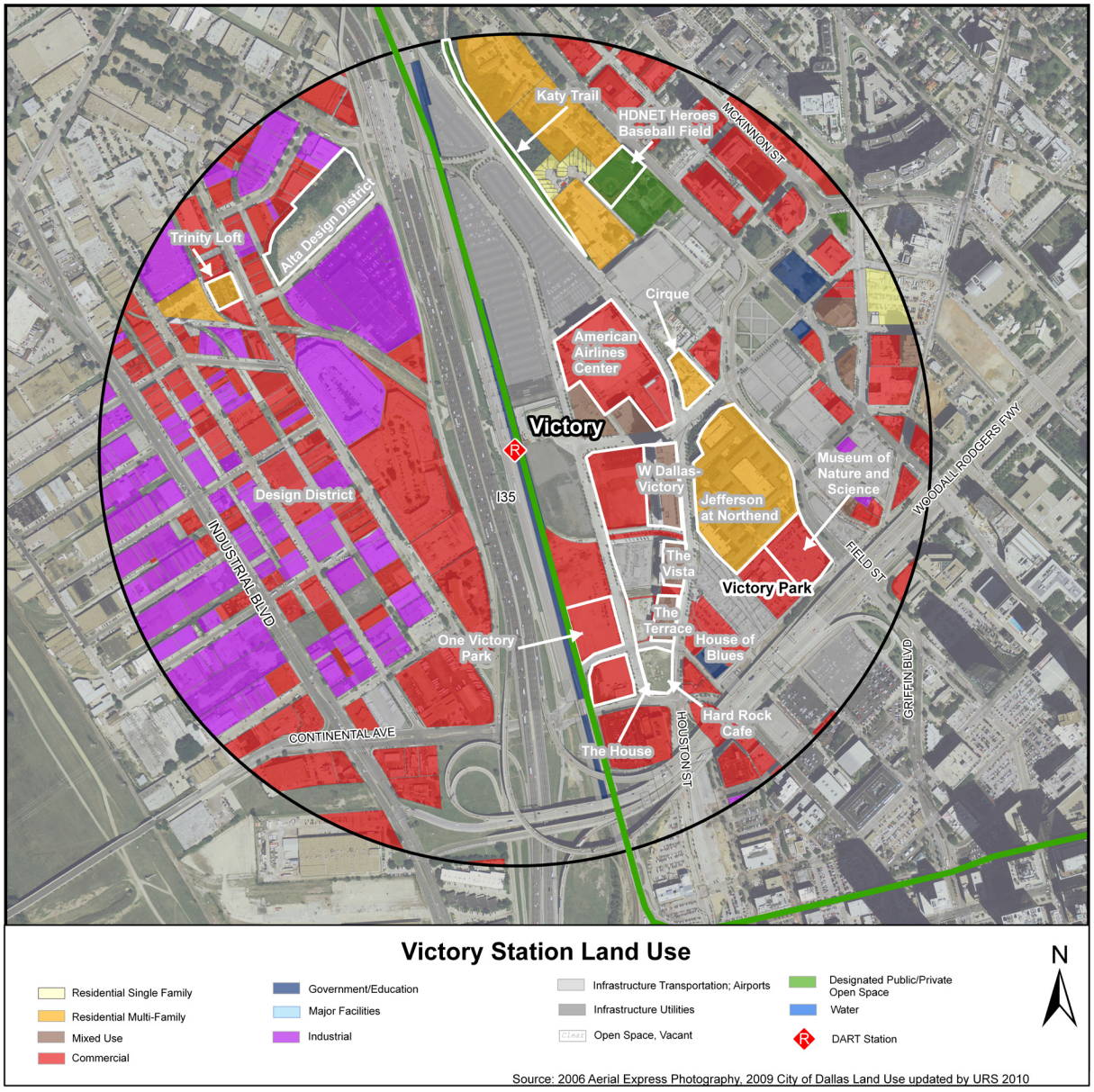


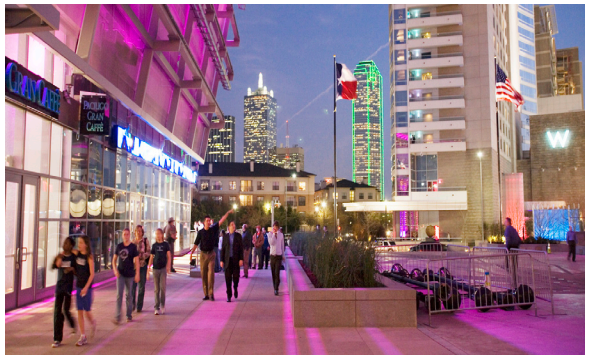
TABLE 3-23: VICTORY STATION BEFORE LAND USE (1/2-MILE RADIUS)

| LAND USE | TOTAL ACRES | PERCENT | LAND USE | TOTAL ACRES | PERCENT |
|---|---|---|---|---|---|
| Single-Family | 2.75 | 0.55% | Industrial | 58.17 | 11.58% |
| Multi-Family | 26.54 | 5.28% | Infrastructure Transportation | 53.65 | 10.68% |
| Mixed Use | 7.93 | 1.58% | Infrastructure Utilities | 6.25 | 1.24% |
| Commercial | 115.15 | 22.92% | Open Space/Vacant | 42.01 | 8.36% |
| Government/ Education | 8.09 | 1.61% | Designated Public/ Private Open Space | 5.35 | 1.06% |
| Major Facilities | 0.00 | 0.00% | Water | 0.00 | 0.00% |
| Undesignated | 176.50 | 35.13% | Total | 502.40 | 100.00% |

SOURCE: CITY OF DALLAS, 2009.

As mentioned in the Market Center Station area detail, the Design District is also a key destination for the Victory Station, since much of the neighborhood is located within a half-mile of the station. Two Design District apartment complexes, Alta Design District and Trinity Loft, fall within this half-mile area, although IH 35E currently presents a physical barrier to easy access. **Table 3-23** and **Figure 3-14** depict the land use distribution within one half-mile of Victory Station.

**Chart 3-9** shows the projected opening day ridership numbers by mode of access/egress. Passengers from the TRE commuter rail line can transfer to LRT at Victory Station, hence the high percentage of boardings from commuter rail. Projected alightings are very low at this station, but existing and future special event ridership at the station, although not captured in regional model projections, would indicate that it is also a destination station. The continuing development of the Victory Park area will contribute to the station's importance as a non-special event destination in the future as well. The total opening day ridership projection for this station is 915 riders.



*Victory Park near Victory Station*

## KEY DESTINATIONS

- American Airlines Center
- Victory Park neighborhood
- High-end, multi-family residences: Cirque, The House, The Terrace, The Vista Residences, W Dallas-Victory Hotel and Residences, Jefferson at Northend
- Katy Trail pedestrian and bicycle path entrance
- Major restaurant/entertainment venues: House of Blues and Hard Rock Cafe
- One Victory Park office building: Haynes and Boone, LLP and Ernst & Young
- Design District
- Design District residences: Alta Design District and Trinity Loft

## DEVELOPMENTS PLANNED WITHIN THE STATION AREA

The Victory Master Plan included development of ten office buildings, all with street-level retail, two high-end hotels, and numerous luxury residential buildings. While many have been completed, additional developments included in Victory Phase II are:

- Two Victory Tower, providing office space;
- Victory Village, luxury residential with an emphasis on open space;
- Residence on the Park, luxury living above patio dining; and
- Victory Commons, which will include street-front retail.

The future site of the Museum of Nature and Science is located within a half-mile of Victory Station. The new museum, which is being funded in part by the Perot Family, will include state-of-the-art exhibits on such topics as electricity, weather, and oil and gas drilling to educate and engage the public.

## 3.6.10 Deep Ellum Station

### GENERAL DEVELOPMENT CHARACTER AND EXISTING LAND USE

This area is the most well-known entertainment district in Dallas. It is known for its eclectic mix of restaurants, nightclubs, and retail businesses. Deep Ellum is also home to warehouses and former industrial businesses that have been converted to high-end loft units and garden-style apartment complexes. New townhome construction has also occurred. The station will provide access to these residences and other destinations such as the Latino Cultural Center and Wilson Historic District.

The existing land use surrounding this station is dominated by commercial facilities, which mainly consist of entertainment venues. **Table 3-24** and **Figure 3-15** depict the land use distribution within one half-mile of the Deep Ellum Station.

**Chart 3-10** shows the projected opening day ridership numbers by mode of access/egress. Given the land use surrounding this station, mode of access will be almost exclusively ped/bike. Projected

CHART 3-10: Opening Day Ridership Projections

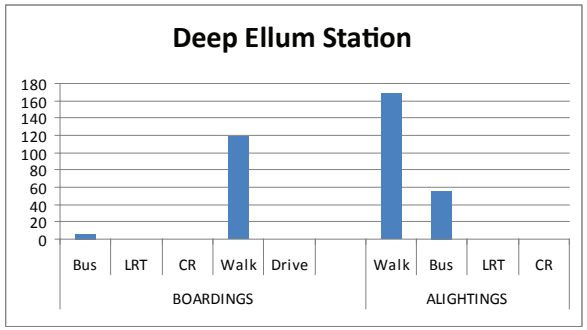



FIGURE 3-15: Deep Ellum Station Before Land Use

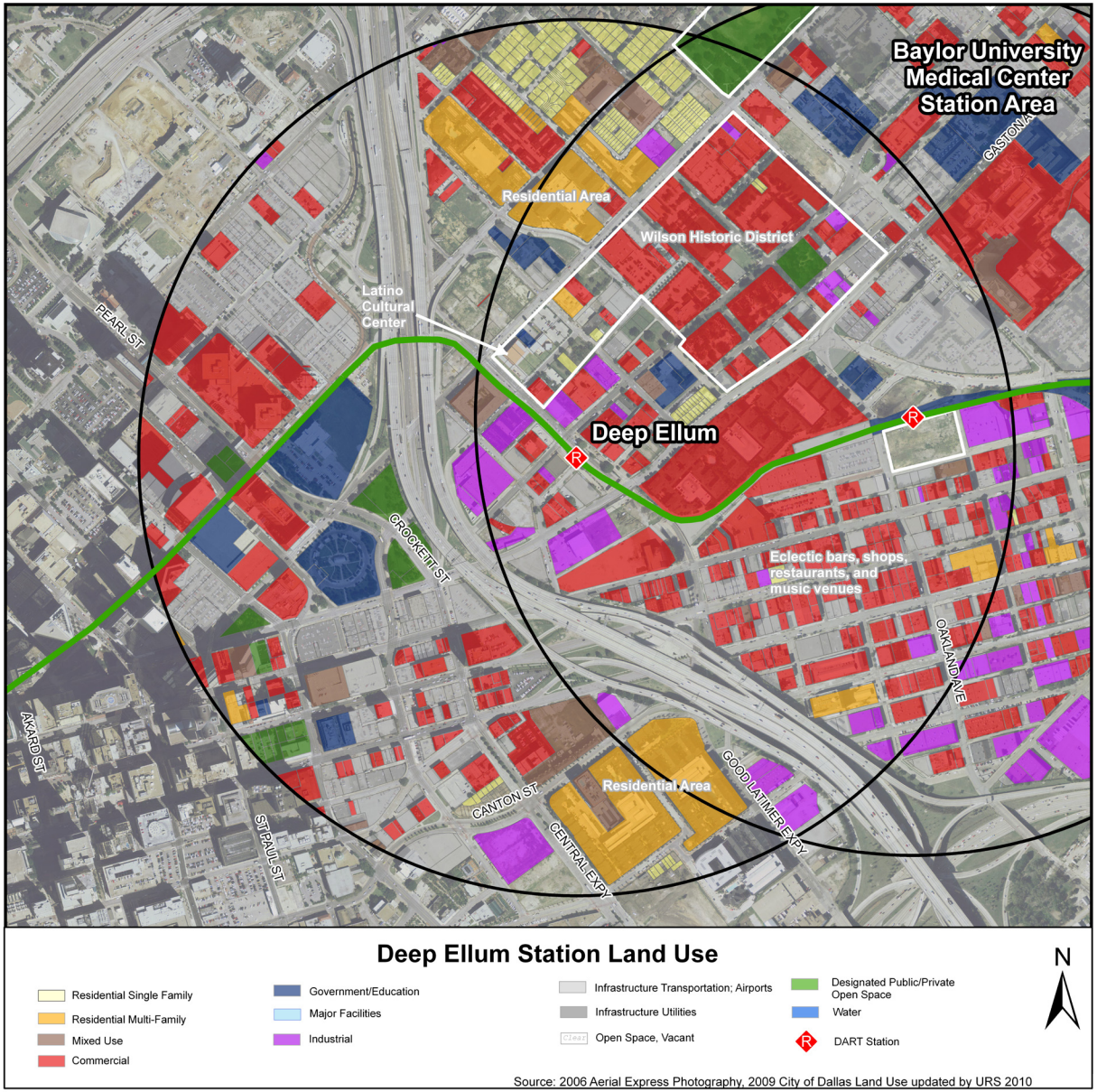


TABLE 3-24: DEEP ELLUM STATION BEFORE LAND USE (1/2-MILE RADIUS)

| LAND USE | TOTAL ACRES | PERCENT | LAND USE | TOTAL ACRES | PERCENT |
|---|---|---|---|---|---|
| Single-Family | 12.24 | 2.44% | Industrial | 18.84 | 3.75% |
| Multi-Family | 27.48 | 5.47% | Infrastructure Transportation | 61.58 | 12.26% |
| Mixed Use | 13.53 | 2.69% | Infrastructure Utilities | 1.40 | 0.28% |
| Commercial | 106.94 | 21.29% | Open Space/Vacant | 34.63 | 6.89% |
| Government/ Education | 19.61 | 3.90% | Designated Public/ Private Open Space | 12.71 | 2.53% |
| Major Facilities | 0.00 | 0.00% | Water | 0.00 | 0.00% |
| Undesignated | 193.44 | 38.50% | Total | 502.40 | 100.00% |

SOURCE: CITY OF DALLAS, 2009.


*Green Line train north of Deep Ellum Station*

*Traveling Man sculpture at Deep Ellum Station*

alightings are about twice as high as boardings, which indicates the entertainment-focused station area to be more of a trip destination than a trip origin. The total opening day ridership projection for this station is 174 riders.

## KEY DESTINATIONS

- Latino Cultural Center
- Eclectic bars, shops, restaurants, and music venues
- Residential areas
- Wilson Historic District (Meadows Foundation non-profit community)

## DEVELOPMENTS PLANNED WITHIN THE STATION AREA

Deep Ellum has seen a resurgence of activity due to the Green Line. New bars and clubs have opened, and one of the long-time anchors of the local music scene, Trees, has recently re-opened after closing its doors a couple of years ago. According to the Dallas Economic Development website, the Deep Ellum TIF was initiated in 2005. This TIF district includes the Exposition Park area. The TIF has undoubtedly helped to clean up and revitalize the area in preparation for the opening of the Green Line, and the opening of the new light rail stations at Deep Ellum, Baylor University Medical Center, and Fair Park should continue to encourage such efforts to revitalize the area.

## 3.6.11 Baylor University Medical Center Station

### GENERAL DEVELOPMENT CHARACTER AND EXISTING LAND USE

This station is located near Baylor University Medical Center, which is surrounded by medical offices and residential units. The construction of a new roadway in the area has resulted in some vacant parcels in the station vicinity. These vacant parcels are prime for redevelopment and adaptive reuse to complement the Baylor University Medical Center Station.

The land use surrounding this station consists mainly of commercial land uses. Baylor University Medical Center is located adjacent to the station. **Table 3-25** and **Figure 3-16** depict the land use distribution within one half-mile of the Baylor University Medical Center Station.

The Ambrose apartment complex is a newly-constructed development immediately adjacent to the Baylor Medical Center Station on the south side of the station. One of the primary selling points on

CHART 3-11: Opening Day Ridership Projections

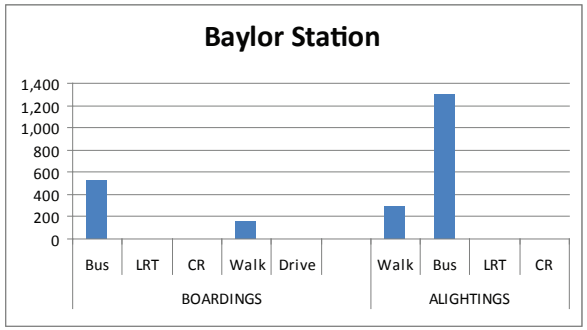



FIGURE 3-16: Baylor University Medical Center Station Before Land Use

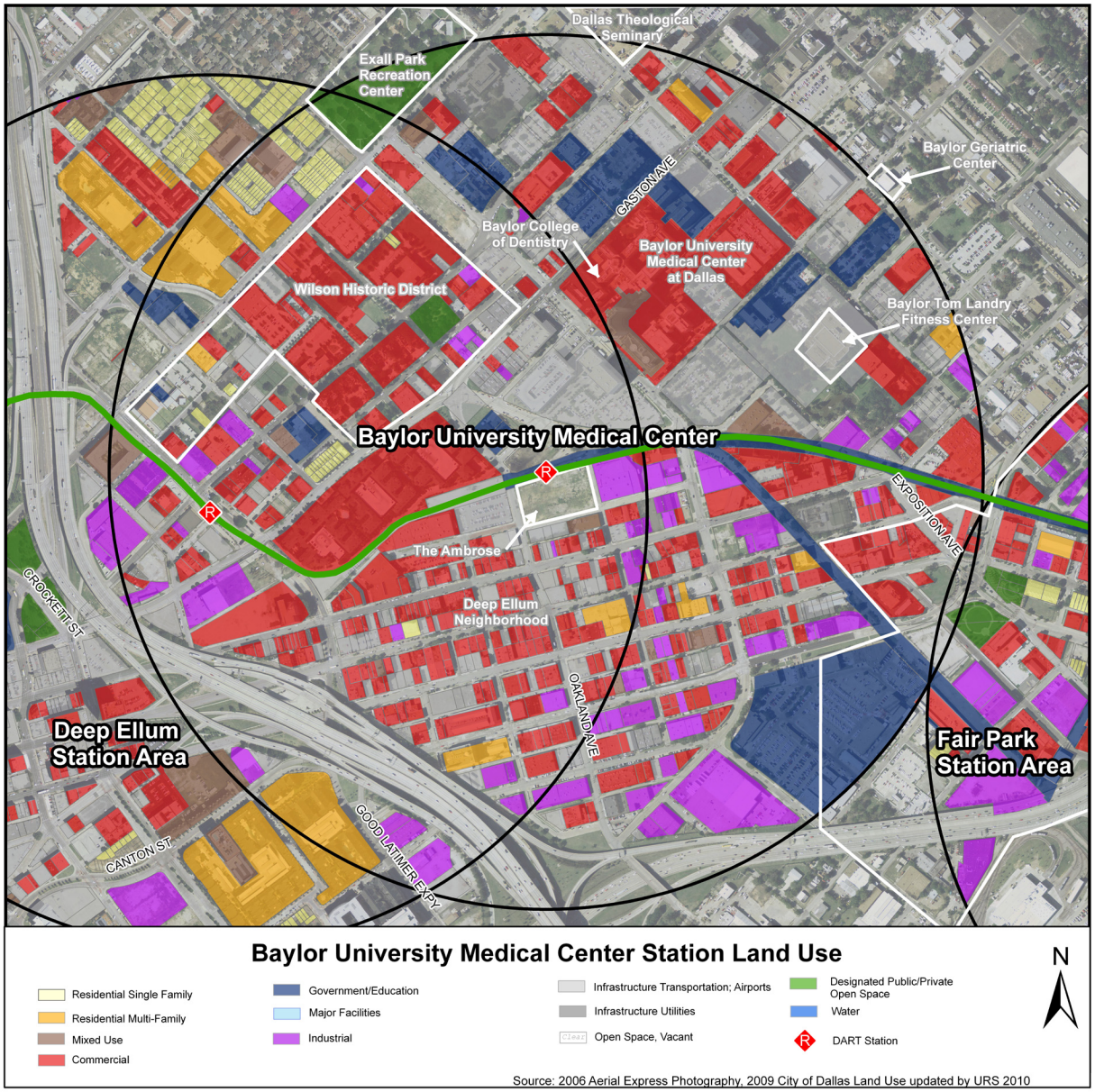


TABLE 3-25: BAYLOR UNIVERSITY MEDICAL CENTER STATION BEFORE LAND USE (1/2-MILE RADIUS)

| LAND USE | TOTAL ACRES | PERCENT | LAND USE | TOTAL ACRES | PERCENT |
|---|---|---|---|---|---|
| Single-Family | 4.64 | 0.92% | Industrial | 33.38 | 6.64% |
| Multi-Family | 17.18 | 3.42% | Infrastructure Transportation | 68.00 | 13.54% |
| Mixed Use | 8.07 | 1.61% | Infrastructure Utilities | 8.30 | 1.65% |
| Commercial | 122.24 | 24.33% | Open Space/Vacant | 30.50 | 6.07% |
| Government/ Education | 34.24 | 6.82% | Designated Public/ Private Open Space | 6.69 | 1.33% |
| Major Facilities | 0.00 | 0.00% | Water | 0.00 | 0.00% |
| Undesignated | 169.16 | 33.67% | Total | 502.40 | 100.00% |

SOURCE: CITY OF DALLAS, 2009.

*Baylor University Medical Center Station with new Ambrose development*

The Ambrose website is the complex's proximity to the Green Line station. The Ambrose includes a variety of floor plans which range from $855 to $1,920 per month. According to the Dallas economic Development website, the Deep Ellum TIF was initiated in 2005. This TIF district includes the Exposition Park area. The TIF has already encouraged new development, and the opening of the new light rail stations at Deep Ellum, Baylor University Medical Center, and Fair Park should continue to encourage such efforts to revitalize the area.

**Chart 3-11** shows the projected opening day ridership numbers by mode of access/egress. The projections show significant access by bus, however, the land uses in the station area may produce a more significant number of ped/bike boardings. Given the station area's current medical land uses, the projected alightings are higher relative to boardings at this station, indicating a destination station. The total opening day ridership projection for this station is 1,134 riders.

## KEY DESTINATIONS

- Baylor University Medical Center at Dallas
- Baylor Geriatric Center
- Baylor University College of Dentistry
- Baylor Tom Landry Fitness Center
- Dallas Theological Seminary
- Wilson Historic District
- Residential areas
- The Ambrose apartments
- Exall Park Recreation Center
- Deep Ellum neighborhood

## DEVELOPMENTS PLANNED WITHIN THE STATION AREA

No development plans are known at this time.

## 3.6.12 Fair Park Station

### GENERAL DEVELOPMENT CHARACTER AND EXISTING LAND USE

Land uses in this area focus on entertainment and education, with major sports and entertainment venues, museums, and historic structures. The surrounding Exposition Park neighborhood is seeing some redevelopment due to the station and includes retail, services, restaurants, and several apartment complexes converted from warehouse spaces.

Fair Park covers approximately 174 acres of the area surrounding this station and is located adjacent to the station. In addition, there are some pockets of commercial and industrial areas present. **Table 3-26** and **Figure 3-17** depict the land use distribution within one half-mile of the Fair Park Station.

**Chart 3-12** shows the projected opening day ridership numbers by mode of access/egress on a typical day. Special event activity is not included in this projection. The total opening day ridership projection for this station is 887 riders. Surveys of State

CHART 3-12: Opening Day Ridership Projections

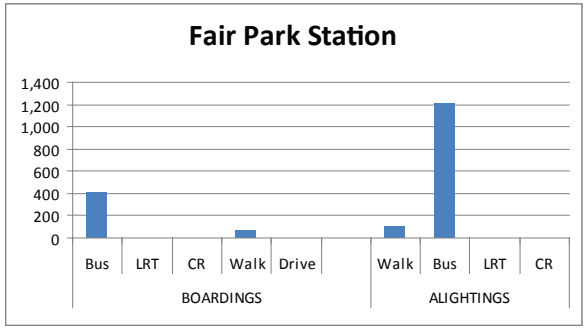



FIGURE 3-17: Fair Park Station Before Land Use

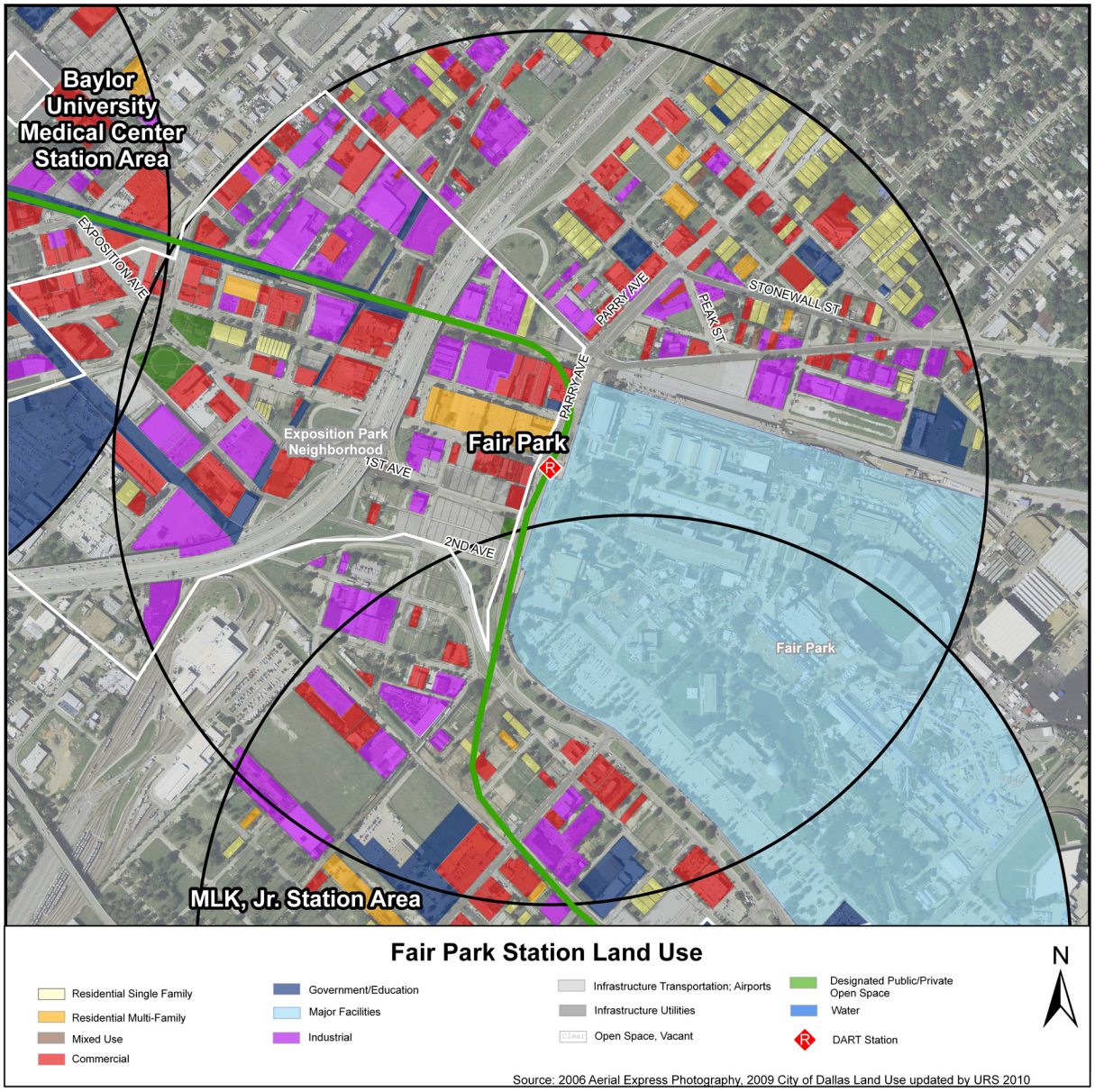


TABLE 3-26: FAIR PARK STATION BEFORE LAND USE (1/2-MILE RADIUS)

| LAND USE | TOTAL ACRES | PERCENT | LAND USE | TOTAL ACRES | PERCENT |
|---|---|---|---|---|---|
| Single-Family | 15.32 | 3.05% | Industrial | 51.72 | 10.29% |
| Multi-Family | 6.23 | 1.24% | Infrastructure Transportation | 8.30 | 1.65% |
| Mixed Use | 0.48 | 0.10% | Infrastructure Utilities | 0.46 | 0.09% |
| Commercial | 46.85 | 9.33% | Open Space/Vacant | 73.05 | 14.54% |
| Government/ Education | 37.46 | 7.46% | Designated Public/ Private Open Space | 2.47 | 0.49% |
| Major Facilities | 173.87 | 34.61% | Water | 0.00 | 0.00% |
| Undesignated | 86.19 | 17.16% | Total | 502.40 | 100.00% |

SOURCE: CITY OF DALLAS, 2009.


*First train to Fair Park for 2009 State Fair of Texas*

Fair of Texas patrons were conducted in 2004, 2005, and 2006 to assess fair-goer mode choice and the conditions of transit ridership before the opening of the Fair Park Station. Surveys were again conducted in 2009 to document the transit ridership and mode choice for the first year of LRT operation to Fair Park Station during the State Fair of Texas. Based on the 2009 survey, 22 percent of respondents use transit for at least one leg of their trip to the State Fair. Surveys will be conducted in 2010 and 2011 to document the "after" conditions of Green Line operation at Fair Park.

## KEY DESTINATIONS

- Exposition Park neighborhood
- Fair Park
  - The Cotton Bowl
  - Texas! Music Center
  - African American Museum
  - Dallas Aquarium
  - Dallas Historical Society
  - Museum of Nature and Science
  - TI Founders IMAX Theater
  - Hall of State
  - Texas Discovery Gardens
  - Texas Vietnam Veteran's Memorial
  - The Women's Museum

## DEVELOPMENTS PLANNED WITHIN THE STATION AREA

According to the Dallas Economic Development website, the Deep Ellum TIF was initiated in 2005. This TIF district includes the Exposition Park area. The TIF has already encouraged new development, and the opening of the new light rail stations at Deep Ellum, Baylor University Medical Center, and Fair Park should continue to encourage such efforts to revitalize the area.

The Fair Park Master Plan outlines the long-term plan for the renovation of Fair Park. With the completion of this plan, other initiatives will be formulated.

## 3.6.13 MLK, Jr. Station

### GENERAL DEVELOPMENT CHARACTER AND EXISTING LAND USE

The MLK, Jr. Station is located near the southern boundary of Fair Park, where entertainment and commercial land uses give way to multi-family and dense single-family land uses. The station is near James Madison High School, Irma L. Rangel Young Women's Leadership School, and retail locations such as Minyard Food Stores and Walgreens. The South Dallas Café, a well-known, long-standing restaurant, is also located near this station. The area is economically depressed and many vacant lots exist along the major thoroughfares and within the residential neighborhoods.

Fair Park is also a major facility in proximity to the MLK, Jr. Station. The J.B. Jackson, Jr. Transit Center is located adjacent to the station. Many social services exist within a half-mile of this station, including senior centers, a library, and a recreation center. Other land

CHART 3-13: Opening Day Ridership Projections

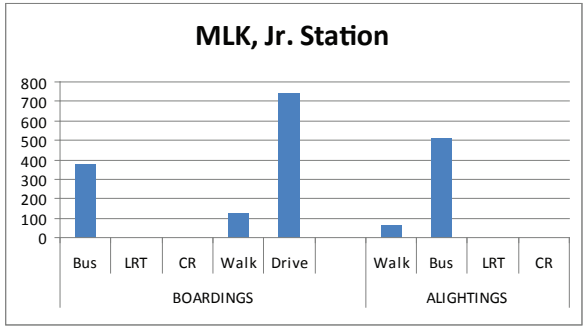



FIGURE 3-18: MLK, Jr. Station Before Land Use

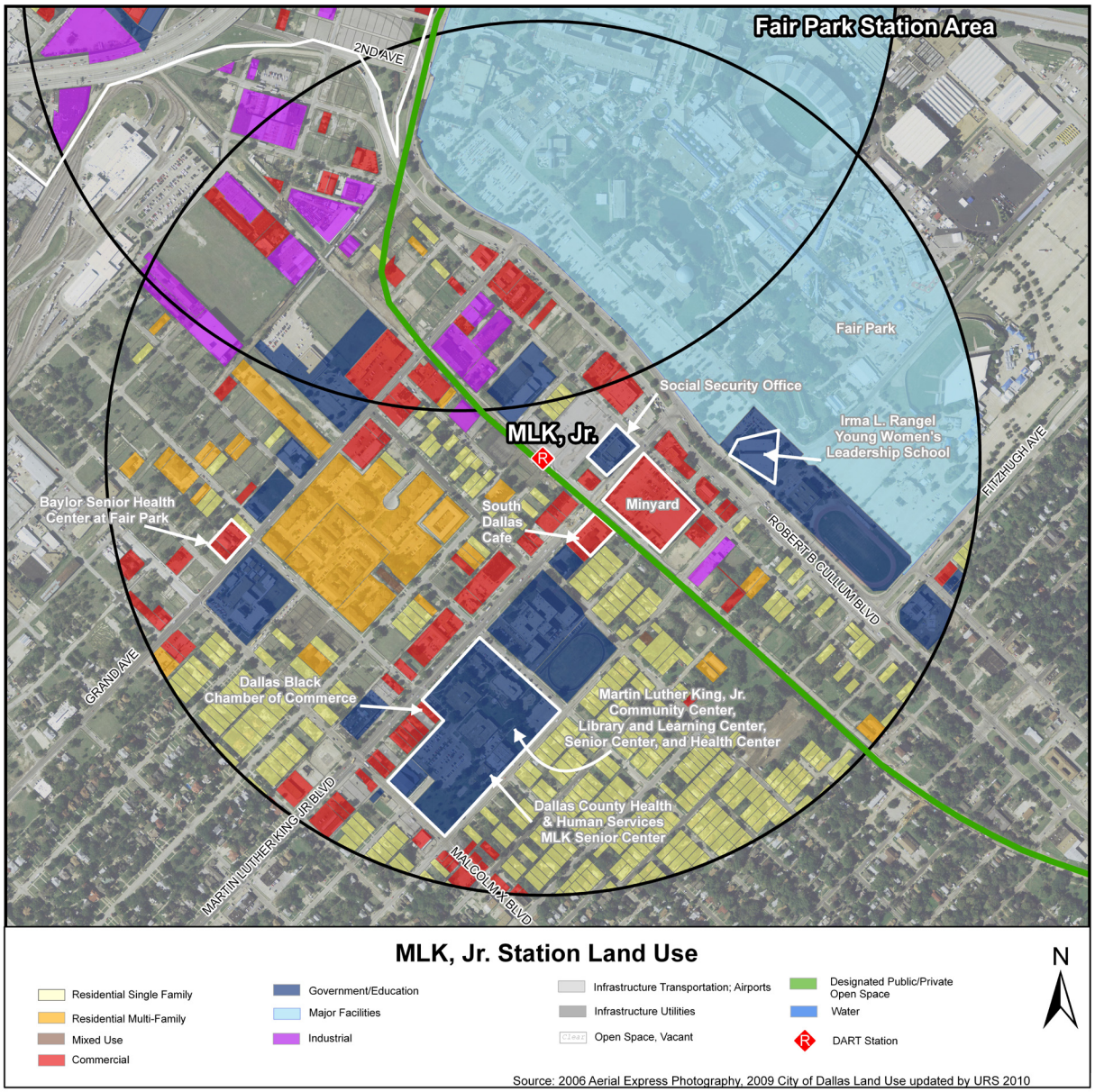


TABLE 3-27: MLK, JR. STATION BEFORE LAND USE (1/2-MILE RADIUS)

| LAND USE | TOTAL ACRES | PERCENT | LAND USE | TOTAL ACRES | PERCENT |
|---|---|---|---|---|---|
| Single-Family | 46.42 | 9.24% | Industrial | 14.06 | 2.80% |
| Multi-Family | 23.48 | 4.67% | Infrastructure Transportation | 5.34 | 1.06% |
| Mixed Use | 0.32 | 0.06% | Infrastructure Utilities | 0.80 | 0.16% |
| Commercial | 31.12 | 6.19% | Open Space/Vacant | 87.55 | 17.43% |
| Government/ Education | 47.31 | 9.42% | Designated Public/ Private Open Space | 0.00 | 0.00% |
| Major Facilities | 173.87 | 34.61% | Water | 0.00 | 0.00% |
| Undesignated | 72.13 | 14.36% | Total | 502.40 | 100.00% |

SOURCE: CITY OF DALLAS, 2009.


*J.B. Jackson, Jr. Transit Center at MLK, Jr. Station*

*MLK, Jr. Station*

uses include single-family and multi-family residential; government/education and industrial facilities; and open space/vacant. **Table 3-27** and **Figure 3-18** depict the land use distribution within one half-mile of the MLK, Jr. Station.

**Chart 3-13** shows the projected opening day ridership numbers by mode of access/egress. Given its proximity to Fair Park, the MLK, Jr. Station may also see a larger percentage of ped/bike access than projected. Unlike the Fair Park Station, the MLK, Jr. Station has many more projected boardings than alightings. This is due to its proximity to lower-income, transit-dependent residential areas as well as parking availability and strong bus interface. Although the station will serve special-event riders destined for the Fair Park area, its primary use will be as an every day transit link to downtown and other parts of the Service Area for the surrounding population. The total opening day ridership projection for this station is 912 riders.

## KEY DESTINATIONS

- Social Security Office
- Minyard Food Stores location
- South Dallas Café
- Fair Park
  - State Fair of Texas
  - Superpages.com Center
- Martin Luther King, Jr. Library and Learning Center
- Martin Luther King, Jr. Community Center
  - Martin Luther King, Jr. Health Center
  - Martin Luther King, Jr. Senior Center
- Dallas County Health & Human Services Martin Luther King, Jr. Senior Center
- Irma L. Rangel Young Women's Leadership School
- Dallas Black Chamber of Commerce

## DEVELOPMENTS PLANNED WITHIN THE STATION AREA

No development plans were known as of October, 2010, however the Grand Park South TIF was initiated in 2005, and this TIF district includes commercial areas around the MLK, Jr. Station, according to the Dallas Economic Development website. The TIF, working in conjunction with the opening of the new light rail station, should help spur economic development in this area.

## 3.6.14 Hatcher Station

### GENERAL DEVELOPMENT CHARACTER AND EXISTING LAND USE

The Hatcher Station is located in an older, single-family residential area that is actively seeking improved neighborhood services. Crime prevention and code enforcement are major issues facing the community. In addition to improved transportation options, the Hatcher Station is seen as a catalyst for neighborhood improvement [5]. Within one half-mile of the station, the Dallas Housing Authority (DHA) was awarded a $20 million HUD Hope VI grant to demolish the old Frazier Courts public housing facility from the 1940s and re-build new homes on the site. In 2003, the DHA completed 300 new townhome-style multi-family units and 40 single-family homes. Additional development includes the new Margaret H. Cone Head Start Center.

The majority of the land uses surrounding this station are single-family residential and industrial. Open

CHART 3-14: Opening Day Ridership Projections

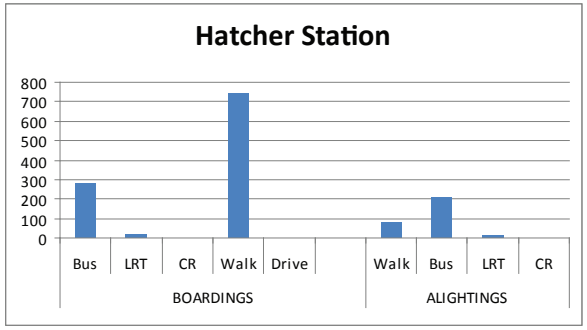



FIGURE 3-19: Hatcher Station Before Land Use

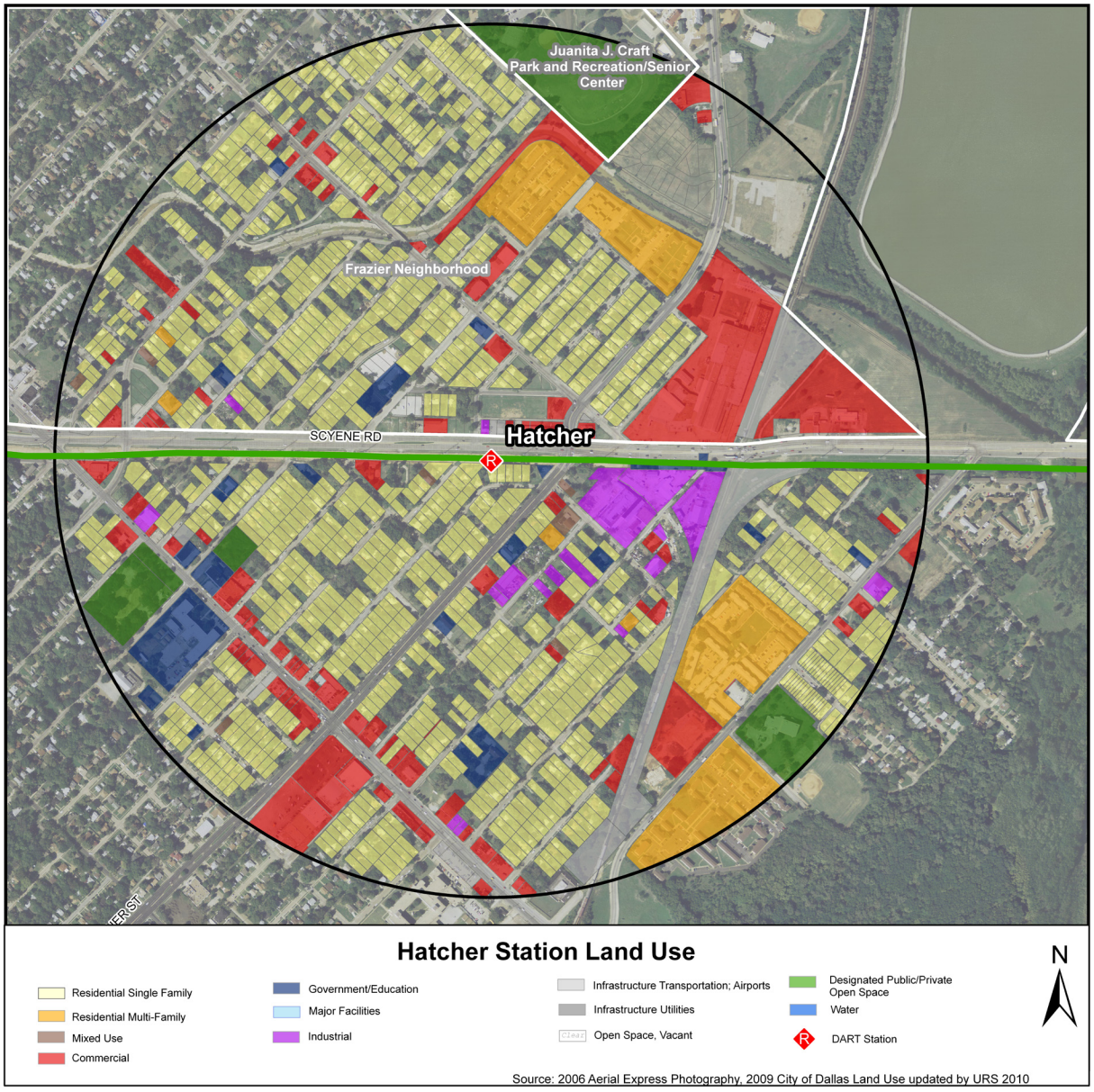


TABLE 3-28: HATCHER STATION BEFORE LAND USE (1/2-MILE RADIUS)

| LAND USE | TOTAL ACRES | PERCENT | LAND USE | TOTAL ACRES | PERCENT |
|---|---|---|---|---|---|
| Single-Family | 141.76 | 28.22% | Industrial | 9.48 | 1.89% |
| Multi-Family | 27.54 | 5.48% | Infrastructure Transportation | 14.56 | 2.90% |
| Mixed Use | 1.23 | 0.24% | Infrastructure Utilities | 0.00 | 0.00% |
| Commercial | 51.57 | 10.26% | Open Space/Vacant | 95.39 | 18.99% |
| Government/ Education | 11.99 | 2.39% | Designated Public/ Private Open Space | 21.13 | 4.21% |
| Major Facilities | 0.00 | 0.00% | Water | 0.00 | 0.00% |
| Undesignated | 127.75 | 25.43% | Total | 502.40 | 100.00% |

SOURCE: CITY OF DALLAS, 2009.

space/vacant land uses also exist that could provide opportunities for future development. **Table 3-28** and **Figure 3-19** depict the land use distribution within one half-mile of the Hatcher Station.

**Chart 3-14** shows the projected opening day ridership numbers by mode of access/egress. The area served by the Green Line southeast of downtown has some of the highest ridership bus routes in the system, which will feed into the Green Line. This supports the projected bus and walk access. Projected boardings are considerably higher than alightings, due to the area surrounding the station being predominantly lower-income residential. The total opening day ridership projection for this station is 674 riders.

## KEY DESTINATIONS

- Frazier neighborhood
- Juanita J. Craft Recreation Center
- Senior Center
- Juanita J. Craft Park

## DEVELOPMENTS PLANNED WITHIN THE STATION AREA

Frazier Revitalization, Inc. (FRI) is planning the first TOD in southern Dallas at Hatcher Station. The $30 million development, to be named Hatcher Square, will include residential and commercial space. Americare, a medical services provider, has inquired about using space near the station area for low-income, transit-dependent residents. Based on discussions with DART, Americare believes this area to be underserved by medical facilities and plans to orient its medical clinic to the rail station.

Near the station, Baylor is funding a unique facility that will bring diabetes care and education into the South Dallas community. According to the Baylor Health Care System website, the Diabetes Health and Wellness Institute at Juanita J. Craft Recreation Center is planned to open in 2010 and will offer medical care, affordable diabetes medications, diabetes management education, classes on nutrition and healthy cooking, and exercise clinics. The aim is to prevent and better manage diabetes through educating the community about wellness and diabetes prevention practices and to support the community to help them make healthy choices. All recreation center programs will continue to operate normally after the institute opens.


*Hatcher Station*

*Hatcher Station*

## 3.6.15 Lawnview Station

### GENERAL DEVELOPMENT CHARACTER AND EXISTING LAND USE

Adjacent to the station and located across Scyene Boulevard from the station are industrial facilities, a single-family residential area, and an elementary school. Several neighborhood parks and the Great Trinity Forest are located near the station. **Table 3-29** and **Figure 3-20** depict the land use distribution within one half-mile of the Lawnview Station.

**Chart 3-15** shows the projected opening day ridership numbers by mode of access/egress. The substantial amount of open space within this station area suggests that many boardings will result from bus and auto access. Similar to Hatcher Station, Lawnview Station is also predominantly a trip origination point, due to the residential development north of the station. However, future development of outdoor activities in the Great Trinity Forest could increase the use of this station as a trip destination. The total

CHART 3-15: Opening Day Ridership Projections

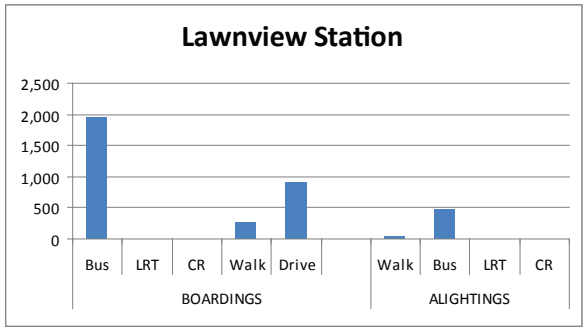



FIGURE 3-20: Lawnview Station Before Land Use

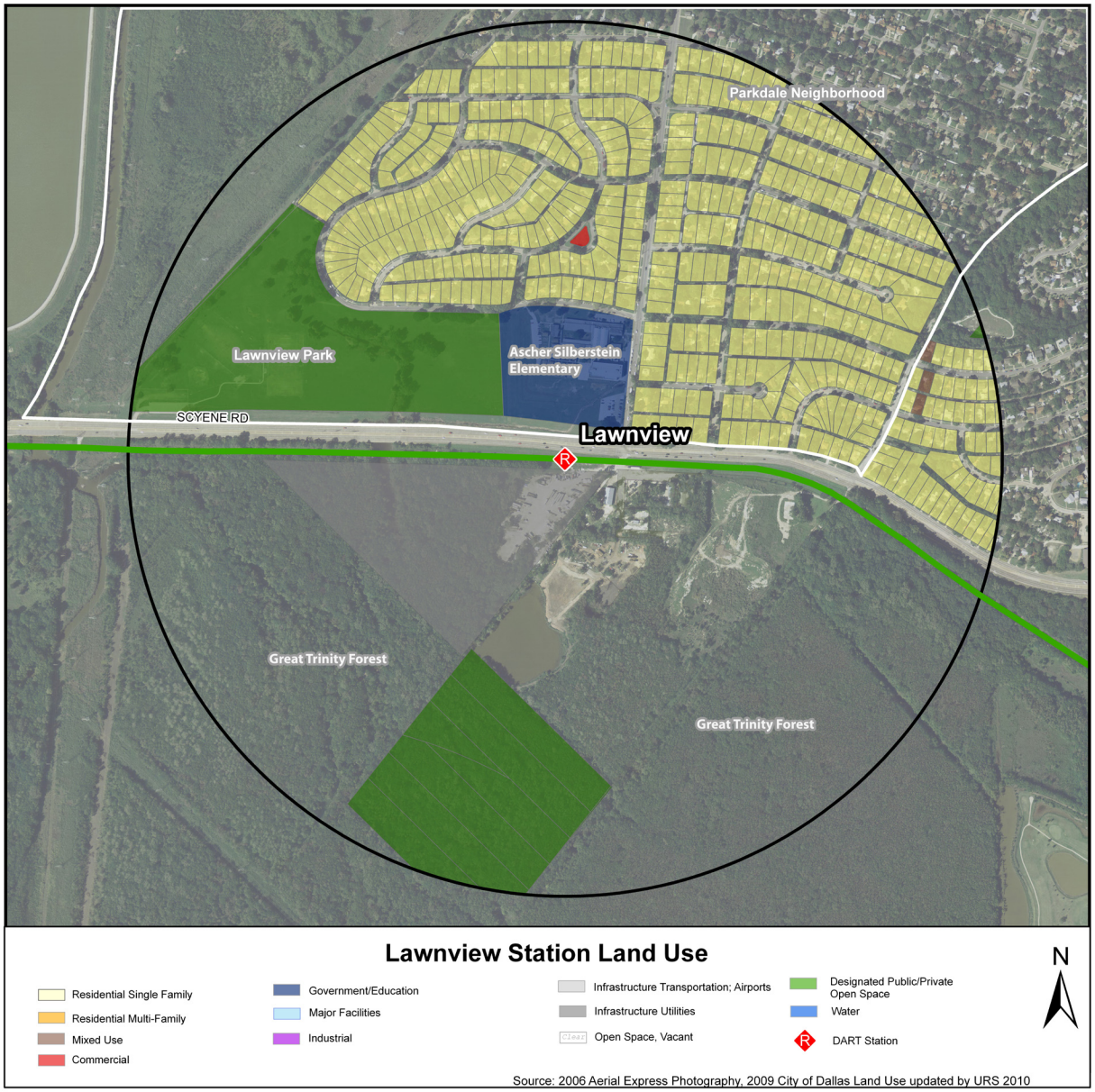


TABLE 3-29: LAWNVIEW STATION BEFORE LAND USE (1/2-MILE RADIUS)

| LAND USE | TOTAL ACRES | PERCENT | LAND USE | TOTAL ACRES | PERCENT |
|---|---|---|---|---|---|
| Single-Family | 125.82 | 25.04% | Industrial | 1.93 | 0.38% |
| Multi-Family | 0.00 | 0.00% | Infrastructure Transportation | 0.00 | 0.00% |
| Mixed Use | 0.59 | 0.12% | Infrastructure Utilities | 27.86 | 5.55% |
| Commercial | 0.20 | 0.04% | Open Space/Vacant | 198.19 | 39.45% |
| Government/ Education | 12.14 | 2.42% | Designated Public/ Private Open Space | 66.89 | 13.31% |
| Major Facilities | 0.00 | 0.00% | Water | 0.00 | 0.00% |
| Undesignated | 68.79 | 13.69% | Total | 502.40 | 100.00% |

SOURCE: CITY OF DALLAS, 2009.

*Lawnview Station fence*

opening day ridership projection for this station is 1,821 riders.

## KEY DESTINATIONS

- Historic Parkdale neighborhood
- Lawnview Park
- Great Trinity Forest

## DEVELOPMENTS PLANNED WITHIN THE STATION AREA

This station area is triggering neighborhood improvement. The station site displaced several older commercial structures that were considered unsightly by the surrounding community. DART constructed a trail head at this location to provide an opportunity for future access to the Great Trinity Forest, a 6,000-acre hardwood forest just southeast of downtown Dallas that is undergoing a long-range series of improvements to provide hiking, biking, and equestrian opportunities for the region. The trail head at Lawnview Station could link to existing and future amenities within the Great Trinity Forest, such as the Sycamore-Dixon Trail and the Scyene Overlook along the Gateway Trail. Both areas are within a mile of the Lawnview Station.

## 3.6.16 Lake June Station

### GENERAL DEVELOPMENT CHARACTER AND EXISTING LAND USE

There is a wide socioeconomic range of residential neighborhoods and freeway industrial uses along US 175, also known as the C.F. Hawn Freeway. The station is located within the heart of these uses at the existing Lake June Transit Center, which includes a park-and-ride.

The Lake June Station area is dominated by single-family residential. The area also includes small businesses and an elementary school along Lake June Road. **Table 3-30** and **Figure 3-21** depict the land use distribution within one half-mile of the Lake June Station.

**Chart 3-16** shows the projected opening day ridership numbers by mode of access/egress. The presence of the Lake June Transit Center supports the high percentage of projected bus boardings. Like Hatcher and Lawnview Stations, this station also shows projected boardings and alightings that indicate the station's use as a trip origination point,

CHART 3-16: Opening Day Ridership Projections

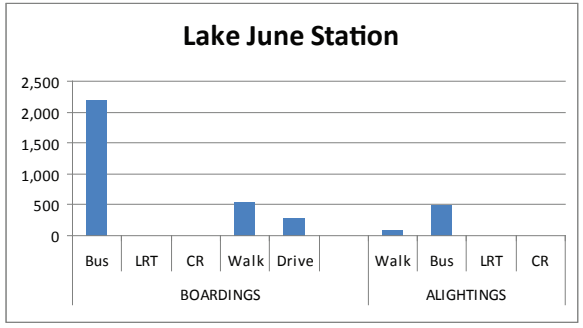



FIGURE 3-21: Lake June Station Before Land Use

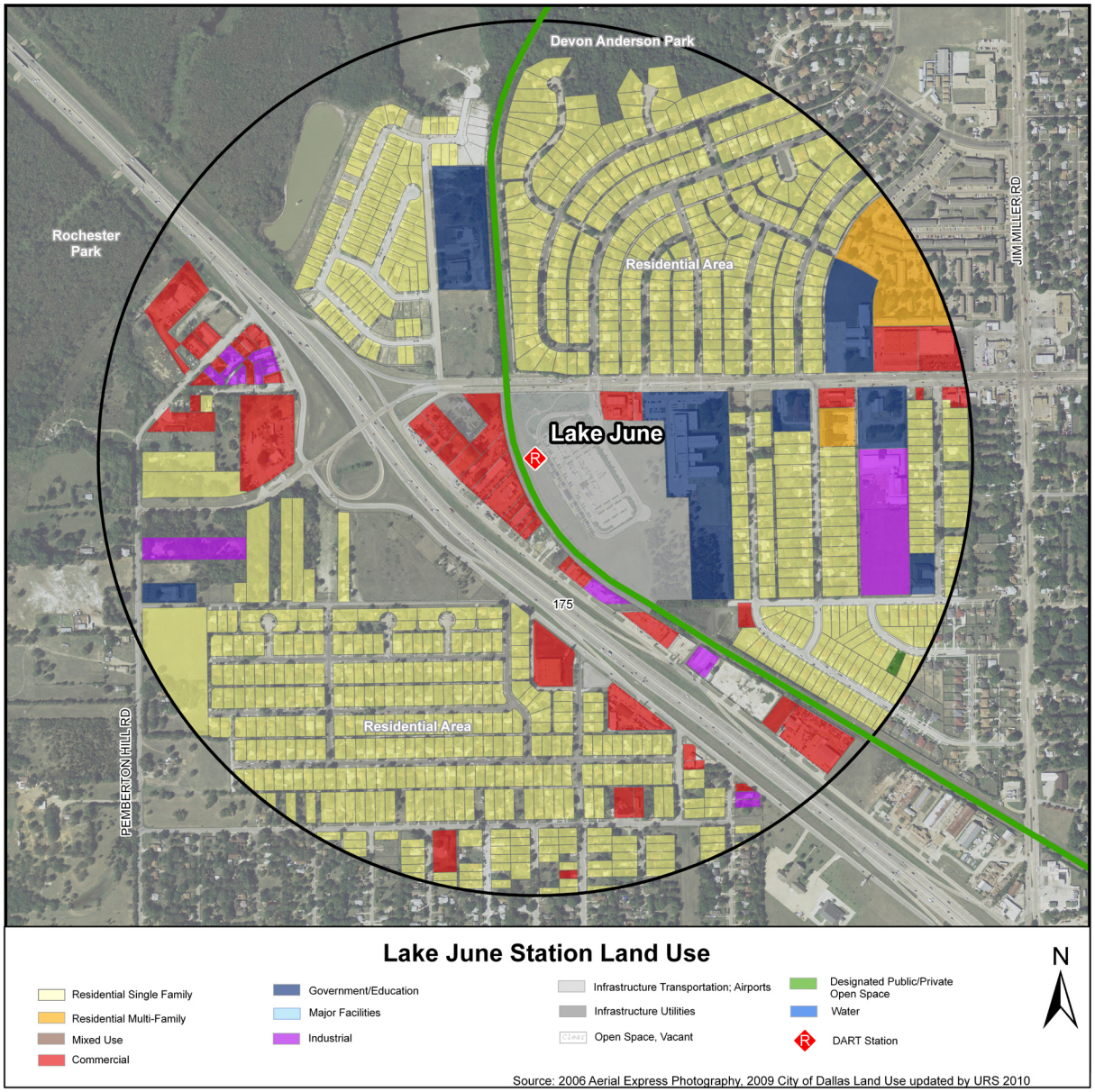


TABLE 3-30: LAKE JUNE STATION BEFORE LAND USE (1/2-MILE RADIUS)

| LAND USE | TOTAL ACRES | PERCENT | LAND USE | TOTAL ACRES | PERCENT |
|---|---|---|---|---|---|
| Single-Family | 182.31 | 36.29% | Industrial | 10.69 | 2.13% |
| Multi-Family | 7.89 | 1.57% | Infrastructure Transportation | 23.36 | 4.65% |
| Mixed Use | 0.00 | 0.00% | Infrastructure Utilities | 1.87 | 0.37% |
| Commercial | 30.75 | 6.12% | Open Space/Vacant | 87.14 | 17.34% |
| Government/ Education | 25.40 | 5.06% | Designated Public/ Private Open Space | 0.21 | 0.04% |
| Major Facilities | 0.00 | 0.00% | Water | 0.00 | 0.00% |
| Undesignated | 132.78 | 26.43% | Total | 502.40 | 100.00% |

SOURCE: CITY OF DALLAS, 2009.


*Lake June Station test train*

*Lake June Station tile art*

due to the surrounding residential land use and draw from other areas further east. The total opening day ridership projection for this station is 1,804 riders.

## KEY DESTINATIONS

- Rochester Park
- Devon Anderson Park
- Residential areas

## DEVELOPMENTS PLANNED WITHIN THE STATION AREA

No development plans are known at this time.

*Lake June Station construction*

## 3.6.17 Buckner Station

### GENERAL DEVELOPMENT CHARACTER AND EXISTING LAND USE

This is an area well served by transit and is experiencing a growth in the construction of single-family homes.

A variety of commercial/retail businesses and heavy industrial sites are located along Buckner Road adjacent to the station location. Nearby businesses include a bowling alley, auto dealers, and restaurants. The area's largest employer, Dal-Tile Corporation, a ceramic tile manufacturer, is located directly adjacent to the station. Single-family residential communities are located to the north and east of the station. The Salvation Army Pleasant Grove Community Center offers a variety of services, including an after-school program and activities for senior citizens. Also within the station area is the Eastfield College Pleasant Grove Campus, which opened in August, 2009. The 40,000-square-foot facility serves as a satellite campus of Eastfield College. **Table 3-31** and **Figure 3-22** depict the land use distribution within one half-mile of the

CHART 3-17: Opening Day Ridership Projections

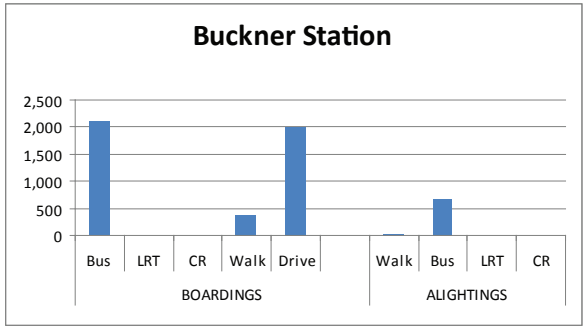



FIGURE 3-22: Buckner Station Before Land Use

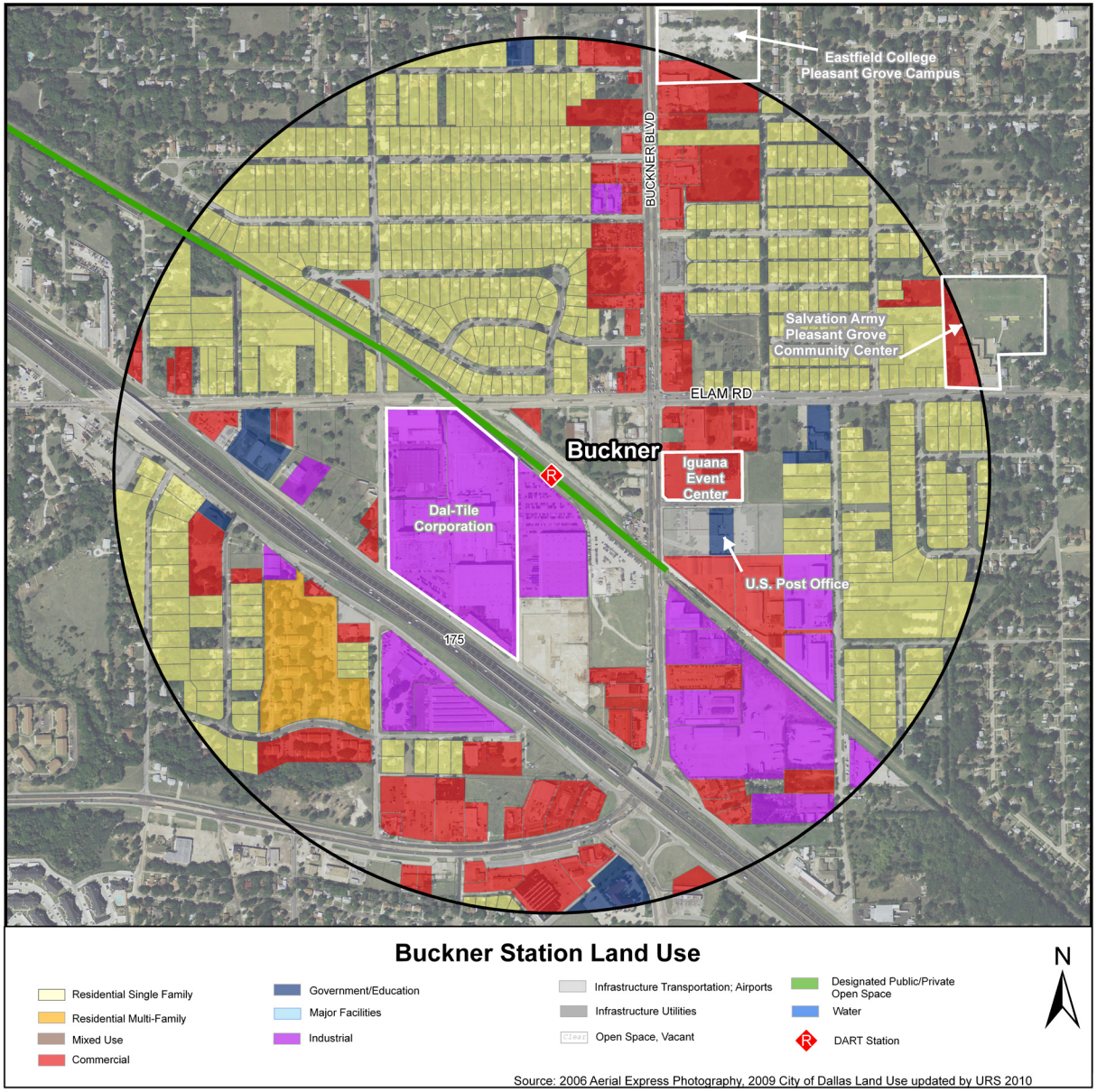


TABLE 3-31: BUCKNER STATION BEFORE LAND USE (1/2-MILE RADIUS)

| LAND USE | TOTAL ACRES | PERCENT | LAND USE | TOTAL ACRES | PERCENT |
|---|---|---|---|---|---|
| Single-Family | 161.39 | 32.12% | Industrial | 58.88 | 11.72% |
| Multi-Family | 9.75 | 1.94% | Infrastructure Transportation | 5.36 | 1.07% |
| Mixed Use | 0.00 | 0.00% | Infrastructure Utilities | 0.92 | 0.18% |
| Commercial | 71.24 | 14.18% | Open Space/Vacant | 56.61 | 11.27% |
| Government/ Education | 7.64 | 1.52% | Designated Public/ Private Open Space | 0.00 | 0.00% |
| Major Facilities | 0.00 | 0.00% | Water | 0.00 | 0.00% |
| Undesignated | 130.61 | 26.0% | Total | 502.40 | 100.00% |

SOURCE: CITY OF DALLAS, 2009.

## DEVELOPMENTS PLANNED WITHIN THE STATION AREA

According to the "Mayor's Southern Dallas Task Force Interim Team Report," dated June 9, 2009, a proposal is in place for the purchase of 2.2 miles of abandoned railroad ROW extending from IH-20 to Seagoville Road. This ROW is currently for sale by Union Pacific and would provide an opportunity for a dedicated bus/ rail corridor from Kleburg to the Buckner Station. The ROW is also a part of the Dallas Park and Recreation Department's proposed Seagoville Hike-and-Bike Trail. Both uses would encourage more economic development opportunities, especially for small and retail businesses. Currently, the ROW serves as a pedestrian trail.

Buckner Station.

**Chart 3-17** shows the projected opening day ridership numbers by mode of access/egress. As a Green Line terminus, Buckner Station is expected to serve as a park-and-ride and should have a high percentage of auto access boardings. Like the other Pleasant Grove and Southeast Dallas stations, Buckner Station is also predominantly a trip origination station. This projection is due to the high residential land use in the area and the station's likely function as a park-and-ride for patrons outside the Service Area. The total opening day ridership projection for this station is 2,592 riders.

## KEY DESTINATIONS

- Dal-Tile Corporation
- Salvation Army Pleasant Grove Community Center
- U.S. Post Office
- Eastfield College Pleasant Grove Campus
- Iguana Event Center


*Buckner Station test train*

## 3.7 SUMMARY

This chapter presented a summary of existing transit service, O&M costs, corridor demographics, congestion levels, land use, planned development information, opening day ridership information for each Green Line MOS station, and other factors affecting costs and ridership. These pieces of data combine to form the "before" conditions of the Green Line Corridor. Two years after the December, 2010 opening of the complete Green Line, DART will examine the "after" conditions of the corridor and station areas along the corridor. The "after" study will consist of the same types of data presented in the "before" study, but this time for the "after" time period, plus a comparative analysis of the "before" and "after" data sets.

## 3.8 REFERENCES

### 3.8.1 Cited References


[1] Telephone conversation with the City of Dallas.

[2] http://www.dallascityhall.com/forwardDallas/comprehensive_plan.html.

[3] http://www.ci.farmers-branch.tx.us/work/planning/recent-development planning/recent-development

[4] http://www.dallas-ecodev.org/images/community_redevelopment/area_redevelopment/tif/ southwestern_marketing.pdf

[5] http://www.southerndallas.org/documents/Reports/ Interim%20Report%20Slides%20 6.9.09%20Final%20Updated%206.17.pdf

[6] Telephone conversation with the Mayor's Office of Dallas.


### 3.8.2 Additional References


http://www.buildingparkland.com/index.htm

http://www.dallascityhall.com

http://www.dallas-ecodev.org/redevelopment/

http://www.dallasnews.com/sharedcontent/dws/dn/latestnews/stories/040708dnmettrinitytrails.39eb31f.html

http://fridallas.org/History%20of%20Frazier%20Revitalization.html

http://fridallas.org/NewRoofTops.html

http://www.gdaacc.com/index.php?submenu=AsianTradeDistrict&src=gendocs&ref=MasterPlan&category=AsianTradeDistrict

http://www.lovefieldmodernizationprogram.com/timeline#tab

http://www.salcedotrailmaps.com/trail_maps/Great_Trinity_Forest/GTF.htm

# Appendix A: Project Scope Information

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Attachment 2

Dallas Area Rapid Transit
Dallas, Texas
Northwest/Southeast LRT MOS

**PROJECT DESCRIPTION**

Attachment 2

Dallas Area Rapid Transit
Dallas, Texas
Northwest/Southeast LRT MOS

**PROJECT DESCRIPTION**

Narrative Description:

The Northwest/Southeast Light Rail MOS Project is an approximately 21-mile, two-segment extension of DART's light rail transit (LRT) system and construction of an operating facility, which will be designed to accommodate the storage and maintenance of vehicles. The Northwest (NW) segment will extend approximately 10.9 miles from the Dallas central business district (CBD) to the city of Farmers Branch along the former Union Pacific Railroad (UPRR) ROW. The Southeast (SE) segment will extend approximately 10.1 miles from the CBD to Buckner Boulevard along the former Union Pacific (UPRR) and Southern Pacific (SPRR) ROW. A new maintenance facility will be constructed adjacent to the NW segment as part of this Project.

Project Description by Standard Cost Category (SCC):

The following provides a description of the Project by Standard Cost Categories. These Standard Cost Categories are the basis for the Baseline Cost Estimate and for the Baseline Schedule contained in Attachment 3 and Attachment 4, respectively.

SCC 10 - Guideway and Track Elements

This SCC includes approximately 21 miles of double track guideway and track costs for light rail construction, costs for rough grading and excavation and all construction materials and labor regardless of who is performing the work. This SCC also incorporates all relocation and reconstruction of railroad guideway and track elements necessary for construction of the Project.

This SCC includes the following subcategories:

- Guideway: At-grade semi-exclusive right-of-way. This includes approximately 14.2 miles of double track construction in the area where DART owns the right-of–way within the railroad corridor.
- Guideway: Aerial structure. This includes approximately 6.3 miles of double track construction, including: foundation excavation, drilled shafts, columns and caps, abutments, concrete and/or structural steel beams, slabs and other elements necessary for the bridges over the UPRR, White Rock Creek and its tributaries, Lake June Road, Harry Hines Boulevard, Motor Street, Inwood Road, Denton Drive, Lombardy Lane, Walnut Hill Lane and Royal Lane.
- Guideway: Underground cut & cover. This includes approximately .4 miles of double track cut & cover construction under Mockingbird Lane adjacent to Love Field Airport.
- Track: Direct Fixation. This includes all work associated with all the rails and direct fixation fasteners necessary for the project. Direct fixation track is constructed on aerial

structures greater than approximately 500 feet in length, in underground cut and cover structures, and adjacent to Baylor Hospital.

- Track: Embedded. This includes all work associated with all the rails and supports necessary for the project. Embedded track is included in the mall area of Deep Ellum.
- Track: Ballasted. This includes all work associated with all the rails, ties and ballast necessary for the project. Ballasted track is constructed at-grade and on aerial structures less than approximately 500 feet in length.
- Track: Special. This includes the work associated with all special trackwork (switches, turnouts and crossovers).
- Track: Vibration and noise dampening. This includes the work associated with track appurtenances to mitigate vibration and noise.

SCC 20 - Stations, Stops, Terminals, Intermodal

This SCC provides for the purchase and construction of all elements for the station platforms and the associated passenger facilities on the platforms. As associated with stations, this includes costs for rough grading, excavation, station power and lighting, public address/customer information system, safety systems, security surveillance, access control, finishes and equipment. It also includes all construction materials and labor regardless of who is performing the work.

This SCC includes the following subcategory:

- At-grade station, stop, shelter, mall, terminal and platform. Amenities for at-grade stations include facilities for: bicycles, bus transfer, personal vehicle transfer, fare vending and validation, signage, lighting, fencing, canopies, windscreens and landscaping. There are twelve (12) at-grade stations to be constructed at Deep Ellum, Baylor Hospital, Fair Park, MLK Transit Center, Hatcher Street, Lawnview Avenue, Lake June Transit Center, Buckner Boulevard, Market Center, Brookhollow, Bachman, and Farmers Branch Transit Center.
- Aerial station, stop, shelter, mall, terminal and platform. Amenities for aerial stations include facilities for: bicycles, bus transfer, personal vehicle transfer, elevators, fare vending and validation, signage, lighting, fencing, canopies, wind screens and landscaping. There are four (4) aerial stations to be constructed at Parkland Hospital, Inwood Road, Walnut Hill Lane, and Royal Lane.

SCC 30 – Support Facilities; Yards, Shops, Administration Buildings

This SCC provides for the purchase and construction of all elements of the Northwest Rail Operating Facility (NWROF). The NWROF facility includes an approximately 73,000 square feet, two story Service and Inspection (S&I) building and an approximately 38,500 square feet, one story Ways Structures Amenities (WSA) building. Rail access to the site will be via a pocket (grade) track between the northbound (elevated) track and the southbound (at grade) track. Yard flow is in a progressive circular pattern with sixteen double-ended storage tracks. Storage capacity of the site will accommodate 75 Super-LRVs. The site also contains a two-track cleaning platform sized for 3-car Super-LRVs, a vehicle washer and a non-revenue (rubber tire) washing station. The S&I building will have four tracks for periodic maintenance that can accommodate two Super-LRVs per track. A fifth track will be for wheel truing. On-site parking will accommodate

approximately 200 private vehicles and 30 DART vehicles mostly located near the main gate to decrease the frequency of cross circulation with the yard rail tracks.

This SCC includes the following subcategories:

- Light maintenance facility, including service, inspection and storage facilities and equipment.
- Storage or Maintenance of Way Building.
- Yard and Yard Track.

SCC 40 – Sitework and Special Conditions

This SCC includes all construction materials and labor regardless of who is performing the work in the following subcategories:

- Demolition, clearing, earthwork including project-wide clearing, demolition and fine grading.
- Site utilities including, but not limited to, stormwater drainage, sanitary sewer, water, gas, electric, fiber optic, new utility installations required for use by the Project and utility relocations required to construct the Project.
- Environmental mitigation includes specifically listed environmental mitigation and mitigation not listed.
- Site structures including retaining walls and sound walls.
- Pedestrian/bike access and accommodation and landscaping including sidewalks, paths, plazas, vegetation, site and station furniture, site lighting, signage, public artwork, bike facilities and permanent fencing.
- Automobile, bus, van access ways including roads and parking lots.
- Temporary facilities and other indirect costs occurring during construction including costs for mobilization, demobilization and phasing; time and temporary construction associated with weather (heat, rain, freezing, etc.), temporary power and facilities, easements, and barriers for storm water pollution prevention, temporary access and to mitigate construction impacts; project and construction supervision, contractor's general liability and other insurance related to construction such as builder's risk, general conditions, overhead and profit.

SCC 50 - Systems

This SCC provides for the purchase and construction of train control, communications, signals and fare collection systems. This SCC also includes all construction materials and labor regardless of who is performing the work in the following subcategories:

- Train control and signals, including cab signals with central control support.
- Traffic signals and crossing protection, including crossing gates and flashers.
- Traction power supply: including eight traction power substations (TPSS) in the Northwest Corridor, nine TPSS in the Southeast Corridor, and one TPSS at NWROF.
- Traction power distribution: overhead catenary.
- Communications including intelligent transportation systems for stations and vehicles (including SCADA, control and monitoring, and radio equipment).

- Fare collection system and equipment, including ticket sales and validation equipment with support of central control.
- Expansion of central control.

SCC 60 - Right-of-way, Land, Existing Improvements

This SCC provides for the purchase of right of way and relocation on the Northwest and Southeast Corridors, including prior expenditures associated with acquisition for the former Union Pacific Railroad (UPRR) for the Northwest Corridor and Southern Pacific Railroad (SPRR) for the Southeast Corridor. All costs associated with the donation, purchase or lease of real estate, permanent and subsurface easements, and trackage rights are included in the following subcategories:

- Purchase or lease approximately 165 acres of real estate including donated, leased or purchased land, existing buildings and other structures on land; permanent surface and subsurface easements, costs for trackage rights, professional services associated with the real estate component of the project including legal services, court expenses and consulting real estate services.
- Relocation of approximately 315 existing households and businesses including professional services associated with the relocation component of the project and costs related to exercise of eminent domain.

SCC 70 - Vehicles

This SCC includes the design and manufacture of approximately 18 light rail cars and retrofit of approximately 38 existing light rail cars and associated spare parts. This SCC also includes all construction materials and labor regardless of who is performing the work in the following subcategories:

- LRV C-Car Retrofit: Includes the purchase of 38 low floor C-Cars to retrofit 38 of DART's existing LRV fleet into Super-LRVs.

  DART will modify its existing LRV fleet by adding a 31 ft long, low floor center section (C-car) to each A/B vehicle to create a fleet of Super-LRVs. This modified fleet will provide for direct, level boarding, from 16" high platforms, into each vehicle. Only 38 of the 115 "C-CAR" retrofits are attributable to the Project. This contract is planned for award under a sole-source justification.

- New Vehicles (Super-LRV) Acquisition: Includes the purchase of 18 new Super-LRVs consisting of an A-Car, B-Car and low floor C-Car. These Super-LRVs will provide for direct level barding from the 16" high platform into each vehicle.

SCC 80 - Professional Services

This SCC includes the costs of all professional, technical and management services (and related professional liability insurance costs) during the preliminary engineering, final design and construction phases of the project. This includes environmental work, design, engineering and architectural services, specialty services such as safety or security analyses, value engineering, risk

assessment, cost estimating, scheduling, Before and After studies, ridership modeling and analyses, auditing, legal services and administration and management by agency staff or outside consultants in the following subcategories:

- Preliminary Engineering.
- Final Design.
- Project Management for Design and Construction.
- Construction Administration & Management.
- Insurance.

SCC 90 - Unallocated Contingency

This SCC contains the contingency budget that is unallocated to the other listed categories.

SCC 100 - Finance Charges

This SCC includes finance charges expected to be paid by the project sponsor/grantee prior to either the completion of the project or the fulfillment of the New Starts funding commitment, whichever occurs later in time.

# Appendix B: Capital Costs

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## Major Capital Project Costs - Main Worksheet (Rev. 2, Jun. 24, 2005)

| | | | |
|---|---|---|---|
| Project | DART Northwest/Southeast Light Rail Minimum Operable Segment (MOS) | Today's Date | 7/22/05 |
| Location | Dallas County, Dallas Texas | Yr of Base Year Dollars | 2005 |
| Project ID | 0001 (TEAM-Fast Track Cross-Ref. ID - automatically assigned by Fast Track; call to obtain) | | |
| Phase | FD | Yr of Revenue Ops | 2011 |
| Contracting Method | CM/GC | Forecast Year | 2025 |
| Number of Route Miles | 20.90 | Number of Stations | 16 |

| | Quantity | Base Year Dollars Total (X000) | Base Year Dollars Unit Cost (X000) | Base Year Dollars Percentage of Construction Cost | Base Year Dollars Percentage of Total Project Cost | YOE Dollars Total (X000) |
|---|---|---|---|---|---|---|
| **10 GUIDEWAY & TRACK ELEMENTS (route miles)** | **20.90** | **197,723** | **$ 9,460** | **29%** | **13%** | **208,719** |
| 10.01 Guideway: At-grade exclusive right-of-way | 0.00 | 0 | | | | |
| 10.02 Guideway: At-grade semi-exclusive (allows cross-traffic) | 14.20 | 9,260 | $ 652 | | | |
| 10.03 Guideway: At-grade in mixed traffic | 0.00 | 0 | | | | |
| 10.04 Guideway: Aerial structure | 6.30 | 99,630 | $ 15,814 | | | |
| 10.05 Guideway: Built-up fill | 0.00 | 0 | | | | |
| 10.06 Guideway: Underground cut & cover | 0.40 | 23,584 | $ 58,961 | | | |
| 10.07 Guideway: Underground tunnel | 0.00 | 0 | | | | |
| 10.08 Guideway: Retained cut or fill | 0.00 | 0 | | | | |
| 10.09 Track: Direct fixation | | 20,906 | | | | |
| 10.10 Track: Embedded | | 2,749 | | | | |
| 10.11 Track: Ballasted | | 30,915 | | | | |
| 10.12 Track: Special (switches, turnouts) | | 9,532 | | | | |
| 10.13 Track: Vibration and noise dampening | | 1,147 | | | | |
| **20 STATIONS, STOPS, TERMINALS, INTERMODAL (number)** | **16** | **55,099** | **$ 3,444** | **8%** | **4%** | **59,403** |
| 20.01 At-grade station, stop, shelter, mall, terminal, platform | 12 | 35,490 | $ 2,957 | | | |
| 20.02 Aerial station, stop, shelter, mall, terminal, platform | 4 | 17,321 | $ 4,330 | | | |
| 20.03 Underground station, stop, shelter, mall, terminal, platform | | 0 | | | | |
| 20.04 Other stations, landings, terminals: Intermodal, ferry, trolley, etc. | | 0 | | | | |
| 20.05 Joint development | | 0 | | | | |
| 20.06 Automobile parking multi-story structure | | 0 | | | | |
| 20.07 Elevators, escalators | | 2,288 | | | | |
| **30 SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS** | 20.90 | **12,520** | **$ 599** | **2%** | **1%** | **13,644** |
| 30.01 Administration Building: Office, sales, storage, revenue counting | | 0 | | | | |
| 30.02 Light Maintenance Facility | | 1,010 | | | | |
| 30.03 Heavy Maintenance Facility | | 5,930 | | | | |
| 30.04 Storage or Maintenance of Way Building | | 2,015 | | | | |
| 30.05 Yard and Yard Track | | 3,565 | | | | |
| **40 SITEWORK & SPECIAL CONDITIONS** | 20.90 | **236,857** | **$ 11,333** | **34%** | **16%** | **253,819** |
| 40.01 Demolition, Clearing, Earthwork | | 33,786 | | | | |
| 40.02 Site Utilities, Utility Relocation | | 32,482 | | | | |
| 40.03 Haz. mat'l, contam'd soil removal/mitigation, ground water treatments | | 0 | | | | |
| 40.04 Environmental mitigation, e.g. wetlands, historic/archeologic, parks | | 2,686 | | | | |
| 40.05 Site structures including retaining walls, sound walls | | 57,692 | | | | |
| 40.06 Pedestrian / bike access and accommodation, landscaping | | 19,567 | | | | |
| 40.07 Automobile, bus, van accessways including roads, parking lots | | 43,802 | | | | |
| 40.08 Temporary Facilities and other indirect costs during construction | | 46,841 | | | | |
| **50 SYSTEMS** | 20.90 | **184,572** | **$ 8,831** | **27%** | **12%** | **202,270** |
| 50.01 Train control and signals | | 62,945 | | | | |
| 50.02 Traffic signals and crossing protection | | 18,212 | | | | |
| 50.03 Traction power supply: substations | | 22,693 | | | | |
| 50.04 Traction power distribution: catenary and third rail | | 37,207 | | | | |
| 50.05 Communications | | 26,542 | | | | |
| 50.06 Fare collection system and equipment | | 9,616 | | | | |
| 50.07 Central Control | | 7,357 | | | | |
| **Construction Subtotal (Sum Categories 10 - 50)** | 20.90 | **686,771** | **$ 32,860** | **100%** | **46%** | **737,855** |
| **60 ROW, LAND, EXISTING IMPROVEMENTS** | 20.90 | **110,365** | **$ 5,281** | | **7%** | **110,365** |
| 60.01 Purchase or lease of real estate | | 89,615 | | | | |
| 60.02 Relocation of existing households and businesses | | 20,749 | | | | |
| **70 VEHICLES (number)** | **56** | **115,085** | **$ 2,055** | | **8%** | **115,085** |
| 70.01 Light Rail | 56 | 115,085 | $ 2,055 | | | |
| 70.02 Heavy Rail | | 0 | | | | |
| 70.03 Commuter Rail | | 0 | | | | |
| 70.04 Bus | | 0 | | | | |
| 70.05 Other | | 0 | | | | |
| 70.06 Non-revenue vehicles | | 0 | | | | |
| 70.07 Spare parts | | 0 | | | | |
| **80 PROFESSIONAL SERVICES** | 20.90 | **245,742** | **$ 11,758** | | **16%** | **252,829** |
| 80.01 Preliminary Engineering | | 6,395 | | | | |
| 80.02 Final Design | | 85,842 | | | | |
| 80.03 Project Management for Design and Construction | | 31,418 | | | | |
| 80.04 Construction Administration & Management | | 94,515 | | | | |
| 80.05 Insurance | | 27,572 | | | | |
| 80.06 Legal; Permits; Review Fees by other agencies, cities, etc. | | 0 | | | | |
| 80.07 Surveys, Testing, Investigation, Inspection | | 0 | | | | |
| 80.08 Agency Force Account Work | | 0 | | | | |
| **90 UNALLOCATED CONTINGENCY** | | **34,683** | | | **2%** | **34,683** |
| **Subtotal (Sum Categories 10 - 90)** | 20.90 | **1,192,646** | **$ 57,064** | | **80%** | **1,250,816** |
| **100 FINANCE CHARGES** | | **299,336** | | | **20%** | **299,336** |
| **Total Project Cost (Sum Categories 10 - 100)** | 20.90 | **1,491,982** | **$ 71,387** | | **100%** | **1,550,152** |
| YOE Construction Cost per Mile (X000) | | | $ 35,304 | | | |
| **YOE Total Project Cost per Mile (X000)** | | | **$ 74,170** | | | |
| Base Year Soft Costs & Contingency/Construction (80 + 90) / (10 thru 50) | | | 41% | | | |

## Major Capital Project Costs - Allocated Contingency (Rev. 2, Jun. 24, 2005)

| Project | DART Northwest/Southeast Light Rail Minimum Operable Segment (MOS) | Today's Date | 7/22/05 |
|---|---|---|---|
| Location | Dallas County, Dallas Texas | Yr of Base Year Dollars | 2005 |
| Project ID | 0001 (TEAM-Fast Track Cross-Ref. ID) | | |

| | Base Year Dollars Cost without Contingency (X000) | Base Year Dollars Contingency (X000) | Base Year Dollars Total (X000) |
|---|---|---|---|
| **10 GUIDEWAY & TRACK ELEMENTS (route miles)** | **169,310** | **28,413** | **197,723** |
| 10.01 Guideway: At-grade exclusive right-of-way | 0 | 0 | 0 |
| 10.02 Guideway: At-grade semi-exclusive (allows cross-traffic) | 7,929 | 1,331 | 9,260 |
| 10.03 Guideway: At-grade in mixed traffic | 0 | 0 | 0 |
| 10.04 Guideway: Aerial structure | 85,313 | 14,317 | 99,630 |
| 10.05 Guideway: Built-up fill | 0 | 0 | 0 |
| 10.06 Guideway: Underground cut & cover | 20,195 | 3,389 | 23,584 |
| 10.07 Guideway: Underground tunnel | 0 | 0 | 0 |
| 10.08 Guideway: Retained cut or fill | 0 | 0 | 0 |
| 10.09 Track: Direct fixation | 17,902 | 3,004 | 20,906 |
| 10.10 Track: Embedded | 2,354 | 395 | 2,749 |
| 10.11 Track: Ballasted | 26,472 | 4,442 | 30,915 |
| 10.12 Track: Special (switches, turnouts) | 8,163 | 1,370 | 9,532 |
| 10.13 Track: Vibration and noise dampening | 982 | 165 | 1,147 |
| **20 STATIONS, STOPS, TERMINALS, INTERMODAL (number)** | **47,181** | **7,918** | **55,099** |
| 20.01 At-grade station, stop, shelter, mall, terminal, platform | 30,390 | 5,100 | 35,490 |
| 20.02 Aerial station, stop, shelter, mall, terminal, platform | 14,832 | 2,489 | 17,321 |
| 20.03 Underground station, stop, shelter, mall, terminal, platform | 0 | 0 | 0 |
| 20.04 Other stations, landings, terminals: Intermodal, ferry, trolley, etc. | 0 | 0 | 0 |
| 20.05 Joint development | 0 | 0 | 0 |
| 20.06 Automobile parking multi-story structure | 0 | 0 | 0 |
| 20.07 Elevators, escalators | 1,959 | 329 | 2,288 |
| **30 SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS** | **10,721** | **1,799** | **12,520** |
| 30.01 Administration Building: Office, sales, storage, revenue counting | 0 | 0 | 0 |
| 30.02 Light Maintenance Facility | 865 | 145 | 1,010 |
| 30.03 Heavy Maintenance Facility | 5,078 | 852 | 5,930 |
| 30.04 Storage or Maintenance of Way Building | 1,725 | 290 | 2,015 |
| 30.05 Yard and Yard Track | 3,052 | 512 | 3,565 |
| **40 SITEWORK & SPECIAL CONDITIONS** | **202,820** | **34,036** | **236,857** |
| 40.01 Demolition, Clearing, Earthwork | 28,931 | 4,855 | 33,786 |
| 40.02 Site Utilities, Utility Relocation | 27,815 | 4,668 | 32,482 |
| 40.03 Haz. mat'l, contam'd soil removal/mitigation, ground water treatments | 0 | 0 | 0 |
| 40.04 Environmental mitigation, e.g. wetlands, historic/archeologic, parks | 2,300 | 386 | 2,686 |
| 40.05 Site structures including retaining walls, sound walls | 49,402 | 8,290 | 57,692 |
| 40.06 Pedestrian / bike access and accommodation, landscaping | 16,755 | 2,812 | 19,567 |
| 40.07 Automobile, bus, van accessways including roads, parking lots | 37,507 | 6,294 | 43,802 |
| 40.08 Temporary Facilities and other indirect costs during construction | 40,110 | 6,731 | 46,841 |
| **50 SYSTEMS** | **151,349** | **33,223** | **184,572** |
| 50.01 Train control and signals | 51,615 | 11,330 | 62,945 |
| 50.02 Traffic signals and crossing protection | 14,934 | 3,278 | 18,212 |
| 50.03 Traction power supply: substations | 18,609 | 4,085 | 22,693 |
| 50.04 Traction power distribution: catenary and third rail | 30,510 | 6,697 | 37,207 |
| 50.05 Communications | 21,765 | 4,778 | 26,542 |
| 50.06 Fare collection system and equipment | 7,885 | 1,731 | 9,616 |
| 50.07 Central Control | 6,033 | 1,324 | 7,357 |
| **Construction Subtotal (Sum Categories 10 - 50)** | **581,382** | **105,389** | **686,771** |
| **60 ROW, LAND, EXISTING IMPROVEMENTS** | **110,365** | **0** | **110,365** |
| 60.01 Purchase or lease of real estate | 89,615 | 0 | 89,615 |
| 60.02 Relocation of existing households and businesses | 20,749 | 0 | 20,749 |
| **70 VEHICLES (number)** | **109,331** | **5,754** | **115,085** |
| 70.01 Light Rail | 109,331 | 5,754 | 115,085 |
| 70.02 Heavy Rail | 0 | 0 | 0 |
| 70.03 Commuter Rail | 0 | 0 | 0 |
| 70.04 Bus | 0 | 0 | 0 |
| 70.05 Other | 0 | 0 | 0 |
| 70.06 Non-revenue vehicles | 0 | 0 | 0 |
| 70.07 Spare parts | 0 | 0 | 0 |
| **80 PROFESSIONAL SERVICES** | **235,153** | **10,589** | **245,742** |
| 80.01 Preliminary Engineering | 6,395 | 0 | 6,395 |
| 80.02 Final Design | 81,550 | 4,292 | 85,842 |
| 80.03 Project Management for Design and Construction | 29,847 | 1,571 | 31,418 |
| 80.04 Construction Administration & Management | 89,789 | 4,726 | 94,515 |
| 80.05 Insurance | 27,572 | 0 | 27,572 |
| 80.06 Legal; Permits; Review Fees by other agencies, cities, etc. | 0 | 0 | 0 |
| 80.07 Surveys, Testing, Investigation, Inspection | 0 | 0 | 0 |
| 80.08 Agency Force Account Work | 0 | 0 | 0 |
| **90 UNALLOCATED CONTINGENCY** | **0** | **34,683** | **34,683** |
| **Subtotal (Sum Categories 10 - 90)** | **1,036,231** | **156,415** | **1,192,646** |

## Major Capital Project Costs - Inflation Calculation to YOE (Rev. 2, Jun. 24, 2005)

Project **DART Northwest/Southeast Light Rail Minimum Operable Segment (MOS)**
Location Dallas County, Dallas Texas
Project ID 0001 (TEAM-Fast Track Cross-Ref. ID - automatically assigned by Fast Track; call to obtain)
Phase FD
Contracting Method CM/GC
Number of Route Miles 20.9
Number of Stations 16
Yr of Base Year Dollars 2005
Yr of Revenue Ops 2011
Forecast Year 2025
**Today's Date 07/22/05**

Below, include costs to be incurred through the completion of the project or the fulfillment of the New Starts funding commitment, whichever is expected to occur later in time.

| **BASE YEAR DOLLARS (X$000)** | Base Yr Dollars | 2004 and before | Base Year 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | Double-Check Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 GUIDEWAY & TRACK ELEMENTS (route miles) | $ 197,723 | $ - | $ - | $ 5,612 | $ 20,366 | $ 89,009 | $ 75,966 | $ 6,771 | $ - | $ - | $ - | $ - | $ - | $ - | $ 197,723 |
| 20 STATIONS, STOPS, TERMINALS, INTERMODAL (number) | $ 55,099 | $ - | $ - | $ 94 | $ 4,489 | $ 26,659 | $ 21,763 | $ 2,093 | $ - | $ - | $ - | $ - | $ - | $ - | $ 55,099 |
| 30 SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS | $ 12,520 | $ - | $ - | $ 48 | $ 1,537 | $ 5,448 | $ 5,201 | $ 286 | $ - | $ - | $ - | $ - | $ - | $ - | $ 12,520 |
| 40 SITEWORK & SPECIAL CONDITIONS | $ 236,857 | $ 98 | $ 6,356 | $ 45,002 | $ 42,636 | $ 63,061 | $ 57,604 | $ 20,203 | $ 1,897 | $ - | $ - | $ - | $ - | $ - | $ 236,857 |
| 50 SYSTEMS | $ 184,572 | $ - | $ - | $ 251 | $ 10,478 | $ 66,213 | $ 81,990 | $ 25,221 | $ 420 | $ - | $ - | $ - | $ - | $ - | $ 184,572 |
| 60 ROW, LAND, EXISTING IMPROVEMENTS | $ 110,365 | $ 46,987 | $ 51,534 | $ 11,844 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ 110,365 |
| 70 VEHICLES (number) | $ 115,085 | $ - | $ - | $ 3,000 | $ 7,999 | $ 29,345 | $ 70,653 | $ 4,089 | $ - | $ - | $ - | $ - | $ - | $ - | $ 115,085 |
| 80 PROFESSIONAL SERVICES | $ 245,742 | $ 67,387 | $ 30,080 | $ 27,593 | $ 25,556 | $ 45,738 | $ 36,593 | $ 11,638 | $ 1,157 | $ - | $ - | $ - | $ - | $ - | $ 245,742 |
| 90 UNALLOCATED CONTINGENCY | $ 34,683 | $ - | $ - | $ 2,188 | $ 7,752 | $ 7,773 | $ 7,752 | $ 7,752 | $ 1,465 | $ - | $ - | $ - | $ - | $ - | $ 34,683 |
| 100 FINANCE CHARGES | $ 299,336 | $ 1,525 | $ 2,423 | $ 4,198 | $ 5,878 | $ 15,548 | $ 33,762 | $ 46,707 | $ 45,668 | $ 41,181 | $ 36,622 | $ 35,020 | $ 30,805 | $ - | $ 299,336 |
| **Total Project Cost (Sum Categories 10 - 100)** | $ 1,491,982 | **$ 115,997** | **$ 90,392** | **$ 99,828** | **$ 126,691** | **$ 348,793** | **$ 391,285** | **$ 124,759** | **$ 50,607** | **$ 41,181** | **$ 36,622** | **$ 35,020** | **$ 30,805** | **$ -** | **$ 1,491,982** |
| | | Below insert estimated inflation rates for each year. The YOE dollars will be calculated automatically. | | | | | | | | | | | | | |
| **Inflation Rate** | | | 1.83% | 4.68% | 5.29% | 5.79% | 5.07% | 3.92% | 0.44% | 0.00% | 0.00% | 0.00% | 0.00% | | |
| **Compounded Inflation Factor** | | 1.00000 | 1.01826 | 1.06588 | 1.12221 | 1.18722 | 1.24740 | 1.29633 | 1.30202 | 1.30202 | 1.30202 | 1.30202 | 1.30202 | 1.30202 | |

| **YEAR OF EXPENDITURE DOLLARS (X$000)** | YOE Dollars | 2004 and before | Base Year 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 GUIDEWAY & TRACK ELEMENTS (route miles) | $ 208,719 | $ - | $ - | $ 5,924 | $ 21,499 | $ 93,959 | $ 80,190 | $ 7,147 | $ - | $ - | $ - | $ - | $ - | $ - | $ 208,719 |
| 20 STATIONS, STOPS, TERMINALS, INTERMODAL (number) | $ 59,403 | $ - | $ - | $ 101 | $ 4,840 | $ 28,742 | $ 23,463 | $ 2,257 | $ - | $ - | $ - | $ - | $ - | $ - | $ 59,403 |
| 30 SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS | $ 13,644 | $ - | $ - | $ 52 | $ 1,675 | $ 5,937 | $ 5,668 | $ 312 | $ - | $ - | $ - | $ - | $ - | $ - | $ 13,644 |
| 40 SITEWORK & SPECIAL CONDITIONS | $ 253,819 | $ 98 | $ 6,811 | $ 48,226 | $ 45,691 | $ 67,578 | $ 61,731 | $ 21,651 | $ 2,032 | $ - | $ - | $ - | $ - | $ - | $ 253,819 |
| 50 SYSTEMS | $ 202,270 | $ - | $ - | $ 275 | $ 11,482 | $ 72,562 | $ 89,851 | $ 27,639 | $ 461 | $ - | $ - | $ - | $ - | $ - | $ 202,270 |
| 60 ROW, LAND, EXISTING IMPROVEMENTS | $ 110,365 | $ 46,987 | $ 51,534 | $ 11,844 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ 110,365 |
| 70 VEHICLES (number) | $ 115,085 | $ - | $ - | $ 3,000 | $ 7,999 | $ 29,345 | $ 70,653 | $ 4,089 | $ - | $ - | $ - | $ - | $ - | $ - | $ 115,085 |
| 80 PROFESSIONAL SERVICES | $ 252,829 | $ 67,387 | $ 31,275 | $ 28,689 | $ 26,571 | $ 47,555 | $ 38,047 | $ 12,100 | $ 1,203 | $ - | $ - | $ - | $ - | $ - | $ 252,829 |
| 90 UNALLOCATED CONTINGENCY | $ 34,683 | $ - | $ - | $ 2,188 | $ 7,752 | $ 7,773 | $ 7,752 | $ 7,752 | $ 1,465 | $ - | $ - | $ - | $ - | $ - | $ 34,683 |
| 100 FINANCE CHARGES | $ 299,336 | $ 1,525 | $ 2,423 | $ 4,198 | $ 5,878 | $ 15,548 | $ 33,762 | $ 46,707 | $ 45,668 | $ 41,181 | $ 36,622 | $ 35,020 | $ 30,805 | | $ 299,336 |
| **Total Project Cost (Sum Categories 10 - 100)** | **$ 1,550,152** | **$ 115,997** | **$ 92,043** | **$ 104,496** | **$ 133,387** | **$ 368,999** | **$ 411,118** | **$ 129,653** | **$ 50,830** | **$ 41,181** | **$ 36,622** | **$ 35,020** | **$ 30,805** | **$ -** | **$ 1,550,152** |

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# Appendix C: Service Level and O&M Cost Information

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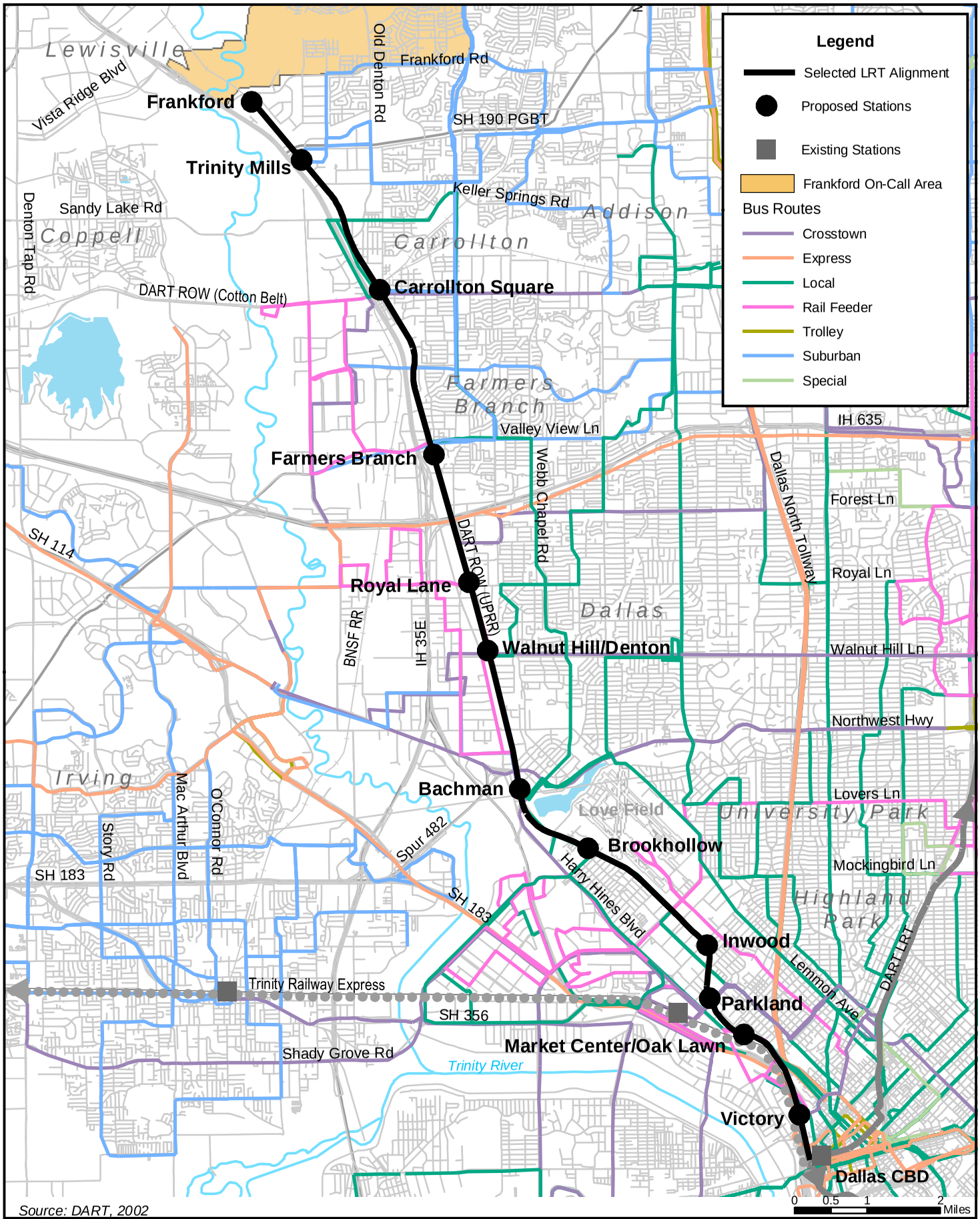



*Source: DART, 2002*

**Figure 2-18**
**LRT Bus Operating Plan**

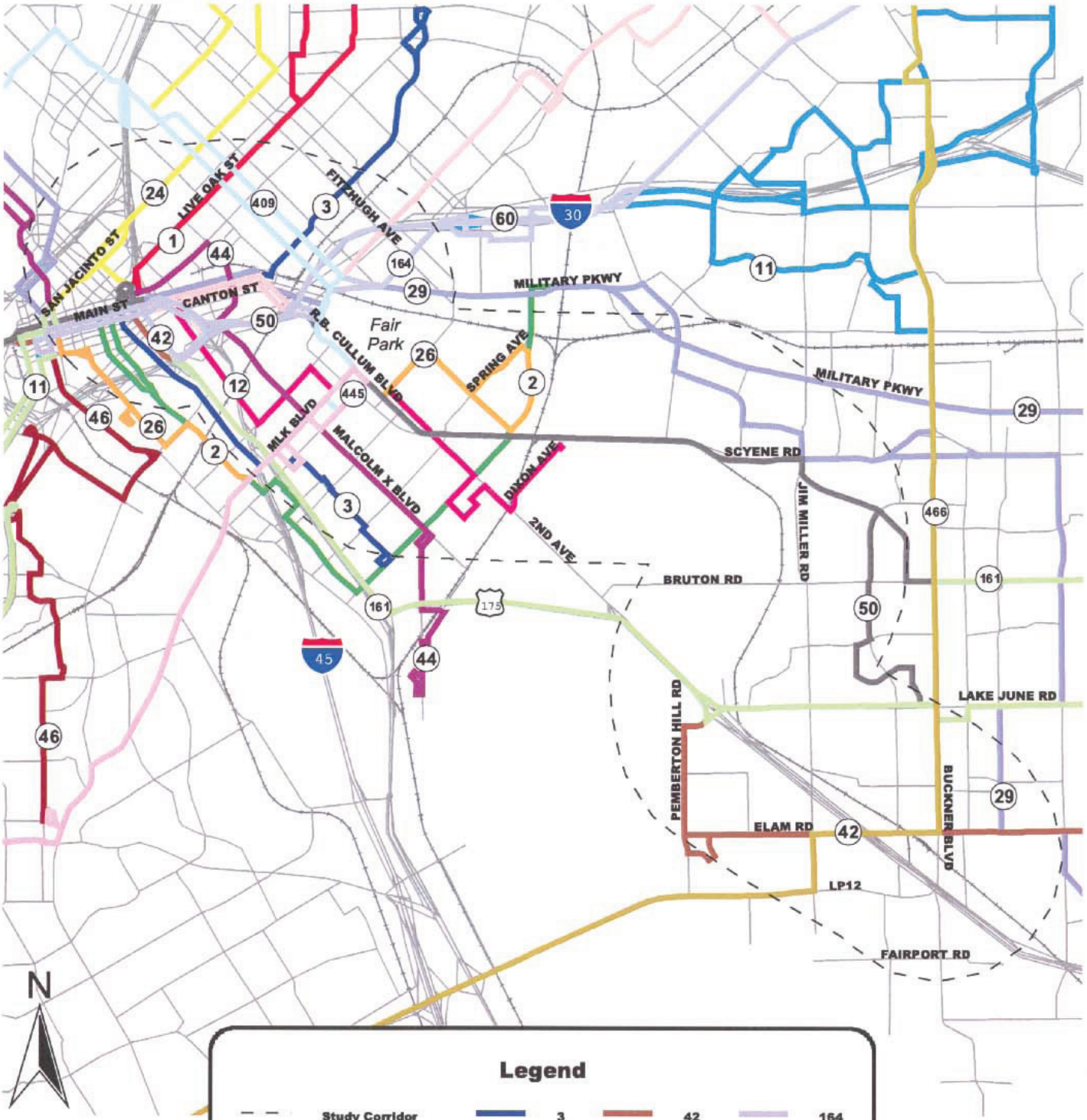
LRT Line to Farmers Branch and Carrollton
Final Environmental Impact Statement

**TABLE 2-2**
**BUS OPERATING PLAN**
**SELECTED LRT ALTERNATIVE**

| | | Minutes | |
|---|---|---|---|
| **Station** | **Route** | **Peak** | **Off-Peak** |
| Victory | 49A | 10 | 30 |
| | 401 Crosstown | 10 | 30 |
| Market Center/Oak Lawn | 44 Thru | 10 | 20 |
| | 49A | 10 | 30 |
| | Scottish Rite Shuttle | 25 | 25 |
| | Market Center Shuttle | 20 | 20 |
| Parkland Route | 26A | 15 | 30 |
| | 29 | 20 | 40 |
| | 44 Thru | 10 | 20 |
| | 49B | 10 | 30 |
| | 49D | 10 | 30 |
| | 63B | 10 | 30 |
| | 405 | 30 | 30 |
| | 409 | 15 | 30 |
| | 409 Shortline | 10 | 20 |
| | 453 | 15 | 30 |
| | UTSW Shuttle - Red | 15 | 15 |
| | UTSW Shuttle - Blue | 15 | 15 |
| Inwood | 49D | 10 | 30 |
| | 39 | 15 | 30 |
| | 49C | 10 | 30 |
| | 539 | 30 | 30 |
| Brookhollow | 26B | 10 | 30 |
| | 63B | 10 | 30 |
| | 44 Thru | 10 | 30 |
| Bachman | 44 Thru | 10 | 30 |
| | 44 to Farmers Branch | 15 | 30 |
| | 44/59 | 10 | 30 |
| | 51A | 10 | 30 |
| | 51B | 10 | 20 |
| | 428 | 15 | 30 |
| | 63B | 10 | 20 |
| | N Irving via Mañana | 10 | 30 |
| Walnut Hill/Denton | Old 43 | 20 | 40 |
| | 44/59 | 10 | 30 |
| | Walnut Hill Crosstown | 20 | 40 |
| Royal Lane | 44/59 | 10 | 30 |
| | Western Circulator | 10 | 30 |
| Farmers Branch | 44 to Farmers Branch | 15 | 30 |
| | Old 59 | 15 | 30 |
| | Old 331 | 20 | 40 |
| | 321 | 20 | 40 |
| | 322 | 20 | 40 |
| | 486 | 20 | 40 |
| | West Circulator | 20 | 40 |
| Carrollton Square | Old 59 | 15 | 30 |
| | Old 331 | 20 | 40 |
| | 400 | 30 | 40 |
| | Luna Circulator | 20 | 40 |
| Trinity Mills | 333 | 20 | 40 |
| | 344 | 20 | 40 |
| | Texas Instruments Express | 30 | 60 |
| | On Call | n/a | n/a |
| Frankford | On Call | n/a | n/a |

Source: DART, LKC; March 2003

# Figure 3.12
# DART Bus Routes




Source: DART

0 1 2 Miles

SOUTHEAST CORRIDOR
Dallas, Texas

**Bus Transit System**

Implementation of the Build Alternative (LRT) will require changes to the existing bus transit operations and an extension of LRT into the corridor. Some existing bus routes will be restructured or relocated to service and feed the LRT stations and transit centers. Some bus routes will act solely as feeder bus service, while others will function as both feeder bus service and local service.

The existing local bus system will be modified to serve the Build Alternative (LRT). Connecting bus and LRT service will be available at the CBD Transit Mall and the CBD West Transit Center. Additional connecting bus service will be available at the CBD East Transit Center approximately two blocks from the Pearl Street LRT Station. Connecting bus service will be available at or in the immediate vicinity of all new LRT Stations.

The Deep Ellum and Baylor stations will be served by existing bus route 44. The Fair Park Station will be served by bus routes 11, 60, 164, and 409. Routes 3, 44, 409, 445, and one new route ("A") will serve MLK Station and Transit Center. The Hatcher Station will also be served by new route "A" and routes 2, 3, 12, and 409. The Lawnview Station will be served by routes 29, 50, and two new routes ("B" and "C"). The Lake June Station will be served by bus routes 42, 161, and 475 and the Buckner Station by routes 42, 466, 475, and one new route ("B"). The bus routes and destinations are described in Table 2.4.

**Table 2.4 Bus Route Descriptions**

| Bus Route | Route Description |
|---|---|
| 2 | Serves the Southeast Corridor from the CBD to Hatcher via Ervay, Colonial, Hatcher. This route connects to existing LRT service in the CBD and the Southeast Corridor Build Alternative (LRT) at the Hatcher Street Station. Peak headways will be 15 minutes, and off-peak service will operate on 30 minute headways, with service provided from 5:00 a.m. to 1:00 a.m. |
| 3 | Serves the Southeast Corridor from the MLK Transit Center via MLK, Latimer, Crozier, Hatcher, Dolphin, and Haskell. Connections to the LRT stations will be available at the MLK Transit Center and Hatcher Street Station. Peak headways will be 15 minutes, and off-peak service will operate on 45 minute headways, with service provided between 5:00 a.m. and 11:00 p.m. |
| 11 | Serves Skyline, Eastfield College, Peavy, and Buckner Boulevard with local and express service. Local service generally operates along Samuell, East Grand, and Parry and will connect to the LRT system at Parry Station and in the CBD. Express service will be provided on IH 30, including HOV service, and connect to the LRT system in the CBD. Route 11 will continue to West Oak Cliff, connecting to the LRT system at Hampton Station (Red Line). Peak headways would be 15 minutes, and off-peak service will operate on 30 minute headways, with service operating from 4:30 a.m. to 1:00 a.m. |
| 12 | Serves as a neighborhood feeder to the Hatcher Street Station via Hatcher, Spring, Lagow, Fitzhugh, Second, Meadow, Goldspier, and Dixon. Peak headways will be 10 minutes, and off-peak service will operate on 15 minute headways, with service provided between 5:00 a.m. and 1:00 a.m. |

| Bus Route | Route Description |
|---|---|
| 29 | Serves the Lawnview Station east along Scyene, Bruton, and St. Augustine to Masters. Peak headways will be 30 minutes, and off-peak service will operate on 60 minute headways, with service provided from 6:00 a.m. to 10:00 p.m. |
| 42 | Serves the Lake June and Buckner Stations via Pemberton Hill, Elam, and St. Augustine to Masters. Peak headways will be 15 minutes, and off-peak service will operate on 30 minute headways, with service operating from 4:30 a.m. to 12:30 a.m. |
| 44 | Serves the Southeast Corridor from Parsons at Bexar via Malcolm X, Hall, and Gaston before entering the CBD. This route will serve Baylor HCS and the Deep Ellum Station, Baylor Station, and MLK Transit Center before continuing northwest along Harry Hines. Connecting LRT service is also available in the CBD. Peak headways will be 10 minutes, and off-peak service will operate on 15 minute headways, with service operating from 4:30 a.m. to 1:00 a.m. |
| 50 | This route will provide connecting service at the Lawnview Station. Peak headways will be 15 minutes, and off-peak service will operate on 30 minute headways, with service between 4:30 a.m. and 1:00 a.m. |
| 60 | Serves Northeast Dallas in local service via Plano, Lake Highlands, Buckner, Garland, Lindsley, and Parry to the CBD. Connection to the LRT system will be at the Parry Station and in the CBD. Peak express service is provided via IH 30, bypassing inner portions of the local route on Lindsley and Garland and providing LRT connections in the CBD. Peak headways will be 20 minutes, and off-peak service will operate on 30 minute headways, with service between 5:30 a.m. and 11:00 p.m. |
| 161 | One branch of this route serves Lake June to Cheyenne, Elam, and Masters. A second branch of this route serves Lake June, Buckner, and Bruton to Masters, Lake June, and St. Augustine. Peak headways will be 10 minutes, and off-peak service will operate on 15 minute headways, with service operating from 4:30 a.m. to 1:00 a.m. |
| 164 | Serves Northeast Dallas and South Garland with several branches along Shiloh, Centerville, and Materhorn. All local services operate on Ferguson, Samuell, East Grand, and Parry, connecting to the LRT System at Parry Station and in the CBD. Express services operate on IH 30 and connect to the LRT system in the CBD. Peak and off-peak headways will be 60 minutes between 6:00 a.m. and 8:00 p.m. |
| 409 | Serves the Southeast Corridor from Peak/Haskell along Parry, R.B. Cullum, and Scyene. Service will be provided to the Parry Station, MLK Transit Center, and Hatcher Street Station. Crosstown service continues from the Southeast Corridor to Northwest Dallas, Irving, and DFW Airport, connecting to the Cityplace LRT Station (Red and Blue Lines) and the South Irving Trinity Railway Express Station. Peak headways will be 15 minutes, and off-peak service will operate on 30 minute headways, with service operating from 4:30 a.m. to 12:30 a.m. |
| 445 | Serves West and South Oak Cliff in crosstown service via Illinois, Cedar Crest, and MLK. This route will provide connecting LRT service at the MLK Transit Center, Illinois Station (Blue Line), and Westmoreland Station (Red Line). Peak headways will be 15 minutes, and off-peak service will operate on 30 minute headways, with service operating from 5:30 a.m. to 11:30 p.m. |
| 466 | Serves major through destinations along Loop 12/Buckner. This route connects to the existing LRT system at both terminal stations on the Blue Line (Ledbetter and White Rock) with continuing service to the South Garland Transit Center. This route will connect to LRT service in the Southeast Corridor at the Buckner Station. Peak and off-peak headways will be 15 minutes, with service operating between 4:30 a.m. and 1:00 a.m. |
| 475 | Serves the Southeast Corridor in north-south crosstown service from Buckner at Peavy to Spruce High School and St. Augustine at US 175 via Buckner, Samuell, Jim Miller, Lake June, Pemberton Hill, Elam, Jim Miller, and US 175 Frontage Roads. Service will connect to the LRT system at Lake June Transit Center and the Buckner Station. Peak headways will be 15 minutes, and off-peak headways will be 45 minutes, with service provided between 5:00 a.m. and 12:00 a.m. |
| New Route A | Serves as a neighborhood feeder and rail station connector between the Southeast Corridor Build Alternative (LRT) and exiting LRT lines. This route will operate along Lagow, Fitzhugh, R.B. Cullum, Grand Avenue, Harwood, Corinth, and Akard. Connections to LRT service will be provided to the Hatcher Street Station, MLK Transit Center, and the Cedars Station (Red and Blue Lines). Peak headways will be 15 minutes, and off-peak headways will be 45 minutes, with service provided between 5:00 a.m. and 1:00 a.m. |
| New Route B | Replaces service currently provided by a branch of Route 29. This new route begins at the Lawnview Station and operates along Lawnview, Military, Prairie Creek, Lake June, Holcomb, and Elam to the Buckner Station. Peak headways will be 15 minutes, and off-peak headways will be 45 minutes, with service provided between 5:00 a.m. and 11:30 p.m. |

| Bus Route | Route Description |
|---|---|
| New Route C | Serves as a neighborhood connector between the Lawnview Station and Scyene High School via Scyene, Glover Pass, Parkdale, Lawnview, Hunnicut, Everglade, Chariot, Buckner, and Forney. Peak headways will be 30 minutes, and off-peak headways will be 45 minutes, with service provided between 4:30 a.m. and 12:30 a.m. |

Source: DART, 2001

## LRT System

The LRT system has various elements. This section describes the Build Alternative (LRT) technology, operating plan, freight railroad operations, roadway and railroad crossings, fare collection system, and operating and maintenance costs.

*Technology*

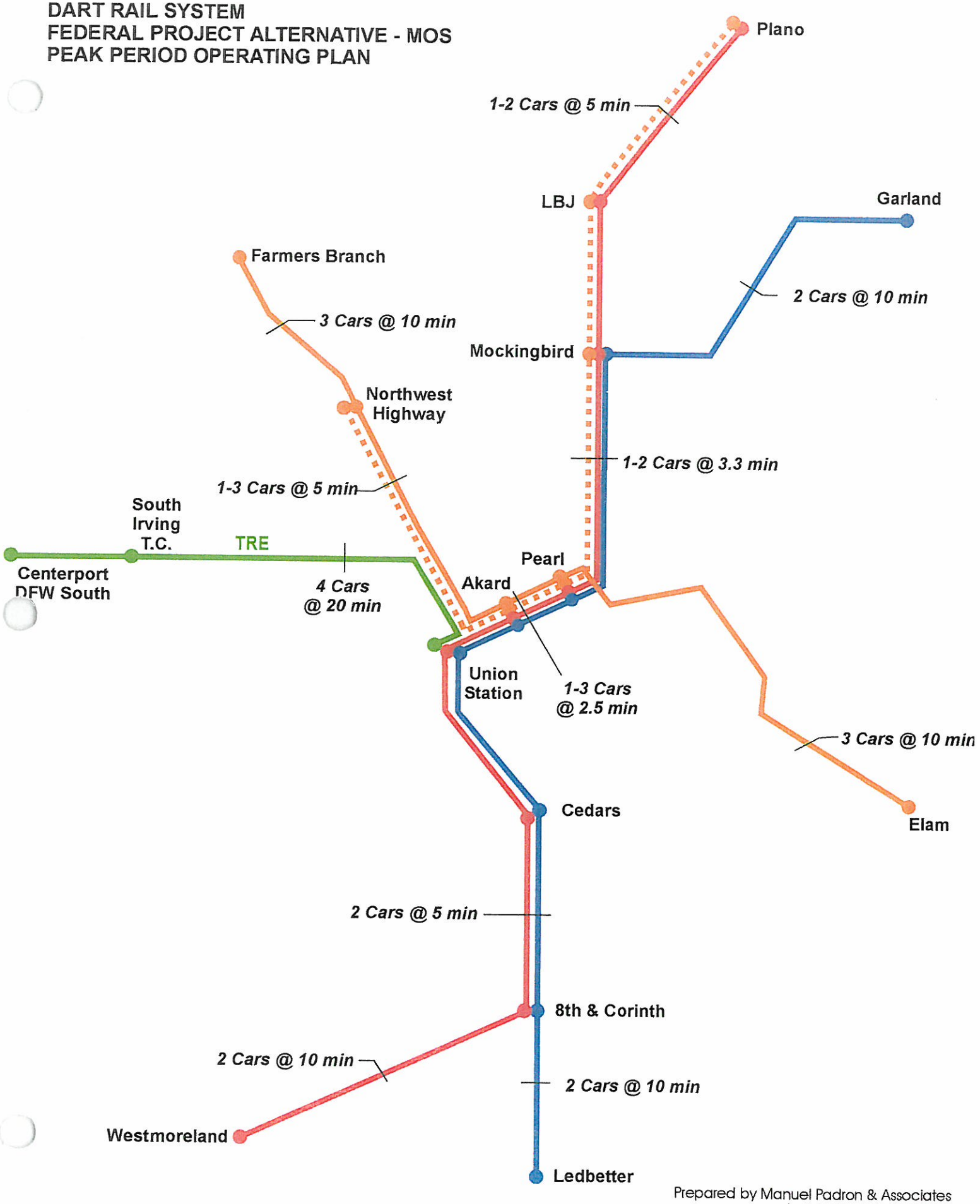
LRT is characterized by vehicles of one to three car lengths operating at fixed headways (i.e., the time interval between transit service on a single route in a single direction). Light rail vehicles (LRV) receive power from an overhead catenary system. DART's light rail vehicles utilize a nominal 750-volt direct current electric traction system.

*Operating Plan*

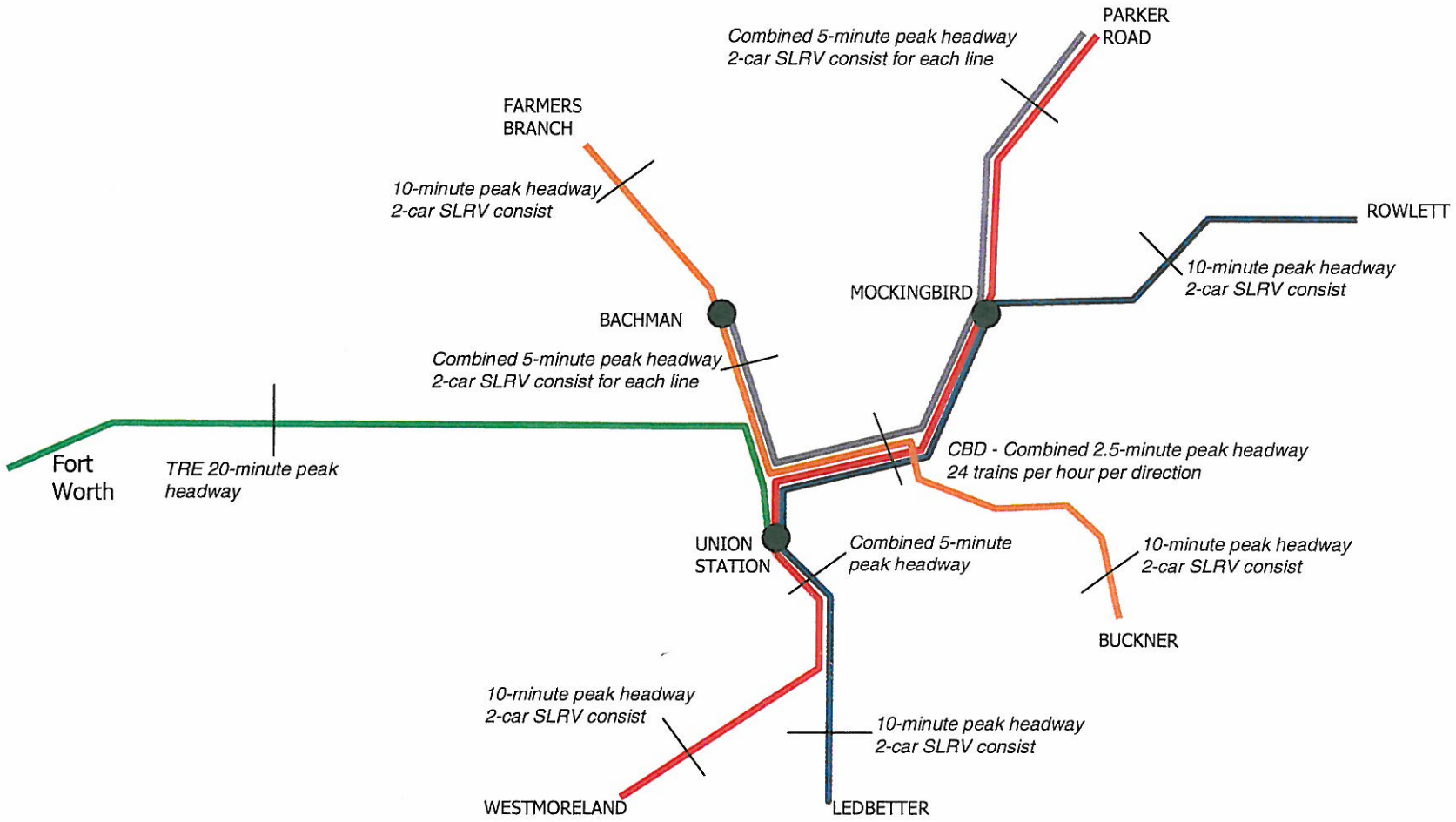
The proposed operations of the LRT Alternative for the study area will be similar to current DART operations for a double track line. The double tracks will be signaled for bi-directional running if required. Normal operations will use the track on the east side for traffic in-bound to the Dallas CBD and the west track will be predominantly outbound service.

Light rail service will be provided between 5 a.m. and midnight with the non-service hours reserved for maintenance. The LRT service and freight operation will coexist in the area between Hatcher and Buckner Boulevard as a separate operation, with two tracks dedicated for LRT service and a track maintained for freight service. The separation between the tracks will meet Federal Railroad Administration (FRA) and FTA requirements.

The operating plan for LRT service assumes a peak hour headway of ten minutes and an off-peak headway of 20 minutes. The LRT vehicles are capable of operating at speeds up to 65 miles per hour; however, actual operating speeds are influenced by a number of factors including: track curvature, station spacing, and safety considerations. Initially, two-vehicle trains will operate most of the day; some three-vehicle trains will operate during peak periods and


DART RAIL SYSTEM
FEDERAL PROJECT ALTERNATIVE - MOS
PEAK PERIOD OPERATING PLAN
Plano
1-2 Cars @ 5 min
LBJ
Garland
Farmers Branch
2 Cars @ 10 min
3 Cars @ 10 min
Mockingbird
Northwest Highway
1-2 Cars @ 3.3 min
1-3 Cars @ 5 min
South Irving T.C.
TRE
Centerport DFW South
4 Cars @ 20 min
Pearl
Akard
Union Station
1-3 Cars @ 2.5 min
3 Cars @ 10 min
Elam
Cedars
2 Cars @ 5 min
8th & Corinth
2 Cars @ 10 min
2 Cars @ 10 min
Westmoreland
Ledbetter
Prepared by Manuel Padron & Associates
April, 2001

# Figure 2
# NW/SE MOS Peak Hour Rail Operating Plan



# DART
# Operating and Maintenance Cost Model Methodology & NW/SE Corridor O&M Results Report

Prepared by:
Manuel Padron & Associates

November 2004 (updated August 2005)

# Operating and Maintenance (O&M) Cost Model Methodology

A cost model was developed to estimate the annual operating budget required for Dallas Area Rapid Transit (DART) to provide and sustain various future transit service scenarios under study. This cost model was first developed in 1999 by Manuel Padron and Associates for DART to estimate annual O&M costs for the various rail development projects under study. The operating and maintenance (O&M) model was updated in 2003 is based on DART's actual staffing levels and expenses for Fiscal Year (FY) 2002. Subsequently, the model was updated a second time in the summer of 2004 based on DART 2004 budgeted financial information. Although calibrated for FY 2004, the model will estimate the cost to operate, maintain, and administer DART's regional transit (in 2004 dollars) for any given set of operating statistics. The following sections briefly describe the methodology applied to estimating annual O&M costs for DART.

The O&M cost model is disaggregate and resource build-up in format and fully allocates every operating expense to one or more transit modes. The model calculates O&M costs based on the quantity of service supplied and other system characteristics. The model assumes that DART's FY 2004 labor productivity and non-labor consumption rates will continue into the future. The model is consistent with Federal Transit Administration guidelines for use in major transit capital investment studies.

The O&M cost model consists of a spreadsheet that has been partitioned into tables – input, line item detail, a cost allocation summary for each alternative, and calculations on various measures of operating efficiency. Appendix A contains printouts of these tables for the calibrated 2004 DART System.

## Input Table

The model's input statistics determine, directly or indirectly, the estimated cost of every operating item. DART financial and planning staff provided statistics that represent the agency's 2004 baseline system, including transit bus, light rail transit, commuter rail and paratransit.

The model requires the following set of data inputs for model run O&M cost estimation:

- directly-operated bus: annual revenue bus-miles and bus-hours, peak buses, garages;
- light rail: annual revenue car-miles and train-hours, peak cars, passenger stations, directional route-miles, yards;
- commuter rail: annual revenue train-hours, peak and fleet passenger cars and peak and fleet trains;
- paratransit: annual revenue vehicle-hours;
- total vehicle/train hours: sum of the revenue hours of all operating modes. (By combining train-hours for rail modes with vehicle-hours for bus and paratransit, the model simulates the operating efficiency possible in a train where more vehicles and passengers can travel per operator.)

## Line Item Detail

The line item detail table combines labor and non-labor items and calculates costs and staffing requirements based on the input values. Sources of information on labor productivity, current expenses,

and cost allocation have been provided by DART for FY 2004 and include the following:

- Salaries, wages, and head counts by position title, by department,
- Fringe benefit rates by personnel class, by department,
- Non-labor costs by expense code, by department.

The line item table designates the mode for each cost item (e.g., DARTBUS, LRT, CR/TRE, PARAT). Costs that are shared among all modes (for example, Planning Department wages and salaries) are designated as "Shared". The column labeled Productivity Factor is where the model stores baseline staffing level calculations.

Each line item is designated as fixed or variable. Overall, 17.8% of the costs are fixed and 82.2% vary with the level of service and/or the system's size. The column labeled Driving Variable indicates whether a line item is modeled as fixed or variable. If variable, this column is where the model lists the input factor assumed to be principally responsible for influencing changes in cost. For instance, the O&M model associates the cost of vehicle repair parts with annual vehicle-miles and the number of operators with annual hours of service. The model's equations are generally of the form:

Future Cost = Base cost x (Future statistic / Base statistic)
Future Staff = Base staff x (Future statistic / Base statistic)

where the statistics are the values input for the respective driving variables. The cost model is calibrated with a total of 3,189 employees and a budget of $307,427,528 in 2004 dollars.

## Cross-tabulation by Department and Mode

For each alternative, the model summarizes the estimated cost by department and mode. Costs are distributed among modes such that all three of the following requirements are met:

1. The model's distribution of costs for its base year must be consistent with DART's allocation of recent O&M costs.

2. All O&M costs must be allocated by mode, consistent with National Transit Database reporting.

3. The cost allocation formula in every shared line item must be adjustable, to facilitate a fair test of various service alternatives. For example, if commuter rail is extended while all other modes remain constant, then commuter rail's allocation of shared agency costs should increase proportionately.

For costs that are shared among all modes, the model allocates on the basis of each mode's proportion of total revenue hours. By combining train-hours for rail modes with vehicle-hours for non-rail modes, the model simulates the operating efficiency possible in a train where more vehicles and passengers can travel per operator.

# Northwest – Southeast Corridor O&M Cost Estimates

This section identifies Annual O&M Cost estimates for DART Northwest – Southeast Corridor New Starts Submittal. Annual O&M Costs have been develop for the Transportation Systems Management (TSM) and Build MOS Alternatives using a systemwide annual operating and maintenance cost model developed for DART based on its Fiscal Year 2004 Budget. This model has been calibrated to FY 2004 Budget financials and validated against the previous two fiscal years.

## O&M Cost Model Inputs

Annual operating statistics (model inputs) were developed by DART staff for the TSM and Build MOS Alternatives for light rail transit (LRT), bus, commuter rail and paratransit services, and used as inputs to the O&M cost model. Table 1 below identifies input statistics by mode that was used as inputs to the O&M cost model.

**Table 1**
**Northwest – Southeast Corridor**
**Annual Operating Statistics**

| Mode/Operating Requirements (Inputs) | Calibrated 2004 DART System | NWSE TSM 2025 | Build NWSE MOS 2025 |
|---|---|---|---|
| **Bus Service** | | | |
| Annual Revenue Bus-Miles | 28,181,513 | 36,738,765 | 35,747,460 |
| Annual Revenue Bus-Hours | 1,960,077 | 2,821,770 | 2,746,170 |
| Peak Buses | 576 | 958 | 926 |
| Fleet Buses | 692 | 1,145 | 1,111 |
| Maintenance Facilities | 4 | 4 | 4 |
| **Light Rail Service** | | | |
| Annual Revenue Car-Miles | 5,390,447 | 6,332,166 | 8,971,644 |
| Annual Revenue Train-Hours | 175,928 | 169,850 | 233,050 |
| Peak Cars | 83 | 74 | 118 |
| Total Cars | 95 | 81 | 130 |
| Passenger Stations | 34 | 35 | 51 |
| Directional Route Miles | 88.0 | 90.2 | 132.0 |
| Maintenance Facilities | 1 | 1 | 2 |
| **Commuter Rail Service** | | | |
| Annual Revenue Train-Hours | 19,400 | 20,271 | 20,271 |
| Peak Passenger Cars | 18 | 21 | 21 |
| Total Passenger Cars | 30 | 33 | 33 |
| Peak Trains | 6 | 6 | 6 |
| Total Trains | 23 | 21 | 21 |
| **Paratransit Service** | | | |
| Annual Revenue Vehicle Hours | 430,099 | 440,406 | 440,406 |
| | | | |
| **Total Vehicle/Train Hours** | 2,585,504 | 3,452,297 | 3,439,897 |

## Annual O&M Cost Estimates

Annual O&M cost estimates were developed for the TSM and Build Alternatives based on operating statistical inputs developed by DART. Table 2 below identifies annual operating and maintenance costs by mode for the existing 2004 DART system and each alternative (TSM and Build MOS). Also reflected in this table is a comparison of productivity factors by mode for existing 2004 service and each alternative. Annual O&M costs reflect total annual operating costs by mode and include costs identified in the O&M model as shared costs.

The Year 2025 TSM Alternatives reflects a substantial increase in bus service over the existing 2004 level of service. The TSM also includes a "corridor specific" NW/SE limited stop bus route with service levels, feeder bus service, and parking opportunities comparable to the Build MOS. Most of the TSM bus service continues to be operating in the Build MOS alternative with the exception of TSM alternative "corridor specific" services, which are replaced with LRT service. Annual O&M costs for LRT service in the TSM and Build MOS alternatives include the use of "Super" Light Rail Vehicles (SLRVs) in lieu of the standard LRVs. SLRVs provide increased seating and standing capacity over the standard LRV (i.e., 100 seat vs. 72 seats) as well as provide savings in operating costs. Savings in operating costs are achieved through the use of two car consists during peak periods where typically three car consists would be required with standard LRVs. Operating efficiency is increased as greater passenger loads are carried using less operating resources. Operating efficiencies associated with the use of SLRVs are reflected in the TSM and Build MOS alternatives O&M cost estimates.

Overall, DART Systemwide annual O&M costs for the NW/SE Corridor TSM alternative is $374.81 million, an increase of $65.98 million or 21.4% over the existing 2004 O&M costs. NW/SE Corridor Build MOS alternative annual O&M costs total $389.94 million systemwide, an increase of $81.11 million or 26.3% greater than existing 2004 O&M costs. Additionally, the NW/SE Corridor Build MOS alternative O&M cost are $15.13 million or about 4% greater than the TSM alternative. LRT O&M cost for the Build MOS alternative are $20.88 million or 34% greater than that of LRT O&M cost for the TSM. Some of the difference in increased LRT O&M cost of the Build MOS alternative over the TSM alternative are offset by a decrease in bus O&M costs of $5.96 million in the Build MOS alternative when compared to the TSM alternative. Appendix B and C contain model inputs, line item detail, and summary by department and mode reports for the TSM and Build MOS alternative respectively.

**FY 07 NEW STARTS SUBMITTAL**

For the FY 07 New Starts submittal there were no changes to the operating plan, statistics or methodology. For the purposes of the FY 07 New Starts templates, the results submitted to FTA in Novermber 2004 for the FY 06 report have been inflated using a 3% factor. This inflation rate results in the following O&M cost estimates (2005$) for the TSM and Build MOS Alternatives:

- TSM: $386,054,964
- Build MOS: $401,638,297

## Table 2
## Northwest – Southeast Corridor
## Annual Operating and Maintenance (O&M) Cost Estimates (2004 dollars)

| | BUS | | | LRT | | | Commuter Rail | | | Paratransit | | | Total (3) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **2004** | **TSM** | **Build** | **2004** | **TSM** | **Build** | **2004** | **TSM** | **Build** | **2004** | **TSM** | **Build** | **2004** | **TSM** | **Build** |
| | | | | | | | | | | | | | | | |
| **O&M Costs ($million) (1)** | $200.98 | $264.32 | $258.37 | $58.36 | $61.32 | $82.20 | $18.16 | $18.84 | $18.85 | $31.34 | $30.32 | $30.52 | $308.83 | $374.81 | $389.94 |
| Change $ (2) | --- | $63.34 | ($5.95) | --- | $2.96 | $20.88 | --- | $.68 | $.01 | --- | ($1.02) | $.20 | --- | $65.98 | $15.13 |
| Change % (2) | --- | 31.5 | (2.3) | --- | 5.1 | 34.0 | --- | 3.7 | .05 | --- | (3.3) | .7 | --- | 21.4 | 4.0 |
| | | | | | | | | | | | | | | | |
| **Productivity Factors** | | | | | | | | | | | | | | | |
| O&M Cost / Rev. Veh. Mile | $7.13 | $7.19 | $7.22 | $10.83 | $9.68 | $9.16 | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| O&M Cost / Rev. Veh. Hour | $102.54 | $93.67 | $94.08 | $331.70 | $361.02 | $352.73 | $935.91 | $929.41 | $929.90 | $72.87 | $68.85 | $69.29 | $119.45 | $108.57 | $113.36 |
| O&M Cost / Peak Veh. | $348,924 | $275,913 | $279,013 | $703,079 | $828,647 | $696,632 | $1,008,700 | $897,143 | $897,619 | n/a | n/a | n/a | n/a | n/a | n/a |
| Rev. Veh. Mile / Peak Veh. | 48,926 | 38,349 | 38,604 | 64,945 | 85,570 | 76,031 | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| Rev. Veh. Hour / Peak Veh. | 3,403 | 2,945 | 2,966 | 2,120 | 2,295 | 1,975 | 1,078 | 965 | 965 | n/a | n/a | n/a | n/a | n/a | n/a |

Notes:
(1) Modal O&M cost are rounded to the near ten thousand
(2) Change in O&M costs and percentage change reflects TSM over Existing 2004 Service and Build over TSM.
(3) Totals O&M Cost reflect a rounded total O&M cost based on projected modal O&M costs and may equal the summed total of the rounded modal O&M costs

# *APPENDIX A – Existing 2004 Calibrated O&M Results*

*Model Inputs*
*Line Item Detail*
*Summary by Dept. and Mode*

**Dallas Area Rapid Transit**
**Corridor Alternative**
**2004**

| SYSTEM / SERVICE VARIABLE | Calibration 2004 |
|---|---|
| DIRECTLY-OPERATED BUS | |
| Annual Revenue Bus-Miles | 28,181,513 |
| Annual Revenue Bus-Hours | 1,960,077 |
| Peak Buses | 576 |
| *Total Buses* | 692 |
| Maintenance Facilities | 4 |
| CONTRACT BUS SERVICES | |
| Annual Revenue Bus-Hours | 0 |
| Peak Buses | 0 |
| *Total Buses* | 0 |
| LIGHT RAIL | |
| Annual Revenue Car-Miles | 5,390,447 |
| Annual Revenue Train-Hours | 175,928 |
| Peak Cars | 83 |
| *Total Cars* | 95 |
| Passenger Stations | 34 |
| Directional Route-Miles | 88.0 |
| Maintenance Facilities | 1 |
| COMMUTER RAIL | |
| Annual Revenue Train-Hours | 19,400 |
| *Peak Passenger Cars (DMUs)* | 18 |
| *Total Passenger Cars (DMUs)* | 30 |
| *Peak Trains* | 6 |
| *Total Trains* | 23 |
| PARATRANSIT | |
| Annual Revenue Vehicle-Hours | 430,099 |
| | |
| TOTAL VEHICLE/TRAIN HOURS | 2,585,504 |
| | |
| **DART System O&M Costs:** | |

**Dallas Area Rapid Transit**
**O&M Cost Model**
**Line Item Detail**

**2004 Calibration**

| Description | Dept # | Dept | Mode | Exp. Code | Exist. Cost | Prod. Factor | Driving Variable | Empl | Calc. Cost |
|---|---|---|---|---|---|---|---|---|---|
| Wages & Salaries | 20 | Marketing/Communications | Shared | 501 | $4,525,661 | | Fixed | 105 | $4,525,661 |
| Fringe Benefits | 20 | Marketing/Communications | Shared | 502 | $1,805,845 | 39.90% | of Division 20 wages and salaries | | $1,805,845 |
| Services | 20 | Marketing/Communications | Shared | 503 | $5,036,493 | $1,850 | per Division 110-160 employee | | $5,036,493 |
| Materials & Supplies | 20 | Marketing/Communications | Shared | 504 | $456,072 | | Fixed | | $456,072 |
| Utilities | 20 | Marketing/Communications | Shared | 505 | $14,600 | | Fixed | | $14,600 |
| Taxes, Leases & Other | 20 | Marketing/Communications | Shared | 509 | $304,156 | | Fixed | | $304,156 |
| Wages & Salaries, President | 30 | Exec Admin/Diversity & EEO | Shared | 501 | $338,864 | | Fixed | 3 | $338,864 |
| Wages & Salaries, DEO | 30 | Exec Admin/Diversity & EEO | Shared | 501 | $638,070 | | Fixed | 10 | $638,070 |
| Wages & Salaries, DEO | 30 | Exec Admin/Diversity & EEO | Shared | 501 | $46,082 | 0.003 | per Division 110-160 employee | 8 | $368,656 |
| Fringe Benefits | 30 | Exec Admin/Diversity & EEO | Shared | 502 | $536,922 | 39.90% | of Division 30 wages and salaries | | $536,922 |
| Services | 30 | Exec Admin/Diversity & EEO | Shared | 503 | $140,772 | | Fixed | | $140,772 |
| Materials & Supplies | 30 | Exec Admin/Diversity & EEO | Shared | 504 | $5,900 | $281 | per Division 30 employee | | $5,900 |
| Utilities | 30 | Exec Admin/Diversity & EEO | Shared | 505 | $0 | $0 | per Division 30 employee | | $0 |
| Taxes, Leases & Other | 30 | Exec Admin/Diversity & EEO | Shared | 509 | $293,636 | | Fixed | | $293,636 |
| Wages & Salaries | 40 | Finance | Shared | 501 | $2,325,968 | | Fixed | 41 | $2,325,968 |
| Revenue Agent/Controller | 40 | Finance | LRT | 501 | $25,478 | 0.063 | per 1,000 LRTRAINHR | 11 | $280,258 |
| Revenue Agent/Controller | 40 | Finance | DARTBUS | 501 | $33,970 | 0.008 | per 1,000 BUSHR | 15 | $509,546 |
| Fringe Benefits | 40 | Finance | Shared | 502 | $1,243,267 | 39.90% | of Division 40 wages and salaries | | $1,243,267 |
| Services | 40 | Finance | Shared | 503 | $486,204 | $179 | per Division 110-160 employee | | $486,204 |
| Materials & Supplies | 40 | Finance | Shared | 504 | $29,900 | | Fixed | | $29,900 |
| Utilities | 40 | Finance | Shared | 505 | $5,856 | | Fixed | | $5,856 |
| Taxes, Leases & Other | 40 | Finance | Shared | 509 | $17,882 | | Fixed | | $17,882 |
| Wages & Salaries | 50 | Planning | Shared | 501 | $3,616,944 | | Fixed | 76 | $3,616,944 |
| Fringe Benefits | 50 | Planning | Shared | 502 | $1,443,245 | 39.90% | of Division 50 wages and salaries | | $1,443,245 |
| Services | 50 | Planning | Shared | 503 | $946,051 | $347 | per Division 110-160 employee | | $946,051 |
| Materials & Supplies | 50 | Planning | Shared | 504 | $76,204 | | Fixed | | $76,204 |
| Utilities | 50 | Planning | Shared | 505 | $47,800 | | Fixed | | $47,800 |
| Purchased Transportation | 50 | Planning | Shared | 508 | $3,608,180 | | Fixed | | $3,608,180 |
| Taxes, Leases & Other | 50 | Planning | Shared | 509 | $37,824 | | Fixed | | $37,824 |
| Wages & Salaries | 60 | General Counsel | Shared | 501 | $1,442,966 | | Fixed | 20 | $1,442,966 |
| Fringe Benefits | 60 | General Counsel | Shared | 502 | $575,777 | 39.90% | of Division 60 wages and salaries | | $575,777 |
| Services | 60 | General Counsel | Shared | 503 | $832,096 | $306 | per Division 110-160 employee | | $832,096 |
| Materials & Supplies | 60 | General Counsel | Shared | 504 | $7,500 | | Fixed | | $7,500 |
| Utilities | 60 | General Counsel | Shared | 505 | $1,000 | | Fixed | | $1,000 |
| Claims & Insurance | 60 | General Counsel | Shared | 506 | $200,000 | $73 | per Division 110-160 employee | | $200,000 |
| Taxes, Leases & Other | 60 | General Counsel | Shared | 509 | $77,000 | | Fixed | | $77,000 |
| Wages & Salaries | 60.1 | EVP Program Development | Shared | 501 | $415,235 | | Fixed | 5 | $415,235 |
| Fringe Benefits | 60.1 | EVP Program Development | Shared | 502 | $165,688 | 39.90% | of Division 60.10 wages and salaries | | $165,688 |
| Services | 60.1 | EVP Program Development | Shared | 503 | $0 | $0 | per Division 110-160 employee | | $0 |
| Materials & Supplies | 60.1 | EVP Program Development | Shared | 504 | $3,750 | | Fixed | | $3,750 |
| Utilities | 60.1 | EVP Program Development | Shared | 505 | $900 | | Fixed | | $900 |
| Taxes, Leases & Other | 60.1 | EVP Program Development | Shared | 509 | $19,300 | | Fixed | | $19,300 |

**Dallas Area Rapid Transit**
**O&M Cost Model**
**Line Item Detail**

**2004 Calibration**

| Description | Dept # | Dept | Mode | Exp. Code | Exist. Cost | Prod. Factor | Driving Variable | Empl | Calc. Cost |
|---|---|---|---|---|---|---|---|---|---|
| Wages & Salaries | 70 | Internal Audit | Shared | 501 | $666,926 | | Fixed | 11 | $666,926 |
| Fringe Benefits | 70 | Internal Audit | Shared | 502 | $266,119 | 39.90% | of Division 70 wages and salaries | | $266,119 |
| Services | 70 | Internal Audit | Shared | 503 | $270,596 | | Fixed | | $270,596 |
| Materials & Supplies | 70 | Internal Audit | Shared | 504 | $2,500 | | Fixed | | $2,500 |
| Utilities | 70 | Internal Audit | Shared | 505 | $0 | | Fixed | | $0 |
| Taxes, Leases & Other | 70 | Internal Audit | Shared | 509 | $25,396 | | Fixed | | $25,396 |
| Wages & Salaries | 80 | Office of Board Support | Shared | 501 | $257,696 | | Fixed | 6 | $257,696 |
| Fringe Benefits | 80 | Office of Board Support | Shared | 502 | $102,827 | 39.90% | of Division 80 wages and salaries | | $102,827 |
| Services | 80 | Office of Board Support | Shared | 503 | $39,000 | | Fixed | | $39,000 |
| Materials & Supplies | 80 | Office of Board Support | Shared | 504 | $3,000 | | Fixed | | $3,000 |
| Utilities | 80 | Office of Board Support | Shared | 505 | $550 | | Fixed | | $550 |
| Taxes, Leases & Other | 80 | Office of Board Support | Shared | 509 | $137,540 | | Fixed | | $137,540 |
| Wages & Salaries | 90 | Project Management | LRT | 501 | $3,360,893 | | Fixed | 48 | $3,360,893 |
| Fringe Benefits | 90 | Project Management | LRT | 502 | $1,341,075 | 39.90% | of Division 90 wages and salaries | | $1,341,075 |
| Services | 90 | Project Management | LRT | 503 | $2,183,906 | | Fixed | | $2,183,906 |
| Materials & Supplies | 90 | Project Management | LRT | 504 | $71,184 | | Fixed | | $71,184 |
| Utilities | 90 | Project Management | LRT | 505 | $2,900 | | Fixed | | $2,900 |
| Taxes, Leases & Other | 90 | Project Management | LRT | 509 | $573,300 | | Fixed | | $573,300 |
| Wages & Salaries | 100 | Human Resources | Shared | 501 | $1,709,017 | | Fixed | 19 | $1,709,017 |
| Wages & Salaries | 100 | Human Resources | Shared | 501 | $45,935 | 0.006 | per Division 110-160 employee | 15 | $689,018 |
| Fringe Benefits | 100 | Human Resources | Shared | 502 | $956,873 | 39.90% | of Division 100 wages and salaries | | $956,873 |
| Services | 100 | Human Resources | Shared | 503 | $2,036,653 | $748 | per Division 110-160 employee | | $2,036,653 |
| Materials & Supplies | 100 | Human Resources | Shared | 504 | $282,048 | | Fixed | | $282,048 |
| Utilities | 100 | Human Resources | Shared | 505 | $340,844 | | Fixed | | $340,844 |
| Taxes, Leases & Other | 100 | Human Resources | Shared | 509 | $533,259 | | Fixed | | $533,259 |
| Wages & Salaries | 105 | Administration | Shared | 501 | $2,533,568 | | Fixed | 55 | $2,533,568 |
| Wages & Salaries | 105 | Administration | Shared | 501 | $102,770 | 0.007 | per Division 110-160 employee | 18 | $1,849,864 |
| Fringe Benefits | 105 | Administration | Shared | 502 | $1,749,092 | 39.90% | of Division 105 wages and salaries | | $1,749,092 |
| Services | 105 | Administration | Shared | 503 | $2,262,151 | $831 | per Division 110-160 employee | | $2,262,151 |
| Materials & Supplies | 105 | Administration | Shared | 504 | $1,121,252 | | Fixed | | $1,121,252 |
| Utilities | 105 | Administration | Shared | 505 | $986,756 | | Fixed | | $986,756 |
| Claims & Insurance | 105 | Administration | Shared | 506 | $2,828,157 | $1,039 | per Division 110-160 employee | | $2,828,157 |
| Taxes, Leases & Other | 105 | Administration | Shared | 509 | $74,532 | | Fixed | | $74,532 |
| Wages & Salaries | 110 | Procurement/Materials Mgmt | DARTBUS | 501 | $57,315 | 6.2 | Fixed; per BUSGARAGE | 24.8 | $1,421,411 |
| Wages & Salaries | 110 | Procurement/Materials Mgmt | LRT | 501 | $57,315 | 6.2 | Fixed; per LRYARD | 6.2 | $355,353 |
| Wages & Salaries | 110 | Procurement/Materials Mgmt | DARTBUS | 501 | $44,126 | 2 | per BUSGARAGE | 8 | $353,006 |
| Wages & Salaries | 110 | Procurement/Materials Mgmt | LRT | 501 | $44,126 | 2 | per LRYARD | 2 | $88,252 |
| Fringe Benefits | 110 | Procurement/Materials Mgmt | DARTBUS | 502 | $885,043 | 39.90% | of Division 110 wages and salaries | | $708,034 |
| Fringe Benefits | 110 | Procurement/Materials Mgmt | LRT | 502 | | 39.90% | of Division 110 wages and salaries | | $177,009 |
| Services | 110 | Procurement/Materials Mgmt | DARTBUS | 504 | $5,000 | $1,000 | per BUSGARAGE | | $4,000 |
| Services | 110 | Procurement/Materials Mgmt | LRT | 504 | $5,000 | $1,000 | per LRYARD | | $1,000 |
| Materials & Supplies | 110 | Procurement/Materials Mgmt | DARTBUS | 504 | $13,400 | $2,680 | per BUSGARAGE | | $10,720 |

**Dallas Area Rapid Transit**
**O&M Cost Model**
**Line Item Detail**

**2004 Calibration**

| Description | Dept # | Dept | Mode | Exp. Code | Exist. Cost | Prod. Factor | Driving Variable | Empl | Calc. Cost |
|---|---|---|---|---|---|---|---|---|---|
| Materials & Supplies | 110 | Procurement/Materials Mgmt | LRT | 504 | $13,400 | $2,680 | per LRYARD | | $2,680 |
| Utilities | 110 | Procurement/Materials Mgmt | DARTBUS | 505 | $4,020 | $804 | per BUSGARAGE | | $3,216 |
| Utilities | 110 | Procurement/Materials Mgmt | LRT | 505 | $4,020 | $804 | per LRYARD | | $804 |
| Taxes, Leases & Other | 110 | Procurement/Materials Mgmt | DARTBUS | 509 | $41,754 | $1,018 | per Division 110 employee | | $33,403 |
| Taxes, Leases & Other | 110 | Procurement/Materials Mgmt | LRT | 509 | $41,754 | $1,018 | per Division 110 employee | | $8,351 |
| Wages & Salaries | 120 | Maintenance Administration | Shared | 501 | $220,033 | | Fixed | 5 | $220,033 |
| Wages & Salaries | 120 | Fleet Services Administration | Shared | 501 | $134,894 | | Fixed | 2 | $134,894 |
| Wages & Salaries | 120 | Winter Olympics | Shared | 501 | $0 | | Fixed | 0 | $0 |
| AVP Ways, Struct & Amenities | 120 | Way Structures Amenities | LRT | 501 | $136,270 | | Fixed (100% LR) | 2 | $136,270 |
| Maint. Program Analyst | 120 | Way Structures Amenities | DARTBUS | 501 | $23,041 | | Fixed (50% Bus) | 0.5 | $23,041 |
| Maint. Program Analyst | 120 | Way Structures Amenities | LRT | 501 | $23,041 | | Fixed (50% LR) | 0.5 | $23,041 |
| Wages & Salaries | 120 | Technical Services Admin | DARTBUS | 501 | $64,071 | | Fixed (50% Bus) | 1 | $64,071 |
| Wages & Salaries | 120 | Technical Services Admin | LRT | 501 | $64,071 | | Fixed (50% LR) | 1 | $64,071 |
| Wages & Salaries | 120 | Engineering | DARTBUS | 501 | $189,488 | | Fixed (50% Bus) | 3.5 | $189,488 |
| Wages & Salaries | 120 | Engineering | LRT | 501 | $189,488 | | Fixed (50% LR) | 3.5 | $189,488 |
| Maint. Engr. Specialist I & II | 120 | Engineering | DARTBUS | 501 | $207,369 | | Fixed (75% Bus) | 4.5 | $207,369 |
| Maint. Engr. Specialist I & II | 120 | Engineering | LRT | 501 | $69,123 | | Fixed (25% LR) | 1.5 | $69,123 |
| Project Mgr III, Rail Systems | 120 | Engineering | LRT | 501 | $71,874 | | Fixed | 1 | $71,874 |
| Project Mgr III, Fleet Systems | 120 | Engineering | DARTBUS | 501 | $71,874 | | Fixed | 1 | $71,874 |
| Maint Eng Specialist III | 120 | Engineering | LRT | 501 | $53,443 | 0.0003 | per 1,000 LRCARMI | 1.5 | $80,165 |
| Maint Eng Specialist III | 120 | Engineering | LRT | 501 | $53,443 | 0.0114 | per LRTRACKMI | 1 | $53,443 |
| Maint Eng Specialist III | 120 | Engineering | DARTBUS | 501 | $53,443 | 0.0001 | per 1,000 BUSMI | 2.5 | $133,608 |
| Wages & Salaries | 120 | Training/Maintenance Support | DARTBUS | 501 | $172,205 | | Fixed (50% Bus) | 2.5 | $172,205 |
| Wages & Salaries | 120 | Training/Maintenance Support | LRT | 501 | $172,205 | | Fixed (50% LR) | 2.5 | $172,205 |
| Maintenance Instructor | 120 | Training/Maintenance Support | DARTBUS | 501 | $53,443 | 0.02 | per Bus Mechanic | 8 | $427,544 |
| Maintenance Instructor | 120 | Training/Maintenance Support | LRT | 501 | $53,443 | 0.05 | per Light Rail Mechanic | 2 | $106,886 |
| Maintenance Specialist | 120 | Training/Maintenance Support | DARTBUS | 501 | $46,082 | 0.02 | per Bus Mechanic | 7.2 | $331,790 |
| Maintenance Specialist | 120 | Training/Maintenance Support | LRT | 501 | $46,082 | 0.04 | per Light Rail Mechanic | 1.8 | $82,948 |
| Wages & Salaries | 120 | Bus Svcs/Body Rebuild/Central Svc | DARTBUS | 501 | $311,334 | | Fixed | 7 | $311,334 |
| Wages & Salaries | 120 | Bus Svcs/Body Rebuild/Central Svc | DARTBUS | 501 | $52,407 | 3 | per BUSGARAGE | 10 | $524,072 |
| Supervisor | 120 | Bus Svcs/Body Rebuild/Central Svc | DARTBUS | 501 | $34,647 | 7 | per BUSGARAGE | 27 | $935,463 |
| Lead Bus/Body Mechanic | 120 | Bus Svcs/Body Rebuild/Central Svc | DARTBUS | 501 | $43,202 | 0.001 | per 1,000 BUSMI | 15 | $648,024 |
| Bus/Body Mechanic | 120 | Bus Svcs/Body Rebuild/Central Svc | DARTBUS | 501 | $51,904 | 0.008 | per 1,000 BUSMI | 219 | $11,366,898 |
| Electronics Mechanic | 120 | Bus Svcs/Body Rebuild/Central Svc | DARTBUS | 501 | $36,670 | 0.0001 | per 1,000 BUSMI | 3 | $110,011 |
| Central Support Mech | 120 | Bus Svcs/Body Rebuild/Central Svc | DARTBUS | 501 | $36,670 | 0.075 | per PKBUS | 43 | $1,576,827 |
| Servicer | 120 | Bus Svcs/Body Rebuild/Central Svc | DARTBUS | 501 | $21,757 | 0.0024 | per 1,000 BUSMI | 69 | $1,501,219 |
| Lead Servicer | 120 | Bus Svcs/Body Rebuild/Central Svc | DARTBUS | 501 | $28,496 | | Fixed | 3 | $85,488 |
| Facility Mechanic | 120 | Bus Svcs/Body Rebuild/Central Svc | DARTBUS | 501 | $36,670 | 3.3 | per BUSGARAGE | 13 | $476,715 |
| Wages & Salaries | 120 | Track Electrification System | LRT | 501 | $97,352 | | Fixed (100% LR) | 2 | $97,352 |
| Supervisor TES | 120 | Track Electrification System | LRT | 501 | $48,536 | 3 | per TES Maintainer | 3 | $145,607 |
| Lead Traction Power Maintainer | 120 | Track Electrification System | LRT | 501 | $46,696 | 0.1 | per Substation Maintainer | 3 | $140,088 |
| Traction Power Maintainer | 120 | Track Electrification System | LRT | 501 | $50,327 | 0.34 | per LRTRACKMI | 30 | $1,509,809 |

**Dallas Area Rapid Transit**
**O&M Cost Model**
**Line Item Detail**

**2004 Calibration**

| Description | Dept # | Dept | Mode | Exp. Code | Exist. Cost | Prod. Factor | Driving Variable | Empl | Calc. Cost |
|---|---|---|---|---|---|---|---|---|---|
| Bus/Rail Industrial Electr | 120 | Track Electrification System | LRT | 501 | $45,386 | 0.01 | per LRTRACKMI | 1 | $45,386 |
| Sr. Manager Track & ROW | 120 | Track & Right of Way | LRT | 501 | $71,874 | | Fixed (100% LR) | 1 | $71,874 |
| Asst to Sr. Mgr. Track & ROW | 120 | Track & Right of Way | LRT | 501 | $25,478 | | Fixed (100% LR) | 1 | $25,478 |
| Supervisor - Track & ROW | 120 | Track & Right of Way | LRT | 501 | $47,922 | 0.16 | per Track Maintainer | 4 | $191,689 |
| Lead Track Maintainer | 120 | Track & Right of Way | LRT | 501 | $43,202 | 0.14 | per Track Maintainer | 3 | $129,605 |
| Track Maintainer | 120 | Track & Right of Way | LRT | 501 | $45,968 | 0.25 | per LRTRACKMI | 22 | $1,011,288 |
| Track Welder | 120 | Track & Right of Way | LRT | 501 | $37,710 | 0.01 | per LRTRACKMI | 1 | $37,710 |
| Sr. Manager Signal Systems | 120 | Signal System | LRT | 501 | $71,874 | | Fixed (100% LR) | 1 | $71,874 |
| Asst to the Sr Mgr- Signal Sys | 120 | Signal System | LRT | 501 | $25,478 | | Fixed (100% LR) | 1 | $25,478 |
| Supervisor - Signals | 120 | Signal System | LRT | 501 | $53,443 | 0.14 | per Signal Maintainer | 3 | $160,329 |
| Lead Signal Maintainer | 120 | Signal System | LRT | 501 | $46,696 | 0.05 | per Signal Maintainer | 1 | $46,696 |
| Signal Sys Testing Maintainer | 120 | Signal System | LRT | 501 | $43,971 | 0.02 | per LRTRACKMI | 2 | $87,942 |
| Signal Maintainer | 120 | Signal System | LRT | 501 | $47,274 | 0.23 | per LRTRACKMI | 20 | $945,473 |
| Wages & Salaries | 120 | Communications | LRT | 501 | $620,946 | | Fixed | 10 | $620,946 |
| Communications Technician | 120 | Communications | LRT | 501 | $36,670 | 0.17 | per LRTRACKMI | 15 | $550,056 |
| Wages & Salaries | 120 | Bus Facilities | DARTBUS | 501 | $849,277 | | Fixed | 5 | $849,277 |
| Supervisor, Bldg & Grounds | 120 | Bus Facilities | DARTBUS | 501 | $47,554 | 0.009 | per PKBUS | 5 | $237,771 |
| Field Inspector | 120 | Bus Facilities | DARTBUS | 501 | $47,961 | 0.009 | per PKBUS | 5 | $239,805 |
| Lead Mechanic - Psgr Amenities | 120 | Bus Facilities | DARTBUS | 501 | $46,010 | 0.007 | per PKBUS | 4 | $184,038 |
| HVAC Technician | 120 | Bus Facilities | DARTBUS | 501 | $39,832 | 0.012 | per PKBUS | 7 | $278,824 |
| Passenger Amenities Mechanic | 120 | Bus Facilities | DARTBUS | 501 | $36,670 | 0.056 | per PKBUS | 32 | $1,173,453 |
| Servicer-Passenger Amenities | 120 | Bus Facilities | DARTBUS | 501 | $21,757 | 0.009 | per PKBUS | 5 | $108,784 |
| Wages & Salaries | 120 | Rail Services/Central Support | LRT | 501 | $1,210,937 | | Fixed | 12 | $1,210,937 |
| Supervisor Rail Services | 120 | Rail Services/Central Support | LRT | 501 | $48,056 | 6 | per LRYARD | 6 | $288,334 |
| LRV Mechanic | 120 | Rail Services/Central Support | LRT | 501 | $37,137 | 0.008 | per 1,000 LRCARMI | 42 | $1,559,750 |
| Facility Mechanic | 120 | Rail Services/Central Support | LRT | 501 | $36,670 | 0.11 | per LRSTA + LRYARD | 4 | $146,682 |
| Rail Central Support Mechanic | 120 | Rail Services/Central Support | LRT | 501 | $36,670 | 0.17 | per LRSTA + LRYARD | 6 | $220,022 |
| Machinist | 120 | Rail Services/Central Support | LRT | 501 | $36,670 | 0.001 | per 1,000 LRCARMI | 5 | $183,352 |
| LRV Structural Mechanic | 120 | Rail Services/Central Support | LRT | 501 | $36,670 | 0.001 | per 1,000 LRCARMI | 4 | $146,682 |
| Electronic Tech. Rail Services | 120 | Rail Services/Central Support | LRT | 501 | $36,670 | 0 | per 1,000 LRCARMI | 2 | $73,341 |
| Fare Equipment Mechanic | 120 | Rail Services/Central Support | LRT | 501 | $37,823 | 0.5 | per LRSTA | 17 | $642,990 |
| Wages & Salaries | 120 | Bus Non-Revenue Services | DARTBUS | 501 | $42,402 | 0.02 | per PKBUS | 14 | $593,632 |
| Wages & Salaries | 120 | Project Contracts - Fleet | Shared | 501 | $224,428 | | Fixed | 4 | $224,428 |
| Fringe Benefits | 120 | Maintenance Division | DARTBUS | 502 | $13,901,279 | 39.90% | of Division 120 wages and salaries | | $11,669,234 |
| Fringe Benefits | 120 | Maintenance Division | LRT | 502 | | 39.90% | of Division 120 wages and salaries | | $2,232,044 |
| Engineering/ROW Contracts | 120 | Maintenance Division | LRT | 503 | $985,000 | $11,193 | per LRTRACKMI | | $985,000 |
| LR Maintenance Services | 120 | Maintenance Division | LRT | 503 | $385,486 | $0.07 | per LRCARMI | | $385,486 |
| LR Maintenance Services | 120 | Maintenance Division | LRT | 503 | $385,486 | $4,381 | per LRTRACKMI | | $385,486 |
| Bus Maintenance Contracts | 120 | Maintenance Division | DARTBUS | 503 | $4,746,394 | $0.17 | per BUSMI | | $4,746,394 |
| Matl & Supplies - LR Power & Signals | 120 | Maintenance Division | LRT | 504 | $966,540 | $10,983 | per LRTRACKMI | | $966,540 |
| Matl & Supplies - LR Vehicles | 120 | Maintenance Division | LRT | 504 | $3,163,320 | $0.59 | per LRCARMI | | $3,163,320 |
| Matl & Supplies - LR Vehicles | 120 | Maintenance Division | LRT | 504 | $300,704 | $3,623 | per PKLRV | | $300,704 |

**Dallas Area Rapid Transit**
**O&M Cost Model**
**Line Item Detail**

**2004 Calibration**

| Description | Dept # | Dept | Mode | Exp. Code | Exist. Cost | Prod. Factor | Driving Variable | Empl | Calc. Cost |
|---|---|---|---|---|---|---|---|---|---|
| Matl & Supplies - LR Stations | 120 | Maintenance Division | LRT | 504 | $255,996 | $7,529 | per LRSTA | | $255,996 |
| Matl & Supplies - Bus | 120 | Maintenance Division | DARTBUS | 504 | $24,885,448 | $0.88 | per BUSMI | | $24,885,448 |
| Traction Power | 120 | Maintenance Division | LRT | 505 | $3,202,552 | $0.86 | per LRCARMI | | $4,608,832 |
| Other Utilities - Rail | 120 | Maintenance Division | LRT | 505 | $895,354 | | Fixed (100% LR) | | $895,354 |
| Utilities - Bus | 120 | Maintenance Division | DARTBUS | 505 | $1,990,597 | $497,649 | per BUSGARAGE | | $1,990,597 |
| Claims & Insurance | 120 | Maintenance Division | DARTBUS | 506 | $0 | $0.00 | per Division employee | | $0 |
| Claims & Insurance | 120 | Maintenance Division | LRT | 506 | | $0.00 | per Division employee | | $0 |
| Taxes, Leases & Other | 120 | Maintenance Division | DARTBUS | 509 | $2,032,596 | $3,529 | per PKBUS | | $2,032,596 |
| Taxes, Leases & Other | 120 | Maintenance Division | LRT | 509 | $11,216 | $135 | per PKLRV | | $11,216 |
| Wages & Salaries | 130 | Transportation Administration | Shared | 501 | $446,592 | | Fixed | 6 | $446,592 |
| Wages & Salaries | 130 | Contract Bus Operations | ATE-Bus | 501 | $0 | | Fixed | 0 | $0 |
| Supv Contract Compliance | 130 | Contract Field Operations | ATE-Bus | 501 | $0 | 0 | per 1,000 BURBHR | 0 | $0 |
| Wages & Salaries | 130 | Bus Operations Control | DARTBUS | 501 | $1,212,018 | | Fixed | 21 | $1,212,018 |
| Radio Dispatcher | 130 | Bus Operations Control | DARTBUS | 501 | $39,738 | 0.014 | per PKBUS | 8 | $317,904 |
| Transportation Supervisor | 130 | Bus Operations Control | DARTBUS | 501 | $39,738 | 0.05 | per PKBUS | 29 | $1,152,402 |
| Wages & Salaries | 130 | Rail Operations Control | LRT | 501 | $232,203 | | Fixed | 4 | $232,203 |
| Rail Oper Supv I | 130 | Rail Operations Control | LRT | 501 | $0 | 0 | per Rail Operations Controller | 0 | $0 |
| Rail Operations Controller | 130 | Rail Operations Control | LRT | 501 | $46,082 | 0.09 | per 1,000 LRTRAINHR | 15 | $691,230 |
| Bus Operations Admin | 130 | Bus Operations Administration | DARTBUS | 501 | $1,018,929 | | Fixed | 21 | $1,018,929 |
| Transportation Supervisor | 130 | Bus Operations Administration | DARTBUS | 501 | $39,738 | 5.3 | per BUSGARAGE | 21 | $834,498 |
| Bus Operator | 130 | Bus Operations Administration | DARTBUS | 501 | $41,274 | 0.599 | per 1,000 BUSHR | 1175 | $48,497,074 |
| Wages & Salaries | 130 | Rail Operations Administration | LRT | 501 | $524,374 | | Fixed | 10 | $524,374 |
| Rail Operation Supervisor I | 130 | Rail Operations | LRT | 501 | $39,738 | 0.235 | per Train Operator | 27 | $1,072,926 |
| Operator/Instructor | 130 | Rail Operations | LRT | 501 | $0 | 0 | per Train Operator | 0 | $0 |
| Train Operator | 130 | Rail Operations | LRT | 501 | $34,531 | 0.654 | per 1,000 LRTRAINHR | 115 | $3,971,011 |
| Wages & Salaries | 130 | Bus Training/Career Development | DARTBUS | 501 | $482,895 | | Fixed | 2 | $482,895 |
| Training Specialist, Bus Ops. | 130 | Bus Training/Career Development | DARTBUS | 501 | $39,738 | 0.006 | per Bus Operator | 7 | $278,166 |
| Wages & Salaries | 130 | Rail Training/Career Development | LRT | 501 | $105,692 | 0.026 | per Train Operator | 3 | $317,076 |
| Wages & Salaries | 130 | Charter Operations | DARTBUS | 501 | $312,664 | | Fixed | 1 | $312,664 |
| Wages & Salaries | 130 | Transit Center Operations | LRT | 501 | $310,302 | | Fixed | 7 | $310,302 |
| Transit Agent | 130 | Transit Center Operations | LRT | 501 | $30,122 | 1.4 | per LRSTA | 47 | $1,415,742 |
| Fringe Benefits | 130 | Transportation Division | DARTBUS | 502 | $25,173,588 | 39.90% | of Division 130 wages and salaries | | $21,714,518 |
| Fringe Benefits | 130 | Transportation Division | LRT | 502 | | 39.90% | of Division 130 wages and salaries | | $3,459,070 |
| Services | 130 | Transportation Division | DARTBUS | 503 | $2,400 | $1.58 | per Division 130 employee | | $2,202 |
| Services | 130 | Transportation Division | LRT | 503 | | $1.58 | per Division 130 employee | | $198 |
| Matl & Supplies - Rail | 130 | Transportation Division | LRT | 504 | $66,152 | $575.23 | per Train Operator | | $66,152 |
| Matl & Supplies - Bus | 130 | Transportation Division | DARTBUS | 504 | $46,038 | $37.83 | per Bus Operations employee | | $46,038 |
| Other Matl & Supplies | 130 | Transportation Division | Shared | 504 | $485,216 | $319 | per Division 130 employee | | $485,216 |
| Utilities | 130 | Transportation Division | DARTBUS | 505 | $29,904 | $7,476 | per BUSGARAGE | | $29,904 |
| Claims & Insurance | 130 | Transportation Division | DARTBUS | 506 | $0 | $0.00 | per Division 130 employee | | $0 |
| Claims & Insurance | 130 | Transportation Division | LRT | 506 | | $0.00 | per Division 130 employee | | $0 |
| Purchased Transportation | 130 | Transportation Division | ATE-Bus | 508 | $0 | $0.00 | per BURBHR | | $0 |

**Dallas Area Rapid Transit**
**O&M Cost Model**
**Line Item Detail**

**2004 Calibration**

| Description | Dept # | Dept | Mode | Exp. Code | Exist. Cost | Prod. Factor | Driving Variable | Empl | Calc. Cost |
|---|---|---|---|---|---|---|---|---|---|
| Taxes, Leases & Other | 130 | Transportation Division | DARTBUS | 509 | $278,001 | $69,500 | per BUSGARAGE | | $278,001 |
| Wages & Salaries | 140 | Executive Vice President | Shared | 501 | $988,130 | | Fixed | 15 | $988,130 |
| Fringe Benefits | 140 | Executive Vice President | Shared | 502 | $394,287 | 39.90% | of Division 140 wages and salaries | | $394,287 |
| Services | 140 | Executive Vice President | Shared | 503 | $203,508 | $0.08 | per annual revenue hour | | $203,508 |
| Materials & Supplies | 140 | Executive Vice President | Shared | 504 | $11,700 | $780 | per Division 140 employee | | $11,700 |
| Utilities | 140 | Executive Vice President | Shared | 505 | $3,120 | | Fixed | | $3,120 |
| Taxes, Leases & Other | 140 | Executive Vice President | Shared | 509 | $162,644 | | Fixed | | $162,644 |
| Wages & Salaries | 140.1 | Materials (Cost Ctrs 251, 252, 253) | DARTBUS | 501 | $43,093 | 5.6 | Fixed per BUSGARAGE | 22.4 | $965,281 |
| Wages & Salaries | 140.1 | Materials (Cost Ctrs 251, 252, 253) | LRT | 501 | $43,093 | 5.6 | Fixed per LRYARD | 5.6 | $241,320 |
| Wages & Salaries | 140.1 | Materials (Cost Ctrs 251, 252, 253) | DARTBUS | 501 | $31,589 | 8 | per BUSGARAGE | 32 | $1,010,842 |
| Wages & Salaries | 140.1 | Materials (Cost Ctrs 251, 252, 253) | LRT | 501 | $31,589 | 8 | per LRYARD | 8 | $252,711 |
| Fringe Benefits | 140.1 | Materials (Cost Ctrs 251, 252, 253) | DARTBUS | 502 | $985,649 | 39.90% | per Division 140.1 bus employee | | $788,519 |
| Fringe Benefits | 140.1 | Materials (Cost Ctrs 251, 252, 253) | LRT | 502 | | 39.90% | per Division 140.1 rail employee | | $197,130 |
| Services | 140.1 | Materials (Cost Ctrs 251, 252, 253) | DARTBUS | 503 | $31,500 | $6,300 | per BUSGARAGE | | $25,200 |
| Services | 140.1 | Materials (Cost Ctrs 251, 252, 253) | LRT | 503 | $31,500 | $6,300 | per LRYARD | | $6,300 |
| Materials & Supplies | 140.1 | Materials (Cost Ctrs 251, 252, 253) | DARTBUS | 504 | $103,528 | $20,706 | per BUSGARAGE | | $82,822 |
| Materials & Supplies | 140.1 | Materials (Cost Ctrs 251, 252, 253) | LRT | 504 | $103,528 | $20,706 | per LRYARD | | $20,706 |
| Utilities | 140.1 | Materials (Cost Ctrs 251, 252, 253) | DARTBUS | 505 | $3,552 | $710 | per BUSGARAGE | | $2,842 |
| Utilities | 140.1 | Materials (Cost Ctrs 251, 252, 253) | LRT | 505 | $3,552 | $710 | per LRYARD | | $710 |
| Claims & Insurance | 140.1 | Materials (Cost Ctrs 251, 252, 253) | DARTBUS | 506 | $0 | $0 | per BUSGARAGE | | $0 |
| Claims & Insurance | 140.1 | Materials (Cost Ctrs 251, 252, 253) | LRT | 506 | $0 | $0 | per LRYARD | | $0 |
| Taxes, Leases & Other | 140.1 | Materials (Cost Ctrs 251, 252, 253) | DARTBUS | 509 | $830 | $166 | per BUSGARAGE | | $664 |
| Taxes, Leases & Other | 140.1 | Materials (Cost Ctrs 251, 252, 253) | LRT | 509 | $830 | $166 | per LRYARD | | $166 |
| Wages & Salaries | 150 | Paratransit | PARAT | 501 | $1,636,146 | | Fixed | 30 | $1,636,146 |
| Wages & Salaries | 150 | Paratransit | PARAT | 501 | $33,400 | 0.00008 | per PARAHR | 36 | $1,202,408 |
| Fringe Benefits | 150 | Paratransit | PARAT | 502 | $1,132,650 | 39.90% | of Division 150 wages and salaries | | $1,132,650 |
| Services | 150 | Paratransit | PARAT | 503 | $29,000 | $439 | per Division 150 employee | | $29,000 |
| Materials & Supplies | 150 | Paratransit | PARAT | 504 | $28,174 | $427 | per Division 150 employee | | $28,174 |
| Utilities | 150 | Paratransit | PARAT | 505 | $1,000 | $15 | per Division 150 employee | | $1,000 |
| Purchased Transportation | 150 | Paratransit | PARAT | 508 | $17,736,468 | $41 | per PARAHR | | $17,736,468 |
| Taxes, Leases & Other | 150 | Paratransit | PARAT | 509 | $78,070 | $0.18 | per PARAHR | | $78,070 |
| Wages & Salaries | 155 | Transit Police | DARTBUS | 501 | $59,413 | 51% | Fixed | 29 | $1,722,980 |
| Wages & Salaries | 155 | Transit Police | ATE-Bus | 501 | $59,413 | 0% | Fixed | 0 | $0 |
| Wages & Salaries | 155 | Transit Police | LRT | 501 | $59,413 | 47% | Fixed | 27 | $1,604,153 |
| Wages & Salaries | 155 | Transit Police | CR/TRE | 501 | $59,413 | 2% | Fixed | 1 | $59,413 |
| Wages & Salaries | 155 | Transit Police | LRT | 501 | $26,904 | | 25% LRTRAINHR; 75% LRSTA | 20 | $538,080 |
| Wages & Salaries | 155 | Transit Police | DARTBUS | 501 | $35,019 | | 50% PKBUS; 50% D-BUSHRS | 82 | $2,871,580 |
| Wages & Salaries | 155 | Transit Police | ATE-Bus | 501 | $35,019 | 0 | per 1,000 C-BUSHRS | 0 | $0 |
| Wages & Salaries | 155 | Transit Police | LRT | 501 | $35,019 | | 25% LRTRAINHR; 75% LRSTA | 75 | $2,626,445 |
| Wages & Salaries | 155 | Transit Police | CR/TRE | 501 | $35,019 | 0 | per CRTRAINHR | 3 | $105,058 |
| Fringe Benefits | 155 | Transit Police | DARTBUS | 502 | | 39.90% | of Division 155 wages and salaries | | $1,833,336 |
| Fringe Benefits | 155 | Transit Police | ATE-Bus | 502 | | 0.00% | of Division 155 wages and salaries | | $0 |

**Dallas Area Rapid Transit**
**O&M Cost Model**
**Line Item Detail**

**2004 Calibration**

| Description | Dept # | Dept | Mode | Exp. Code | Exist. Cost | Prod. Factor | Driving Variable | Empl | Calc. Cost |
|---|---|---|---|---|---|---|---|---|---|
| Fringe Benefits | 155 | Transit Police | LRT | 502 | | 39.90% | of Division 155 wages and salaries | | $1,902,814 |
| Fringe Benefits | 155 | Transit Police | CR/TRE | 502 | $3,801,778 | 39.90% | of Division 155 wages and salaries | | $65,628 |
| Security Services | 155 | Transit Police | LRT | 503 | $575,539 | $16,444 | per LRSTA + LRYARD | | $575,539 |
| Security Services | 155 | Transit Police | DARTBUS | 503 | $624,521 | $156,130 | per BUSGARAGE | | $624,521 |
| Security Services | 155 | Transit Police | ATE-Bus | 503 | $0 | $0 | per C-BUSHR | | $0 |
| Security Services | 155 | Transit Police | CR/TRE | 503 | $24,491 | $1.26 | per CRTRAINHR | | $24,491 |
| Materials & Supplies | 155 | Transit Police | DARTBUS | 504 | $92,981 | $838.00 | per Division 155 employee | | $92,981 |
| Materials & Supplies | 155 | Transit Police | ATE-Bus | 504 | $0 | $0 | per Division 155 employee | | $0 |
| Materials & Supplies | 155 | Transit Police | LRT | 504 | $85,689 | $702 | per Division 155 employee | | $85,689 |
| Materials & Supplies | 155 | Transit Police | CR/TRE | 504 | $3,646 | $912 | per Division 155 employee | | $3,646 |
| Utilities | 155 | Transit Police | DARTBUS | 505 | $73,118 | | Fixed | | $73,118 |
| Utilities | 155 | Transit Police | ATE-Bus | 505 | $0 | | Fixed | | $0 |
| Utilities | 155 | Transit Police | LRT | 505 | $67,383 | | Fixed | | $67,383 |
| Utilities | 155 | Transit Police | CR/TRE | 505 | $2,867 | | Fixed | | $2,867 |
| Claims & Insurance | 155 | Transit Police | DARTBUS | 506 | $0 | $0 | per Division 155 employee | | $0 |
| Claims & Insurance | 155 | Transit Police | ATE-Bus | 506 | $0 | $0 | per Division 155 employee | | $0 |
| Claims & Insurance | 155 | Transit Police | LRT | 506 | $0 | $0 | per Division 155 employee | | $0 |
| Claims & Insurance | 155 | Transit Police | CR/TRE | 506 | $0 | $0 | per Division 155 employee | | $0 |
| Taxes, Leases & Other | 155 | Transit Police | DARTBUS | 509 | $236,736 | | Fixed | | $236,736 |
| Taxes, Leases & Other | 155 | Transit Police | ATE-Bus | 509 | $0 | | Fixed | | $0 |
| Taxes, Leases & Other | 155 | Transit Police | LRT | 509 | $218,168 | | Fixed | | $218,168 |
| Taxes, Leases & Other | 155 | Transit Police | CR/TRE | 509 | $9,284 | | Fixed | | $9,284 |
| Wages & Salaries | 160 | Commuter Rail | CR/TRE | 501 | $464,880 | | Fixed | 6 | $464,880 |
| Wages & Salaries | 160 | Commuter Rail | CR/TRE | 501 | $46,082 | 0.0002 | per CRTRAINHR | 3 | $138,246 |
| Fringe Benefits | 160 | Commuter Rail | CR/TRE | 502 | $240,661 | 39.90% | of Division 160 wages and salaries | | $240,647 |
| Services | 160 | Commuter Rail | CR/TRE | 503 | $794,488 | $40.95 | per CRTRAINHR | | $794,488 |
| Materials & Supplies | 160 | Commuter Rail | CR/TRE | 504 | $95,996 | $10,666.00 | per Division 160 employee | | $95,996 |
| Utilitites | 160 | Commuter Rail | CR/TRE | 505 | $104,796 | | Fixed | | $104,796 |
| Claims & Insurance | 160 | Commuter Rail | CR/TRE | 506 | $1,130,000 | $58.25 | per CRTRAINHR | | $1,130,000 |
| Purchased Transportation | 160 | Commuter Rail | CR/TRE | 508 | $14,368,184 | $740.63 | per CRTRAINHR | | $14,368,184 |
| Taxes, Leases & Other | 160 | Commuter Rail | CR/TRE | 509 | $120,596 | $6.22 | per CRTRAINHR | | $120,596 |
| TOTALS | | | | | | | | 3,189 | $308,833,794 |

## Dallas Area Rapid Transit
## NW/SE Corridor - 2004 O&M Cost Model Calibration

Model Run: 11/15/04

**Crosstab Table For Total Calc. Cost by Dept and Mode**

| DEPARTMENT | CR/TRE | DARTBUS | LRT | PARAT | Shared | TOTALS |
|---|---|---|---|---|---|---|
| Administration | $0 | $0 | $0 | $0 | $13,405,372 | $13,405,372 |
| Bus Facilities | $0 | $3,071,952 | $0 | $0 | $0 | $3,071,952 |
| Bus Non-Revenue Services | $0 | $593,632 | $0 | $0 | $0 | $593,632 |
| Bus Operations Administration | $0 | $50,350,501 | $0 | $0 | $0 | $50,350,501 |
| Bus Operations Control | $0 | $2,682,324 | $0 | $0 | $0 | $2,682,324 |
| Bus Svcs/Body Rebuild/Central Svc | $0 | $17,536,052 | $0 | $0 | $0 | $17,536,052 |
| Bus Training/Career Development | $0 | $761,061 | $0 | $0 | $0 | $761,061 |
| Charter Operations | $0 | $312,664 | $0 | $0 | $0 | $312,664 |
| Communications | $0 | $0 | $1,171,002 | $0 | $0 | $1,171,002 |
| Commuter Rail | $17,457,833 | $0 | $0 | $0 | $0 | $17,457,833 |
| Contract Bus Operations | $0 | $0 | $0 | $0 | $0 | $0 |
| Contract Field Operations | $0 | $0 | $0 | $0 | $0 | $0 |
| Engineering | $0 | $602,338 | $464,092 | $0 | $0 | $1,066,430 |
| EVP Program Development | $0 | $0 | $0 | $0 | $604,873 | $604,873 |
| Exec Admin/Diversity & EEO | $0 | $0 | $0 | $0 | $2,322,820 | $2,322,820 |
| Executive Vice President | $0 | $0 | $0 | $0 | $1,763,389 | $1,763,389 |
| Finance | $0 | $509,546 | $280,258 | $0 | $4,109,077 | $4,898,881 |
| Fleet Services Administration | $0 | $0 | $0 | $0 | $134,894 | $134,894 |
| General Counsel | $0 | $0 | $0 | $0 | $3,136,339 | $3,136,339 |
| Human Resources | $0 | $0 | $0 | $0 | $6,547,712 | $6,547,712 |
| Internal Audit | $0 | $0 | $0 | $0 | $1,231,537 | $1,231,537 |
| Maintenance Administration | $0 | $0 | $0 | $0 | $220,033 | $220,033 |
| Maintenance Division | $0 | $45,324,269 | $14,189,978 | $0 | $0 | $59,514,247 |
| Marketing/Communications | $0 | $0 | $0 | $0 | $12,142,827 | $12,142,827 |
| Materials (Cost Ctrs 251, 252, 253) | $0 | $2,876,170 | $719,043 | $0 | $0 | $3,595,213 |
| Office of Board Support | $0 | $0 | $0 | $0 | $540,613 | $540,613 |
| Paratransit | $0 | $0 | $0 | $21,843,916 | $0 | $21,843,916 |
| Planning | $0 | $0 | $0 | $0 | $9,776,248 | $9,776,248 |
| Procurement/Materials Mgmt | $0 | $2,533,791 | $633,448 | $0 | $0 | $3,167,239 |
| Project Contracts - Fleet | $0 | $0 | $0 | $0 | $224,428 | $224,428 |
| Project Management | $0 | $0 | $7,533,258 | $0 | $0 | $7,533,258 |
| Rail Operations | $0 | $0 | $5,043,937 | $0 | $0 | $5,043,937 |
| Rail Operations Administration | $0 | $0 | $524,374 | $0 | $0 | $524,374 |
| Rail Operations Control | $0 | $0 | $923,433 | $0 | $0 | $923,433 |
| Rail Services/Central Support | $0 | $0 | $4,472,090 | $0 | $0 | $4,472,090 |
| Rail Training/Career Development | $0 | $0 | $317,076 | $0 | $0 | $317,076 |
| Signal System | $0 | $0 | $1,337,792 | $0 | $0 | $1,337,792 |
| Technical Services Admin | $0 | $64,071 | $64,071 | $0 | $0 | $128,142 |
| Track Electrification System | $0 | $0 | $1,938,242 | $0 | $0 | $1,938,242 |
| Track & Right of Way | $0 | $0 | $1,467,644 | $0 | $0 | $1,467,644 |
| Training/Maintenance Support | $0 | $931,539 | $362,039 | $0 | $0 | $1,293,578 |
| Transit Center Operations | $0 | $0 | $1,726,044 | $0 | $0 | $1,726,044 |
| Transit Police | $270,387 | $7,455,251 | $7,618,271 | $0 | $0 | $15,343,909 |
| Transportation Administration | $0 | $0 | $0 | $0 | $446,592 | $446,592 |
| Transportation Division | $0 | $22,070,663 | $3,525,420 | $0 | $485,216 | $26,081,299 |
| Way Structures Amenities | $0 | $23,041 | $159,311 | $0 | $0 | $182,352 |
| **TOTAL DIRECT COSTS** | **$17,728,220** | **$157,698,867** | **$54,470,821** | **$21,843,916** | **$57,091,970** | **$308,833,794** |
| **SHARED COST ALLOCATION** | **$428,382** | **$43,281,564** | **$3,884,765** | **$9,497,258** | | **$57,091,970** |
| **FULLY ALLOCATED COSTS** | **$18,156,603** | **$200,980,431** | **$58,355,586** | **$31,341,174** | | **$308,833,794** |

# *APPENDIX B – TSM Alternative O&M Results*

*Model Inputs*
*Line Item Detail*
*Summary by Dept. and Mode*

**Dallas Area Rapid Transit**
**NW/SE Corridor Alternative**
**O&M Costs**

| | INPUT VALUES FOR: |
|---|---|
| **SYSTEM / SERVICE VARIABLE** | **TSM 2025** |
| DIRECTLY-OPERATED BUS | |
| Annual Revenue Bus-Miles | 36,738,765 |
| Annual Revenue Bus-Hours | 2,821,770 |
| Peak Buses | 958 |
| *Total Buses* | 1,145 |
| Maintenance Facilities | 4 |
| CONTRACT BUS SERVICES | |
| Annual Revenue Bus-Hours | 0 |
| Peak Buses | 0 |
| *Total Buses* | 0 |
| LIGHT RAIL | |
| Annual Revenue Car-Miles | 6,332,166 |
| Annual Revenue Train-Hours | 169,850 |
| Peak Cars | 74 |
| *Total Cars* | 81 |
| Passenger Stations | 35 |
| Directional Route-Miles | 90.2 |
| Maintenance Facilities | 1 |
| COMMUTER RAIL | |
| Annual Revenue Train-Hours | 20,271 |
| *Peak Passenger Cars (DMUs)* | 21 |
| *Total Passenger Cars (DMUs)* | 33 |
| *Peak Trains* | 6 |
| *Total Trains* | 21 |
| PARATRANSIT | |
| Annual Revenue Vehicle-Hours | 440,406 |
| | |
| TOTAL VEHICLE/TRAIN HOURS | 3,452,297 |
| | |
| **DART System O&M Costs:** | |

**Dallas Area Rapid Transit**
**O&M Cost Model**
**Line Item Detail**

**Revised TSM**
**2025**

| Description | Dept # | Dept | Mode | Exp. Code | Exist. Cost | Prod. Factor | Driving Variable | Empl | Calc. Cost |
|---|---|---|---|---|---|---|---|---|---|
| Wages & Salaries | 20 | Marketing/Communications | Shared | 501 | $4,525,661 | | Fixed | 105 | $4,525,661 |
| Fringe Benefits | 20 | Marketing/Communications | Shared | 502 | $1,805,845 | 39.90% | of Division 20 wages and salaries | | $1,805,845 |
| Services | 20 | Marketing/Communications | Shared | 503 | $5,036,493 | $1,850 | per Division 110-160 employee | | $6,484,433 |
| Materials & Supplies | 20 | Marketing/Communications | Shared | 504 | $456,072 | | Fixed | | $456,072 |
| Utilities | 20 | Marketing/Communications | Shared | 505 | $14,600 | | Fixed | | $14,600 |
| Taxes, Leases & Other | 20 | Marketing/Communications | Shared | 509 | $304,156 | | Fixed | | $304,156 |
| Wages & Salaries, President | 30 | Exec Admin/Diversity & EEO | Shared | 501 | $338,864 | | Fixed | 3 | $338,864 |
| Wages & Salaries, DEO | 30 | Exec Admin/Diversity & EEO | Shared | 501 | $638,070 | | Fixed | 10 | $638,070 |
| Wages & Salaries, DEO | 30 | Exec Admin/Diversity & EEO | Shared | 501 | $46,082 | 0.003 | per Division 110-160 employee | 10 | $460,820 |
| Fringe Benefits | 30 | Exec Admin/Diversity & EEO | Shared | 502 | $536,922 | 39.90% | of Division 30 wages and salaries | | $573,698 |
| Services | 30 | Exec Admin/Diversity & EEO | Shared | 503 | $140,772 | | Fixed | | $140,772 |
| Materials & Supplies | 30 | Exec Admin/Diversity & EEO | Shared | 504 | $5,900 | $281 | per Division 30 employee | | $6,462 |
| Utilities | 30 | Exec Admin/Diversity & EEO | Shared | 505 | $0 | $0 | per Division 30 employee | | $0 |
| Taxes, Leases & Other | 30 | Exec Admin/Diversity & EEO | Shared | 509 | $293,636 | | Fixed | | $293,636 |
| Wages & Salaries | 40 | Finance | Shared | 501 | $2,325,968 | | Fixed | 41 | $2,325,968 |
| Revenue Agent/Controller | 40 | Finance | LRT | 501 | $25,478 | 0.063 | per 1,000 LRTRAINHR | 11 | $280,258 |
| Revenue Agent/Controller | 40 | Finance | DARTBUS | 501 | $33,970 | 0.008 | per 1,000 BUSHR | 22 | $747,334 |
| Fringe Benefits | 40 | Finance | Shared | 502 | $1,243,267 | 39.90% | of Division 40 wages and salaries | | $1,338,150 |
| Services | 40 | Finance | Shared | 503 | $486,204 | $179 | per Division 110-160 employee | | $625,983 |
| Materials & Supplies | 40 | Finance | Shared | 504 | $29,900 | | Fixed | | $29,900 |
| Utilities | 40 | Finance | Shared | 505 | $5,856 | | Fixed | | $5,856 |
| Taxes, Leases & Other | 40 | Finance | Shared | 509 | $17,882 | | Fixed | | $17,882 |
| Wages & Salaries | 50 | Planning | Shared | 501 | $3,616,944 | | Fixed | 76 | $3,616,944 |
| Fringe Benefits | 50 | Planning | Shared | 502 | $1,443,245 | 39.90% | of Division 50 wages and salaries | | $1,443,245 |
| Services | 50 | Planning | Shared | 503 | $946,051 | $347 | per Division 110-160 employee | | $1,218,031 |
| Materials & Supplies | 50 | Planning | Shared | 504 | $76,204 | | Fixed | | $76,204 |
| Utilities | 50 | Planning | Shared | 505 | $47,800 | | Fixed | | $47,800 |
| Purchased Transportation | 50 | Planning | Shared | 508 | $3,608,180 | | Fixed | | $3,608,180 |
| Taxes, Leases & Other | 50 | Planning | Shared | 509 | $37,824 | | Fixed | | $37,824 |
| Wages & Salaries | 60 | General Counsel | Shared | 501 | $1,442,966 | | Fixed | 20 | $1,442,966 |
| Fringe Benefits | 60 | General Counsel | Shared | 502 | $575,777 | 39.90% | of Division 60 wages and salaries | | $575,777 |
| Services | 60 | General Counsel | Shared | 503 | $832,096 | $306 | per Division 110-160 employee | | $1,071,315 |
| Materials & Supplies | 60 | General Counsel | Shared | 504 | $7,500 | | Fixed | | $7,500 |
| Utilities | 60 | General Counsel | Shared | 505 | $1,000 | | Fixed | | $1,000 |
| Claims & Insurance | 60 | General Counsel | Shared | 506 | $200,000 | $73 | per Division 110-160 employee | | $257,498 |
| Taxes, Leases & Other | 60 | General Counsel | Shared | 509 | $77,000 | | Fixed | | $77,000 |
| Wages & Salaries | 60.1 | EVP Program Development | Shared | 501 | $415,235 | | Fixed | 5 | $415,235 |
| Fringe Benefits | 60.1 | EVP Program Development | Shared | 502 | $165,688 | 39.90% | of Division 60.10 wages and salaries | | $165,688 |
| Services | 60.1 | EVP Program Development | Shared | 503 | $0 | $0 | per Division 110-160 employee | | $0 |
| Materials & Supplies | 60.1 | EVP Program Development | Shared | 504 | $3,750 | | Fixed | | $3,750 |
| Utilities | 60.1 | EVP Program Development | Shared | 505 | $900 | | Fixed | | $900 |
| Taxes, Leases & Other | 60.1 | EVP Program Development | Shared | 509 | $19,300 | | Fixed | | $19,300 |

**Dallas Area Rapid Transit**
**O&M Cost Model**
**Line Item Detail**

**Revised TSM**
**2025**

| Description | Dept # | Dept | Mode | Exp. Code | Exist. Cost | Prod. Factor | Driving Variable | Empl | Calc. Cost |
|---|---|---|---|---|---|---|---|---|---|
| Wages & Salaries | 70 | Internal Audit | Shared | 501 | $666,926 | | Fixed | 11 | $666,926 |
| Fringe Benefits | 70 | Internal Audit | Shared | 502 | $266,119 | 39.90% | of Division 70 wages and salaries | | $266,119 |
| Services | 70 | Internal Audit | Shared | 503 | $270,596 | | Fixed | | $270,596 |
| Materials & Supplies | 70 | Internal Audit | Shared | 504 | $2,500 | | Fixed | | $2,500 |
| Utilities | 70 | Internal Audit | Shared | 505 | $0 | | Fixed | | $0 |
| Taxes, Leases & Other | 70 | Internal Audit | Shared | 509 | $25,396 | | Fixed | | $25,396 |
| Wages & Salaries | 80 | Office of Board Support | Shared | 501 | $257,696 | | Fixed | 6 | $257,696 |
| Fringe Benefits | 80 | Office of Board Support | Shared | 502 | $102,827 | 39.90% | of Division 80 wages and salaries | | $102,827 |
| Services | 80 | Office of Board Support | Shared | 503 | $39,000 | | Fixed | | $39,000 |
| Materials & Supplies | 80 | Office of Board Support | Shared | 504 | $3,000 | | Fixed | | $3,000 |
| Utilities | 80 | Office of Board Support | Shared | 505 | $550 | | Fixed | | $550 |
| Taxes, Leases & Other | 80 | Office of Board Support | Shared | 509 | $137,540 | | Fixed | | $137,540 |
| Wages & Salaries | 90 | Project Management | LRT | 501 | $3,360,893 | | Fixed | 48 | $3,360,893 |
| Fringe Benefits | 90 | Project Management | LRT | 502 | $1,341,075 | 39.90% | of Division 90 wages and salaries | | $1,341,075 |
| Services | 90 | Project Management | LRT | 503 | $2,183,906 | | Fixed | | $2,183,906 |
| Materials & Supplies | 90 | Project Management | LRT | 504 | $71,184 | | Fixed | | $71,184 |
| Utilities | 90 | Project Management | LRT | 505 | $2,900 | | Fixed | | $2,900 |
| Taxes, Leases & Other | 90 | Project Management | LRT | 509 | $573,300 | | Fixed | | $573,300 |
| Wages & Salaries | 100 | Human Resources | Shared | 501 | $1,709,017 | | Fixed | 19 | $1,709,017 |
| Wages & Salaries | 100 | Human Resources | Shared | 501 | $45,935 | 0.006 | per Division 110-160 employee | 19 | $872,756 |
| Fringe Benefits | 100 | Human Resources | Shared | 502 | $956,873 | 39.90% | of Division 100 wages and salaries | | $1,030,189 |
| Services | 100 | Human Resources | Shared | 503 | $2,036,653 | $748 | per Division 110-160 employee | | $2,622,170 |
| Materials & Supplies | 100 | Human Resources | Shared | 504 | $282,048 | | Fixed | | $282,048 |
| Utilities | 100 | Human Resources | Shared | 505 | $340,844 | | Fixed | | $340,844 |
| Taxes, Leases & Other | 100 | Human Resources | Shared | 509 | $533,259 | | Fixed | | $533,259 |
| Wages & Salaries | 105 | Administration | Shared | 501 | $2,533,568 | | Fixed | 55 | $2,533,568 |
| Wages & Salaries | 105 | Administration | Shared | 501 | $102,770 | 0.007 | per Division 110-160 employee | 23 | $2,363,715 |
| Fringe Benefits | 105 | Administration | Shared | 502 | $1,749,092 | 39.90% | of Division 105 wages and salaries | | $1,954,131 |
| Services | 105 | Administration | Shared | 503 | $2,262,151 | $831 | per Division 110-160 employee | | $2,912,496 |
| Materials & Supplies | 105 | Administration | Shared | 504 | $1,121,252 | | Fixed | | $1,121,252 |
| Utilities | 105 | Administration | Shared | 505 | $986,756 | | Fixed | | $986,756 |
| Claims & Insurance | 105 | Administration | Shared | 506 | $2,828,157 | $1,039 | per Division 110-160 employee | | $3,641,223 |
| Taxes, Leases & Other | 105 | Administration | Shared | 509 | $74,532 | | Fixed | | $74,532 |
| Wages & Salaries | 110 | Procurement/Materials Mgmt | DARTBUS | 501 | $57,315 | 6.2 | Fixed; per BUSGARAGE | 24.8 | $1,421,411 |
| Wages & Salaries | 110 | Procurement/Materials Mgmt | LRT | 501 | $57,315 | 6.2 | Fixed; per LRYARD | 6.2 | $355,353 |
| Wages & Salaries | 110 | Procurement/Materials Mgmt | DARTBUS | 501 | $44,126 | 2 | per BUSGARAGE | 8 | $353,006 |
| Wages & Salaries | 110 | Procurement/Materials Mgmt | LRT | 501 | $44,126 | 2 | per LRYARD | 2 | $88,252 |
| Fringe Benefits | 110 | Procurement/Materials Mgmt | DARTBUS | 502 | $885,043 | 39.90% | of Division 110 wages and salaries | | $708,034 |
| Fringe Benefits | 110 | Procurement/Materials Mgmt | LRT | 502 | | 39.90% | of Division 110 wages and salaries | | $177,009 |
| Services | 110 | Procurement/Materials Mgmt | DARTBUS | 504 | $5,000 | $1,000 | per BUSGARAGE | | $4,000 |
| Services | 110 | Procurement/Materials Mgmt | LRT | 504 | $5,000 | $1,000 | per LRYARD | | $1,000 |
| Materials & Supplies | 110 | Procurement/Materials Mgmt | DARTBUS | 504 | $13,400 | $2,680 | per BUSGARAGE | | $10,720 |

**Dallas Area Rapid Transit**
**O&M Cost Model**
**Line Item Detail**

**Revised TSM**
**2025**

| Description | Dept # | Dept | Mode | Exp. Code | Exist. Cost | Prod. Factor | Driving Variable | Empl | Calc. Cost |
|---|---|---|---|---|---|---|---|---|---|
| Materials & Supplies | 110 | Procurement/Materials Mgmt | LRT | 504 | $13,400 | $2,680 | per LRYARD | | $2,680 |
| Utilities | 110 | Procurement/Materials Mgmt | DARTBUS | 505 | $4,020 | $804 | per BUSGARAGE | | $3,216 |
| Utilities | 110 | Procurement/Materials Mgmt | LRT | 505 | $4,020 | $804 | per LRYARD | | $804 |
| Taxes, Leases & Other | 110 | Procurement/Materials Mgmt | DARTBUS | 509 | $41,754 | $1,018 | per Division 110 employee | | $33,403 |
| Taxes, Leases & Other | 110 | Procurement/Materials Mgmt | LRT | 509 | $41,754 | $1,018 | per Division 110 employee | | $8,351 |
| Wages & Salaries | 120 | Maintenance Administration | Shared | 501 | $220,033 | | Fixed | 5 | $220,033 |
| Wages & Salaries | 120 | Fleet Services Administration | Shared | 501 | $134,894 | | Fixed | 2 | $134,894 |
| Wages & Salaries | 120 | Winter Olympics | Shared | 501 | $0 | | Fixed | 0 | $0 |
| AVP Ways, Struct & Amenities | 120 | Way Structures Amenities | LRT | 501 | $136,270 | | Fixed (100% LR) | 2 | $136,270 |
| Maint. Program Analyst | 120 | Way Structures Amenities | DARTBUS | 501 | $23,041 | | Fixed (50% Bus) | 0.5 | $23,041 |
| Maint. Program Analyst | 120 | Way Structures Amenities | LRT | 501 | $23,041 | | Fixed (50% LR) | 0.5 | $23,041 |
| Wages & Salaries | 120 | Technical Services Admin | DARTBUS | 501 | $64,071 | | Fixed (50% Bus) | 1 | $64,071 |
| Wages & Salaries | 120 | Technical Services Admin | LRT | 501 | $64,071 | | Fixed (50% LR) | 1 | $64,071 |
| Wages & Salaries | 120 | Engineering | DARTBUS | 501 | $189,488 | | Fixed (50% Bus) | 3.5 | $189,488 |
| Wages & Salaries | 120 | Engineering | LRT | 501 | $189,488 | | Fixed (50% LR) | 3.5 | $189,488 |
| Maint. Engr. Specialist I & II | 120 | Engineering | DARTBUS | 501 | $207,369 | | Fixed (75% Bus) | 4.5 | $207,369 |
| Maint. Engr. Specialist I & II | 120 | Engineering | LRT | 501 | $69,123 | | Fixed (25% LR) | 1.5 | $69,123 |
| Project Mgr III, Rail Systems | 120 | Engineering | LRT | 501 | $71,874 | | Fixed | 1 | $71,874 |
| Project Mgr III, Fleet Systems | 120 | Engineering | DARTBUS | 501 | $71,874 | | Fixed | 1 | $71,874 |
| Maint Eng Specialist III | 120 | Engineering | LRT | 501 | $53,443 | 0.0003 | per 1,000 LRCARMI | 1.8 | $96,197 |
| Maint Eng Specialist III | 120 | Engineering | LRT | 501 | $53,443 | 0.0114 | per LRTRACKMI | 1 | $53,443 |
| Maint Eng Specialist III | 120 | Engineering | DARTBUS | 501 | $53,443 | 0.0001 | per 1,000 BUSMI | 3.3 | $176,362 |
| Wages & Salaries | 120 | Training/Maintenance Support | DARTBUS | 501 | $172,205 | | Fixed (50% Bus) | 2.5 | $172,205 |
| Wages & Salaries | 120 | Training/Maintenance Support | LRT | 501 | $172,205 | | Fixed (50% LR) | 2.5 | $172,205 |
| Maintenance Instructor | 120 | Training/Maintenance Support | DARTBUS | 501 | $53,443 | 0.02 | per Bus Mechanic | 10.8 | $577,184 |
| Maintenance Instructor | 120 | Training/Maintenance Support | LRT | 501 | $53,443 | 0.05 | per Light Rail Mechanic | 2.7 | $144,296 |
| Maintenance Specialist | 120 | Training/Maintenance Support | DARTBUS | 501 | $46,082 | 0.02 | per Bus Mechanic | 9.7 | $446,995 |
| Maintenance Specialist | 120 | Training/Maintenance Support | LRT | 501 | $46,082 | 0.04 | per Light Rail Mechanic | 2.4 | $110,597 |
| Wages & Salaries | 120 | Bus Svcs/Body Rebuild/Central Svc | DARTBUS | 501 | $311,334 | | Fixed | 7 | $311,334 |
| Wages & Salaries | 120 | Bus Svcs/Body Rebuild/Central Svc | DARTBUS | 501 | $52,407 | 3 | per BUSGARAGE | 10 | $524,072 |
| Supervisor | 120 | Bus Svcs/Body Rebuild/Central Svc | DARTBUS | 501 | $34,647 | 7 | per BUSGARAGE | 27 | $935,463 |
| Lead Bus/Body Mechanic | 120 | Bus Svcs/Body Rebuild/Central Svc | DARTBUS | 501 | $43,202 | 0.001 | per 1,000 BUSMI | 20 | $864,032 |
| Bus/Body Mechanic | 120 | Bus Svcs/Body Rebuild/Central Svc | DARTBUS | 501 | $51,904 | 0.008 | per 1,000 BUSMI | 285 | $14,792,539 |
| Electronics Mechanic | 120 | Bus Svcs/Body Rebuild/Central Svc | DARTBUS | 501 | $36,670 | 0.0001 | per 1,000 BUSMI | 4 | $146,682 |
| Central Support Mech | 120 | Bus Svcs/Body Rebuild/Central Svc | DARTBUS | 501 | $36,670 | 0.075 | per PKBUS | 72 | $2,640,269 |
| Servicer | 120 | Bus Svcs/Body Rebuild/Central Svc | DARTBUS | 501 | $21,757 | 0.0024 | per 1,000 BUSMI | 90 | $1,958,112 |
| Lead Servicer | 120 | Bus Svcs/Body Rebuild/Central Svc | DARTBUS | 501 | $28,496 | | Fixed | 3 | $85,488 |
| Facility Mechanic | 120 | Bus Svcs/Body Rebuild/Central Svc | DARTBUS | 501 | $36,670 | 3.3 | per BUSGARAGE | 13 | $476,715 |
| Wages & Salaries | 120 | Track Electrification System | LRT | 501 | $97,352 | | Fixed (100% LR) | 2 | $97,352 |
| Supervisor TES | 120 | Track Electrification System | LRT | 501 | $48,536 | 3 | per TES Maintainer | 3 | $145,607 |
| Lead Traction Power Maintainer | 120 | Track Electrification System | LRT | 501 | $46,696 | 0.1 | per Substation Maintainer | 3 | $140,088 |
| Traction Power Maintainer | 120 | Track Electrification System | LRT | 501 | $50,327 | 0.34 | per LRTRACKMI | 31 | $1,560,136 |

**Dallas Area Rapid Transit**
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**Revised TSM**
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| Description | Dept # | Dept | Mode | Exp. Code | Exist. Cost | Prod. Factor | Driving Variable | Empl | Calc. Cost |
|---|---|---|---|---|---|---|---|---|---|
| Bus/Rail Industrial Electr | 120 | Track Electrification System | LRT | 501 | $45,386 | 0.01 | per LRTRACKMI | 1 | $45,386 |
| Sr. Manager Track & ROW | 120 | Track & Right of Way | LRT | 501 | $71,874 | | Fixed (100% LR) | 1 | $71,874 |
| Asst to Sr. Mgr. Track & ROW | 120 | Track & Right of Way | LRT | 501 | $25,478 | | Fixed (100% LR) | 1 | $25,478 |
| Supervisor - Track & ROW | 120 | Track & Right of Way | LRT | 501 | $47,922 | 0.16 | per Track Maintainer | 4 | $191,689 |
| Lead Track Maintainer | 120 | Track & Right of Way | LRT | 501 | $43,202 | 0.14 | per Track Maintainer | 3 | $129,605 |
| Track Maintainer | 120 | Track & Right of Way | LRT | 501 | $45,968 | 0.25 | per LRTRACKMI | 23 | $1,057,255 |
| Track Welder | 120 | Track & Right of Way | LRT | 501 | $37,710 | 0.01 | per LRTRACKMI | 1 | $37,710 |
| Sr. Manager Signal Systems | 120 | Signal System | LRT | 501 | $71,874 | | Fixed (100% LR) | 1 | $71,874 |
| Asst to the Sr Mgr- Signal Sys | 120 | Signal System | LRT | 501 | $25,478 | | Fixed (100% LR) | 1 | $25,478 |
| Supervisor - Signals | 120 | Signal System | LRT | 501 | $53,443 | 0.14 | per Signal Maintainer | 3 | $160,329 |
| Lead Signal Maintainer | 120 | Signal System | LRT | 501 | $46,696 | 0.05 | per Signal Maintainer | 1 | $46,696 |
| Signal Sys Testing Maintainer | 120 | Signal System | LRT | 501 | $43,971 | 0.02 | per LRTRACKMI | 2 | $87,942 |
| Signal Maintainer | 120 | Signal System | LRT | 501 | $47,274 | 0.23 | per LRTRACKMI | 21 | $992,746 |
| Wages & Salaries | 120 | Communications | LRT | 501 | $620,946 | | Fixed | 10 | $620,946 |
| Communications Technician | 120 | Communications | LRT | 501 | $36,670 | 0.17 | per LRTRACKMI | 15 | $550,056 |
| Wages & Salaries | 120 | Bus Facilities | DARTBUS | 501 | $849,277 | | Fixed | 5 | $849,277 |
| Supervisor, Bldg & Grounds | 120 | Bus Facilities | DARTBUS | 501 | $47,554 | 0.009 | per PKBUS | 8 | $380,434 |
| Field Inspector | 120 | Bus Facilities | DARTBUS | 501 | $47,961 | 0.009 | per PKBUS | 8 | $383,688 |
| Lead Mechanic - Psgr Amenities | 120 | Bus Facilities | DARTBUS | 501 | $46,010 | 0.007 | per PKBUS | 7 | $322,067 |
| HVAC Technician | 120 | Bus Facilities | DARTBUS | 501 | $39,832 | 0.012 | per PKBUS | 12 | $477,984 |
| Passenger Amenities Mechanic | 120 | Bus Facilities | DARTBUS | 501 | $36,670 | 0.056 | per PKBUS | 53 | $1,943,531 |
| Servicer-Passenger Amenities | 120 | Bus Facilities | DARTBUS | 501 | $21,757 | 0.009 | per PKBUS | 8 | $174,054 |
| Wages & Salaries | 120 | Rail Services/Central Support | LRT | 501 | $1,210,937 | | Fixed | 12 | $1,210,937 |
| Supervisor Rail Services | 120 | Rail Services/Central Support | LRT | 501 | $48,056 | 6 | per LRYARD | 6 | $288,334 |
| LRV Mechanic | 120 | Rail Services/Central Support | LRT | 501 | $37,137 | 0.009 | per 1,000 LRCARMI | 56 | $2,079,667 |
| Facility Mechanic | 120 | Rail Services/Central Support | LRT | 501 | $36,670 | 0.11 | per LRSTA + LRYARD | 4 | $146,682 |
| Rail Central Support Mechanic | 120 | Rail Services/Central Support | LRT | 501 | $36,670 | 0.17 | per LRSTA + LRYARD | 6 | $220,022 |
| Machinist | 120 | Rail Services/Central Support | LRT | 501 | $36,670 | 0.001 | per 1,000 LRCARMI | 6 | $220,022 |
| LRV Structural Mechanic | 120 | Rail Services/Central Support | LRT | 501 | $36,670 | 0.001 | per 1,000 LRCARMI | 5 | $183,352 |
| Electronic Tech. Rail Services | 120 | Rail Services/Central Support | LRT | 501 | $36,670 | 0 | per 1,000 LRCARMI | 2 | $73,341 |
| Fare Equipment Mechanic | 120 | Rail Services/Central Support | LRT | 501 | $37,823 | 0.5 | per LRSTA | 18 | $680,813 |
| Wages & Salaries | 120 | Bus Non-Revenue Services | DARTBUS | 501 | $42,402 | 0.02 | per PKBUS | 23 | $975,253 |
| Wages & Salaries | 120 | Project Contracts - Fleet | Shared | 501 | $224,428 | | Fixed | 4 | $224,428 |
| Fringe Benefits | 120 | Maintenance Division | DARTBUS | 502 | $13,901,279 | 39.90% | of Division 120 wages and salaries | | $14,649,423 |
| Fringe Benefits | 120 | Maintenance Division | LRT | 502 | | 39.90% | of Division 120 wages and salaries | | $2,524,924 |
| Engineering/ROW Contracts | 120 | Maintenance Division | LRT | 503 | $985,000 | $11,193 | per LRTRACKMI | | $1,009,625 |
| LR Maintenance Services | 120 | Maintenance Division | LRT | 503 | $385,486 | $0.07 | per LRCARMI | | $452,830 |
| LR Maintenance Services | 120 | Maintenance Division | LRT | 503 | $385,486 | $4,381 | per LRTRACKMI | | $395,123 |
| Bus Maintenance Contracts | 120 | Maintenance Division | DARTBUS | 503 | $4,746,394 | $0.17 | per BUSMI | | $6,187,626 |
| Matl & Supplies - LR Power & Signals | 120 | Maintenance Division | LRT | 504 | $966,540 | $10,983 | per LRTRACKMI | | $990,704 |
| Matl & Supplies - LR Vehicles | 120 | Maintenance Division | LRT | 504 | $3,163,320 | $0.67 | per LRCARMI | | $4,273,350 |
| Matl & Supplies - LR Vehicles | 120 | Maintenance Division | LRT | 504 | $300,704 | $4,166 | per PKLRV | | $308,312 |

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**Revised TSM**
**2025**

| Description | Dept # | Dept | Mode | Exp. Code | Exist. Cost | Prod. Factor | Driving Variable | Empl | Calc. Cost |
|---|---|---|---|---|---|---|---|---|---|
| Matl & Supplies - LR Stations | 120 | Maintenance Division | LRT | 504 | $255,996 | $7,529 | per LRSTA | | $263,525 |
| Matl & Supplies - Bus | 120 | Maintenance Division | DARTBUS | 504 | $24,885,448 | $0.88 | per BUSMI | | $32,441,857 |
| Traction Power | 120 | Maintenance Division | LRT | 505 | $3,202,552 | $0.98 | per LRCARMI | | $6,180,194 |
| Other Utilities - Rail | 120 | Maintenance Division | LRT | 505 | $895,354 | | Fixed (100% LR) | | $895,354 |
| Utilities - Bus | 120 | Maintenance Division | DARTBUS | 505 | $1,990,597 | $497,649 | per BUSGARAGE | | $1,990,597 |
| Claims & Insurance | 120 | Maintenance Division | DARTBUS | 506 | $0 | $0.00 | per Division employee | | $0 |
| Claims & Insurance | 120 | Maintenance Division | LRT | 506 | | $0.00 | per Division employee | | $0 |
| Taxes, Leases & Other | 120 | Maintenance Division | DARTBUS | 509 | $2,032,596 | $3,529 | per PKBUS | | $3,380,602 |
| Taxes, Leases & Other | 120 | Maintenance Division | LRT | 509 | $11,216 | $135 | per PKLRV | | $10,000 |
| Wages & Salaries | 130 | Transportation Administration | Shared | 501 | $446,592 | | Fixed | 6 | $446,592 |
| Wages & Salaries | 130 | Contract Bus Operations | ATE-Bus | 501 | $0 | | Fixed | 0 | $0 |
| Supv Contract Compliance | 130 | Contract Field Operations | ATE-Bus | 501 | $0 | 0 | per 1,000 BURBHR | 0 | $0 |
| Wages & Salaries | 130 | Bus Operations Control | DARTBUS | 501 | $1,212,018 | | Fixed | 21 | $1,212,018 |
| Radio Dispatcher | 130 | Bus Operations Control | DARTBUS | 501 | $39,738 | 0.014 | per PKBUS | 13 | $516,594 |
| Transportation Supervisor | 130 | Bus Operations Control | DARTBUS | 501 | $39,738 | 0.05 | per PKBUS | 48 | $1,907,424 |
| Wages & Salaries | 130 | Rail Operations Control | LRT | 501 | $232,203 | | Fixed | 4 | $232,203 |
| Rail Oper Supv I | 130 | Rail Operations Control | LRT | 501 | $0 | 0 | per Rail Operations Controller | 0 | $0 |
| Rail Operations Controller | 130 | Rail Operations Control | LRT | 501 | $46,082 | 0.09 | per 1,000 LRTRAINHR | 14 | $645,148 |
| Bus Operations Admin | 130 | Bus Operations Administration | DARTBUS | 501 | $1,018,929 | | Fixed | 21 | $1,018,929 |
| Transportation Supervisor | 130 | Bus Operations Administration | DARTBUS | 501 | $39,738 | 5.3 | per BUSGARAGE | 21 | $834,498 |
| Bus Operator | 130 | Bus Operations Administration | DARTBUS | 501 | $41,173 | 0.599 | per 1,000 BUSHR | 1692 | $69,664,118 |
| Wages & Salaries | 130 | Rail Operations Administration | LRT | 501 | $524,374 | | Fixed | 10 | $524,374 |
| Rail Operation Supervisor I | 130 | Rail Operations | LRT | 501 | $39,738 | 0.235 | per Train Operator | 26 | $1,033,188 |
| Operator/Instructor | 130 | Rail Operations | LRT | 501 | $0 | 0 | per Train Operator | 0 | $0 |
| Train Operator | 130 | Rail Operations | LRT | 501 | $34,531 | 0.654 | per 1,000 LRTRAINHR | 111 | $3,832,889 |
| Wages & Salaries | 130 | Bus Training/Career Development | DARTBUS | 501 | $482,895 | | Fixed | 2 | $482,895 |
| Training Specialist, Bus Ops. | 130 | Bus Training/Career Development | DARTBUS | 501 | $39,738 | 0.006 | per Bus Operator | 10 | $397,380 |
| Wages & Salaries | 130 | Rail Training/Career Development | LRT | 501 | $105,692 | 0.026 | per Train Operator | 3 | $317,076 |
| Wages & Salaries | 130 | Charter Operations | DARTBUS | 501 | $312,664 | | Fixed | 1 | $312,664 |
| Wages & Salaries | 130 | Transit Center Operations | LRT | 501 | $310,302 | | Fixed | 7 | $310,302 |
| Transit Agent | 130 | Transit Center Operations | LRT | 501 | $30,122 | 1.4 | per LRSTA | 48 | $1,445,864 |
| Fringe Benefits | 130 | Transportation Division | DARTBUS | 502 | $25,173,588 | 39.90% | of Division 130 wages and salaries | | $30,588,785 |
| Fringe Benefits | 130 | Transportation Division | LRT | 502 | | 39.90% | of Division 130 wages and salaries | | $3,381,732 |
| Services | 130 | Transportation Division | DARTBUS | 503 | $2,400 | $1.58 | per Division 130 employee | | $3,067 |
| Services | 130 | Transportation Division | LRT | 503 | | $1.58 | per Division 130 employee | | $185 |
| Matl & Supplies - Rail | 130 | Transportation Division | LRT | 504 | $66,152 | $575.23 | per Train Operator | | $63,851 |
| Matl & Supplies - Bus | 130 | Transportation Division | DARTBUS | 504 | $46,038 | $37.83 | per Bus Operations employee | | $65,596 |
| Other Matl & Supplies | 130 | Transportation Division | Shared | 504 | $485,216 | $319 | per Division 130 employee | | $657,389 |
| Utilities | 130 | Transportation Division | DARTBUS | 505 | $29,904 | $7,476 | per BUSGARAGE | | $29,904 |
| Claims & Insurance | 130 | Transportation Division | DARTBUS | 506 | $0 | $0.00 | per Division 130 employee | | $0 |
| Claims & Insurance | 130 | Transportation Division | LRT | 506 | | $0.00 | per Division 130 employee | | $0 |
| Purchased Transportation | 130 | Transportation Division | ATE-Bus | 508 | $0 | $0.00 | per BURBHR | | $0 |

**Dallas Area Rapid Transit**
**O&M Cost Model**
**Line Item Detail**

**Revised TSM 2025**

| Description | Dept # | Dept | Mode | Exp. Code | Exist. Cost | Prod. Factor | Driving Variable | Empl | Calc. Cost |
|---|---|---|---|---|---|---|---|---|---|
| Taxes, Leases & Other | 130 | Transportation Division | DARTBUS | 509 | $278,001 | $69,500 | per BUSGARAGE | | $278,001 |
| Wages & Salaries | 140 | Executive Vice President | Shared | 501 | $988,130 | | Fixed | 15 | $988,130 |
| Fringe Benefits | 140 | Executive Vice President | Shared | 502 | $394,287 | 39.90% | of Division 140 wages and salaries | | $394,287 |
| Services | 140 | Executive Vice President | Shared | 503 | $203,508 | $0.08 | per annual revenue hour | | $271,734 |
| Materials & Supplies | 140 | Executive Vice President | Shared | 504 | $11,700 | $780 | per Division 140 employee | | $11,700 |
| Utilities | 140 | Executive Vice President | Shared | 505 | $3,120 | | Fixed | | $3,120 |
| Taxes, Leases & Other | 140 | Executive Vice President | Shared | 509 | $162,644 | | Fixed | | $162,644 |
| Wages & Salaries | 140.1 | Materials (Cost Ctrs 251, 252, 253) | DARTBUS | 501 | $43,093 | 5.6 | Fixed per BUSGARAGE | 22.4 | $965,281 |
| Wages & Salaries | 140.1 | Materials (Cost Ctrs 251, 252, 253) | LRT | 501 | $43,093 | 5.6 | Fixed per LRYARD | 5.6 | $241,320 |
| Wages & Salaries | 140.1 | Materials (Cost Ctrs 251, 252, 253) | DARTBUS | 501 | $31,589 | 8 | per BUSGARAGE | 32 | $1,010,842 |
| Wages & Salaries | 140.1 | Materials (Cost Ctrs 251, 252, 253) | LRT | 501 | $31,589 | 8 | per LRYARD | 8 | $252,711 |
| Fringe Benefits | 140.1 | Materials (Cost Ctrs 251, 252, 253) | DARTBUS | 502 | $985,649 | 39.90% | per Division 140.1 bus employee | | $788,519 |
| Fringe Benefits | 140.1 | Materials (Cost Ctrs 251, 252, 253) | LRT | 502 | | 39.90% | per Division 140.1 rail employee | | $197,130 |
| Services | 140.1 | Materials (Cost Ctrs 251, 252, 253) | DARTBUS | 503 | $31,500 | $6,300 | per BUSGARAGE | | $25,200 |
| Services | 140.1 | Materials (Cost Ctrs 251, 252, 253) | LRT | 503 | $31,500 | $6,300 | per LRYARD | | $6,300 |
| Materials & Supplies | 140.1 | Materials (Cost Ctrs 251, 252, 253) | DARTBUS | 504 | $103,528 | $20,706 | per BUSGARAGE | | $82,822 |
| Materials & Supplies | 140.1 | Materials (Cost Ctrs 251, 252, 253) | LRT | 504 | $103,528 | $20,706 | per LRYARD | | $20,706 |
| Utilities | 140.1 | Materials (Cost Ctrs 251, 252, 253) | DARTBUS | 505 | $3,552 | $710 | per BUSGARAGE | | $2,842 |
| Utilities | 140.1 | Materials (Cost Ctrs 251, 252, 253) | LRT | 505 | $3,552 | $710 | per LRYARD | | $710 |
| Claims & Insurance | 140.1 | Materials (Cost Ctrs 251, 252, 253) | DARTBUS | 506 | $0 | $0 | per BUSGARAGE | | $0 |
| Claims & Insurance | 140.1 | Materials (Cost Ctrs 251, 252, 253) | LRT | 506 | $0 | $0 | per LRYARD | | $0 |
| Taxes, Leases & Other | 140.1 | Materials (Cost Ctrs 251, 252, 253) | DARTBUS | 509 | $830 | $166 | per BUSGARAGE | | $664 |
| Taxes, Leases & Other | 140.1 | Materials (Cost Ctrs 251, 252, 253) | LRT | 509 | $830 | $166 | per LRYARD | | $166 |
| TSM Facility O&M Costs | 140.1 | Materials (Cost Ctrs 251, 252, 253) | DARTBUS | 506 | $0 | $0 | Fixed | | $1,058,154 |
| Wages & Salaries | 150 | Paratransit | PARAT | 501 | $1,636,146 | | Fixed | 30 | $1,636,146 |
| Wages & Salaries | 150 | Paratransit | PARAT | 501 | $33,400 | 0.00008 | per PARAHR | 37 | $1,235,808 |
| Fringe Benefits | 150 | Paratransit | PARAT | 502 | $1,132,650 | 39.90% | of Division 150 wages and salaries | | $1,145,977 |
| Services | 150 | Paratransit | PARAT | 503 | $29,000 | $439 | per Division 150 employee | | $29,439 |
| Materials & Supplies | 150 | Paratransit | PARAT | 504 | $28,174 | $427 | per Division 150 employee | | $28,601 |
| Utilities | 150 | Paratransit | PARAT | 505 | $1,000 | $15 | per Division 150 employee | | $1,015 |
| Purchased Transportation | 150 | Paratransit | PARAT | 508 | $17,736,468 | $41.24 | per PARAHR | | $18,161,509 |
| Taxes, Leases & Other | 150 | Paratransit | PARAT | 509 | $78,070 | $0.18 | per PARAHR | | $79,941 |
| Wages & Salaries | 155 | Transit Police | DARTBUS | 501 | $59,413 | 51% | Fixed | 29 | $1,722,980 |
| Wages & Salaries | 155 | Transit Police | ATE-Bus | 501 | $59,413 | 0% | Fixed | 0 | $0 |
| Wages & Salaries | 155 | Transit Police | LRT | 501 | $59,413 | 47% | Fixed | 27 | $1,604,153 |
| Wages & Salaries | 155 | Transit Police | CR/TRE | 501 | $59,413 | 2% | Fixed | 1 | $59,413 |
| Wages & Salaries | 155 | Transit Police | LRT | 501 | $26,904 | | 25% LRTRAINHR; 75% LRSTA | 20 | $538,080 |
| Wages & Salaries | 155 | Transit Police | DARTBUS | 501 | $35,019 | | 50% PKBUS; 50% D-BUSHRS | 127 | $4,447,446 |
| Wages & Salaries | 155 | Transit Police | ATE-Bus | 501 | $35,019 | 0 | per 1,000 C-BUSHRS | 0 | $0 |
| Wages & Salaries | 155 | Transit Police | LRT | 501 | $35,019 | | 25% LRTRAINHR; 75% LRSTA | 76 | $2,661,464 |
| Wages & Salaries | 155 | Transit Police | CR/TRE | 501 | $35,019 | 0 | per CRTRAINHR | 3 | $105,058 |
| Fringe Benefits | 155 | Transit Police | DARTBUS | 502 | | 39.90% | of Division 155 wages and salaries | | $2,462,144 |
| Fringe Benefits | 155 | Transit Police | ATE-Bus | 502 | | 0.00% | of Division 155 wages and salaries | | $0 |

**Dallas Area Rapid Transit**
**O&M Cost Model**
**Line Item Detail**

**Revised TSM**
**2025**

| Description | Dept # | Dept | Mode | Exp. Code | Exist. Cost | Prod. Factor | Driving Variable | Empl | Calc. Cost |
|---|---|---|---|---|---|---|---|---|---|
| Fringe Benefits | 155 | Transit Police | LRT | 502 | | 39.90% | of Division 155 wages and salaries | | $1,916,787 |
| Fringe Benefits | 155 | Transit Police | CR/TRE | 502 | $3,801,778 | 39.90% | of Division 155 wages and salaries | | $65,628 |
| Security Services | 155 | Transit Police | LRT | 503 | $575,539 | $16,444 | per LRSTA + LRYARD | | $591,982 |
| Security Services | 155 | Transit Police | DARTBUS | 503 | $624,521 | $156,130 | per BUSGARAGE | | $624,521 |
| Security Services | 155 | Transit Police | ATE-Bus | 503 | $0 | $0.00 | per C-BUSHR | | $0 |
| Security Services | 155 | Transit Police | CR/TRE | 503 | $24,491 | $1.26 | per CRTRAINHR | | $25,591 |
| Materials & Supplies | 155 | Transit Police | DARTBUS | 504 | $92,981 | $838 | per Division 155 employee | | $130,676 |
| Materials & Supplies | 155 | Transit Police | ATE-Bus | 504 | $0 | $0 | per Division 155 employee | | $0 |
| Materials & Supplies | 155 | Transit Police | LRT | 504 | $85,689 | $702 | per Division 155 employee | | $86,391 |
| Materials & Supplies | 155 | Transit Police | CR/TRE | 504 | $3,646 | $912 | per Division 155 employee | | $3,646 |
| Utilities | 155 | Transit Police | DARTBUS | 505 | $73,118 | | Fixed | | $73,118 |
| Utilities | 155 | Transit Police | ATE-Bus | 505 | $0 | | Fixed | | $0 |
| Utilities | 155 | Transit Police | LRT | 505 | $67,383 | | Fixed | | $67,383 |
| Utilities | 155 | Transit Police | CR/TRE | 505 | $2,867 | | Fixed | | $2,867 |
| Claims & Insurance | 155 | Transit Police | DARTBUS | 506 | $0 | $0 | per Division 155 employee | | $0 |
| Claims & Insurance | 155 | Transit Police | ATE-Bus | 506 | $0 | $0 | per Division 155 employee | | $0 |
| Claims & Insurance | 155 | Transit Police | LRT | 506 | $0 | $0 | per Division 155 employee | | $0 |
| Claims & Insurance | 155 | Transit Police | CR/TRE | 506 | $0 | $0 | per Division 155 employee | | $0 |
| Taxes, Leases & Other | 155 | Transit Police | DARTBUS | 509 | $236,736 | | Fixed | | $236,736 |
| Taxes, Leases & Other | 155 | Transit Police | ATE-Bus | 509 | $0 | | Fixed | | $0 |
| Taxes, Leases & Other | 155 | Transit Police | LRT | 509 | $218,168 | | Fixed | | $218,168 |
| Taxes, Leases & Other | 155 | Transit Police | CR/TRE | 509 | $9,284 | | Fixed | | $9,284 |
| Wages & Salaries | 160 | Commuter Rail | CR/TRE | 501 | $464,880 | | Fixed | 6 | $464,880 |
| Wages & Salaries | 160 | Commuter Rail | CR/TRE | 501 | $46,082 | 0.0002 | per CRTRAINHR | 3 | $144,453 |
| Fringe Benefits | 160 | Commuter Rail | CR/TRE | 502 | $240,661 | 39.90% | of Division 160 wages and salaries | | $243,124 |
| Services | 160 | Commuter Rail | CR/TRE | 503 | $794,488 | $40.95 | per CRTRAINHR | | $830,158 |
| Materials & Supplies | 160 | Commuter Rail | CR/TRE | 504 | $95,996 | $10,666 | per Division 160 employee | | $97,433 |
| Utilitites | 160 | Commuter Rail | CR/TRE | 505 | $104,796 | | Fixed | | $104,796 |
| Claims & Insurance | 160 | Commuter Rail | CR/TRE | 506 | $1,130,000 | $58.25 | per CRTRAINHR | | $1,180,734 |
| Purchased Transportation | 160 | Commuter Rail | CR/TRE | 508 | $14,368,184 | $740.63 | per CRTRAINHR | | $15,013,271 |
| Taxes, Leases & Other | 160 | Commuter Rail | CR/TRE | 509 | $120,596 | $6.22 | per CRTRAINHR | | $126,010 |
| **TOTALS** | | | | | | | | **3,990** | **$374,810,645** |

## Dallas Area Rapid Transit
## NW/SE Corridor - TSM O&M Cost Estimate

Model Run: 11/15/04

**Crosstab Table For Total Calc. Cost by Dept and Mode**

| DEPARTMENT | CR/TRE | DARTBUS | LRT | PARAT | Shared | TOTALS |
|---|---|---|---|---|---|---|
| Administration | $0 | $0 | $0 | $0 | $15,587,673 | $15,587,673 |
| Bus Facilities | $0 | $4,531,035 | $0 | $0 | $0 | $4,531,035 |
| Bus Non-Revenue Services | $0 | $975,253 | $0 | $0 | $0 | $975,253 |
| Bus Operations Administration | $0 | $71,517,545 | $0 | $0 | $0 | $71,517,545 |
| Bus Operations Control | $0 | $3,636,036 | $0 | $0 | $0 | $3,636,036 |
| Bus Svcs/Body Rebuild/Central Svc | $0 | $22,734,705 | $0 | $0 | $0 | $22,734,705 |
| Bus Training/Career Development | $0 | $880,275 | $0 | $0 | $0 | $880,275 |
| Charter Operations | $0 | $312,664 | $0 | $0 | $0 | $312,664 |
| Communications | $0 | $0 | $1,171,002 | $0 | $0 | $1,171,002 |
| Commuter Rail | $18,204,858 | $0 | $0 | $0 | $0 | $18,204,858 |
| Contract Bus Operations | $0 | $0 | $0 | $0 | $0 | $0 |
| Contract Field Operations | $0 | $0 | $0 | $0 | $0 | $0 |
| Engineering | $0 | $645,092 | $480,125 | $0 | $0 | $1,125,217 |
| EVP Program Development | $0 | $0 | $0 | $0 | $604,873 | $604,873 |
| Exec Admin/Diversity & EEO | $0 | $0 | $0 | $0 | $2,452,322 | $2,452,322 |
| Executive Vice President | $0 | $0 | $0 | $0 | $1,831,615 | $1,831,615 |
| Finance | $0 | $747,334 | $280,258 | $0 | $4,343,739 | $5,371,331 |
| Fleet Services Administration | $0 | $0 | $0 | $0 | $134,894 | $134,894 |
| General Counsel | $0 | $0 | $0 | $0 | $3,433,056 | $3,433,056 |
| Human Resources | $0 | $0 | $0 | $0 | $7,390,283 | $7,390,283 |
| Internal Audit | $0 | $0 | $0 | $0 | $1,231,537 | $1,231,537 |
| Maintenance Administration | $0 | $0 | $0 | $0 | $220,033 | $220,033 |
| Maintenance Division | $0 | $58,650,105 | $17,303,941 | $0 | $0 | $75,954,046 |
| Marketing/Communications | $0 | $0 | $0 | $0 | $13,590,767 | $13,590,767 |
| Materials (Cost Ctrs 251, 252, 253) | $0 | $2,876,170 | $719,043 | $0 | $0 | $3,595,213 |
| Office of Board Support | $0 | $0 | $0 | $0 | $540,613 | $540,613 |
| Paratransit | $0 | $0 | $0 | $22,318,437 | $0 | $22,318,437 |
| Planning | $0 | $0 | $0 | $0 | $10,048,228 | $10,048,228 |
| Procurement/Materials Mgmt | $0 | $2,533,791 | $633,448 | $0 | $0 | $3,167,239 |
| Project Contracts - Fleet | $0 | $0 | $0 | $0 | $224,428 | $224,428 |
| Project Management | $0 | $0 | $7,533,258 | $0 | $0 | $7,533,258 |
| Rail Operations | $0 | $0 | $4,866,077 | $0 | $0 | $4,866,077 |
| Rail Operations Administration | $0 | $0 | $524,374 | $0 | $0 | $524,374 |
| Rail Operations Control | $0 | $0 | $877,351 | $0 | $0 | $877,351 |
| Rail Services/Central Support | $0 | $0 | $5,103,171 | $0 | $0 | $5,103,171 |
| Rail Training/Career Development | $0 | $0 | $317,076 | $0 | $0 | $317,076 |
| Signal System | $0 | $0 | $1,385,066 | $0 | $0 | $1,385,066 |
| Technical Services Admin | $0 | $64,071 | $64,071 | $0 | $0 | $128,142 |
| Track Electrification System | $0 | $0 | $1,988,569 | $0 | $0 | $1,988,569 |
| Track & Right of Way | $0 | $0 | $1,513,612 | $0 | $0 | $1,513,612 |
| Training/Maintenance Support | $0 | $1,196,385 | $427,098 | $0 | $0 | $1,623,483 |
| Transit Center Operations | $0 | $0 | $1,756,166 | $0 | $0 | $1,756,166 |
| Transit Police | $271,487 | $9,697,621 | $7,684,410 | $0 | $0 | $17,653,517 |
| Transportation Administration | $0 | $0 | $0 | $0 | $446,592 | $446,592 |
| Transportation Division | $0 | $30,965,353 | $3,445,767 | $0 | $657,389 | $35,068,510 |
| Way Structures Amenities | $0 | $23,041 | $159,311 | $0 | $0 | $182,352 |
| **TOTAL DIRECT COSTS** | **$18,476,345** | **$211,986,477** | **$58,233,191** | **$22,318,437** | **$62,738,043** | **$373,752,494** |
| **SHARED COST ALLOCATION** | **$368,382** | **$51,279,576** | **$3,086,657** | **$8,003,428** | | **$62,738,043** |
| **FULLY ALLOCATED COSTS** | **$18,844,726** | **$263,266,054** | **$61,319,848** | **$30,321,865** | | **$373,752,494** |
| TSM Facility O&M Costs | | $1,058,154 | | | | $1,058,154 |
| **TOTAL COSTS** | **$18,844,726** | **$264,324,207** | **$61,319,848** | **$30,321,865** | **$0** | **$374,810,647** |

# *APPENDIX C – Build MOS Alternative O&M Results*

*Model Inputs*
*Line Item Detail*
*Summary by Dept. and Mode*

**Dallas Area Rapid Transit**
**NW/SE Corridor Alternative**
**O&M Costs**

| | INPUT VALUES FOR: |
|---|---|
| **SYSTEM / SERVICE VARIABLE** | **MOS 2025** |
| DIRECTLY-OPERATED BUS | |
| Annual Revenue Bus-Miles | 35,747,460 |
| Annual Revenue Bus-Hours | 2,746,170 |
| Peak Buses | 926 |
| *Total Buses* | 1,111 |
| Maintenance Facilities | 4 |
| CONTRACT BUS SERVICES | |
| Annual Revenue Bus-Hours | 0 |
| Peak Buses | 0 |
| *Total Buses* | 0 |
| LIGHT RAIL | |
| Annual Revenue Car-Miles | 8,971,644 |
| Annual Revenue Train-Hours | 233,050 |
| Peak Cars | 118 |
| *Total Cars* | 130 |
| Passenger Stations | 51 |
| Directional Route-Miles | 132.0 |
| Maintenance Facilities | 2 |
| COMMUTER RAIL | |
| Annual Revenue Train-Hours | 20,271 |
| *Peak Passenger Cars (DMUs)* | 21 |
| *Total Passenger Cars (DMUs)* | 33 |
| *Peak Trains* | 6 |
| *Total Trains* | 21 |
| PARATRANSIT | |
| Annual Revenue Vehicle-Hours | 440,406 |
| | |
| TOTAL VEHICLE/TRAIN HOURS | 3,439,897 |
| | |
| **DART System O&M Costs:** | |

**Dallas Area Rapid Transit**
**O&M Cost Model**
**Line Item Detail**

**Revised MOS 2025**

| Description | Dept # | Dept | Mode | Exp. Code | Exist. Cost | Prod. Factor | Driving Variable | Empl | Calc. Cost |
|---|---|---|---|---|---|---|---|---|---|
| Wages & Salaries | 20 | Marketing/Communications | Shared | 501 | $4,525,661 | | Fixed | 105 | $4,525,661 |
| Fringe Benefits | 20 | Marketing/Communications | Shared | 502 | $1,805,845 | 39.90% | of Division 20 wages and salaries | | $1,805,845 |
| Services | 20 | Marketing/Communications | Shared | 503 | $5,036,493 | $1,850 | per Division 110-160 employee | | $6,825,687 |
| Materials & Supplies | 20 | Marketing/Communications | Shared | 504 | $456,072 | | Fixed | | $456,072 |
| Utilities | 20 | Marketing/Communications | Shared | 505 | $14,600 | | Fixed | | $14,600 |
| Taxes, Leases & Other | 20 | Marketing/Communications | Shared | 509 | $304,156 | | Fixed | | $304,156 |
| Wages & Salaries, President | 30 | Exec Admin/Diversity & EEO | Shared | 501 | $338,864 | | Fixed | 3 | $338,864 |
| Wages & Salaries, DEO | 30 | Exec Admin/Diversity & EEO | Shared | 501 | $638,070 | | Fixed | 10 | $638,070 |
| Wages & Salaries, DEO | 30 | Exec Admin/Diversity & EEO | Shared | 501 | $46,082 | 0.003 | per Division 110-160 employee | 11 | $506,902 |
| Fringe Benefits | 30 | Exec Admin/Diversity & EEO | Shared | 502 | $536,922 | 39.90% | of Division 30 wages and salaries | | $592,085 |
| Services | 30 | Exec Admin/Diversity & EEO | Shared | 503 | $140,772 | | Fixed | | $140,772 |
| Materials & Supplies | 30 | Exec Admin/Diversity & EEO | Shared | 504 | $5,900 | $281 | per Division 30 employee | | $6,743 |
| Utilities | 30 | Exec Admin/Diversity & EEO | Shared | 505 | $0 | $0 | per Division 30 employee | | $0 |
| Taxes, Leases & Other | 30 | Exec Admin/Diversity & EEO | Shared | 509 | $293,636 | | Fixed | | $293,636 |
| Wages & Salaries | 40 | Finance | Shared | 501 | $2,325,968 | | Fixed | 41 | $2,325,968 |
| Revenue Agent/Controller | 40 | Finance | LRT | 501 | $25,478 | 0.063 | per 1,000 LRTRAINHR | 15 | $382,170 |
| Revenue Agent/Controller | 40 | Finance | DARTBUS | 501 | $33,970 | 0.008 | per 1,000 BUSHR | 21 | $713,364 |
| Fringe Benefits | 40 | Finance | Shared | 502 | $1,243,267 | 39.90% | of Division 40 wages and salaries | | $1,365,261 |
| Services | 40 | Finance | Shared | 503 | $486,204 | $179 | per Division 110-160 employee | | $658,926 |
| Materials & Supplies | 40 | Finance | Shared | 504 | $29,900 | | Fixed | | $29,900 |
| Utilities | 40 | Finance | Shared | 505 | $5,856 | | Fixed | | $5,856 |
| Taxes, Leases & Other | 40 | Finance | Shared | 509 | $17,882 | | Fixed | | $17,882 |
| Wages & Salaries | 50 | Planning | Shared | 501 | $3,616,944 | | Fixed | 76 | $3,616,944 |
| Fringe Benefits | 50 | Planning | Shared | 502 | $1,443,245 | 39.90% | of Division 50 wages and salaries | | $1,443,245 |
| Services | 50 | Planning | Shared | 503 | $946,051 | $347 | per Division 110-160 employee | | $1,282,132 |
| Materials & Supplies | 50 | Planning | Shared | 504 | $76,204 | | Fixed | | $76,204 |
| Utilities | 50 | Planning | Shared | 505 | $47,800 | | Fixed | | $47,800 |
| Purchased Transportation | 50 | Planning | Shared | 508 | $3,608,180 | | Fixed | | $3,608,180 |
| Taxes, Leases & Other | 50 | Planning | Shared | 509 | $37,824 | | Fixed | | $37,824 |
| Wages & Salaries | 60 | General Counsel | Shared | 501 | $1,442,966 | | Fixed | 20 | $1,442,966 |
| Fringe Benefits | 60 | General Counsel | Shared | 502 | $575,777 | 39.90% | of Division 60 wages and salaries | | $575,777 |
| Services | 60 | General Counsel | Shared | 503 | $832,096 | $306 | per Division 110-160 employee | | $1,127,695 |
| Materials & Supplies | 60 | General Counsel | Shared | 504 | $7,500 | | Fixed | | $7,500 |
| Utilities | 60 | General Counsel | Shared | 505 | $1,000 | | Fixed | | $1,000 |
| Claims & Insurance | 60 | General Counsel | Shared | 506 | $200,000 | $73 | per Division 110-160 employee | | $271,049 |
| Taxes, Leases & Other | 60 | General Counsel | Shared | 509 | $77,000 | | Fixed | | $77,000 |
| Wages & Salaries | 60.1 | EVP Program Development | Shared | 501 | $415,235 | | Fixed | 5 | $415,235 |
| Fringe Benefits | 60.1 | EVP Program Development | Shared | 502 | $165,688 | 39.90% | of Division 60.10 wages and salaries | | $165,688 |
| Services | 60.1 | EVP Program Development | Shared | 503 | $0 | $0 | per Division 110-160 employee | | $0 |
| Materials & Supplies | 60.1 | EVP Program Development | Shared | 504 | $3,750 | | Fixed | | $3,750 |
| Utilities | 60.1 | EVP Program Development | Shared | 505 | $900 | | Fixed | | $900 |
| Taxes, Leases & Other | 60.1 | EVP Program Development | Shared | 509 | $19,300 | | Fixed | | $19,300 |

**Dallas Area Rapid Transit**
**O&M Cost Model**
**Line Item Detail**

**Revised MOS 2025**

| Description | Dept # | Dept | Mode | Exp. Code | Exist. Cost | Prod. Factor | Driving Variable | Empl | Calc. Cost |
|---|---|---|---|---|---|---|---|---|---|
| Wages & Salaries | 70 | Internal Audit | Shared | 501 | $666,926 | | Fixed | 11 | $666,926 |
| Fringe Benefits | 70 | Internal Audit | Shared | 502 | $266,119 | 39.90% | of Division 70 wages and salaries | | $266,119 |
| Services | 70 | Internal Audit | Shared | 503 | $270,596 | | Fixed | | $270,596 |
| Materials & Supplies | 70 | Internal Audit | Shared | 504 | $2,500 | | Fixed | | $2,500 |
| Utilities | 70 | Internal Audit | Shared | 505 | $0 | | Fixed | | $0 |
| Taxes, Leases & Other | 70 | Internal Audit | Shared | 509 | $25,396 | | Fixed | | $25,396 |
| Wages & Salaries | 80 | Office of Board Support | Shared | 501 | $257,696 | | Fixed | 6 | $257,696 |
| Fringe Benefits | 80 | Office of Board Support | Shared | 502 | $102,827 | 39.90% | of Division 80 wages and salaries | | $102,827 |
| Services | 80 | Office of Board Support | Shared | 503 | $39,000 | | Fixed | | $39,000 |
| Materials & Supplies | 80 | Office of Board Support | Shared | 504 | $3,000 | | Fixed | | $3,000 |
| Utilities | 80 | Office of Board Support | Shared | 505 | $550 | | Fixed | | $550 |
| Taxes, Leases & Other | 80 | Office of Board Support | Shared | 509 | $137,540 | | Fixed | | $137,540 |
| Wages & Salaries | 90 | Project Management | LRT | 501 | $3,360,893 | | Fixed | 48 | $3,360,893 |
| Fringe Benefits | 90 | Project Management | LRT | 502 | $1,341,075 | 39.90% | of Division 90 wages and salaries | | $1,341,075 |
| Services | 90 | Project Management | LRT | 503 | $2,183,906 | | Fixed | | $2,183,906 |
| Materials & Supplies | 90 | Project Management | LRT | 504 | $71,184 | | Fixed | | $71,184 |
| Utilities | 90 | Project Management | LRT | 505 | $2,900 | | Fixed | | $2,900 |
| Taxes, Leases & Other | 90 | Project Management | LRT | 509 | $573,300 | | Fixed | | $573,300 |
| Wages & Salaries | 100 | Human Resources | Shared | 501 | $1,709,017 | | Fixed | 19 | $1,709,017 |
| Wages & Salaries | 100 | Human Resources | Shared | 501 | $45,935 | 0.006 | per Division 110-160 employee | 20 | $918,691 |
| Fringe Benefits | 100 | Human Resources | Shared | 502 | $956,873 | 39.90% | of Division 100 wages and salaries | | $1,048,518 |
| Services | 100 | Human Resources | Shared | 503 | $2,036,653 | $748 | per Division 110-160 employee | | $2,760,166 |
| Materials & Supplies | 100 | Human Resources | Shared | 504 | $282,048 | | Fixed | | $282,048 |
| Utilities | 100 | Human Resources | Shared | 505 | $340,844 | | Fixed | | $340,844 |
| Taxes, Leases & Other | 100 | Human Resources | Shared | 509 | $533,259 | | Fixed | | $533,259 |
| Wages & Salaries | 105 | Administration | Shared | 501 | $2,533,568 | | Fixed | 55 | $2,533,568 |
| Wages & Salaries | 105 | Administration | Shared | 501 | $102,770 | 0.007 | per Division 110-160 employee | 24 | $2,466,485 |
| Fringe Benefits | 105 | Administration | Shared | 502 | $1,749,092 | 39.90% | of Division 105 wages and salaries | | $1,995,138 |
| Services | 105 | Administration | Shared | 503 | $2,262,151 | $831 | per Division 110-160 employee | | $3,065,771 |
| Materials & Supplies | 105 | Administration | Shared | 504 | $1,121,252 | | Fixed | | $1,121,252 |
| Utilities | 105 | Administration | Shared | 505 | $986,756 | | Fixed | | $986,756 |
| Claims & Insurance | 105 | Administration | Shared | 506 | $2,828,157 | $1,039 | per Division 110-160 employee | | $3,832,848 |
| Taxes, Leases & Other | 105 | Administration | Shared | 509 | $74,532 | | Fixed | | $74,532 |
| Wages & Salaries | 110 | Procurement/Materials Mgmt | DARTBUS | 501 | $57,315 | 6.2 | Fixed; per BUSGARAGE | 24.8 | $1,421,411 |
| Wages & Salaries | 110 | Procurement/Materials Mgmt | LRT | 501 | $57,315 | 6.2 | Fixed; per LRYARD | 12.4 | $710,706 |
| Wages & Salaries | 110 | Procurement/Materials Mgmt | DARTBUS | 501 | $44,126 | 2 | per BUSGARAGE | 8 | $353,006 |
| Wages & Salaries | 110 | Procurement/Materials Mgmt | LRT | 501 | $44,126 | 2 | per LRYARD | 4 | $176,503 |
| Fringe Benefits | 110 | Procurement/Materials Mgmt | DARTBUS | 502 | $885,043 | 39.90% | of Division 110 wages and salaries | | $708,034 |
| Fringe Benefits | 110 | Procurement/Materials Mgmt | LRT | 502 | | 39.90% | of Division 110 wages and salaries | | $354,017 |
| Services | 110 | Procurement/Materials Mgmt | DARTBUS | 504 | $5,000 | $1,000 | per BUSGARAGE | | $4,000 |
| Services | 110 | Procurement/Materials Mgmt | LRT | 504 | $5,000 | $1,000 | per LRYARD | | $2,000 |
| Materials & Supplies | 110 | Procurement/Materials Mgmt | DARTBUS | 504 | $13,400 | $2,680 | per BUSGARAGE | | $10,720 |

**Dallas Area Rapid Transit**
**O&M Cost Model**
**Line Item Detail**

**Revised MOS 2025**

| Description | Dept # | Dept | Mode | Exp. Code | Exist. Cost | Prod. Factor | Driving Variable | Empl | Calc. Cost |
|---|---|---|---|---|---|---|---|---|---|
| Materials & Supplies | 110 | Procurement/Materials Mgmt | LRT | 504 | $13,400 | $2,680 | per LRYARD | | $5,360 |
| Utilities | 110 | Procurement/Materials Mgmt | DARTBUS | 505 | $4,020 | $804 | per BUSGARAGE | | $3,216 |
| Utilities | 110 | Procurement/Materials Mgmt | LRT | 505 | $4,020 | $804 | per LRYARD | | $1,608 |
| Taxes, Leases & Other | 110 | Procurement/Materials Mgmt | DARTBUS | 509 | $41,754 | $1,018 | per Division 110 employee | | $33,403 |
| Taxes, Leases & Other | 110 | Procurement/Materials Mgmt | LRT | 509 | $41,754 | $1,018 | per Division 110 employee | | $16,702 |
| Wages & Salaries | 120 | Maintenance Administration | Shared | 501 | $220,033 | | Fixed | 5 | $220,033 |
| Wages & Salaries | 120 | Fleet Services Administration | Shared | 501 | $134,894 | | Fixed | 2 | $134,894 |
| Wages & Salaries | 120 | Winter Olympics | Shared | 501 | $0 | | Fixed | 0 | $0 |
| AVP Ways, Struct & Amenities | 120 | Way Structures Amenities | LRT | 501 | $136,270 | | Fixed (100% LR) | 2 | $136,270 |
| Maint. Program Analyst | 120 | Way Structures Amenities | DARTBUS | 501 | $23,041 | | Fixed (50% Bus) | 0.5 | $23,041 |
| Maint. Program Analyst | 120 | Way Structures Amenities | LRT | 501 | $23,041 | | Fixed (50% LR) | 0.5 | $23,041 |
| Wages & Salaries | 120 | Technical Services Admin | DARTBUS | 501 | $64,071 | | Fixed (50% Bus) | 1 | $64,071 |
| Wages & Salaries | 120 | Technical Services Admin | LRT | 501 | $64,071 | | Fixed (50% LR) | 1 | $64,071 |
| Wages & Salaries | 120 | Engineering | DARTBUS | 501 | $189,488 | | Fixed (50% Bus) | 3.5 | $189,488 |
| Wages & Salaries | 120 | Engineering | LRT | 501 | $189,488 | | Fixed (50% LR) | 3.5 | $189,488 |
| Maint. Engr. Specialist I & II | 120 | Engineering | DARTBUS | 501 | $207,369 | | Fixed (75% Bus) | 4.5 | $207,369 |
| Maint. Engr. Specialist I & II | 120 | Engineering | LRT | 501 | $69,123 | | Fixed (25% LR) | 1.5 | $69,123 |
| Project Mgr III, Rail Systems | 120 | Engineering | LRT | 501 | $71,874 | | Fixed | 1 | $71,874 |
| Project Mgr III, Fleet Systems | 120 | Engineering | DARTBUS | 501 | $71,874 | | Fixed | 1 | $71,874 |
| Maint Eng Specialist III | 120 | Engineering | LRT | 501 | $53,443 | 0.0003 | per 1,000 LRCARMI | 2.5 | $133,608 |
| Maint Eng Specialist III | 120 | Engineering | LRT | 501 | $53,443 | 0.0114 | per LRTRACKMI | 1.5 | $80,165 |
| Maint Eng Specialist III | 120 | Engineering | DARTBUS | 501 | $53,443 | 0.0001 | per 1,000 BUSMI | 3.2 | $171,018 |
| Wages & Salaries | 120 | Training/Maintenance Support | DARTBUS | 501 | $172,205 | | Fixed (50% Bus) | 2.5 | $172,205 |
| Wages & Salaries | 120 | Training/Maintenance Support | LRT | 501 | $172,205 | | Fixed (50% LR) | 2.5 | $172,205 |
| Maintenance Instructor | 120 | Training/Maintenance Support | DARTBUS | 501 | $53,443 | 0.02 | per Bus Mechanic | 10.5 | $561,152 |
| Maintenance Instructor | 120 | Training/Maintenance Support | LRT | 501 | $53,443 | 0.05 | per Light Rail Mechanic | 3.8 | $203,083 |
| Maintenance Specialist | 120 | Training/Maintenance Support | DARTBUS | 501 | $46,082 | 0.02 | per Bus Mechanic | 9.5 | $437,779 |
| Maintenance Specialist | 120 | Training/Maintenance Support | LRT | 501 | $46,082 | 0.04 | per Light Rail Mechanic | 3.4 | $156,679 |
| Wages & Salaries | 120 | Bus Svcs/Body Rebuild/Central Svc | DARTBUS | 501 | $311,334 | | Fixed | 7 | $311,334 |
| Wages & Salaries | 120 | Bus Svcs/Body Rebuild/Central Svc | DARTBUS | 501 | $52,407 | 3 | per BUSGARAGE | 10 | $524,072 |
| Supervisor | 120 | Bus Svcs/Body Rebuild/Central Svc | DARTBUS | 501 | $34,647 | 7 | per BUSGARAGE | 27 | $935,463 |
| Lead Bus/Body Mechanic | 120 | Bus Svcs/Body Rebuild/Central Svc | DARTBUS | 501 | $43,202 | 0.001 | per 1,000 BUSMI | 19 | $820,830 |
| Bus/Body Mechanic | 120 | Bus Svcs/Body Rebuild/Central Svc | DARTBUS | 501 | $51,904 | 0.008 | per 1,000 BUSMI | 278 | $14,429,213 |
| Electronics Mechanic | 120 | Bus Svcs/Body Rebuild/Central Svc | DARTBUS | 501 | $36,670 | 0.0001 | per 1,000 BUSMI | 4 | $146,682 |
| Central Support Mech | 120 | Bus Svcs/Body Rebuild/Central Svc | DARTBUS | 501 | $36,670 | 0.075 | per PKBUS | 69 | $2,530,258 |
| Servicer | 120 | Bus Svcs/Body Rebuild/Central Svc | DARTBUS | 501 | $21,757 | 0.0024 | per 1,000 BUSMI | 88 | $1,914,598 |
| Lead Servicer | 120 | Bus Svcs/Body Rebuild/Central Svc | DARTBUS | 501 | $28,496 | | Fixed | 3 | $85,488 |
| Facility Mechanic | 120 | Bus Svcs/Body Rebuild/Central Svc | DARTBUS | 501 | $36,670 | 3.3 | per BUSGARAGE | 13 | $476,715 |
| Wages & Salaries | 120 | Track Electrification System | LRT | 501 | $97,352 | | Fixed (100% LR) | 2 | $97,352 |
| Supervisor TES | 120 | Track Electrification System | LRT | 501 | $48,536 | 3 | per TES Maintainer | 6 | $291,214 |
| Lead Traction Power Maintainer | 120 | Track Electrification System | LRT | 501 | $46,696 | 0.1 | per Substation Maintainer | 5 | $233,480 |
| Traction Power Maintainer | 120 | Track Electrification System | LRT | 501 | $50,327 | 0.34 | per LRTRACKMI | 45 | $2,264,714 |

**Dallas Area Rapid Transit**
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**Line Item Detail**

**Revised MOS 2025**

| Description | Dept # | Dept | Mode | Exp. Code | Exist. Cost | Prod. Factor | Driving Variable | Empl | Calc. Cost |
|---|---|---|---|---|---|---|---|---|---|
| Bus/Rail Industrial Electr | 120 | Track Electrification System | LRT | 501 | $45,386 | 0.01 | per LRTRACKMI | 2 | $90,771 |
| Sr. Manager Track & ROW | 120 | Track & Right of Way | LRT | 501 | $71,874 | | Fixed (100% LR) | 1 | $71,874 |
| Asst to Sr. Mgr. Track & ROW | 120 | Track & Right of Way | LRT | 501 | $25,478 | | Fixed (100% LR) | 1 | $25,478 |
| Supervisor - Track & ROW | 120 | Track & Right of Way | LRT | 501 | $47,922 | 0.16 | per Track Maintainer | 6 | $287,534 |
| Lead Track Maintainer | 120 | Track & Right of Way | LRT | 501 | $43,202 | 0.14 | per Track Maintainer | 5 | $216,008 |
| Track Maintainer | 120 | Track & Right of Way | LRT | 501 | $45,968 | 0.25 | per LRTRACKMI | 33 | $1,516,932 |
| Track Welder | 120 | Track & Right of Way | LRT | 501 | $37,710 | 0.01 | per LRTRACKMI | 2 | $75,421 |
| Sr. Manager Signal Systems | 120 | Signal System | LRT | 501 | $71,874 | | Fixed (100% LR) | 1 | $71,874 |
| Asst to the Sr Mgr- Signal Sys | 120 | Signal System | LRT | 501 | $25,478 | | Fixed (100% LR) | 1 | $25,478 |
| Supervisor - Signals | 120 | Signal System | LRT | 501 | $53,443 | 0.14 | per Signal Maintainer | 5 | $267,215 |
| Lead Signal Maintainer | 120 | Signal System | LRT | 501 | $46,696 | 0.05 | per Signal Maintainer | 2 | $93,392 |
| Signal Sys Testing Maintainer | 120 | Signal System | LRT | 501 | $43,971 | 0.02 | per LRTRACKMI | 3 | $131,914 |
| Signal Maintainer | 120 | Signal System | LRT | 501 | $47,274 | 0.23 | per LRTRACKMI | 30 | $1,418,209 |
| Wages & Salaries | 120 | Communications | LRT | 501 | $620,946 | | Fixed | 10 | $620,946 |
| Communications Technician | 120 | Communications | LRT | 501 | $36,670 | 0.17 | per LRTRACKMI | 23 | $843,419 |
| Wages & Salaries | 120 | Bus Facilities | DARTBUS | 501 | $849,277 | | Fixed | 5 | $849,277 |
| Supervisor, Bldg & Grounds | 120 | Bus Facilities | DARTBUS | 501 | $47,554 | 0.009 | per PKBUS | 8 | $380,434 |
| Field Inspector | 120 | Bus Facilities | DARTBUS | 501 | $47,961 | 0.009 | per PKBUS | 8 | $383,688 |
| Lead Mechanic - Psgr Amenities | 120 | Bus Facilities | DARTBUS | 501 | $46,010 | 0.007 | per PKBUS | 6 | $276,058 |
| HVAC Technician | 120 | Bus Facilities | DARTBUS | 501 | $39,832 | 0.012 | per PKBUS | 11 | $438,152 |
| Passenger Amenities Mechanic | 120 | Bus Facilities | DARTBUS | 501 | $36,670 | 0.056 | per PKBUS | 51 | $1,870,190 |
| Servicer-Passenger Amenities | 120 | Bus Facilities | DARTBUS | 501 | $21,757 | 0.009 | per PKBUS | 8 | $174,054 |
| Wages & Salaries | 120 | Rail Services/Central Support | LRT | 501 | $1,210,937 | | Fixed | 12 | $1,210,937 |
| Supervisor Rail Services | 120 | Rail Services/Central Support | LRT | 501 | $48,056 | 6 | per LRYARD | 12 | $576,667 |
| LRV Mechanic | 120 | Rail Services/Central Support | LRT | 501 | $37,137 | 0.009 | per 1,000 LRCARMI | 80 | $2,970,953 |
| Facility Mechanic | 120 | Rail Services/Central Support | LRT | 501 | $36,670 | 0.11 | per LRSTA + LRYARD | 6 | $220,022 |
| Rail Central Support Mechanic | 120 | Rail Services/Central Support | LRT | 501 | $36,670 | 0.17 | per LRSTA + LRYARD | 9 | $330,034 |
| Machinist | 120 | Rail Services/Central Support | LRT | 501 | $36,670 | 0.001 | per 1,000 LRCARMI | 8 | $293,363 |
| LRV Structural Mechanic | 120 | Rail Services/Central Support | LRT | 501 | $36,670 | 0.001 | per 1,000 LRCARMI | 7 | $256,693 |
| Electronic Tech. Rail Services | 120 | Rail Services/Central Support | LRT | 501 | $36,670 | 0 | per 1,000 LRCARMI | 3 | $110,011 |
| Fare Equipment Mechanic | 120 | Rail Services/Central Support | LRT | 501 | $37,823 | 0.5 | per LRSTA | 26 | $983,397 |
| Wages & Salaries | 120 | Bus Non-Revenue Services | DARTBUS | 501 | $42,402 | 0.02 | per PKBUS | 23 | $975,253 |
| Wages & Salaries | 120 | Project Contracts - Fleet | Shared | 501 | $224,428 | | Fixed | 4 | $224,428 |
| Fringe Benefits | 120 | Maintenance Division | DARTBUS | 502 | $13,901,279 | 39.90% | of Division 120 wages and salaries | | $14,957,802 |
| Fringe Benefits | 120 | Maintenance Division | LRT | 502 | | 39.90% | of Division 120 wages and salaries | | $3,754,003 |
| Engineering/ROW Contracts | 120 | Maintenance Division | LRT | 503 | $985,000 | $11,193 | per LRTRACKMI | | $1,477,500 |
| LR Maintenance Services | 120 | Maintenance Division | LRT | 503 | $385,486 | $0.07 | per LRCARMI | | $641,587 |
| LR Maintenance Services | 120 | Maintenance Division | LRT | 503 | $385,486 | $4,381 | per LRTRACKMI | | $578,228 |
| Bus Maintenance Contracts | 120 | Maintenance Division | DARTBUS | 503 | $4,746,394 | $0.17 | per BUSMI | | $6,020,668 |
| Matl & Supplies - LR Power & Signals | 120 | Maintenance Division | LRT | 504 | $966,540 | $10,983 | per LRTRACKMI | | $1,449,810 |
| Matl & Supplies - LR Vehicles | 120 | Maintenance Division | LRT | 504 | $3,163,320 | $0.67 | per LRCARMI | | $6,054,639 |
| Matl & Supplies - LR Vehicles | 120 | Maintenance Division | LRT | 504 | $300,704 | $4,166 | per PKLRV | | $491,633 |

**Dallas Area Rapid Transit**
**O&M Cost Model**
**Line Item Detail**

**Revised MOS 2025**

| Description | Dept # | Dept | Mode | Exp. Code | Exist. Cost | Prod. Factor | Driving Variable | Empl | Calc. Cost |
|---|---|---|---|---|---|---|---|---|---|
| Matl & Supplies - LR Stations | 120 | Maintenance Division | LRT | 504 | $255,996 | $7,529 | per LRSTA | | $383,994 |
| Matl & Supplies - Bus | 120 | Maintenance Division | DARTBUS | 504 | $24,885,448 | $0.88 | per BUSMI | | $31,566,494 |
| Traction Power | 120 | Maintenance Division | LRT | 505 | $3,202,552 | $0.98 | per LRCARMI | | $8,756,325 |
| Other Utilities - Rail | 120 | Maintenance Division | LRT | 505 | $895,354 | | Fixed (100% LR) | | $895,354 |
| Utilities - Bus | 120 | Maintenance Division | DARTBUS | 505 | $1,990,597 | $497,649 | per BUSGARAGE | | $1,990,597 |
| Claims & Insurance | 120 | Maintenance Division | DARTBUS | 506 | $0 | $0.00 | per Division employee | | $0 |
| Claims & Insurance | 120 | Maintenance Division | LRT | 506 | | $0.00 | per Division employee | | $0 |
| Taxes, Leases & Other | 120 | Maintenance Division | DARTBUS | 509 | $2,032,596 | $3,529 | per PKBUS | | $3,267,680 |
| Taxes, Leases & Other | 120 | Maintenance Division | LRT | 509 | $11,216 | $135 | per PKLRV | | $15,946 |
| Wages & Salaries | 130 | Transportation Administration | Shared | 501 | $446,592 | | Fixed | 6 | $446,592 |
| Wages & Salaries | 130 | Contract Bus Operations | ATE-Bus | 501 | $0 | | Fixed | 0 | $0 |
| Supv Contract Compliance | 130 | Contract Field Operations | ATE-Bus | 501 | $0 | 0 | per 1,000 BURBHR | 0 | $0 |
| Wages & Salaries | 130 | Bus Operations Control | DARTBUS | 501 | $1,212,018 | | Fixed | 21 | $1,212,018 |
| Radio Dispatcher | 130 | Bus Operations Control | DARTBUS | 501 | $39,738 | 0.014 | per PKBUS | 13 | $516,594 |
| Transportation Supervisor | 130 | Bus Operations Control | DARTBUS | 501 | $39,738 | 0.05 | per PKBUS | 47 | $1,867,686 |
| Wages & Salaries | 130 | Rail Operations Control | LRT | 501 | $232,203 | | Fixed | 4 | $232,203 |
| Rail Oper Supv I | 130 | Rail Operations Control | LRT | 501 | $0 | 0 | per Rail Operations Controller | 0 | $0 |
| Rail Operations Controller | 130 | Rail Operations Control | LRT | 501 | $46,082 | 0.09 | per 1,000 LRTRAINHR | 20 | $921,640 |
| Bus Operations Admin | 130 | Bus Operations Administration | DARTBUS | 501 | $1,018,929 | | Fixed | 21 | $1,018,929 |
| Transportation Supervisor | 130 | Bus Operations Administration | DARTBUS | 501 | $39,738 | 5.3 | per BUSGARAGE | 21 | $834,498 |
| Bus Operator | 130 | Bus Operations Administration | DARTBUS | 501 | $41,083 | 0.599 | per 1,000 BUSHR | 1646 | $67,622,118 |
| Wages & Salaries | 130 | Rail Operations Administration | LRT | 501 | $524,374 | | Fixed | 10 | $524,374 |
| Rail Operation Supervisor I | 130 | Rail Operations | LRT | 501 | $39,738 | 0.235 | per Train Operator | 36 | $1,430,568 |
| Operator/Instructor | 130 | Rail Operations | LRT | 501 | $0 | 0 | per Train Operator | 0 | $0 |
| Train Operator | 130 | Rail Operations | LRT | 501 | $34,531 | 0.654 | per 1,000 LRTRAINHR | 152 | $5,248,641 |
| Wages & Salaries | 130 | Bus Training/Career Development | DARTBUS | 501 | $482,895 | | Fixed | 2 | $482,895 |
| Training Specialist, Bus Ops. | 130 | Bus Training/Career Development | DARTBUS | 501 | $39,738 | 0.006 | per Bus Operator | 10 | $397,380 |
| Wages & Salaries | 130 | Rail Training/Career Development | LRT | 501 | $105,692 | 0.026 | per Train Operator | 4 | $422,768 |
| Wages & Salaries | 130 | Charter Operations | DARTBUS | 501 | $312,664 | | Fixed | 1 | $312,664 |
| Wages & Salaries | 130 | Transit Center Operations | LRT | 501 | $310,302 | | Fixed | 7 | $310,302 |
| Transit Agent | 130 | Transit Center Operations | LRT | 501 | $30,122 | 1.4 | per LRSTA | 71 | $2,138,674 |
| Fringe Benefits | 130 | Transportation Division | DARTBUS | 502 | $25,173,588 | 39.90% | of Division 130 wages and salaries | | $29,758,123 |
| Fringe Benefits | 130 | Transportation Division | LRT | 502 | | 39.90% | of Division 130 wages and salaries | | $4,534,161 |
| Services | 130 | Transportation Division | DARTBUS | 503 | $2,400 | $1.58 | per Division 130 employee | | $3,047 |
| Services | 130 | Transportation Division | LRT | 503 | | $1.58 | per Division 130 employee | | $259 |
| Matl & Supplies - Rail | 130 | Transportation Division | LRT | 504 | $66,152 | $575.23 | per Train Operator | | $87,436 |
| Matl & Supplies - Bus | 130 | Transportation Division | DARTBUS | 504 | $46,038 | $37.83 | per Bus Operations employee | | $63,856 |
| Other Matl & Supplies | 130 | Transportation Division | Shared | 504 | $485,216 | $319 | per Division 130 employee | | $668,250 |
| Utilities | 130 | Transportation Division | DARTBUS | 505 | $29,904 | $7,476 | per BUSGARAGE | | $29,904 |
| Claims & Insurance | 130 | Transportation Division | DARTBUS | 506 | $0 | $0.00 | per Division 130 employee | | $0 |
| Claims & Insurance | 130 | Transportation Division | LRT | 506 | | $0.00 | per Division 130 employee | | $0 |
| Purchased Transportation | 130 | Transportation Division | ATE-Bus | 508 | $0 | $0.00 | per BURBHR | | $0 |

**Dallas Area Rapid Transit**
**O&M Cost Model**
**Line Item Detail**

**Revised MOS 2025**

| Description | Dept # | Dept | Mode | Exp. Code | Exist. Cost | Prod. Factor | Driving Variable | Empl | Calc. Cost |
|---|---|---|---|---|---|---|---|---|---|
| Taxes, Leases & Other | 130 | Transportation Division | DARTBUS | 509 | $278,001 | $69,500 | per BUSGARAGE | | $278,001 |
| Wages & Salaries | 140 | Executive Vice President | Shared | 501 | $988,130 | | Fixed | 15 | $988,130 |
| Fringe Benefits | 140 | Executive Vice President | Shared | 502 | $394,287 | 39.90% | of Division 140 wages and salaries | | $394,287 |
| Services | 140 | Executive Vice President | Shared | 503 | $203,508 | $0.08 | per annual revenue hour | | $270,758 |
| Materials & Supplies | 140 | Executive Vice President | Shared | 504 | $11,700 | $780 | per Division 140 employee | | $11,700 |
| Utilities | 140 | Executive Vice President | Shared | 505 | $3,120 | | Fixed | | $3,120 |
| Taxes, Leases & Other | 140 | Executive Vice President | Shared | 509 | $162,644 | | Fixed | | $162,644 |
| Wages & Salaries | 140.1 | Materials (Cost Ctrs 251, 252, 253) | DARTBUS | 501 | $43,093 | 5.6 | Fixed per BUSGARAGE | 22.4 | $965,281 |
| Wages & Salaries | 140.1 | Materials (Cost Ctrs 251, 252, 253) | LRT | 501 | $43,093 | 5.6 | Fixed per LRYARD | 11.2 | $482,640 |
| Wages & Salaries | 140.1 | Materials (Cost Ctrs 251, 252, 253) | DARTBUS | 501 | $31,589 | 8 | per BUSGARAGE | 32 | $1,010,842 |
| Wages & Salaries | 140.1 | Materials (Cost Ctrs 251, 252, 253) | LRT | 501 | $31,589 | 8 | per LRYARD | 16 | $505,421 |
| Fringe Benefits | 140.1 | Materials (Cost Ctrs 251, 252, 253) | DARTBUS | 502 | $985,649 | 39.90% | per Division 140.1 bus employee | | $788,519 |
| Fringe Benefits | 140.1 | Materials (Cost Ctrs 251, 252, 253) | LRT | 502 | | 39.90% | per Division 140.1 rail employee | | $394,260 |
| Services | 140.1 | Materials (Cost Ctrs 251, 252, 253) | DARTBUS | 503 | $31,500 | $6,300 | per BUSGARAGE | | $25,200 |
| Services | 140.1 | Materials (Cost Ctrs 251, 252, 253) | LRT | 503 | $31,500 | $6,300 | per LRYARD | | $12,600 |
| Materials & Supplies | 140.1 | Materials (Cost Ctrs 251, 252, 253) | DARTBUS | 504 | $103,528 | $20,706 | per BUSGARAGE | | $82,822 |
| Materials & Supplies | 140.1 | Materials (Cost Ctrs 251, 252, 253) | LRT | 504 | $103,528 | $20,706 | per LRYARD | | $41,411 |
| Utilities | 140.1 | Materials (Cost Ctrs 251, 252, 253) | DARTBUS | 505 | $3,552 | $710 | per BUSGARAGE | | $2,842 |
| Utilities | 140.1 | Materials (Cost Ctrs 251, 252, 253) | LRT | 505 | $3,552 | $710 | per LRYARD | | $1,421 |
| Claims & Insurance | 140.1 | Materials (Cost Ctrs 251, 252, 253) | DARTBUS | 506 | $0 | $0 | per BUSGARAGE | | $0 |
| Claims & Insurance | 140.1 | Materials (Cost Ctrs 251, 252, 253) | LRT | 506 | $0 | $0 | per LRYARD | | $0 |
| Taxes, Leases & Other | 140.1 | Materials (Cost Ctrs 251, 252, 253) | DARTBUS | 509 | $830 | $166 | per BUSGARAGE | | $664 |
| Taxes, Leases & Other | 140.1 | Materials (Cost Ctrs 251, 252, 253) | LRT | 509 | $830 | $166 | per LRYARD | | $332 |
| Wages & Salaries | 150 | Paratransit | PARAT | 501 | $1,636,146 | | Fixed | 30 | $1,636,146 |
| Wages & Salaries | 150 | Paratransit | PARAT | 501 | $33,400 | 0.00008 | per PARAHR | 37 | $1,235,808 |
| Fringe Benefits | 150 | Paratransit | PARAT | 502 | $1,132,650 | 39.90% | of Division 150 wages and salaries | | $1,145,977 |
| Services | 150 | Paratransit | PARAT | 503 | $29,000 | $439 | per Division 150 employee | | $29,439 |
| Materials & Supplies | 150 | Paratransit | PARAT | 504 | $28,174 | $427 | per Division 150 employee | | $28,601 |
| Utilities | 150 | Paratransit | PARAT | 505 | $1,000 | $15 | per Division 150 employee | | $1,015 |
| Purchased Transportation | 150 | Paratransit | PARAT | 508 | $17,736,468 | $41 | per PARAHR | | $18,161,509 |
| Taxes, Leases & Other | 150 | Paratransit | PARAT | 509 | $78,070 | $0.18 | per PARAHR | | $79,941 |
| Wages & Salaries | 155 | Transit Police | DARTBUS | 501 | $59,413 | 51% | Fixed | 29 | $1,722,980 |
| Wages & Salaries | 155 | Transit Police | ATE-Bus | 501 | $59,413 | 0% | Fixed | 0 | $0 |
| Wages & Salaries | 155 | Transit Police | LRT | 501 | $59,413 | 47% | Fixed | 27 | $1,604,153 |
| Wages & Salaries | 155 | Transit Police | CR/TRE | 501 | $59,413 | 2% | Fixed | 1 | $59,413 |
| Wages & Salaries | 155 | Transit Police | LRT | 501 | $26,904 | | 25% LRTRAINHR; 75% LRSTA | 29 | $780,216 |
| Wages & Salaries | 155 | Transit Police | DARTBUS | 501 | $35,019 | | 50% PKBUS; 50% D-BUSHRS | 123 | $4,307,369 |
| Wages & Salaries | 155 | Transit Police | ATE-Bus | 501 | $35,019 | 0 | per 1,000 C-BUSHRS | 0 | $0 |
| Wages & Salaries | 155 | Transit Police | LRT | 501 | $35,019 | | 25% LRTRAINHR; 75% LRSTA | 110 | $3,852,119 |
| Wages & Salaries | 155 | Transit Police | CR/TRE | 501 | $35,019 | 0 | per CRTRAINHR | 3 | $105,058 |
| Fringe Benefits | 155 | Transit Police | DARTBUS | 502 | | 39.90% | of Division 155 wages and salaries | | $2,406,250 |
| Fringe Benefits | 155 | Transit Police | ATE-Bus | 502 | | 0.00% | of Division 155 wages and salaries | | $0 |

**Dallas Area Rapid Transit**
**O&M Cost Model**
**Line Item Detail**

**Revised MOS 2025**

| Description | Dept # | Dept | Mode | Exp. Code | Exist. Cost | Prod. Factor | Driving Variable | Empl | Calc. Cost |
|---|---|---|---|---|---|---|---|---|---|
| Fringe Benefits | 155 | Transit Police | LRT | 502 | | 39.90% | of Division 155 wages and salaries | | $2,488,504 |
| Fringe Benefits | 155 | Transit Police | CR/TRE | 502 | $3,801,778 | 39.90% | of Division 155 wages and salaries | | $65,628 |
| Security Services | 155 | Transit Police | LRT | 503 | $575,539 | $16,444 | per LRSTA + LRYARD | | $871,530 |
| Security Services | 155 | Transit Police | DARTBUS | 503 | $624,521 | $156,130 | per BUSGARAGE | | $624,521 |
| Security Services | 155 | Transit Police | ATE-Bus | 503 | $0 | $0 | per C-BUSHR | | $0 |
| Security Services | 155 | Transit Police | CR/TRE | 503 | $24,491 | $1.26 | per CRTRAINHR | | $25,591 |
| Materials & Supplies | 155 | Transit Police | DARTBUS | 504 | $92,981 | $838.00 | per Division 155 employee | | $127,326 |
| Materials & Supplies | 155 | Transit Police | ATE-Bus | 504 | $0 | $0 | per Division 155 employee | | $0 |
| Materials & Supplies | 155 | Transit Police | LRT | 504 | $85,689 | $702 | per Division 155 employee | | $116,593 |
| Materials & Supplies | 155 | Transit Police | CR/TRE | 504 | $3,646 | $912 | per Division 155 employee | | $3,646 |
| Utilities | 155 | Transit Police | DARTBUS | 505 | $73,118 | | Fixed | | $73,118 |
| Utilities | 155 | Transit Police | ATE-Bus | 505 | $0 | | Fixed | | $0 |
| Utilities | 155 | Transit Police | LRT | 505 | $67,383 | | Fixed | | $67,383 |
| Utilities | 155 | Transit Police | CR/TRE | 505 | $2,867 | | Fixed | | $2,867 |
| Claims & Insurance | 155 | Transit Police | DARTBUS | 506 | $0 | $0 | per Division 155 employee | | $0 |
| Claims & Insurance | 155 | Transit Police | ATE-Bus | 506 | $0 | $0 | per Division 155 employee | | $0 |
| Claims & Insurance | 155 | Transit Police | LRT | 506 | $0 | $0 | per Division 155 employee | | $0 |
| Claims & Insurance | 155 | Transit Police | CR/TRE | 506 | $0 | $0 | per Division 155 employee | | $0 |
| Taxes, Leases & Other | 155 | Transit Police | DARTBUS | 509 | $236,736 | | Fixed | | $236,736 |
| Taxes, Leases & Other | 155 | Transit Police | ATE-Bus | 509 | $0 | | Fixed | | $0 |
| Taxes, Leases & Other | 155 | Transit Police | LRT | 509 | $218,168 | | Fixed | | $218,168 |
| Taxes, Leases & Other | 155 | Transit Police | CR/TRE | 509 | $9,284 | | Fixed | | $9,284 |
| Wages & Salaries | 160 | Commuter Rail | CR/TRE | 501 | $464,880 | | Fixed | 6 | $464,880 |
| Wages & Salaries | 160 | Commuter Rail | CR/TRE | 501 | $46,082 | 0.0002 | per CRTRAINHR | 3.134690722 | $144,453 |
| Fringe Benefits | 160 | Commuter Rail | CR/TRE | 502 | $240,661 | 39.90% | of Division 160 wages and salaries | | $243,124 |
| Services | 160 | Commuter Rail | CR/TRE | 503 | $794,488 | $40.95 | per CRTRAINHR | | $830,158 |
| Materials & Supplies | 160 | Commuter Rail | CR/TRE | 504 | $95,996 | $10,666.00 | per Division 160 employee | | $97,433 |
| Utilitites | 160 | Commuter Rail | CR/TRE | 505 | $104,796 | | Fixed | | $104,796 |
| Claims & Insurance | 160 | Commuter Rail | CR/TRE | 506 | $1,130,000 | $58.25 | per CRTRAINHR | | $1,180,734 |
| Purchased Transportation | 160 | Commuter Rail | CR/TRE | 508 | $14,368,184 | $740.63 | per CRTRAINHR | | $15,013,271 |
| Taxes, Leases & Other | 160 | Commuter Rail | CR/TRE | 509 | $120,596 | $6.22 | per CRTRAINHR | | $126,010 |
| TOTALS | | | | | | | | 4,180 | $389,940,094 |

## Dallas Area Rapid Transit
## NW/SE Corridor - MOS O&M Cost Estimate

Model Run: 11/15/04

**Crosstab Table For Total Calc. Cost by Dept and Mode**

| DEPARTMENT | CR/TRE | DARTBUS | LRT | PARAT | Shared | TOTALS |
|---|---|---|---|---|---|---|
| Administration | $0 | $0 | $0 | $0 | $16,076,351 | $16,076,351 |
| Bus Facilities | $0 | $4,371,853 | $0 | $0 | $0 | $4,371,853 |
| Bus Non-Revenue Services | $0 | $975,253 | $0 | $0 | $0 | $975,253 |
| Bus Operations Administration | $0 | $69,475,545 | $0 | $0 | $0 | $69,475,545 |
| Bus Operations Control | $0 | $3,596,298 | $0 | $0 | $0 | $3,596,298 |
| Bus Svcs/Body Rebuild/Central Svc | $0 | $22,174,653 | $0 | $0 | $0 | $22,174,653 |
| Bus Training/Career Development | $0 | $880,275 | $0 | $0 | $0 | $880,275 |
| Charter Operations | $0 | $312,664 | $0 | $0 | $0 | $312,664 |
| Communications | $0 | $0 | $1,464,365 | $0 | $0 | $1,464,365 |
| Commuter Rail | $18,204,858 | $0 | $0 | $0 | $0 | $18,204,858 |
| Contract Bus Operations | $0 | $0 | $0 | $0 | $0 | $0 |
| Contract Field Operations | $0 | $0 | $0 | $0 | $0 | $0 |
| Engineering | $0 | $639,748 | $544,257 | $0 | $0 | $1,184,005 |
| EVP Program Development | $0 | $0 | $0 | $0 | $604,873 | $604,873 |
| Exec Admin/Diversity & EEO | $0 | $0 | $0 | $0 | $2,517,072 | $2,517,072 |
| Executive Vice President | $0 | $0 | $0 | $0 | $1,830,639 | $1,830,639 |
| Finance | $0 | $713,364 | $382,170 | $0 | $4,403,793 | $5,499,327 |
| Fleet Services Administration | $0 | $0 | $0 | $0 | $134,894 | $134,894 |
| General Counsel | $0 | $0 | $0 | $0 | $3,502,987 | $3,502,987 |
| Human Resources | $0 | $0 | $0 | $0 | $7,592,542 | $7,592,542 |
| Internal Audit | $0 | $0 | $0 | $0 | $1,231,537 | $1,231,537 |
| Maintenance Administration | $0 | $0 | $0 | $0 | $220,033 | $220,033 |
| Maintenance Division | $0 | $57,803,242 | $24,499,018 | $0 | $0 | $82,302,259 |
| Marketing/Communications | $0 | $0 | $0 | $0 | $13,932,021 | $13,932,021 |
| Materials (Cost Ctrs 251, 252, 253) | $0 | $2,876,170 | $1,438,085 | $0 | $0 | $4,314,256 |
| Office of Board Support | $0 | $0 | $0 | $0 | $540,613 | $540,613 |
| Paratransit | $0 | $0 | $0 | $22,318,437 | $0 | $22,318,437 |
| Planning | $0 | $0 | $0 | $0 | $10,112,329 | $10,112,329 |
| Procurement/Materials Mgmt | $0 | $2,533,791 | $1,266,896 | $0 | $0 | $3,800,687 |
| Project Contracts - Fleet | $0 | $0 | $0 | $0 | $224,428 | $224,428 |
| Project Management | $0 | $0 | $7,533,258 | $0 | $0 | $7,533,258 |
| Rail Operations | $0 | $0 | $6,679,209 | $0 | $0 | $6,679,209 |
| Rail Operations Administration | $0 | $0 | $524,374 | $0 | $0 | $524,374 |
| Rail Operations Control | $0 | $0 | $1,153,843 | $0 | $0 | $1,153,843 |
| Rail Services/Central Support | $0 | $0 | $6,952,078 | $0 | $0 | $6,952,078 |
| Rail Training/Career Development | $0 | $0 | $422,768 | $0 | $0 | $422,768 |
| Signal System | $0 | $0 | $2,008,082 | $0 | $0 | $2,008,082 |
| Technical Services Admin | $0 | $64,071 | $64,071 | $0 | $0 | $128,142 |
| Track Electrification System | $0 | $0 | $2,977,531 | $0 | $0 | $2,977,531 |
| Track & Right of Way | $0 | $0 | $2,193,246 | $0 | $0 | $2,193,246 |
| Training/Maintenance Support | $0 | $1,171,136 | $531,967 | $0 | $0 | $1,703,103 |
| Transit Center Operations | $0 | $0 | $2,448,976 | $0 | $0 | $2,448,976 |
| Transit Police | $271,487 | $9,498,299 | $9,998,667 | $0 | $0 | $19,768,452 |
| Transportation Administration | $0 | $0 | $0 | $0 | $446,592 | $446,592 |
| Transportation Division | $0 | $30,132,930 | $4,621,855 | $0 | $668,250 | $35,423,036 |
| Way Structures Amenities | $0 | $23,041 | $159,311 | $0 | $0 | $182,352 |
| **TOTAL DIRECT COSTS** | **$18,476,345** | **$207,242,333** | **$77,864,025** | **$22,318,437** | **$64,038,954** | **$389,940,094** |
| **SHARED COST ALLOCATION** | **$377,376** | **$51,124,163** | **$4,338,583** | **$8,198,833** | | **$64,038,954** |
| **FULLY ALLOCATED COSTS** | **$18,853,721** | **$258,366,496** | **$82,202,608** | **$30,517,270** | | **$389,940,094** |

# Appendix D: DFW Regional Transportation Model Process and Inputs

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# 1.0 DFW REGIONAL TRANSPORTATION MODEL (DFWRTM) PROCESS AND INPUTS

## 1.1 MODEL PROCESS

Appendix D describes the DFWRTM and the inputs that were used to determine the forecasted information for the New Starts process of the Green Line MOS of the Green Line. This Appendix is referenced in Chapter 2 as the source of the detailed data and the description of the process. Figure D1 shows a flowchart of the DFWRTM forecast process as it was at the time the New Starts Submissions were prepared. The process incorporated region-wide demographic data, the existing and proposed roadway, transit networks, and other census information that impact the outcome of the model. These forecasts are used by all transit authorities and transportation agencies to project estimated usage and travel times.

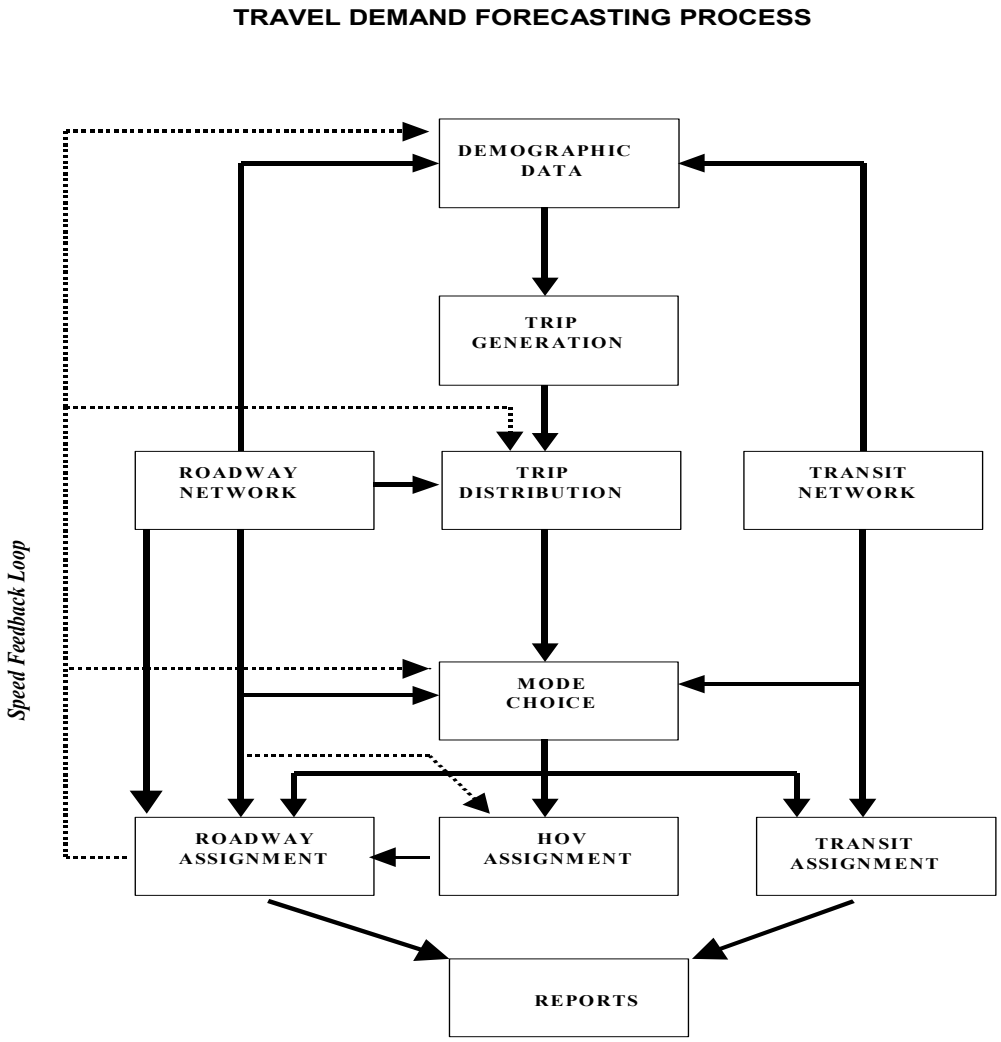



Figure D1 – Travel Demand Forecasting Process

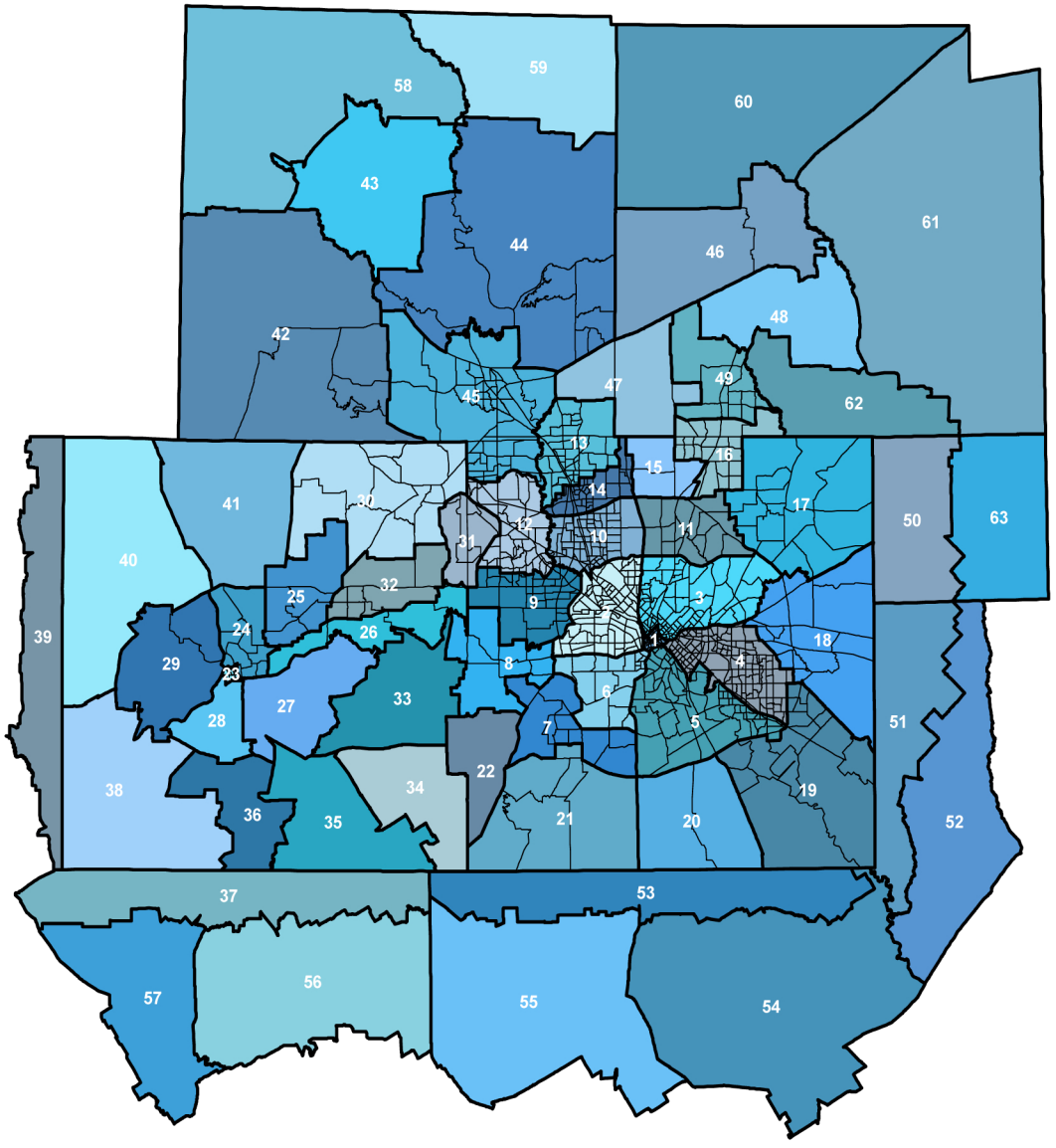
Source: NCTCOG. The Dallas/Fort Worth Regional Travel Model: Description of the Multimodal Forecasting Process.

## 1.2 STUDY AREA, ZONE GEOGRAPHY, AND NETWORKS

The DFWRTM includes the entire MPA in each model. Thus, from a transit perspective, bus and rail networks for DART and The T are included. At the time this model was created, DCTA was still in the initial stages of creation and was not included. Figure D2 shows a map of the MPA and the corresponding production districts that were used for the model application.

Figure D2 – Production Districts for NCTCOG MPA

Source: NCTCOG DFWRTM Model Description



For the purpose of the DFWRTM, the MPA was split into 991 Transportation Analysis Process (TAP) zones. These TAP zones represent combinations of Traffic Survey Zones (TSZ), which were the smallest zonal geography available at the time. Computer limitations required the TSZ be aggregated into the TAP zones. These TAP zones were further aggregated into 63 production districts. These districts are the geographic designations utilized for the output tables found in Appendix E. Figure D3 is a larger scale version of the NW/SE study area shown in Figure D2. The production district aggregation is based on population and employment density for each district, demonstrated by the smaller-sized zones shown in the densest areas of the region (the Dallas and Fort Worth CBDs). At the time of the "before" modeling, the production district aggregation also was based on the study area of interest, focusing smaller zones inside and aggregating to larger zones in the outlying areas of the region.

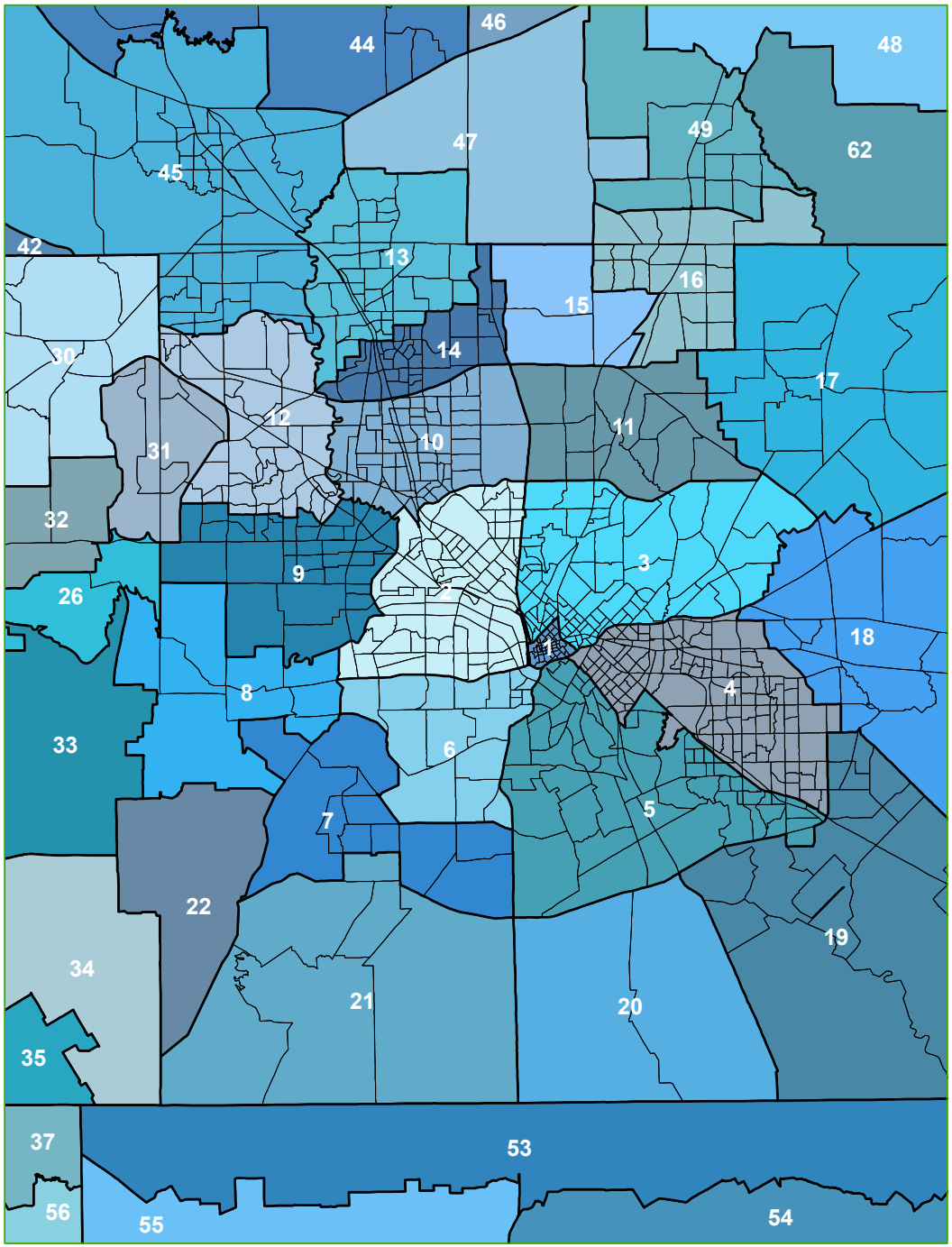



Figure D3 - Production Districts Green Line Study Area

Source: NCTCOG DFWRTM Model Description

## 1.3 ROADWAY NETWORK

The roadway network used for this analysis contained freeways (green links), principal arterials (blue links), minor arterials (yellow links), and collector streets (gray links) for the eastern portion of the MPA. Figure D4 shows a map of the roadway links included in the opening day estimates. At the time the estimate was prepared, a 2010 roadway network was not available; therefore, a 1999 roadway network was used (Figure D4). Figure D5 contains an enlarged map of the Dallas CBD portion of Figure D4.

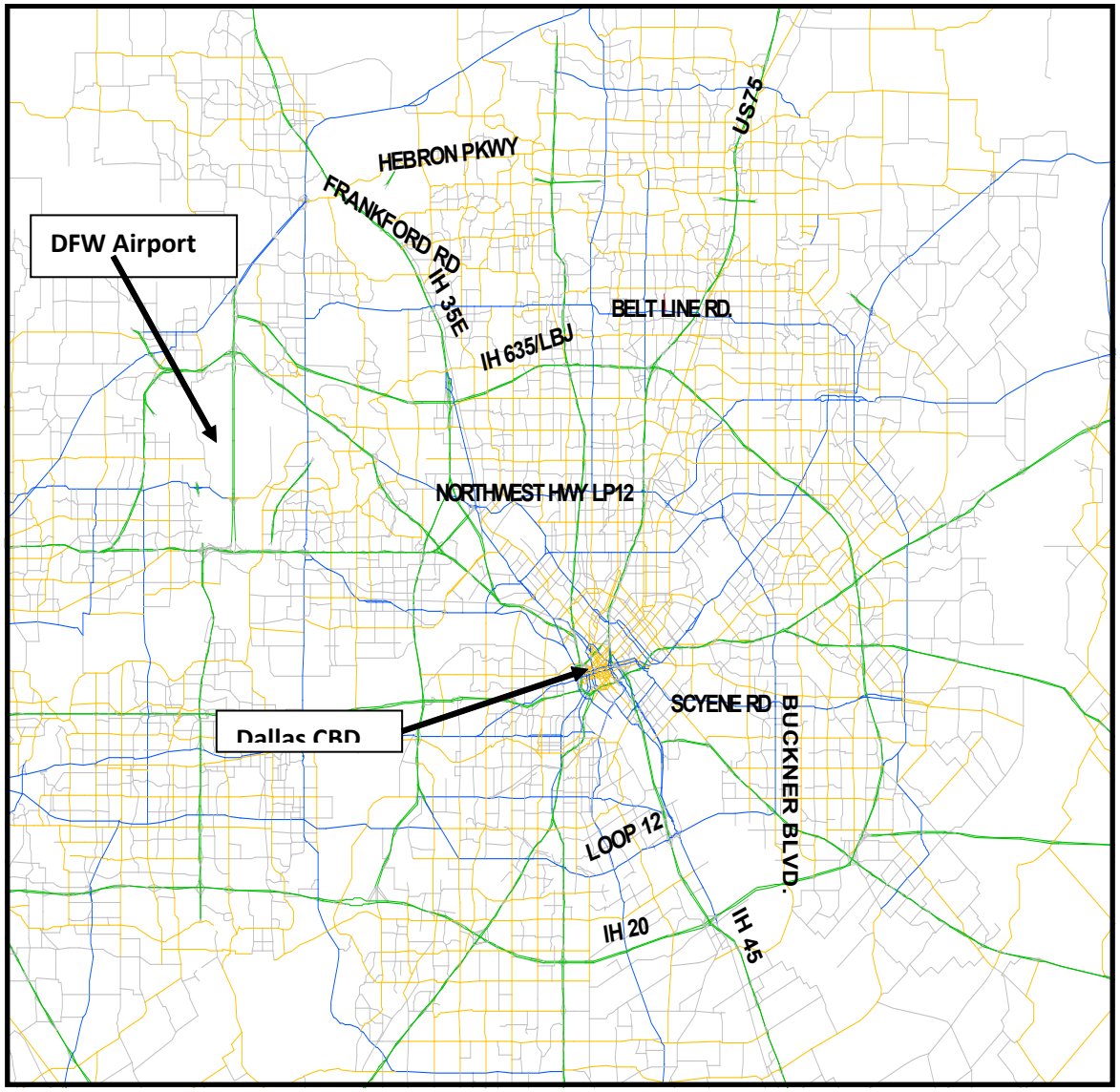
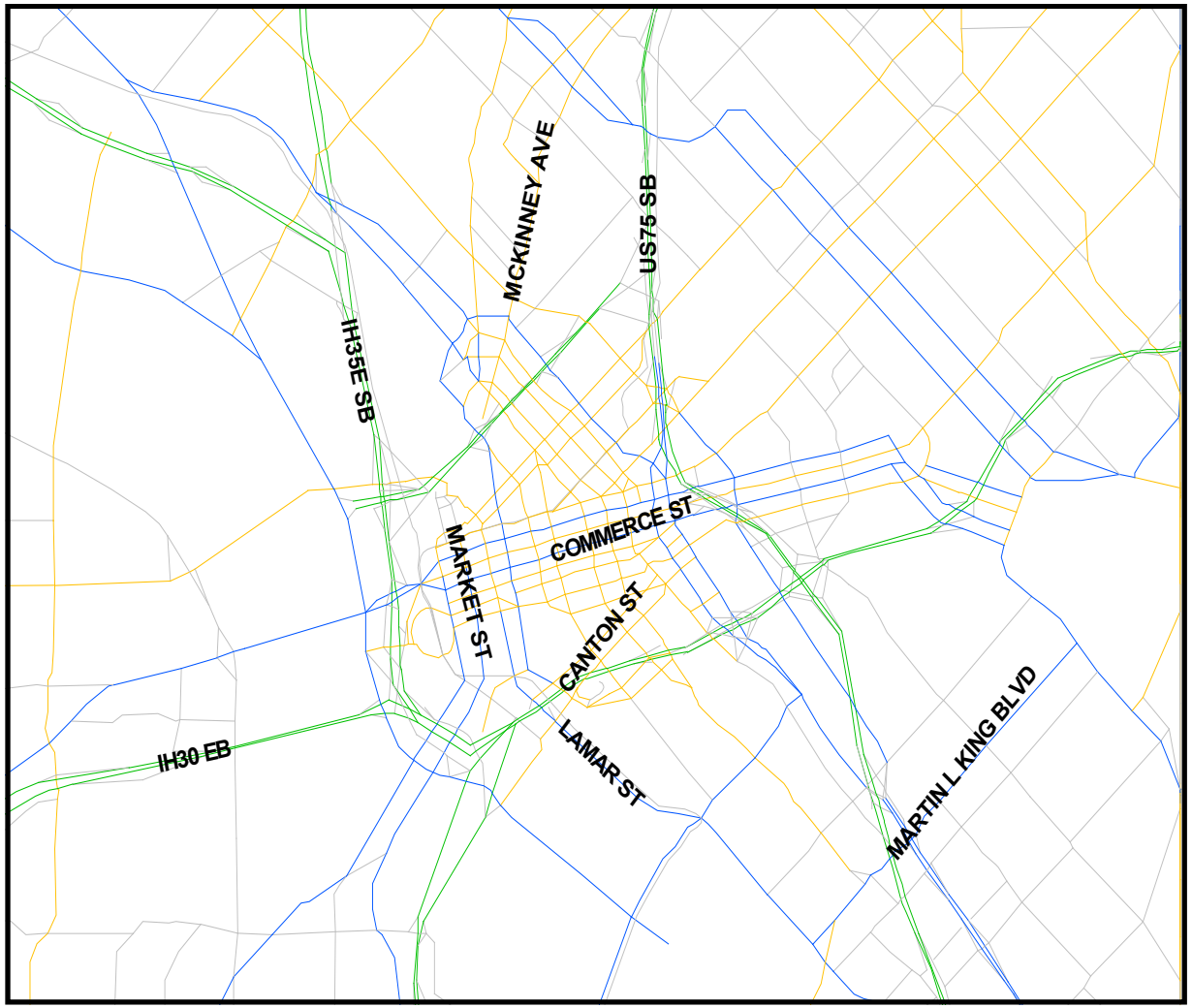



Figure D4 – 1999 Roadway Network Input for Opening Day Estimates

Source: DARTNPE.BAS0299

Figure D5 – 1999 Roadway Network Input for Opening Day Estimates (CBD)

Source: DARTNPE.BAS0299



As required by the FTA, the background network for future project evaluation through New Starts must be the current long-range transportation plan for the region in which the project being considered is contained. For the Green Line MOS, this was Mobility 2025: the Metropolitan Transportation Plan for the Dallas/Fort Worth Metropolitan Area. It provided the network from which the forecasts for the Green Line were completed. Figure D6 contains a map of the Mobility 2025 network that was used as the background network for the 2025 forecasts, showing freeways, principal arterials, minor arterials, and collector streets for the eastern portion of the MPA. Figure D7 contains an enlarged map of the Dallas CBD portion of Figure D6.

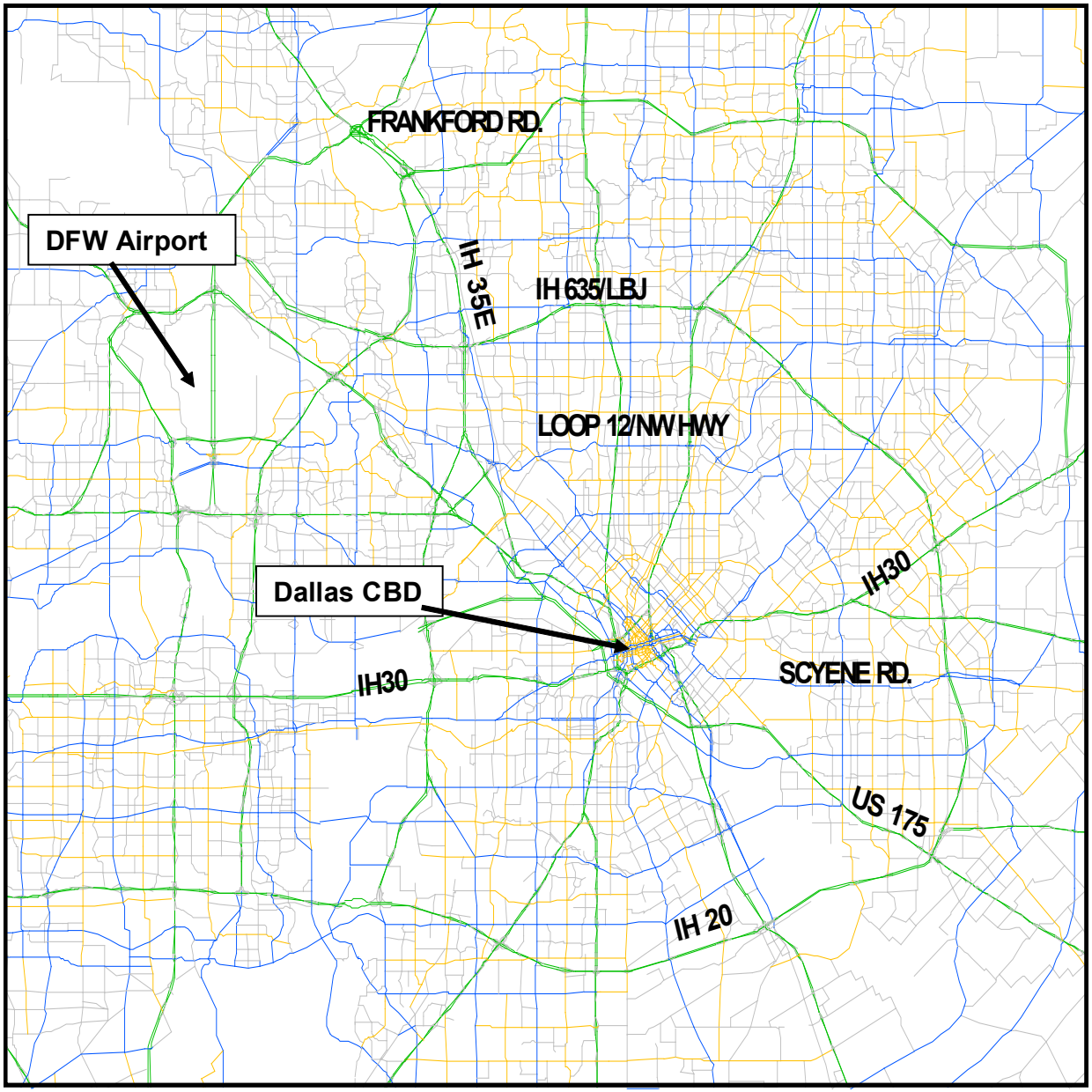



Figure D6 – 2025 Roadway Network Input for Forecast Year Estimates

Source: DARTNPE.MOS2025.JUN2404

Figure D7 – 2025 Roadway Network Input for Forecast Year Estimates (CBD)

Source: DARTNPE.MOS2025.JUN2404

A comparison of these two networks shows the links that were added as planned in the future 2025 scenario (see Figures D8 and D9). This future planned network was the basis for the 2025 forecasts as submitted in the Green Line MOS 2005 New Starts submittal.

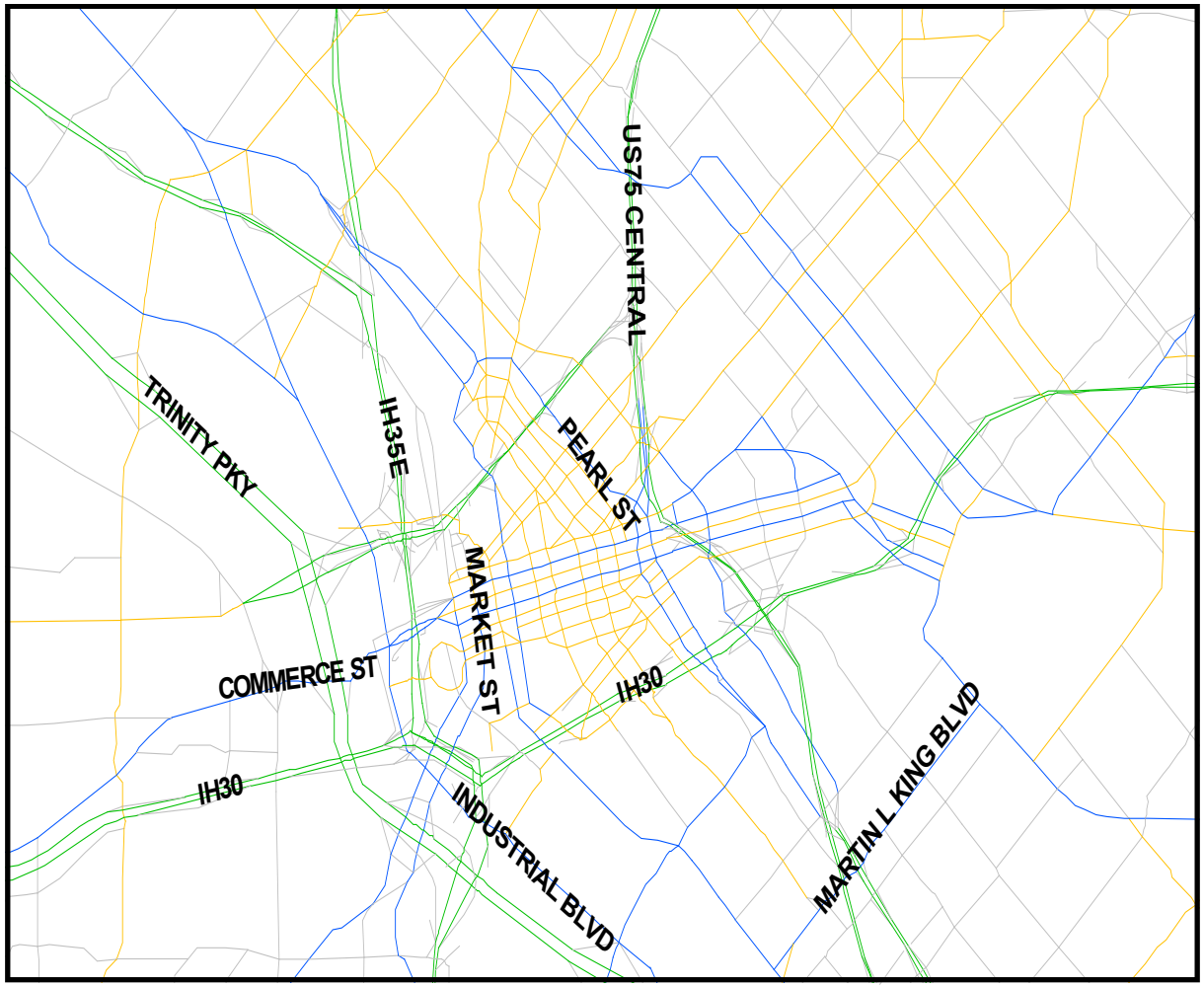


Figure D8 – Before Modeling Roadway Network Comparison
Opening Day to Year 2025 (Red links are 2025 additions)

Source: Roadway Networks are Year 1999 (DARTNPE.BAS0299) and Year 2025 (DARTNPE.MOS2025.JUN2404)

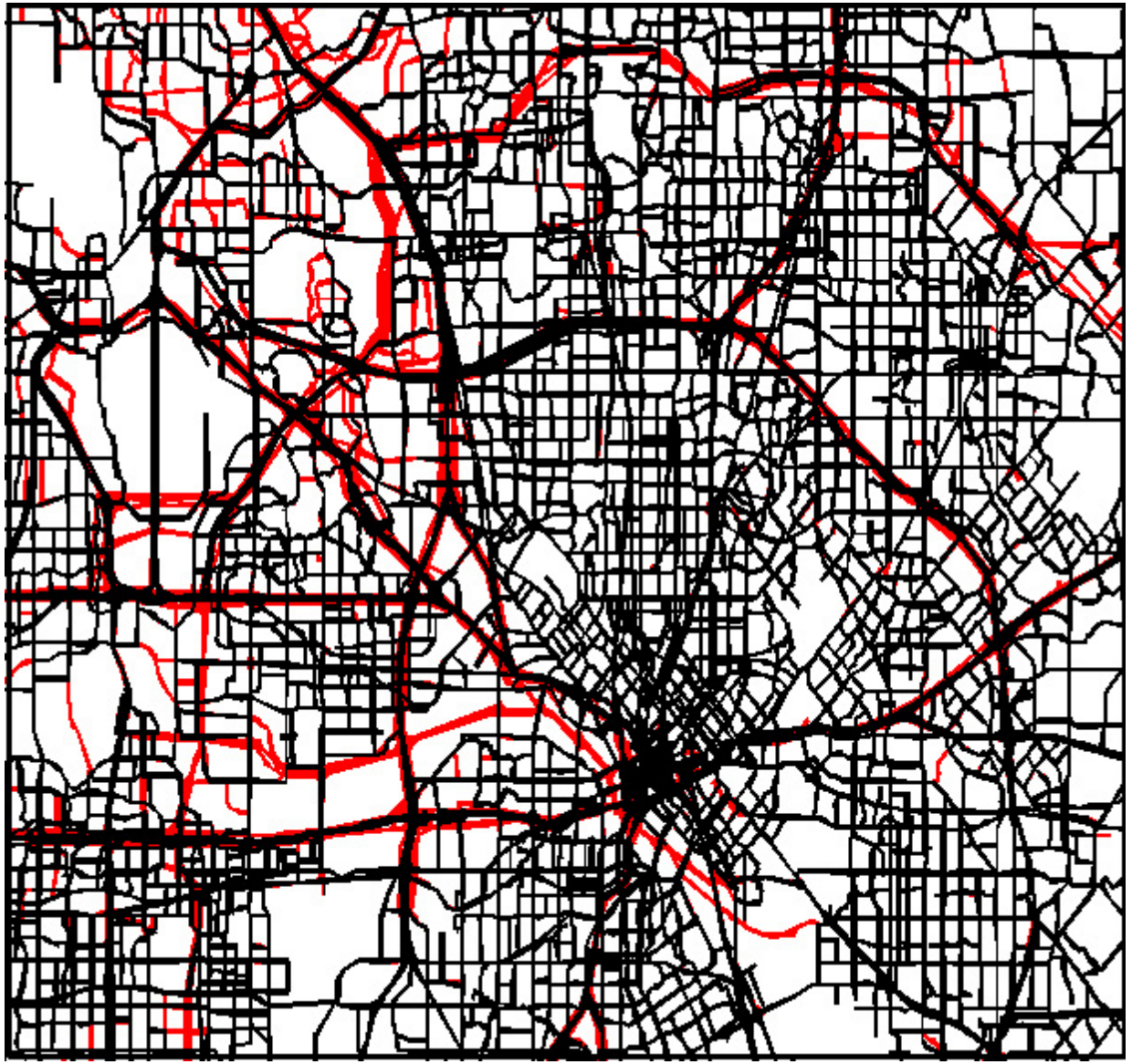
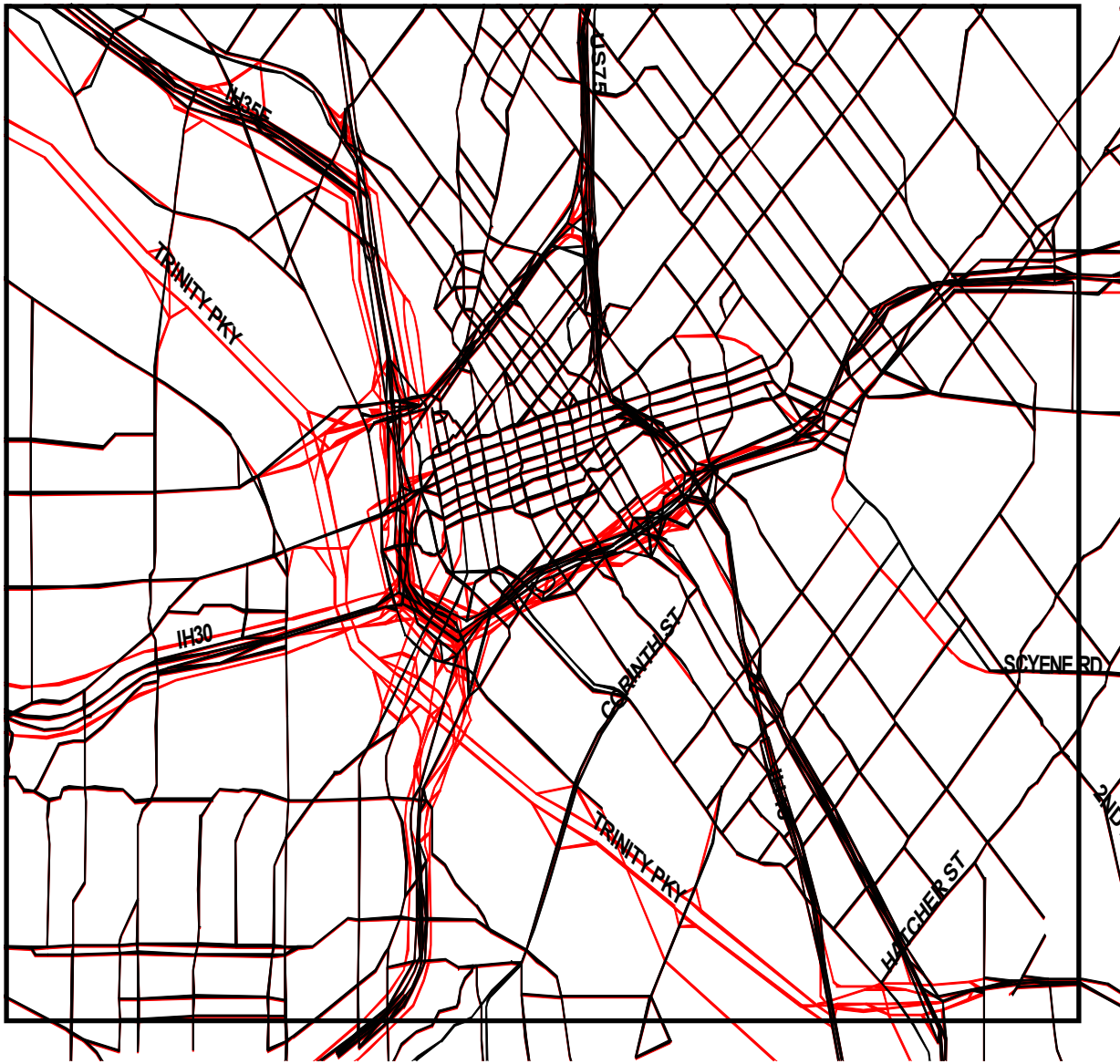


Figure D9 – Before Modeling Roadway Network Comparison
Opening Day to Year 2025 (Red links are 2025 additions) – Dallas CBD View

Source: Roadway Networks are Year 1999 (DARTNPE.BAS0299) and Year 2025 (DARTNPE.MOS2025.JUN2404)



## 1.4 TRANSIT NETWORK

The transit network used for both the opening day estimates and year 2025 forecasts was the full project network included in the New Starts submittal. Figure D10 shows a map of this network, including DART local bus, DART express bus, DART LRT and the TRE. Because the DFWRTM is a regional model and contains the information for the entire MPA through each model, the local and express bus service operated by The T is also included. As previously stated, DCTA was in the initial planning phases of development at the time these models were prepared, so DCTA is not included in the models. Table D1 shows a summary of the transit supply information from the build alternative used in the opening day and year 2025 forecasts.

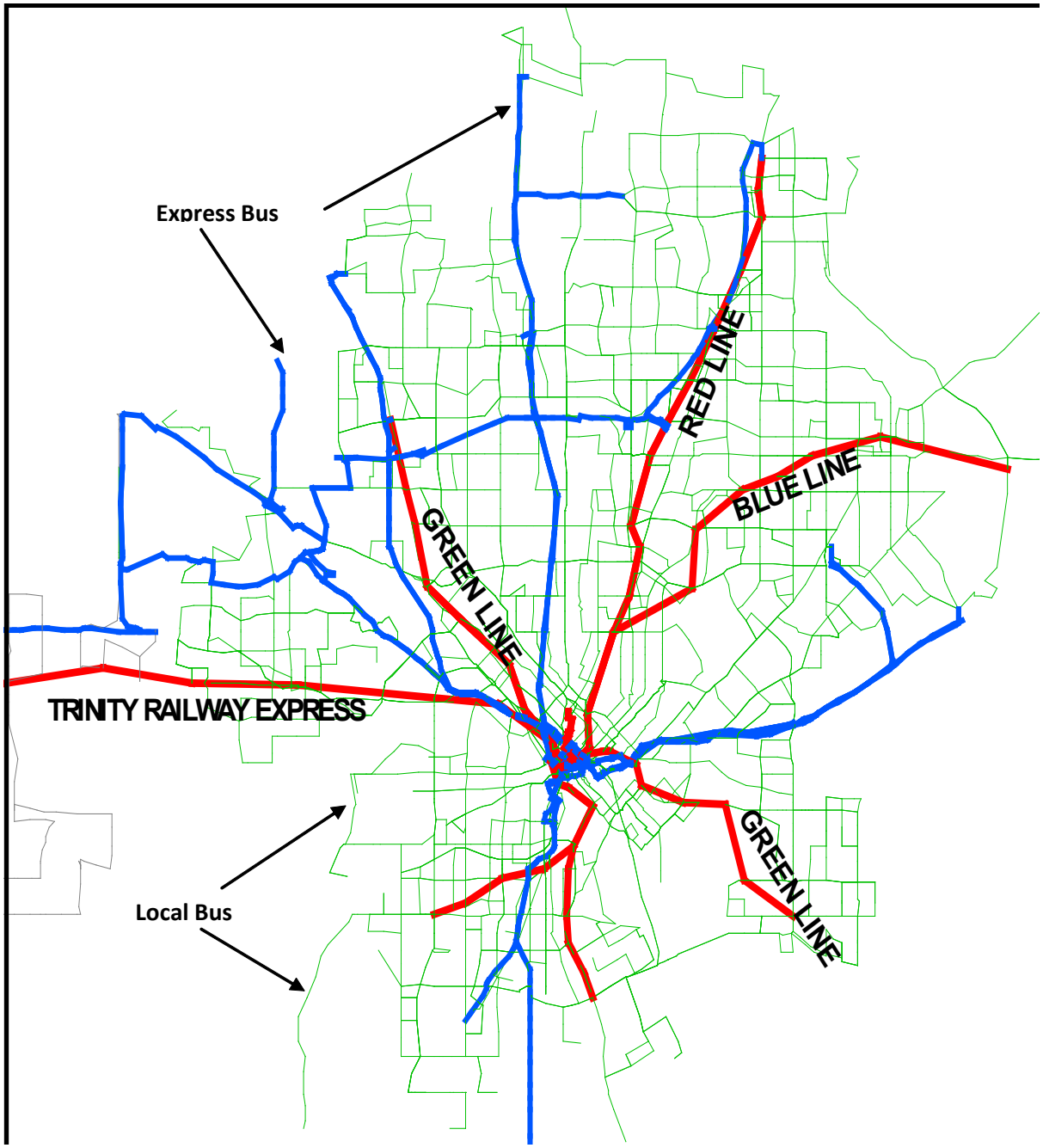



Figure D10 – Before Modeling Transit Network Opening Day and Year 2025, Green Line MOS

Source: DART MOSUP730 Build Transit Network for NWSE-Green Line FFGA

Table D1
Before Transit Supply Statistics from DFWRTM Coded Network*

| MODE | PEAK FLEET VEHICLES | VEHICLE TRIPS | VEHICLE MILES | VEHICLE HOURS |
|---|---|---|---|---|
| Local Bus | 860 | 10,810 | 105,000 | 7,040 |
| Express Bus | 80 | 510 | 9,700 | 390 |
| **BUS SUBTOTAL** | 940 | 11,320 | 114,700 | 7,430 |
| Light Rail | 130 | 1,280 | 34,100 | 1,070 |
| Commuter Rail | 10 | 80 | 2,700 | 80 |
| **RAIL SUBTOTAL** | 140 | 1,360 | 36,800 | 1,150 |
| **SYSTEM TOTAL** | 1,080 | 12,680 | 151,500 | 8,580 |

**Note: Opening Day and 2025 Forecast used identical transit networks for Before estimates.*

## 1.5 DFWRTM MODELING PARAMETERS AND SETTINGS

The travel model was applied to the Green Line MOS as described in the documentation. However, there are some model parameters that can be user specified or directed. These include parking costs, terminal times, pulse times, specification of walk and drive access link characteristics, and transit fares. Table D2 shows these various parameters and the values that were used for the modeling of opening day estimates and year 2025 forecasts. Table D3 shows the transit fare assumptions by fare district. Figure D11 contains a map of the three fare districts used in this analysis. Table D4 lists the parking costs by zone as applied to the Dallas CBD, Fort Worth CBD, and Dallas Love Feld. Maps, which show the specific TAP zone locations in each of these areas, and that are contained in Figures D12, D13, and D14.

Table D2 – DFWRTM Parameters and Settings for Before Modeling

| PARAMETER | DESCRIPTION | SETTINGS | DFWRTM PROGRAM |
|---|---|---|---|
| Drive appraoch link speed | Speed (mph) varied by area type (1–5) | 11, 12, 17, 21, 23 | TFOCUS |
| Walk approach link maximum length | Distance (ft.) to feeder bus | 13,200 | ACCLINK |
| Walk approach link maximum length | Distance (ft.) to rail | 13,200 | ACCLINK |
| Maximum number of drive approach links | Number allowed per zone | 8 | ACCLINK |
| Maximum number of walk approach links | Number allowed per zone | 4 | ACCLINK |
| Transit fares) (See Table D3) | Number of districts | 3 (DART, FWTA and remainder) | TPATH |
| Pulse Nodes (specified at each rail station) | Timed transfer at rail stations-maximum time for bus to rail transfer | 3 mins. = bus to light rail 5 mins = bus to commuter rail | TPATH |
| Parking Costs (see Table D4) | Assigned to CBD zones and Dallas Love Field | Specified in 1984 dollars | ZDIST |
| Production Terminal Time | Assigned by area type (minutes*100) | 200, 130, 120, 100, 100 | ZDIST |
| Attraction Terminal Time | Assigned by area type (minutes*100) | 900, 500, 240, 200, 200 | ZDIST |
| Source: DFWRTM | | | |

## Table D3 – DFWRTM Transit Fares by District for Before Modeling (1984 dollars)

| DISTRICT TO DISTRICT | 1 (DART) | 2 (THE T) | 3 (REMAINDER) |
|---|---|---|---|
| 1 (DART) | $0.75 | $1.55 | $2.30 |
| 2( The T) | $1.55 | $0.75 | $1.55 |
| 3 (Remainder) | $2.30 | $1.55 | $0.60 |
| Maximum number of drive approach links | Number allowed per zone | 8 | ACCLINK |

**Note: Transfer Penalty for DART Express Bus – additional $0.70 for Local to Express Bus or Rail to Express Bus. Source: DFWRTM*

Figure D11 – DFWRTM Transit Fare District Map for Before Modeling

Source: DFWRTM

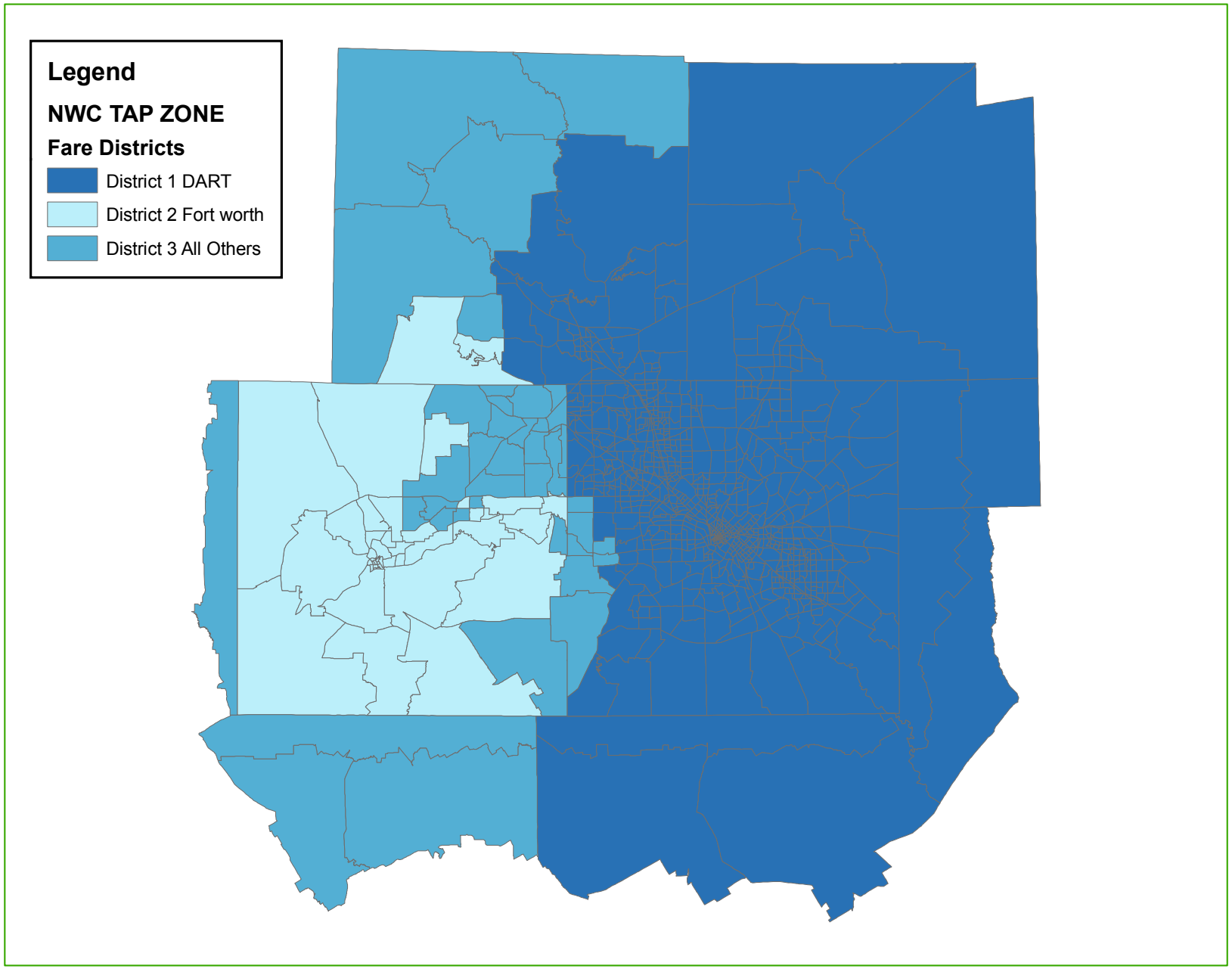


Table D4 – DFWRTM Parking Costs by Zone for Before Modeling
(1984 dollars)

| DALLAS CBD ZONE | PARKING COSTS | FORT WORTH CBD ZONE | PARKING COST | LOVE FIELD ZONE | PARKING COST |
|---|---|---|---|---|---|
| 943 – 946 | $3.10 | 206 | $1.50 | 794 | $0.88 |
| 947-949 | $3.30 | 211 | $2.40 | | |
| 950-952 | $2.30 | 212 | $4.00 | | |
| 953-955 | $2.10 | 213 | $2.10 | | |
| 956-957 | $1.05 | 214 | $4.40 | | |
| 958-961 | $1.30 | 215 | $1.40 | | |
| 962-963 | $3.20 | 216 | $1.50 | | |
| 964-965 | $4.50 | 217 | $0.65 | | |
| 966-967 | $4.40 | 218 | $1.05 | | |
| 968-970 | $3.50 | 219 | $2.30 | | |
| 971 | $3.90 | 220 | $2.30 | | |
| 972-973 | $2.40 | | | | |
| 974-975 | $2.10 | | | | |
| 976-979 | $2.80 | | | | |
| 980-981 | $3.90 | | | | |
| 982-985 | $4.90 | | | | |
| 986-987 | $4.60 | | | | |
| 988-991 | $3.10 | | | | |

## Figure D12 – DFWRTM Dallas CBD Zones for Parking Cost Allocation

Source: DFWRTM

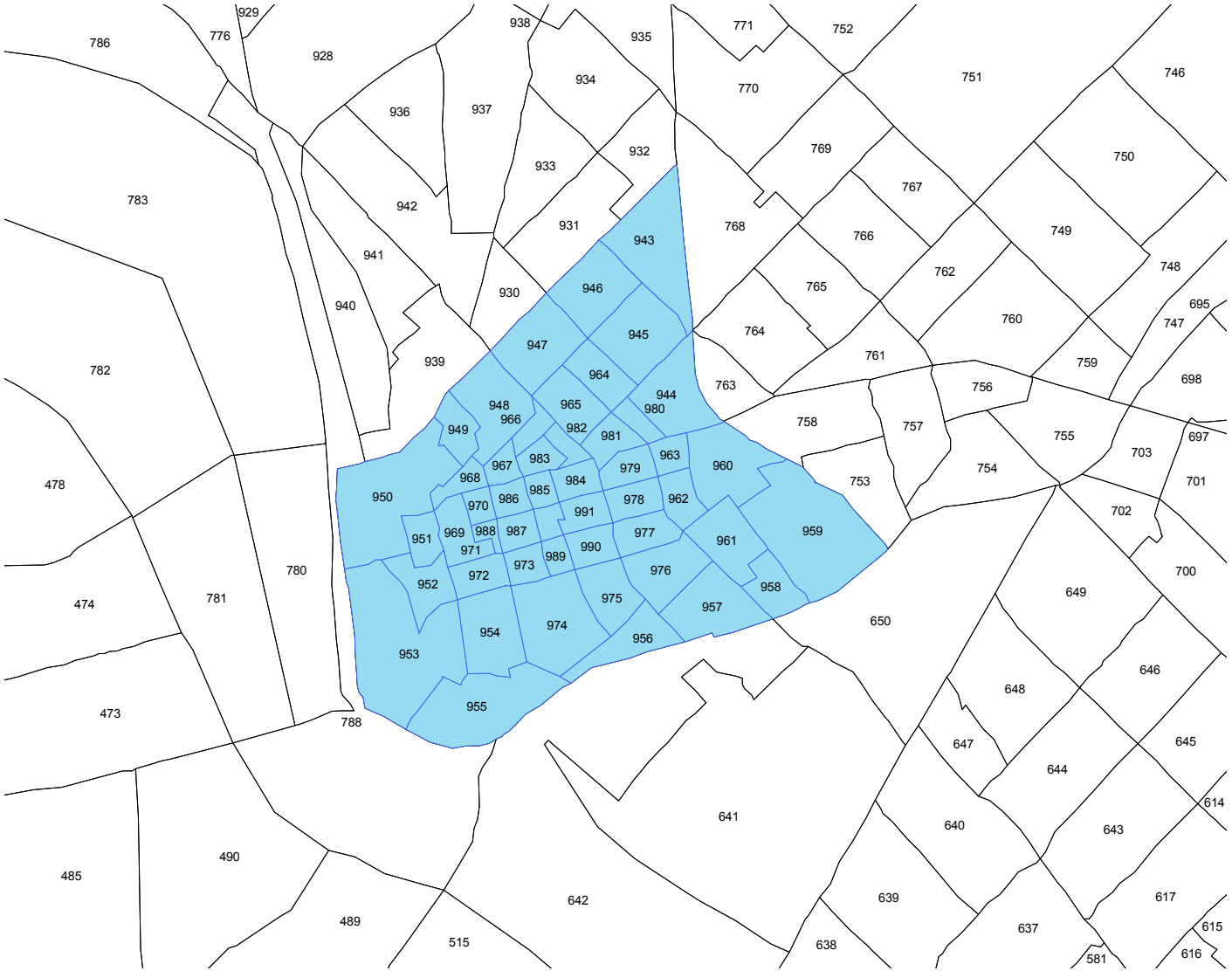
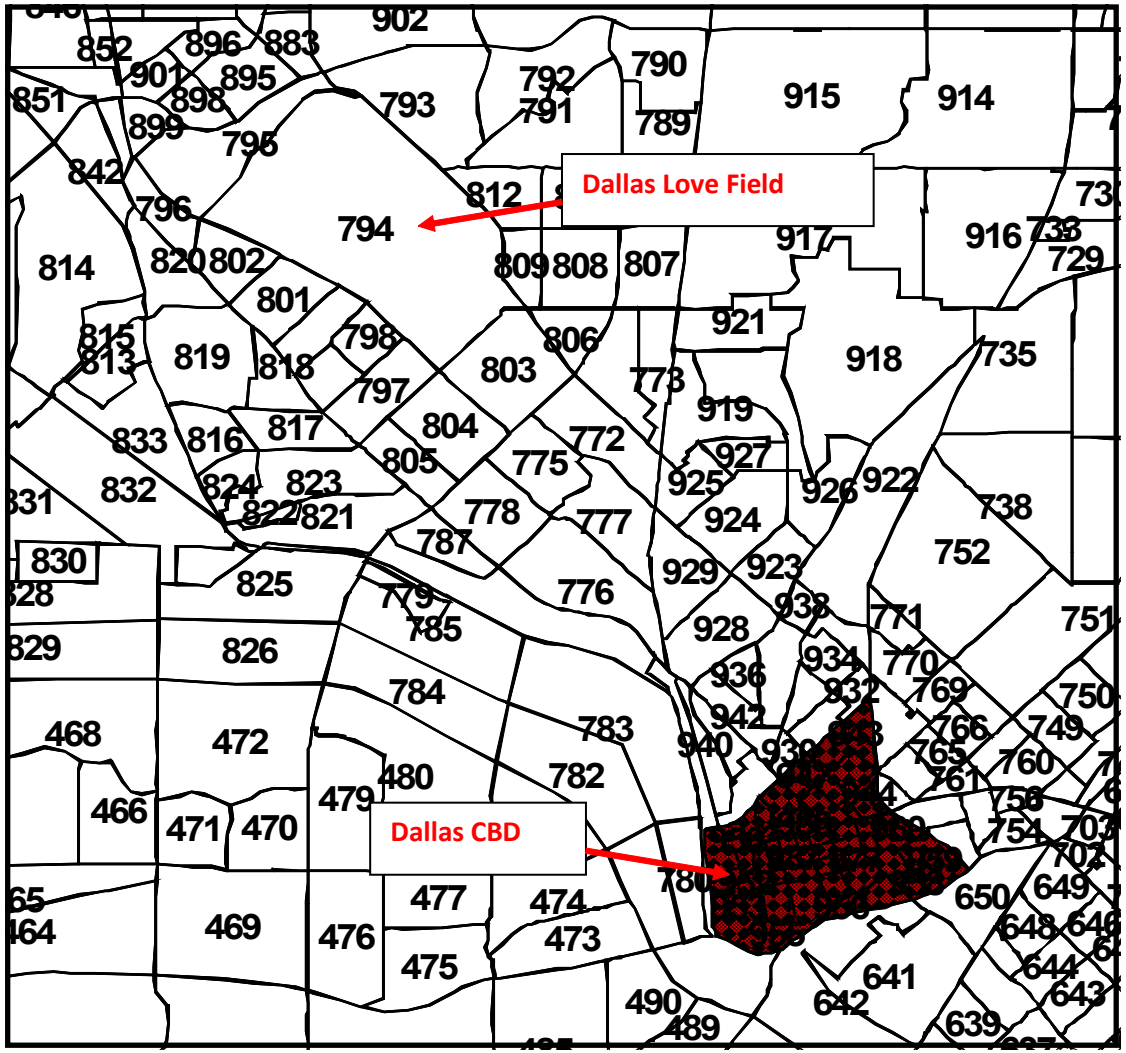


Figure D13 – DFWRTM Dallas Love Field Zone for Parking Cost Allocation

Source: DFWRTM



# Appendix E - Green Line Model Output

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# 1.0 Green Line Model Output

## 1.1 OPENING DAY RIDERSHIP ESTIMATES

The opening day estimates of ridership were developed to reflect anticipated ridership on the day service began on the entire federal project as defined by the FFGA. Since demographic data and roadway networks for 2010 were not available at the time the FFGA modeling was completed, the closest available estimate was used. The demographic dataset represented 2002 estimates of population and employment for the region and the opening day roadway network used was for the year 1999. The complete build transit network was included in the opening day estimates as it was anticipated the entire New Starts project would open at the same time.

Tables E1, E2, and E3 contain summary information from the opening day estimate for the entire federal project, including linked and unlinked trips and an overall summary of mode of access distribution by transit mode. To provide information regarding the distribution and orientation of the transit trips for this model run, the mode choice model printouts were based on geographic districts within the NCTCOG region. Tables E4 through E9 were created from this data, which is included in Appendix D. These tables summarize the transit and vehicle trips of 63 summary districts as generated by mode choice, including home-based work, home-based non-work and non-home-based trips. The trips reported are those produced in each district and reflect attraction to each district.

Table E1 – Opening Day Estimate - Transit Summary Statistics

| PATRONAGE | LOCAL BUS | EXPRESS BUS | LIGHT RAIL | COMMUTER RAIL | TOTAL RAIL | TOTAL |
|---|---|---|---|---|---|---|
| Unlinked Transit Trips | 176,600 | 5,560 | 106,900 | 8,300 | 115,200 | 297,360 |
| Linked Transit Trips | 125,300 | 3,000 | 50,900 | 4,400 | 55,300 | 183,600 |
| Transfers to Rail (%) | | | | | | 38.3% |
| Passengers per Vehicle Mile | 1.7 | 0.6 | 3.1 | 3.1 | 3.1 | 2.0 |
| Daily Passenger Miles | 579,500 | 31,600 | 806,700 | 122,100 | 928,800 | 1,539,900 |
| Daily Passenger Hours | 39,400 | 2,900 | 26,200 | 3,700 | 29,900 | 72,200 |
| Avg Passenger Trip Length (miles) | 3.3 | 5.7 | 7.5 | 14.7 | 8.1 | 5.2 |
| Avg Passenger Trip Length (minutes) | 13.4 | 31.3 | 14.7 | 26.7 | 15.6 | 14.6 |
| Average Speed (mph) | 14.7 | 10.9 | 30.8 | 33.0 | 31.1 | 21.3 |

*Source: DFWRTM*

## Table E2 – Opening Day Estimate Systemwide Mode of Access to Rail

| MODE OF ACCESS | % TO LIGHT RAIL | % TO COMMUTER RAIL | % TO TAL RAIL |
|---|---|---|---|
| Walk | 21.0 % | 23.2 % | 21.3 % |
| Drive | 26.7 % | 29.8 % | 26.8 % |
| Local Bus | 42.3 % | 39.7 % | 42.0 % |
| Express Bus | 0.08 % | 0.7 % | 0.1 % |
| Rail | 9.7 % | 0.7 % | 9.4 % |

*Source: DFWRTM*

The first comparison of actual ridership on the line will include overall riders in the corridor and the daily station activity. The opening day estimate for riders in the corridor was 40,276 riders per day, as shown in Table E3. Also included in Table E3 are average daily ridership projections by station along the Green Line MOS. The ridership is shown as boarding or alighting, by mode of access, and totaled for each station and corridor. Figures B1 through B7 represent this data graphically.

## Table E3 – Opening Day Estimate - Station Daily Volume by Mode of Arrivals and Departures

| STATION | BOARDINGS (TO RAIL) WALK | AUTO | BUS | XBUS | XRAIL | TOTAL | ALIGHTINGS (FROM RAIL) WALK | BUS | XBUS | XRAIL | TOTAL | TOTAL STATION ACTIVITY | TOTAL STATION RIDERS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NORTHWEST CORRIDOR | | | | | | | | | | | | | |
| Victory | 401 | 0 | 128 | 0 | 4,808 | 5,337 | 456 | 52 | 0 | 235 | 743 | 6,080 | 3,040 |
| Market Center | 417 | 918 | 148 | 0 | 0 | 1,483 | 277 | 320 | 0 | 0 | 597 | 2,080 | 1,040 |
| Parkland | 309 | 0 | 894 | 0 | 0 | 1,203 | 605 | 1,424 | 0 | 0 | 2,029 | 3,232 | 1,616 |
| Inwood | 897 | 778 | 212 | 0 | 0 | 1,887 | 561 | 397 | 0 | 0 | 958 | 2,845 | 1,423 |
| Burbank | 292 | 0 | 281 | 0 | 0 | 573 | 1,096 | 981 | 0 | 0 | 2,077 | 2,650 | 1,325 |
| Bachman | 446 | 691 | 908 | 0 | 0 | 2,045 | 371 | 495 | 0 | 0 | 866 | 2,911 | 1,456 |
| Walnut/Denton | 311 | 293 | 297 | 0 | 0 | 901 | 471 | 172 | 0 | 0 | 643 | 1,544 | 772 |
| Royal | 282 | 487 | 265 | 0 | 0 | 1,034 | 392 | 410 | 0 | 0 | 802 | 1,836 | 918 |
| Farmers Branch | 104 | 1,644 | 1,811 | 68 | 0 | 3,627 | 244 | 705 | 0 | 0 | 949 | 4,576 | 2,288 |
| **Northwest Corridor Total** | **3,459** | **4,811** | **4,944** | **68** | **4,808** | **18,090** | **4,473** | **4,956** | **0** | **235** | **9,664** | **27,754** | **13,877** |
| CBD | | | | | | | | | | | | | |
| Pearl | 188 | 0 | 147 | 0 | 399 | 734 | 3,494 | 39 | 0 | 1,193 | 4,726 | 5,460 | 2,730 |
| ST. Paul | 289 | 0 | 16 | 0 | 0 | 305 | 7,472 | 6 | 0 | 0 | 7,478 | 7,783 | 3,892 |
| Akard | 457 | 0 | 0 | 0 | 0 | 457 | 10,292 | 0 | 0 | 0 | 10,292 | 10,749 | 5,375 |
| West End | 376 | 0 | 1,337 | 7 | 1,086 | 2,806 | 3,693 | 1,453 | 0 | 367 | 5,513 | 8,319 | 4,160 |
| **CBD Total** | **1,310** | **0** | **1,500** | **7** | **1,485** | **4,302** | **24,951** | **1,498** | **0** | **1,560** | **28,009** | **32,311** | **16,156** |

*NOTE: TABLE CONTINUES ON NEXT PAGE*

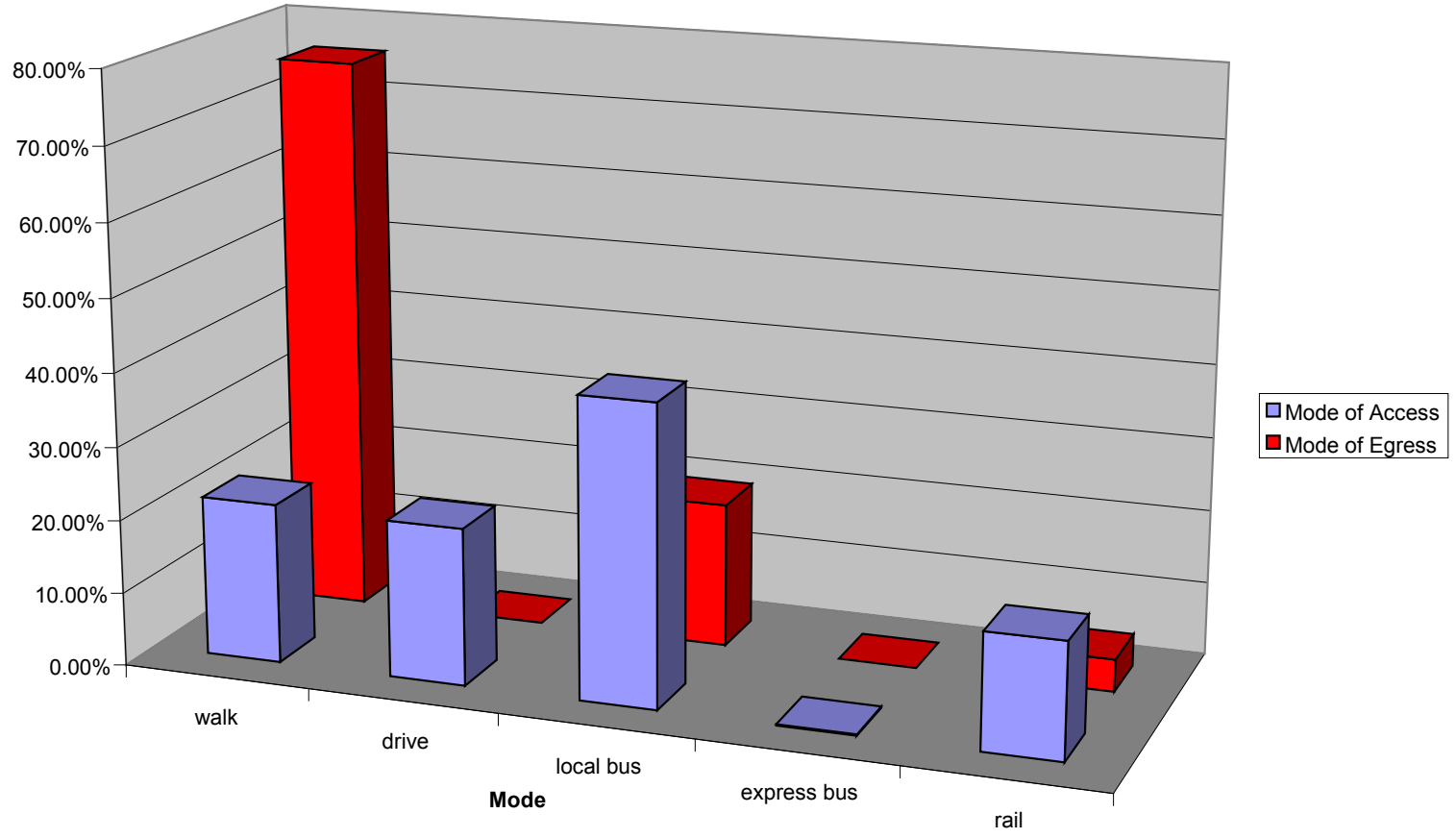
*Source: DFWRTM*

Table E3 – Opening Day Estimate - Station Daily Volume by Mode of Arrivals and Departures, continued

| STATION | BOARDINGS (TO RAIL) WALK | AUTO | BUS | XBUS | XRAIL | TOTAL | ALIGHTINGS (FROM RAIL) WALK | BUS | XBUS | XRAIL | TOTAL | TOTAL STATION ACTIVITY | TOTAL STATION RIDERS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SOUTHEAST CORRIDOR | | | | | | | | | | | | | |
| Buckner | 305 | 1,593 | 1,621 | 0 | 0 | 3,519 | 67 | 279 | 0 | 0 | 346 | 3,865 | 1,933 |
| Lake June | 407 | 441 | 3,157 | 0 | 0 | 4,005 | 69 | 148 | 0 | 0 | 217 | 4,222 | 2,111 |
| Lawnview | 371 | 1,010 | 1,391 | 0 | 0 | 2,772 | 43 | 86 | 0 | 0 | 129 | 2,901 | 1,451 |
| Hatcher | 1,254 | 0 | 2,068 | 0 | 0 | 3,322 | 117 | 152 | 0 | 0 | 269 | 3,591 | 1,796 |
| MLK | 668 | 681 | 1,280 | 0 | 0 | 2,629 | 96 | 227 | 0 | 0 | 323 | 2,952 | 1,476 |
| Fair Park | 317 | 0 | 134 | 0 | 0 | 451 | 189 | 313 | 0 | 0 | 502 | 953 | 477 |
| Baylor | 426 | 0 | 86 | 0 | 0 | 512 | 631 | 281 | 0 | 0 | 912 | 1,424 | 712 |
| Deep Ellum | 171 | 0 | 112 | 0 | 0 | 283 | 248 | 47 | 0 | 0 | 295 | 578 | 289 |
| **Southeast Corridor Total** | **3,919** | **3,725** | **9,849** | **0** | **0** | **17,493** | **1,460** | **1,533** | **0** | **0** | **2,993** | **20,486** | **10,243** |
| | | | | | | | | | | | | | |
| **Green Line Total** | **8,688** | **8,536** | **16,293** | **75** | **6,293** | **39,885** | **30,884** | **7,987** | **0** | **1,795** | **40,666** | **80,551** | **40,276** |

** NOTE: NWSE BASE 2002 MOS UP7 Run Lines 3 & 4 Merged*
*Source: DFWRTM*

Figure E1 – Opening Day Estimates Green Line-MOS Mode of Access/Egress – Total Corridor



## Figure E2 – Opening Day Estimates Green Line MOS Mode of Access/Egress – Northwest Corridor

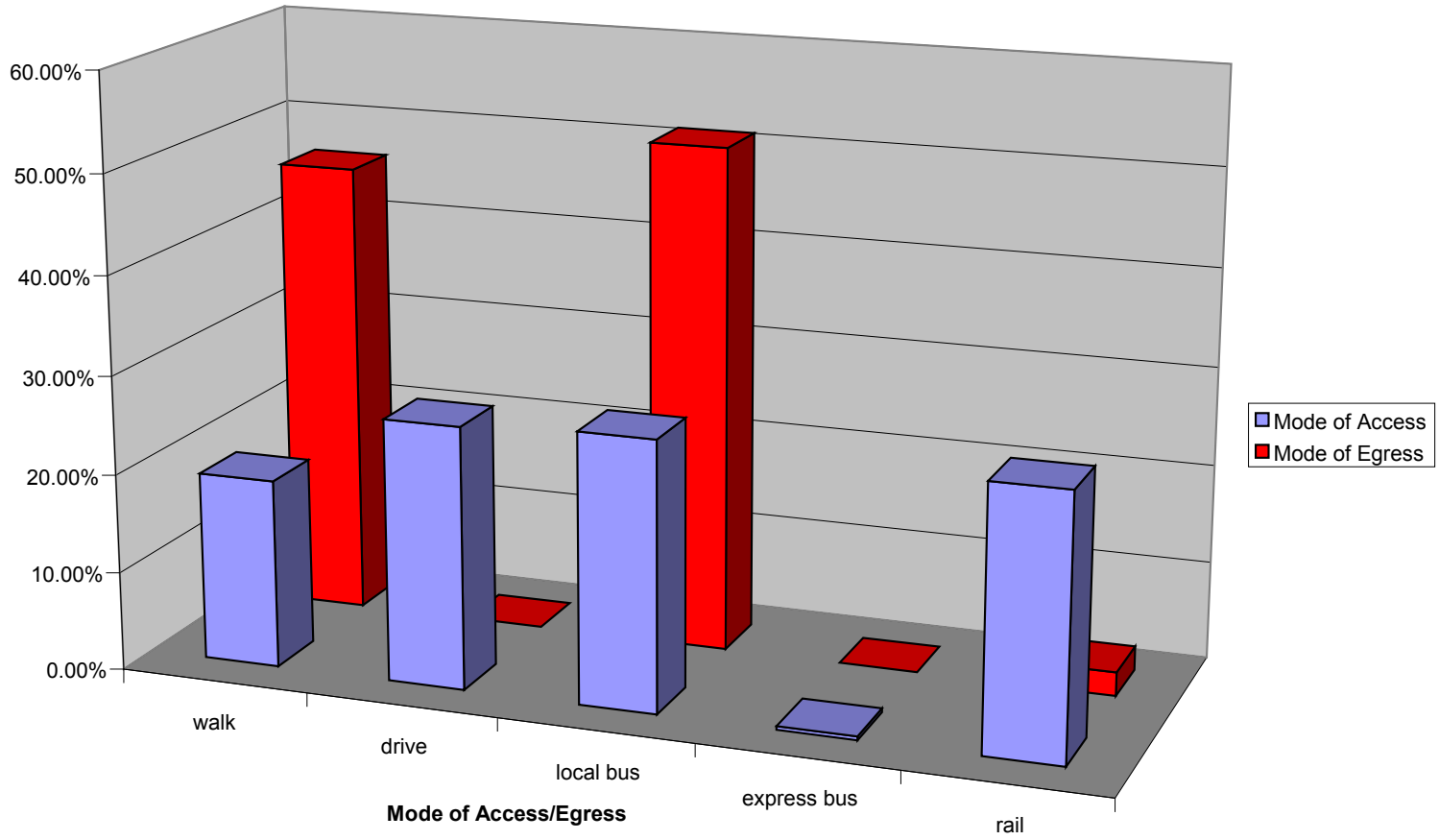
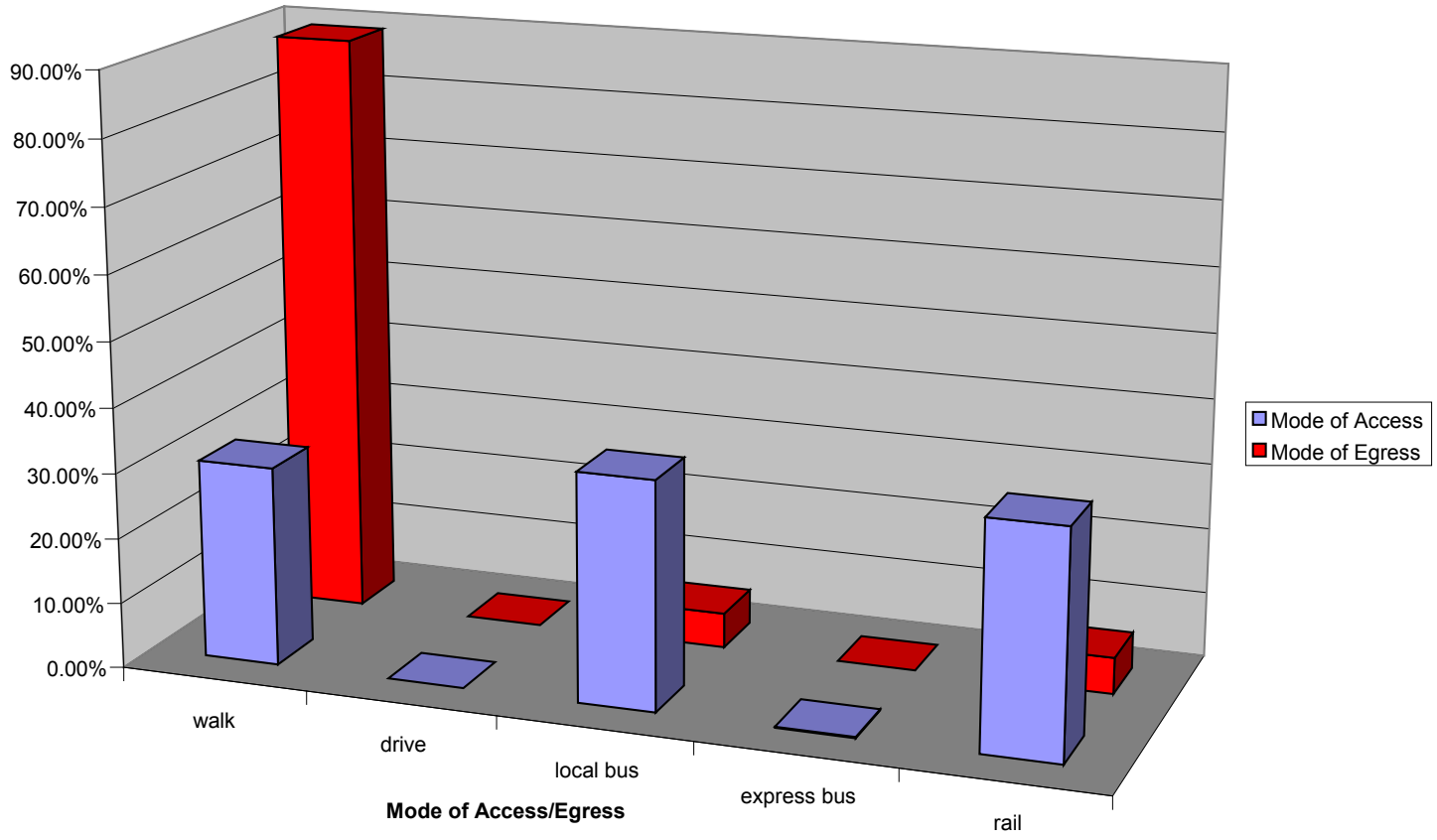


Figure E3 – Opening Day Estimates Green Line MOS Mode of Access/Egress – Dallas CBD



## Figure E4 – Opening Day Estimates Green Line MOS Mode of Access/Egress – Southeast Corridor

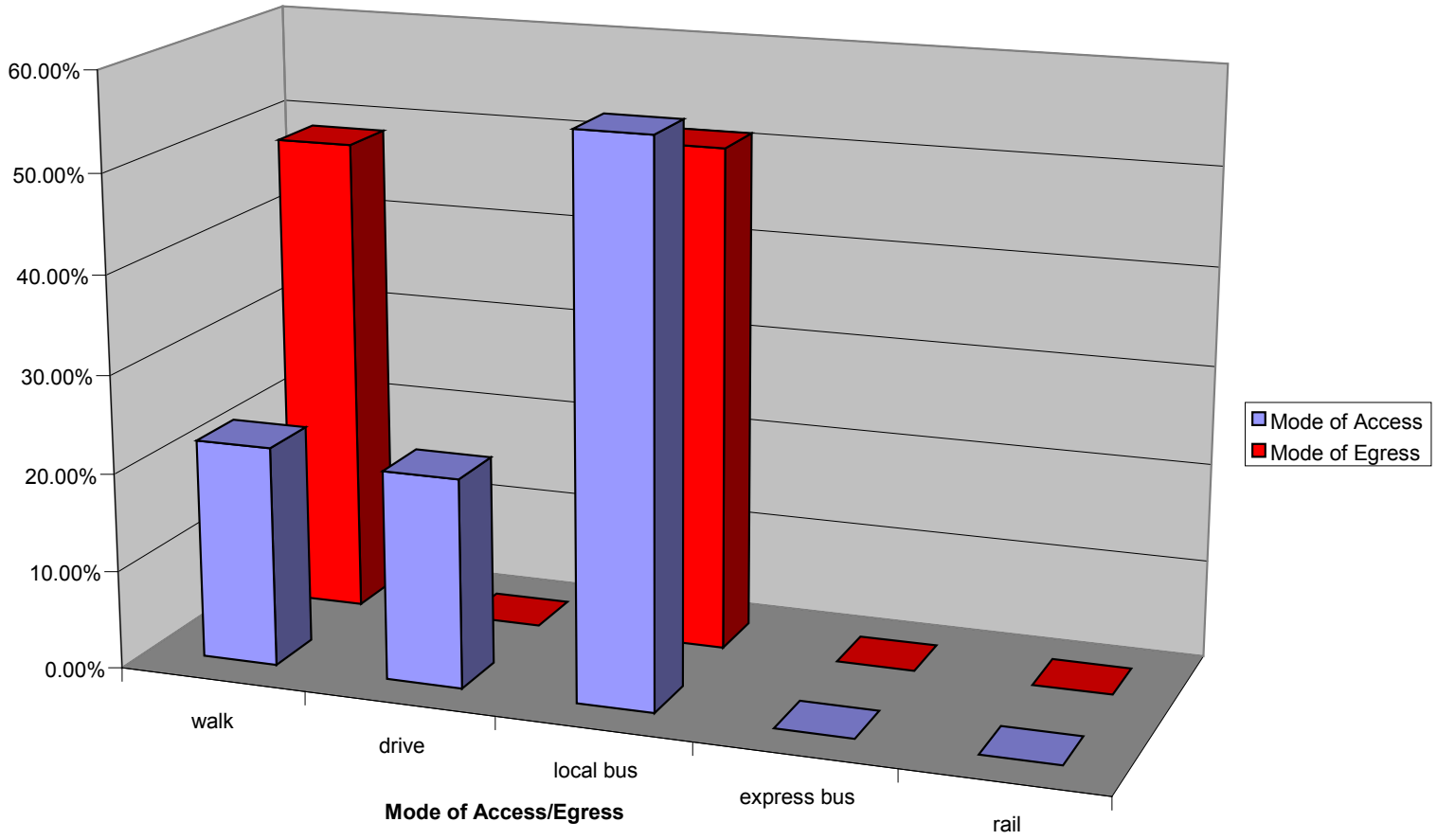
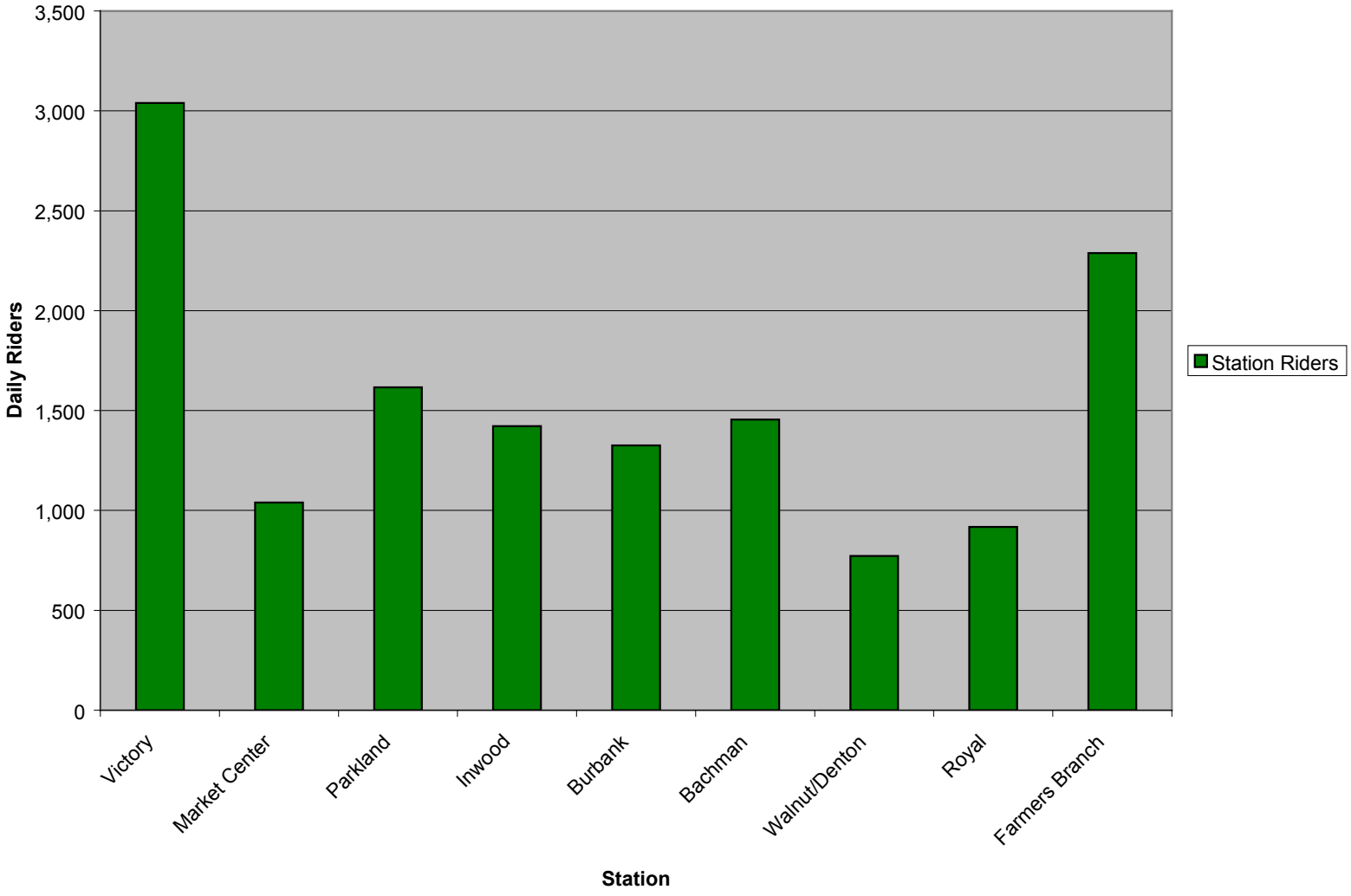


Figure E5 – Opening Day Estimates Green Line MOS Daily Station Riders – Northwest Corridor



## Figure E6 – Opening Day Estimates Green Line MOS Daily Station Riders – Dallas CBD

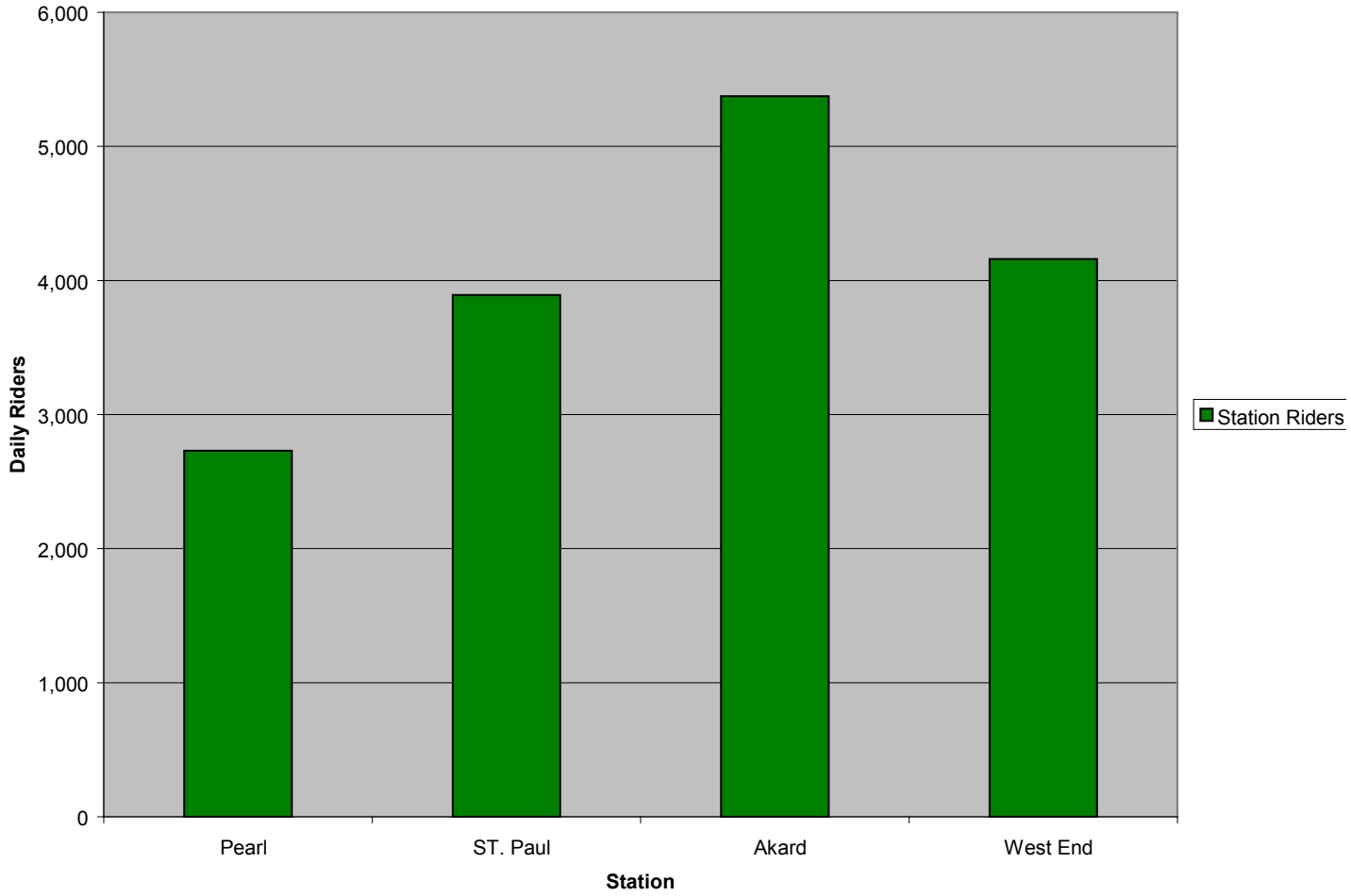


Figure E7 – Opening Day Estimates Green Line MOS Daily Station Riders – Southeast Corridor

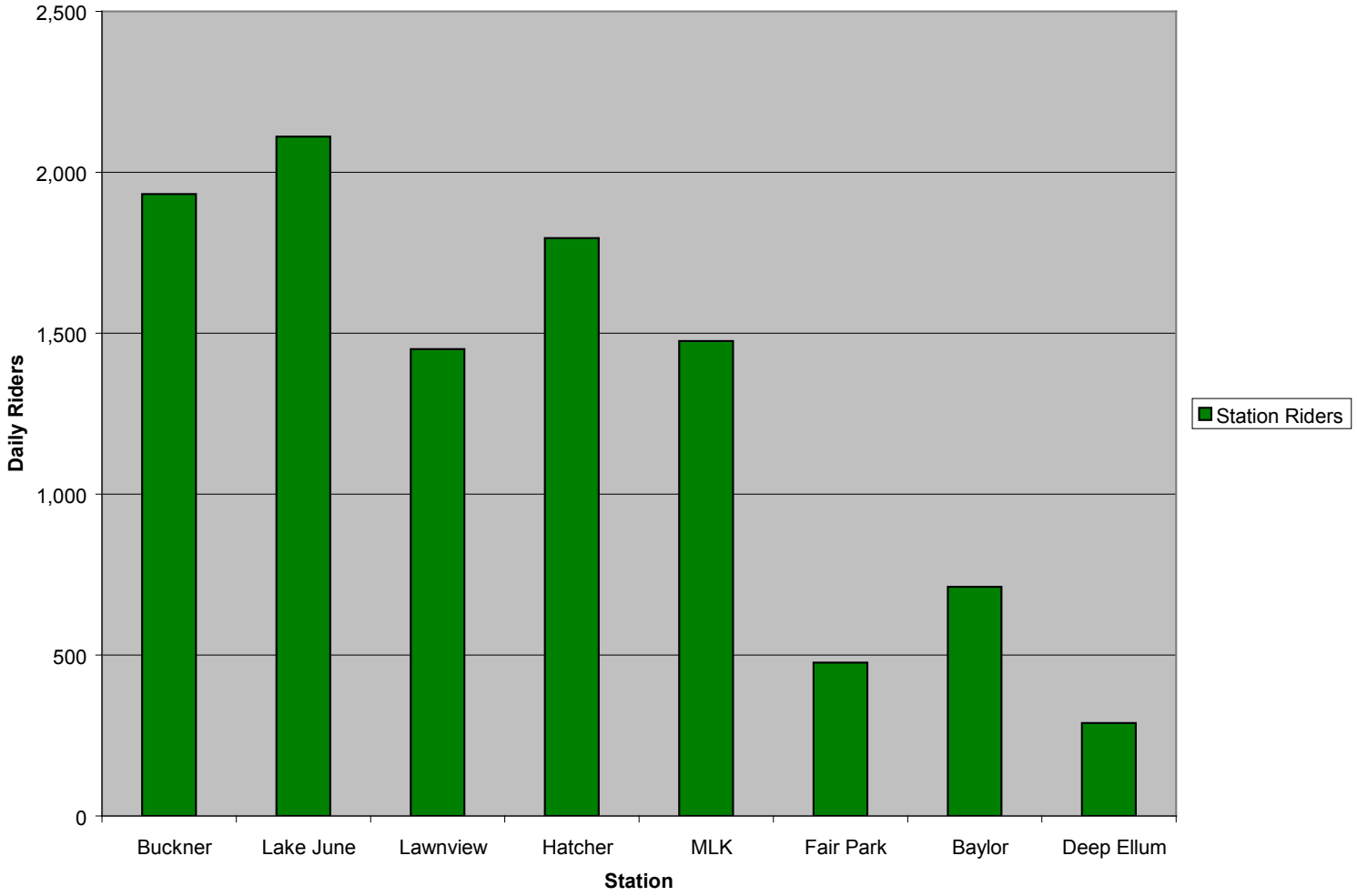


Table E4 – Opening Day Estimate
Green Line MOS Mode Choice Person Trip Summary – Home-Based Work Productions

| DISTRICT NUMBER | DRIVE ALONE | | SHARE RIDE 2 | | SHARE RIDE 3+ | | TRANSIT/WALK | | TRANSIT/AUTO | | ALL MODES | | TOTAL VEHICLE TRIPS | AVG AUTO OCCUPANCY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | | |
| 1 | 1223 | 41.2 | 516 | 17.4 | 232 | 7.8 | 993 | 33.5 | 1 | 0.0 | 2965 | 100.0 | 1557 | 1.27 |
| 2 | 27878 | 60.8 | 6768 | 14.8 | 3398 | 7.4 | 7071 | 15.4 | 713 | 1.6 | 45828 | 100.0 | 32358 | 1.18 |
| 3 | 138209 | 69.1 | 26117 | 13.1 | 11188 | 5.6 | 20707 | 10.4 | 3733 | 1.9 | 199955 | 100.0 | 154877 | 1.13 |
| 4 | 56168 | 65.5 | 11646 | 13.6 | 5453 | 6.4 | 11182 | 13.0 | 1359 | 1.6 | 85808 | 100.0 | 63750 | 1.15 |
| 5 | 48835 | 61.1 | 11928 | 14.9 | 6093 | 7.6 | 11518 | 14.4 | 1596 | 2.0 | 79971 | 100.0 | 56764 | 1.18 |
| 6 | 59522 | 69.6 | 11729 | 13.7 | 5219 | 6.1 | 7387 | 8.6 | 1603 | 1.9 | 85461 | 100.0 | 67071 | 1.14 |
| 7 | 31521 | 72.9 | 6170 | 14.3 | 2753 | 6.4 | 2159 | 5.0 | 614 | 1.4 | 43217 | 100.0 | 35494 | 1.14 |
| 8 | 34708 | 77.8 | 6605 | 14.8 | 2831 | 6.3 | 175 | 0.4 | 286 | 0.6 | 44605 | 100.0 | 38924 | 1.13 |
| 9 | 71207 | 75.4 | 13349 | 14.1 | 5789 | 6.1 | 3364 | 3.6 | 715 | 0.8 | 94425 | 100.0 | 79749 | 1.13 |
| 10 | 46062 | 75.7 | 8133 | 13.4 | 3471 | 5.7 | 2519 | 4.1 | 641 | 1.1 | 60826 | 100.0 | 51248 | 1.13 |
| 11 | 100905 | 74.1 | 18300 | 13.4 | 7658 | 5.6 | 7561 | 5.6 | 1732 | 1.3 | 136157 | 100.0 | 112526 | 1.13 |
| 12 | 45308 | 76.3 | 8036 | 13.5 | 3438 | 5.8 | 2178 | 3.7 | 394 | 0.7 | 59354 | 100.0 | 50435 | 1.13 |
| 13 | 82755 | 75.7 | 16390 | 15.0 | 7014 | 6.4 | 2355 | 2.2 | 864 | 0.8 | 109378 | 100.0 | 93213 | 1.14 |
| 14 | 22802 | 75.7 | 4215 | 14.0 | 1789 | 5.9 | 1104 | 3.7 | 204 | 0.7 | 30114 | 100.0 | 25487 | 1.13 |
| 15 | 49919 | 77.9 | 8783 | 13.7 | 3634 | 5.7 | 1269 | 2.0 | 471 | 0.7 | 64076 | 100.0 | 55483 | 1.12 |
| 16 | 59464 | 77.4 | 10283 | 13.4 | 4336 | 5.6 | 2012 | 2.6 | 746 | 1.0 | 76841 | 100.0 | 66004 | 1.12 |
| 17 | 149374 | 76.5 | 27474 | 14.1 | 11760 | 6.0 | 4021 | 2.1 | 2509 | 1.3 | 195139 | 100.0 | 166905 | 1.13 |
| 18 | 86563 | 75.5 | 17419 | 15.2 | 7683 | 6.7 | 1666 | 1.5 | 1363 | 1.2 | 114695 | 100.0 | 97751 | 1.14 |
| 19 | 22934 | 74.7 | 4837 | 15.8 | 2175 | 7.1 | 225 | 0.7 | 526 | 1.7 | 30697 | 100.0 | 26054 | 1.15 |
| 20 | 16632 | 74.9 | 3338 | 15.0 | 1464 | 6.6 | 286 | 1.3 | 484 | 2.2 | 22201 | 100.0 | 18773 | 1.14 |
| 21 | 81496 | 76.6 | 15753 | 14.8 | 6879 | 6.5 | 1046 | 1.0 | 1158 | 1.1 | 106331 | 100.0 | 91591 | 1.14 |
| 22 | 33119 | 74.6 | 7715 | 17.4 | 3334 | 7.5 | 0 | 0.0 | 253 | 0.6 | 44421 | 100.0 | 38052 | 1.16 |
| 23 | 871 | 41.4 | 490 | 23.3 | 226 | 10.7 | 519 | 24.6 | 0 | 0.0 | 2106 | 100.0 | 1189 | 1.34 |
| 24 | 18196 | 70.1 | 4390 | 16.9 | 1905 | 7.3 | 1368 | 5.3 | 115 | 0.4 | 25975 | 100.0 | 21006 | 1.17 |
| 25 | 66389 | 75.5 | 14254 | 16.2 | 6067 | 6.9 | 811 | 0.9 | 411 | 0.5 | 87932 | 100.0 | 75473 | 1.15 |

## Table E4 – Opening Day Estimate
## Green Line MOS Mode Choice Person Trip Summary – Home-Based Work Productions, continued

| DISTRICT NUMBER | DRIVE ALONE | | SHARE RIDE 2 | | SHARE RIDE 3+ | | TRANSIT/WALK | | TRANSIT/AUTO | | ALL MODES | | TOTAL VEHICLE TRIPS | AVG AUTO OCCUPANCY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | | |
| 26 | 9784 | 77.0 | 1848 | 14.6 | 779 | 6.1 | 214 | 1.7 | 76 | 0.6 | 12700 | 100.0 | 10959 | 1.13 |
| 27 | 74278 | 75.0 | 16178 | 16.3 | 6761 | 6.8 | 976 | 1.0 | 824 | 0.8 | 99017 | 100.0 | 84548 | 1.15 |
| 28 | 49723 | 83.7 | 6779 | 11.4 | 2469 | 4.2 | 240 | 0.4 | 177 | 0.3 | 59388 | 100.0 | 53909 | 1.09 |
| 29 | 92439 | 79.1 | 16000 | 13.7 | 6411 | 5.5 | 1315 | 1.1 | 648 | 0.6 | 116813 | 100.0 | 102507 | 1.12 |
| 30 | 82389 | 77.2 | 16766 | 15.7 | 7226 | 6.8 | 23 | 0.0 | 354 | 0.3 | 106758 | 100.0 | 93103 | 1.14 |
| 31 | 3 | 75.0 | 1 | 25.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 4 | 100.0 | 4 | 1.12 |
| 32 | 84494 | 78.4 | 15347 | 14.2 | 6596 | 6.1 | 802 | 0.7 | 534 | 0.5 | 107773 | 100.0 | 94295 | 1.13 |
| 33 | 150028 | 80.3 | 25811 | 13.8 | 10553 | 5.7 | 22 | 0.0 | 354 | 0.2 | 186767 | 100.0 | 166337 | 1.12 |
| 34 | 62082 | 75.9 | 13625 | 16.7 | 5969 | 7.3 | 0 | 0.0 | 126 | 0.2 | 81802 | 100.0 | 70820 | 1.15 |
| 35 | 41482 | 76.6 | 8732 | 16.1 | 3835 | 7.1 | 0 | 0.0 | 72 | 0.1 | 54121 | 100.0 | 47085 | 1.15 |
| 36 | 43051 | 77.2% | 8512 | 15.3 | 3495 | 6.3 | 433 | 0.8 | 247 | 0.4 | 55738 | 100.0 | 48434 | 1.14 |
| 37 | 18739 | 74.9 | 4312 | 17.2 | 1955 | 7.8 | 0 | 0.0 | 0 | 0.0 | 25006 | 100.0 | 21526 | 1.16 |
| 38 | 37971 | 76.5 | 7803 | 15.7 | 3379 | 6.8 | 280 | 0.6 | 193 | 0.4 | 49626 | 100.0 | 42963 | 1.14 |
| 39 | 8453 | 71.3 | 2349 | 19.8 | 1061 | 8.9 | 0 | 0.0 | 0 | 0.0 | 11863 | 100.0 | 9970 | 1.19 |
| 40 | 30787 | 74.3 | 7290 | 17.6 | 3177 | 7.7 | 0 | 0.0 | 183 | 0.4 | 41436 | 100.0 | 35457 | 1.16 |
| 41 | 31282 | 80.8 | 5263 | 13.6 | 2065 | 5.3 | 110 | 0.3 | 0 | 0.0 | 38721 | 100.0 | 34580 | 1.12 |
| 42 | 22964 | 75.5 | 5180 | 17.0 | 2292 | 7.5 | 0 | 0.0 | 0 | 0.0 | 30436 | 100.0 | 26294 | 1.16 |
| 43 | 50818 | 82.1 | 8115 | 13.1 | 2956 | 4.8 | 0 | 0.0 | 0 | 0.0 | 61890 | 100.0 | 55830 | 1.11 |
| 44 | 54016 | 75.2 | 12192 | 17.0 | 5347 | 7.4 | 98 | 0.1 | 222 | 0.3 | 71875 | 100.0 | 61837 | 1.16 |
| 45 | 105638 | 77.6 | 20732 | 15.2 | 9004 | 6.6 | 131 | 0.1 | 567 | 0.4 | 136070 | 100.0 | 18908 | 1.14 |
| 46 | 53178 | 76.0 | 11520 | 16.5 | 4796 | 6.9 | 0 | 0.0 | 486 | 0.7 | 69981 | 100.0 | 60486 | 1.15 |
| 47 | 79917 | 77.2 | 15807 | 15.3 | 6626 | 6.4 | 458 | 0.4 | 681 | 0.7 | 103490 | 100.0 | 89958 | 1.14 |
| 48 | 34559 | 78.3 | 6390 | 14.5 | 2701 | 6.1 | 0 | 0.0 | 502 | 1.1 | 44152 | 100.0 | 38625 | 1.13 |
| 49 | 80756 | 77.4 | 14953 | 14.3 | 6448 | 6.2 | 1310 | 1.3 | 833 | 0.8 | 104299 | 100.0 | 90312 | 1.13 |
| 50 | 22314 | 74.5 | 4869 | 16.2 | 2134 | 7.1 | 0 | 0.0 | 654 | 2.2 | 29971 | 100.0 | 25437 | 1.15 |

Table E4 – Opening Day Estimate
Green Line MOS Mode Choice Person Trip Summary – Home-Based Work Productions, continued

| DISTRICT NUMBER | DRIVE ALONE | | SHARE RIDE 2 | | SHARE RIDE 3+ | | TRANSIT/WALK | | TRANSIT/AUTO | | ALL MODES | | TOTAL VEHICLE TRIPS | AVG AUTO OCCUPANCY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | | |
| 51 | 7433 | 75.0 | 1604 | 16.2 | 732 | 7.4 | 0 | 0.0 | 138 | 1.4 | 9907 | 100.0 | 8470 | 1.15 |
| 52 | 3600 | 64.3% | 1359 | 24.3% | 639 | 11.4% | 0 | 0.0 | 0 | 0.0 | 5599 | 100.0 | 4486 | 1.25 |
| 53 | 16281 | 75.5 | 3415 | 15.8 | 1544 | 7.2 | 0 | 0.0 | 314 | 1.5 | 21554 | 100.0 | 18487 | 1.15 |
| 54 | 18885 | 75.0 | 4339 | 17.2 | 1951 | 7.8 | 0 | 0.0 | 0 | 0.0 | 25174 | 100.0 | 21683 | 1.16 |
| 55 | 22783 | 76.0 | 4872 | 16.3 | 2124 | 7.1 | 0 | 0.0 | 184 | 0.6 | 29963 | 100.0 | 25904 | 1.15 |
| 56 | 19617 | 74.8 | 4576 | 17.5 | 2030 | 7.7 | 0 | 0.0 | 0 | 0.0 | 26223 | 100.0 | 22560 | 1.16 |
| 57 | 19483 | 79.6 | 3566 | 14.6 | 1412 | 5.8 | 0 | 0.0 | 0 | 0.0 | 24462 | 100.0 | 21722 | 1.13 |
| 58 | 6545 | 70.8 | 1855 | 20.1 | 849 | 9.2 | 0 | 0.0 | 0 | 0.0 | 9249 | 100.0 | 7746 | 1.19 |
| 59 | 3099 | 74.0 | 755 | 18.0 | 336 | 8.0 | 0 | 0.0 | 0 | 0.0 | 4190 | 100.0 | 3585 | 1.17 |
| 60 | 9923 | 73.6 | 2474 | 18.3 | 1087 | 8.1 | 0 | 0.0 | 0 | 0.0 | 13484 | 100.0 | 11511 | 1.17 |
| 61 | 16316 | 69.4 | 4922 | 20.9 | 2269 | 9.7 | 0 | 0.0 | 0 | 0.0 | 23508 | 100.0 | 19510 | 1.2 |
| 62 | 29774 | 77.8 | 5597 | 14.6 | 2399 | 6.3 | 0 | 0.0 | 518 | 1.4 | 38289 | 100.0 | 33347 | 1.13 |
| 63 | 5490 | 78.6 | 1035 | 14.8 | 402 | 5.8 | 0 | 0.0 | 62 | 0.9 | 6989 | 100.0 | 6137 | 1.13 |

*NOTE: Results from DARTNPE.BAS0299.AJ5HBW files*

## Table E5 – Opening Day Estimate
## Green Line MOS Mode Choice Person Trip Summary – Home-Based Work Attractions

| DISTRICT NUMBER | DRIVE ALONE | | SHARE RIDE 2 | | SHARE RIDE 3+ | | TRANSIT/WALK | | TRANSIT/AUTO | | ALL MODES | | TOTAL VEHICLE TRIPS | AVG AUTO OCCUPANCY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | | |
| 1 | 68536 | 33.4 | 30989 | 15.1 | 17337 | 8.4% | 60840 | 29.6% | 27769 | 13.5 | 205471 | 100.0 | 89623 | 1.3 |
| 2 | 202291 | 74.0 | 44448 | 16.3 | 19694 | 7.2 | 6689 | 2.4 | 240 | 0.1 | 273362 | 100.0 | 230868 | 1.15 |
| 3 | 185298 | 75.8 | 36760 | 15.0 | 15790 | 6.5 | 6394 | 2.6 | 240 | 0.1 | 244481 | 100.0 | 208771 | 1.14 |
| 4 | 48332 | 75.8 | 9364 | 14.7 | 4123 | 6.5 | 1932 | 3.0 | 38 | 0.1 | 63790 | 100.0 | 54344 | 1.14 |
| 5 | 53448 | 74.9 | 10900 | 15.3 | 4865 | 6.8 | 2148 | 3.0 | 44 | 0.1 | 71404 | 100.0 | 60467 | 1.14 |
| 6 | 53556 | 76.2 | 10578 | 15.0 | 4646 | 6.6 | 1478 | 2.1 | 31 | 0.0 | 70288 | 100.0 | 60344 | 1.14 |
| 7 | 42022 | 77.3 | 8294 | 15.3 | 3658 | 6.7 | 393 | 0.7 | 9 | 0.0 | 54376 | 100.0 | 47349 | 1.14 |
| 8 | 56767 | 78.5 | 10859 | 15.0 | 4657 | 6.4 | 76 | 0.1 | 1 | 0.0 | 72360 | 100.0 | 63699 | 1.13 |
| 9 | 56511 | 77.3 | 10975 | 15.0 | 4780 | 6.5 | 841 | 1.2 | 20 | 0.0 | 73127 | 100.0 | 63540 | 1.14 |
| 10 | 83913 | 75.9 | 17281 | 15.6 | 7569 | 6.9 | 1669 | 1.5 | 54 | 0.0 | 110486 | 100.0 | 94995 | 1.14 |
| 11 | 130298 | 77.1 | 25062 | 14.8 | 10687 | 6.3 | 2737 | 1.6 | 107 | 0.1 | 168891 | 100.0 | 146277 | 1.14 |
| 12 | 101402 | 76.2 | 20810 | 15.6 | 9125 | 6.9 | 1641 | 1.2 | 38 | 0.0 | 133016 | 100.0 | 114750 | 1.14 |
| 13 | 66004 | 78.0 | 12530 | 14.8 | 5328 | 6.3 | 752 | 0.9 | 25 | 0.0 | 84640 | 100.0 | 73988 | 1.13 |
| 14 | 91089 | 75.8 | 19264 | 16.0 | 8291 | 6.9 | 1486 | 1.2 | 57 | 0.0 | 120187 | 100.0 | 103395 | 1.15 |
| 15 | 66528 | 78.0 | 12598 | 14.8 | 5329 | 6.3 | 771 | 0.9 | 33 | 0.0 | 85258 | 100.0 | 74546 | 1.13 |
| 16 | 96181 | 78.5 | 17438 | 14.2 | 7450 | 6.1 | 1433 | 1.2 | 65 | 0.1 | 122566 | 100.0 | 107303 | 1.13 |
| 17 | 92657 | 79.8 | 15859 | 13.7 | 6490 | 5.6 | 1018 | 0.9 | 44 | 0.0 | 116068 | 100.0 | 102680 | 1.12 |
| 18 | 53811 | 79.0 | 9760 | 14.3 | 4211 | 6.2 | 346 | 0.5 | 7 | 0.0 | 68135 | 100.0 | 60049 | 1.13 |
| 19 | 13337 | 77.6 | 2637 | 15.3 | 1184 | 6.9 | 26 | 0.2 | 0 | 0.0 | 17185 | 100.0 | 15038 | 1.14 |
| 20 | 14329 | 78.2 | 2725 | 14.9 | 1224 | 6.7 | 50 | 0.3 | 1 | 0.0 | 18329 | 100.0 | 16086 | 1.14 |
| 21 | 37250 | 79.9 | 6545 | 14.0 | 2721 | 5.8 | 126 | 0.3 | 3 | 0.0 | 46644 | 100.0 | 41400 | 1.12 |
| 22 | 11889 | 80.3 | 2079 | 14.0 | 838 | 5.7 | 0 | 0.0 | 0 | 0.0 | 14806 | 100.0 | 13199 | 1.12 |
| 23 | 38163 | 43.2 | 28331 | 32.1 | 13894 | 15.7 | 5383 | 6.1 | 2498 | 2.8 | 88269 | 100.0 | 56810 | 1.42 |
| 24 | 45302 | 77.4 | 9011 | 15.4 | 3844 | 6.6 | 309 | 0.5 | 32 | 0.1 | 58499 | 100.0 | 51048 | 1.14 |
| 25 | 40162 | 81.0 | 6687 | 13.5 | 2631 | 5.3 | 77 | 0.2 | 3 | 0.0 | 49560 | 100.0 | 44354 | 1.12 |

Table E5 – Opening Day Estimate
Green Line MOS Mode Choice Person Trip Summary – Home-Based Work Attractions, continued

| | DRIVE ALONE | | SHARE RIDE 2 | | SHARE RIDE 3+ | | TRANSIT/WALK | | TRANSIT/AUTO | | ALL MODES | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DISTRICT NUMBER | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | TOTAL VEHICLE TRIPS | AVG AUTO OCCUPANCY |
| 26 | 42364 | 78.0 | 8166 | 15.0 | 3553 | 6.5 | 195 | 0.4 | 10 | 0.0 | 54288 | 100.0 | 47593 | 1.14 |
| 27 | 53615 | 81.4 | 8860 | 13.5 | 3333 | 5.1 | 27 | 0.0% | 2 | 0.0 | 65838 | 100.0 | 59121 | 1.11 |
| 28 | 88436 | 81.1 | 14586 | 13.4 | 5912 | 5.4 | 57 | 0.1 | 5 | 0.0 | 108995 | 100.0 | 97636 | 1.12 |
| 29 | 109633 | 81.9 | 17348 | 13.0 | 6867 | 5.1 | 86 | 0.1 | 4 | 0.0 | 133939 | 100.0 | 120522 | 1.11 |
| 30 | 36669 | 80.6 | 6291 | 13.8 | 2533 | 5.6 | 12 | 0.0 | 0 | 0.0 | 45506 | 100.0 | 40632 | 1.12 |
| 31 | 31373 | 76.3 | 6701 | 16.3 | 2929 | 7.1 | 122 | 0.3 | 4 | 0.0 | 41129 | 100.0 | 35668 | 1.15 |
| 32 | 54694 | 80.2 | 9418 | 13.8 | 3921 | 5.7 | 166 | 0.2 | 5 | 0.0 | 68205 | 100.0 | 60668 | 1.12 |
| 33 | 121237 | 83.3 | 17556 | 12.1 | 6747 | 4.6 | 16 | 0.0 | 0 | 0.0 | 145556 | 100.0 | 132191 | 1.1 |
| 34 | 19673 | 82.6 | 3024 | 12.7 | 1114 | 4.7 | 0 | 0.0 | 0 | 0.0 | 23811 | 100.0 | 21545 | 1.11 |
| 35 | 17630 | 85.3 | 2304 | 11.2 | 729 | 3.5 | 0 | 0.0 | 0 | 0.0 | 20663 | 100.0 | 19017 | 1.09 |
| 36 | 33055 | 82.2 | 5191 | 12.9 | 1959 | 4.9 | 11 | 0.0 | 2 | 0.0 | 40219 | 100.0 | 36282 | 1.11 |
| 37 | 6868 | 80.7 | 1166 | 13.7 | 478 | 5.6 | 0 | 0.0 | 0 | 0.0 | 8512 | 100.0 | 7605 | 1.12 |
| 38 | 16563 | 82.5 | 2544 | 12.7 | 951 | 4.7 | 6 | 0.0 | 1 | 0.0 | 20066 | 100.0 | 18142 | 1.11 |
| 39 | 4222 | 84.2 | 592 | 11.8 | 201 | 4.0 | 0 | 0.0 | 0 | 0.0 | 5015 | 100.0 | 4583 | 1.09 |
| 40 | 12801 | 85.1 | 1695 | 11.3 | 539 | 3.6 | 0 | 0.0 | 0 | 0.0 | 15035 | 100.0 | 13823 | 1.09 |
| 41 | 24766 | 83.7 | 3546 | 12.0 | 1264 | 4.3 | 0 | 0.0 | 0 | 0.0 | 29577 | 100.0 | 26947 | 1.1 |
| 42 | 13917 | 81.5 | 2263 | 13.2 | 904 | 5.3 | 0 | 0.0 | 0 | 0.0 | 17083 | 100.0 | 15340 | 1.11 |
| 43 | 59501 | 82.0 | 9480 | 13.1 | 3575 | 4.9 | 0 | 0.0 | 0 | 0.0 | 72557 | 100.0 | 65395 | 1.11 |
| 44 | 19154 | 82.3 | 2989 | 12.8 | 1143 | 4.9 | 1 | 0.0 | 0 | 0.0 | 23287 | 100.0 | 21017 | 1.11 |
| 45 | 48354 | 80.1 | 8436 | 14.0 | 3542 | 5.9 | 18 | 0.0 | 0 | 0.0 | 60350 | 100.0 | 53714 | 1.12 |
| 46 | 35406 | 82.8 | 5396 | 13.9 | 1940 | 4.5 | 0 | 0.0 | 0 | 0.0 | 42741 | 100.0 | 38729 | 1.1 |
| 47 | 56002 | 80.9 | 9312 | 13.4 | 3803 | 5.5 | 137 | 0.2 | 4 | 0.0 | 69258 | 100.0 | 61885 | 1.12 |
| 48 | 14651 | 82.5 | 2249 | 12.7 | 867 | 4.9 | 0 | 0.0 | 0 | 0.0 | 17767 | 100.0 | 16055 | 1.11 |
| 49 | 59402 | 80.2 | 10007 | 13.5 | 4188 | 5.7 | 492 | 0.7 | 21 | 0.0 | 74110 | 100.0 | 65756 | 1.12 |
| 50 | 11140 | 81.0 | 1860 | 13.5 | 748 | 5.4 | 0 | 0.0 | 0 | 0.0 | 13748 | 100.0 | 12311 | 1.12 |

Table E5 – Opening Day Estimate
Green Line MOS Mode Choice Person Trip Summary – Home-Based Work Attractions, continued

| DISTRICT NUMBER | DRIVE ALONE | | SHARE RIDE 2 | | SHARE RIDE 3+ | | TRANSIT/WALK | | TRANSIT/AUTO | | ALL MODES | | TOTAL VEHICLE TRIPS | AVG AUTO OCCUPANCY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | | |
| 51 | 3760 | 77.7 | 408 | 15.4 | 182 | 6.9 | 0 | 0.0 | 0 | 0.0 | 4816 | 100.0 | 4230 | 1.14 |
| 52 | 2056 | 77.7 | 408 | 15.4 | 182 | 6.9 | 0 | 0.0 | 0 | 0.0 | 2646 | 100.0 | 2319 | 1.14 |
| 53 | 5851 | 80.6 | 1001 | 13.8 | 409 | 5.6 | 0 | 0.0 | 0 | 0.0 | 7260 | 100.0 | 6483 | 1.12 |
| 54 | 14042 | 78.9 | 2627 | 14.8 | 1126 | 6.3 | 0 | 0.0 | 0 | 0.0 | 17795 | 100.0 | 15719 | 1.13 |
| 55 | 21387 | 79.5 | 3878 | 14.4 | 1649 | 6.1 | 0 | 0.0 | 0 | 0.0 | 26914 | 100.0 | 23858 | 1.13 |
| 56 | 12735 | 81.6 | 2058 | 13.2 | 806 | 5.2 | 0 | 0.0 | 0 | 0.0 | 15598 | 100.0 | 14024 | 1.11 |
| 57 | 19845 | 82.4 | 3087 | 12.8 | 1151 | 4.8 | 0 | 0.0 | 0 | 0.0 | 24082 | 100.0 | 21759 | 1.11 |
| 58 | 4057 | 79.6 | 732 | 14.4 | 308 | 6.0 | 0 | 0.0 | 0 | 0.0 | 5097 | 100.0 | 4522 | 1.13 |
| 59 | 2408 | 81.8 | 387 | 13.2 | 146 | 5.0 | 0 | 0.0 | 0 | 0.0 | 2942 | 100.0 | 2649 | 1.11 |
| 60 | 5689 | 83.5 | 830 | 12.2 | 293 | 4.3 | 0 | 0.0 | 0 | 0.0 | 6813 | 100.0 | 6199 | 1.1 |
| 61 | 6272 | 84.6 | 857 | 11.6 | 280 | 3.8 | 0 | 0.0 | 0 | 0.0 | 7410 | 100.0 | 6791 | 1.09 |
| 62 | 7803 | 82.9 | 1168 | 12.4 | 436 | 4.6 | 0 | 0.0 | 0 | 0.0 | 9408 | 100.0 | 8528 | 1.1 |
| 63 | 5294 | 83.3 | 780 | 12.3 | 279 | 4.4 | 0 | 0.0 | 0 | 0.0 | 6354 | 100.0 | 5774 | 1.1 |

*NOTE: Results from DARTNPE.BAS0299.AJ5HBW files*

Table E6 – Opening Day Estimate
Green Line MOS Mode Choice Person Trip Summary – Home-Based Non-Work Productions

| DISTRICT NUMBER | DRIVE ALONE | | SHARE RIDE | | TRANSIT/WALK | | TRANSIT/AUTO | | ALL MODES | | TOTAL VEHICLE TRIPS | AVG AUTO OCCUPANCY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | | |
| 1 | 2872 | 40.7 | 3900 | 55.3 | 279 | 4.0 | 0 | 0.0 | 7050 | 100.0% | 4644 | 1.46 |
| 2 | 35185 | 37.9 | 54019 | 58.2 | 3546 | 3.8 | 84 | 0.1 | 92832 | 100.0 | 59739 | 1.49 |
| 3 | 163522 | 45.0 | 195531 | 53.8 | 4207 | 1.2 | 257 | 0.1 | 363517 | 100.0 | 252400 | 1.42 |
| 4 | 70967 | 41.2 | 94989 | 55.1 | 6286 | 3.6 | 160 | 0.1 | 172402 | 100.0 | 114144 | 1.45 |
| 5 | 66546 | 39.1 | 100218 | 58.9 | 3266 | 1.9 | 214 | 0.1 | 170244 | 100.0 | 112100 | 1.49 |
| 6 | 70287 | 40.1 | 102723 | 58.6 | 2093 | 1.2 | 144 | 0.1 | 175247 | 100.0 | 116979 | 1.48 |
| 7 | 34438 | 40.3 | 50417 | 59.0 | 587 | 0.7 | 47 | 0.1 | 85489 | 100.0 | 57354 | 1.48 |
| 8 | 32785 | 37.7 | 54035 | 62.1 | 79 | 0.1 | 16 | 0.0 | 86945 | 100.0 | 57346 | 1.51 |
| 9 | 73205 | 40.7 | 105832 | 58.8 | 921 | 0.5 | 68 | 0.0 | 180027 | 100.0 | 121311 | 1.48 |
| 10 | 50291 | 43.4 | 65045 | 56.1 | 608 | 0.5 | 49 | 0.0 | 115992 | 100.0 | 79857 | 1.44 |
| 11 | 100719 | 42.4 | 135350 | 57.0 | 1147 | 0.5 | 82 | 0.0 | 237298 | 100.0 | 162241 | 1.46 |
| 12 | 47079 | 47.0 | 52606 | 52.5 | 450 | 0.4 | 32 | 0.0 | 100166 | 100.0 | 70990 | 1.40 |
| 13 | 83459 | 42.2 | 113915 | 57.5 | 540 | 0.3 | 48 | 0.0 | 197962 | 100.0 | 135238 | 1.46 |
| 14 | 24639 | 43.5 | 31737 | 56.0 | 286 | 0.5 | 22 | 0.0 | 56685 | 100.0 | 39065 | 1.44 |
| 15 | 44429 | 40.0 | 66351 | 59.8 | 216 | 0.2 | 19 | 0.0 | 111014 | 100.0 | 74588 | 1.49 |
| 16 | 61028 | 41.4 | 85962 | 58.3 | 492 | 0.3 | 43 | 0.0 | 147525 | 100.0 | 100102 | 1.47 |
| 17 | 149865 | 39.1 | 232291 | 60.6 | 1272 | 0.3 | 125 | 0.0 | 383553 | 100.0 | 255451 | 1.50 |
| 18 | 88272 | 39.7 | 133653 | 60.1 | 564 | 0.3 | 68 | 0.0 | 222557 | 100.0 | 149024 | 1.49 |
| 19 | 23333 | 37.6 | 38543 | 62.2 | 107 | 0.2 | 31 | 0.0 | 62014 | 100.0 | 40853 | 1.51 |
| 20 | 16051 | 36.6 | 27667 | 63.1 | 104 | 0.2 | 18 | 0.0 | 43839 | 100.0 | 28626 | 1.53 |
| 21 | 79930 | 38.5 | 127185 | 61.3 | 291 | 0.1 | 57 | 0.0 | 207463 | 100.0 | 137742 | 1.50 |
| 22 | 32084 | 36.8 | 55167 | 63.2 | 0 | 0.0 | 11 | 0.0 | 87261 | 100.0 | 57159 | 1.53 |
| 23 | 1568 | 38.2 | 2444 | 59.5 | 96 | 2.3 | 0 | 0.0 | 4108 | 100.0 | 2679 | 1.50 |
| 24 | 19077 | 35.6 | 34208 | 63.8 | 344 | 0.6 | 17 | 0.0 | 53646 | 100.0 | 34626 | 1.54 |
| 25 | 61378 | 36.6 | 105856 | 63.2 | 254 | 0.2 | 26 | 0.0 | 167515 | 100.0 | 109494 | 1.53 |

## Table E6 – Opening Day Estimate
## Green Line MOS Mode Choice Person Trip Summary – Home-Based Non-Work Productions, continued

| DISTRICT NUMBER | DRIVE ALONE | | SHARE RIDE | | TRANSIT/WALK | | TRANSIT/AUTO | | ALL MODES | | TOTAL VEHICLE TRIPS | AVG AUTO OCCUPANCY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | | |
| 26 | 8993 | 41.4 | 12665 | 58.4 | 38 | 0.2 | 3 | 0.0 | 21700 | 100.0 | 14750 | 1.47 |
| 27 | 66899 | 34.7 | 125687 | 65.2 | 273 | 0.1 | 42 | 0.0 | 192901 | 100.0 | 124030 | 1.55 |
| 28 | 36056 | 31.7 | 77515 | 68.2 | 37 | 0.0 | 3 | 0.0 | 113611 | 100.0 | 71290 | 1.59 |
| 29 | 71755 | 32.7 | 147653 | 67.2 | 291 | 0.1 | 21 | 0.0 | 219720 | 100.0 | 138870 | 1.58 |
| 30 | 82197 | 3.6 | 132172 | 5.7 | 16 | 0.0 | 48 | 0.0 | 2314433 | 9.3 | 142276 | 1.51 |
| 31 | 5 | 45.5 | 6 | 54.5 | 0 | 0.0 | 0 | 0.0 | 11 | 100.0 | 8 | 1.44 |
| 32 | 74692 | 38.7 | 117957 | 61.1 | 253 | 0.1 | 24 | 0.0 | 192927 | 100.0 | 128309 | 1.5 |
| 33 | 114527 | 32.6 | 236442 | 67.4 | 9 | 0.0 | 14 | 0.0 | 350992 | 100.0 | 222000 | 1.58 |
| 34 | 57653 | 35.8 | 103299 | 64.2 | 0 | 0.0 | 13 | 0.0 | 160965 | 100.0 | 104607 | 1.54 |
| 35 | 37604 | 35.7 | 67578 | 64.2 | 0 | 0.0 | 14 | 0.0 | 105195 | 100.0 | 68321 | 1.54 |
| 36 | 38754 | 36.4 | 67693 | 63.5 | 108 | 0.1 | 15 | 0.0 | 106570 | 100.0 | 69524 | 1.53 |
| 37 | 18779 | 37.4 | 31459 | 62.6 | 0 | 0.0 | 0 | 0.0 | 50239 | 100.0 | 33079 | 1.52 |
| 38 | 32419 | 35.4 | 59214 | 64.6 | 34 | 0.0 | 8 | 0.0 | 91675 | 100.0 | 59334 | 1.54 |
| 39 | 7831 | 32.8 | 16078 | 67.2 | 0 | 0.0 | 0 | 0.0 | 23909 | 100.0 | 15139 | 1.58 |
| 40 | 29587 | 36.5 | 51403 | 63.5 | 0 | 0.0 | 17 | 0.0 | 81007 | 100.0 | 52952 | 1.53 |
| 41 | 26248 | 35.5 | 47608 | 64.5 | 0 | 0.0 | 0 | 0.0 | 73856 | 100.0 | 47888 | 1.54 |
| 42 | 19410 | 33.8 | 37941 | 66.2 | 0 | 0.0 | 0 | 0.0 | 57351 | 100.0 | 36656 | 1.56 |
| 43 | 36770 | 31.6 | 79571 | 68.4 | 0 | 0.0 | 0 | 0.0 | 116341 | 100.0 | 72939 | 1.6 |
| 44 | 50692 | 35.3 | 92829 | 64.7 | 27 | 0.0 | 12 | 0.0 | 143559 | 100.0 | 92886 | 1.55 |
| 45 | 102632 | 40.5 | 150889 | 59.5 | 59 | 0.0 | 30 | 0.0 | 253610 | 100.0 | 171218 | 1.48 |
| 46 | 46842 | 35.0 | 86999 | 65.0 | 0 | 0.0 | 17 | 0.0 | 133857 | 100.0 | 86387 | 1.55 |
| 47 | 70480 | 37.2 | 119035 | 62.8 | 112 | 0.1 | 21 | 0.0 | 189648 | 100.0 | 124587 | 1.52 |
| 48 | 32997 | 37.4 | 55327 | 62.6 | 0 | 0.0 | 15 | 0.0 | 88340 | 100.0 | 58146 | 1.52 |
| 49 | 79042 | 38.3 | 126984 | 61.5 | 337 | 0.2 | 35 | 0.0 | 206399 | 100.0 | 136762 | 1.51 |
| 50 | 21206 | 36.3 | 37180 | 63.7 | 0 | 0.0 | 17 | 0.0 | 58402 | 100.0 | 38105 | 1.53 |

Table E6 – Opening Day Estimate

Green Line MOS Mode Choice Person Trip Summary – Home-Based Non-Work Productions, continued

| DISTRICT NUMBER | DRIVE ALONE | | SHARE RIDE | | TRANSIT/WALK | | TRANSIT/AUTO | | ALL MODES | | TOTAL VEHICLE TRIPS | AVG AUTO OCCUPANCY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | | |
| 51 | 7669 | 37.5 | 12756 | 62.4 | 0 | 0.0 | 7 | 0.0 | 20432 | 100.0 | 13468 | 1.52 |
| 52 | 3462 | 31.3 | 7601 | 68.7 | 0 | 0.0 | 0 | 0.0 | 11063 | 100.0 | 6917 | 1.6 |
| 53 | 15526 | 36.4 | 27145 | 63.6 | 0 | 0.0 | 17 | 0.0 | 42688 | 100.0 | 27865 | 1.53 |
| 54 | 16795 | 33.5 | 33386 | 66.5 | 0 | 0.0 | 0 | 0.0 | 50182 | 100.0 | 31971 | 1.57 |
| 55 | 19869 | 33.7 | 39069 | 66.3 | 0 | 0.0 | 0 | 0.0 | 58939 | 100.0 | 37628 | 1.57 |
| 56 | 16934 | 32.6 | 35045 | 67.4 | 0 | 0.0 | 0 | 0.0 | 51979 | 100.0 | 32863 | 1.58 |
| 57 | 14991 | 31.5 | 32532 | 68.5 | 0 | 0.0 | 0 | 0.0 | 47523 | 100.0 | 29778 | 1.6 |
| 58 | 5144 | 28.4 | 12952 | 71.6 | 0 | 0.0 | 0 | 0.0 | 18096 | 100.0 | 11031 | 1.64 |
| 59 | 2489 | 30.5 | 5671 | 69.5 | 0 | 0.0 | 0 | 0.0 | 8160 | 100.0 | 5067 | 1.61 |
| 60 | 8381 | 32.1 | 17725 | 67.9 | 0 | 0.0 | 0 | 0.0 | 26106 | 100.0 | 16438 | 1.59 |
| 61 | 14695 | 32.1 | 31059 | 67.9 | 0 | 0.0 | 0 | 0.0 | 45753 | 100.0 | 28812 | 1.59 |
| 62 | 28691 | 38.1 | 46600 | 61.9 | 0 | 0.0 | 17 | 0.0 | 75308 | 100.0 | 49873 | 1.51 |
| 63 | 4288 | 31.4 | 9350 | 68.6 | 0 | 0.0 | 1 | 0.0 | 13639 | 100.0 | 8538 | 1.6 |

*NOTE: Results from DARTNPE.BAS0299.AJ5HNW files*

## Table E7 – Opening Day Estimate
## Green Line MOS Mode Choice Person Trip Summary – Home-Based Non-Work Attractions

| DISTRICT NUMBER | DRIVE ALONE | | SHARE RIDE | | TRANSIT/WALK | | TRANSIT/AUTO | | ALL MODES | | TOTAL VEHICLE TRIPS | AVG AUTO OCCUPANCY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | | |
| 1 | 109556 | 65.7 | 44008 | 26.4 | 12390 | 7.4 | 846 | 0.5 | 166799 | 100.0 | 129560 | 1.19 |
| 2 | 124989 | 39.4 | 188687 | 59.5 | 3166 | 1.0 | 151 | 0.0 | 316992 | 100.0 | 210756 | 1.49 |
| 3 | 164375 | 41.6 | 227925 | 57.7 | 2310 | 0.6 | 126 | 0.0 | 394736 | 100.0 | 267977 | 1.46 |
| 4 | 58967 | 41.1 | 82331 | 57.4 | 2001 | 1.4 | 61 | 0.0 | 143359 | 100.0 | 96390 | 1.47 |
| 5 | 51330 | 38.7 | 80388 | 60.6 | 963 | 0.7 | 53 | 0.0 | 132733 | 100.0 | 87869 | 1.5 |
| 6 | 60940 | 38.7 | 95803 | 60.8 | 826 | 0.5 | 53 | 0.0 | 157622 | 100.0 | 104487 | 1.5 |
| 7 | 54366 | 39.9 | 81473 | 59.8 | 375 | 0.3 | 36 | 0.0 | 136251 | 100.0 | 91400 | 1.49 |
| 8 | 39809 | 37.4 | 66678 | 62.6 | 53 | 0.0 | 3 | 0.0 | 106543 | 100.0 | 70117 | 1.52 |
| 9 | 71454 | 40.6 | 103990 | 59.1 | 593 | 0.3 | 43 | 0.0 | 176080 | 100.0 | 118722 | 1.48 |
| 10 | 73183 | 42.8 | 97258 | 56.8 | 689 | 0.4 | 52 | 0.0 | 171183 | 100.0 | 117391 | 1.45 |
| 11 | 148602 | 41.4 | 209339 | 58.3 | 1163 | 0.3 | 94 | 0.0 | 359198 | 100.0 | 243756 | 1.47 |
| 12 | 69699 | 43.1 | 91486 | 56.6 | 511 | 0.3 | 40 | 0.0 | 161736 | 100.0 | 111284 | 1.45 |
| 13 | 60645 | 40.7 | 88123 | 59.1 | 281 | 0.2 | 28 | 0.0 | 149076 | 100.0 | 100701 | 1.48 |
| 14 | 50700 | 43.3 | 66094 | 56.4 | 350 | 0.3 | 32 | 0.0 | 117177 | 100.0 | 80743 | 1.45 |
| 15 | 80713 | 41.0 | 115641 | 58.8 | 412 | 0.2 | 40 | 0.0 | 196805 | 100.0 | 133276 | 1.47 |
| 16 | 80730 | 41.4 | 113605 | 58.3 | 450 | 0.2 | 47 | 0.0 | 194832 | 100.0 | 132368 | 1.47 |
| 17 | 99155 | 37.8 | 162853 | 62.0 | 507 | 0.2 | 49 | 0.0 | 262564 | 100.0 | 173179 | 1.51 |
| 18 | 66082 | 37.7 | 108825 | 62.1 | 337 | 0.2 | 19 | 0.0 | 175262 | 100.0 | 115547 | 1.51 |
| 19 | 16243 | 33.3 | 32537 | 66.6 | 48 | 0.1 | 3 | 0.0 | 48830 | 100.0 | 31033 | 1.57 |
| 20 | 11590 | 29.3 | 27927 | 70.6 | 11 | 0.0 | 1 | 0.0 | 39529 | 100.0 | 24284 | 1.63 |
| 21 | 44495 | 35.0 | 82469 | 64.9 | 70 | 0.1 | 8 | 0.0 | 127041 | 100.0 | 81980 | 1.55 |
| 22 | 13594 | 34.3 | 26060 | 65.7 | 0 | 0.0 | 0 | 0.0 | 39653 | 100.0 | 25439 | 1.56 |
| 23 | 36399 | 54.7 | 29059 | 43.6 | 1021 | 1.5 | 106 | 0.2 | 66585 | 100.0 | 49608 | 1.32 |
| 24 | 44874 | 39.0 | 70005 | 60.8% | 188 | 0.2% | 23 | 0.0 | 115090 | 100.0 | 76694 | 1.5 |
| 25 | 45969 | 35.1 | 84794 | 64.8 | 70 | 0.1 | 10 | 0.0 | 130842 | 100.0 | 84511 | 1.55 |

Table E7 – Opening Day Estimate
Green Line MOS Mode Choice Person Trip Summary – Home-Based Non-Work Attractions, continued

| DISTRICT NUMBER | DRIVE ALONE | | SHARE RIDE | | TRANSIT/WALK | | TRANSIT/AUTO | | ALL MODES | | TOTAL VEHICLE TRIPS | AVG AUTO OCCUPANCY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | | |
| 26 | 15871 | 37.3 | 26666 | 62.6 | 39 | 0.1 | 6 | 0.0 | 42581 | 100.0 | 27992 | 1.52 |
| 27 | 52607 | 32.7 | 108040 | 67.2 | 11 | 0.0 | 2 | 0.0 | 160660 | 100.0 | 101716 | 1.58 |
| 28 | 63868 | 35.2 | 117731 | 64.8 | 67 | 0.0 | 11 | 0.0 | 181678 | 100.0 | 117383 | 1.55 |
| 29 | 100484 | 34.5 | 190625 | 65.5 | 73 | 0.0 | 12 | 0.0 | 291195 | 100.0 | 187132 | 1.56 |
| 30 | 44855 | 36.0 | 79617 | 64.0 | 10 | 0.0 | 2 | 0.0 | 124484 | 100.0 | 81045 | 1.54 |
| 31 | 24356 | 32.7 | 49864 | 67.0 | 195 | 0.3 | 22 | 0.0 | 74437 | 100.0 | 47021 | 1.58 |
| 32 | 73441 | 37.8 | 120840 | 62.1 | 167 | 0.1 | 21 | 0.0 | 194469 | 100.0 | 128368 | 1.51 |
| 33 | 137109 | 33.7 | 269701 | 66.3 | 15 | 0.0 | 0 | 0.0 | 406826 | 100.0 | 259701 | 1.57 |
| 34 | 29239 | 32.4 | 60894 | 67.6 | 0 | 0.0 | 0 | 0.0 | 90133 | 100.0 | 56918 | 1.58 |
| 35 | 18839 | 31.3 | 41340 | 68.7 | 0 | 0.0 | 0 | 0.0 | 60179 | 100.0 | 37630 | 1.6 |
| 36 | 25316 | 32.8 | 51787 | 67.2 | 3 | 0.0 | 1 | 0.0 | 77106 | 100.0 | 48855 | 1.58 |
| 37 | 6830 | 30.3 | 15734 | 69.7 | 0 | 0.0 | 0 | 0.0 | 22564 | 100.0 | 13982 | 1.61 |
| 38 | 22011 | 30.8 | 49515 | 69.2 | 3 | 0.0 | 1 | 0.0 | 71529 | 100.0 | 44518 | 1.61 |
| 39 | 4551 | 31.3 | 9979 | 68.7 | 0 | 0.0 | 0 | 0.0 | 14531 | 100.0 | 9088 | 1.6 |
| 40 | 13126 | 31.3 | 28780 | 68.7 | 0 | 0.0 | 0 | 0.0 | 41906 | 100.0 | 26208 | 1.6 |
| 41 | 12607 | 31.1 | 27871 | 68.9 | 0 | 0.0 | 0 | 0.0 | 40478 | 100.0 | 25276 | 1.6 |
| 42 | 8059 | 30.8 | 18123 | 69.2 | 0 | 0.0 | 0 | 0.0 | 26182 | 100.0 | 16297 | 1.61 |
| 43 | 45197 | 29.8 | 106489 | 70.2 | 0 | 0.0 | 0 | 0.0 | 151686 | 100.0 | 93601 | 1.62 |
| 44 | 18297 | 31.3 | 40178 | 68.7 | 0 | 0.0 | 0 | 0.0 | 58476 | 100.0 | 36560 | 1.6 |
| 45 | 72833 | 40.2 | 108518 | 59.8 | 20 | 0.0 | 3 | 0.0 | 181377 | 100.0 | 122161 | 1.48 |
| 46 | 30106 | 32.2 | 63301 | 67.8 | 0 | 0.0 | 0 | 0.0 | 93407 | 100.0 | 58879 | 1.59 |
| 47 | 63247 | 36.2 | 111629 | 63.8 | 54 | 0.0 | 7 | 0.0 | 174938 | 100.0 | 113988 | 1.53 |
| 48 | 15608 | 30.5 | 35566 | 69.5 | 0 | 0.0 | 0 | 0.0 | 51173 | 100.0 | 31774 | 1.61 |
| 49 | 75344 | 38.7 | 119102 | 61.2 | 198 | 0.1 | 31 | 0.0 | 194674 | 100.0 | 129481 | 1.5 |
| 50 | 10254 | 30.4 | 23498 | 69.6 | 0 | 0.0 | 0 | 0.0 | 33753 | 100.0 | 20936 | 1.51 |

Table E7 – Opening Day Estimate
Green Line MOS Mode Choice Person Trip Summary – Home-Based Non-Work Attractions, continued

| DISTRICT NUMBER | DRIVE ALONE | | SHARE RIDE | | TRANSIT/WALK | | TRANSIT/AUTO | | ALL MODES | | TOTAL VEHICLE TRIPS | AVG AUTO OCCUPANCY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | | |
| 51 | 3323 | 30.0 | 7758 | 70.0 | 0 | 0.0 | 0 | 0.0 | 11080 | 100.0 | 6849 | 1.62 |
| 52 | 2265 | 30.9 | 5071 | 69.1 | 0 | 0.0 | 0 | 0.0 | 7336 | 100.0 | 4570 | 1.61 |
| 53 | 6247 | 30.8 | 14056 | 69.2 | 0 | 0.0 | 0 | 0.0 | 20303 | 100.0 | 12636 | 1.61 |
| 54 | 10531 | 31.1 | 23290 | 68.9 | 0 | 0.0 | 0 | 0.0 | 33821 | 100.0 | 21118 | 1.6 |
| 55 | 13916 | 30.7 | 31416 | 69.3 | 0 | 0.0 | 0 | 0.0 | 45332 | 100.0 | 28196 | 1.61 |
| 56 | 11152 | 30.9 | 24973 | 69.1 | 0 | 0.0 | 0 | 0.0 | 36126 | 100.0 | 22504 | 1.61 |
| 57 | 15656 | 30.7 | 35304 | 69.3 | 0 | 0.0 | 0 | 0.0 | 50960 | 100.0 | 31703 | 1.61 |
| 58 | 3573 | 30.9 | 7986 | 69.1 | 0 | 0.0 | 0 | 0.0 | 11559 | 100.0 | 7203 | 1.6 |
| 59 | 2276 | 30.7 | 5145 | 69.3 | 0 | 0.0 | 0 | 0.0 | 7421 | 100.0 | 4615 | 1.61 |
| 60 | 4974 | 31.2 | 10977 | 68.8 | 0 | 0.0 | 0 | 0.0 | 15951 | 100.0 | 9963 | 1.6 |
| 61 | 6745 | 31.3 | 14792 | 68.7 | 0 | 0.0 | 0 | 0.0 | 21537 | 100.0 | 13469 | 1.6 |
| 62 | 8481 | 30.9 | 18969 | 69.1 | 0 | 0.0 | 0 | 0.0 | 27450 | 100.0 | 17103 | 1.6 |
| 63 | 3878 | 31.0 | 8628 | 69.0 | 0 | 0.0 | 0 | 0.0 | 12506 | 100.0 | 7800 | 1.6 |

*NOTE: Results from DARTNPE.BAS0299.AJ5HNW files*

Table E8 – Opening Day Estimate
Green Line MOS Mode Choice Person Trip Summary – Non-Home-Based Productions

| DISTRICT NUMBER | DRIVE ALONE | | SHARE RIDE | | TRANSIT/WALK | | TRANSIT/AUTO | | ALL MODES | | TOTAL VEHICLE TRIPS | AVG AUTO OCCUPANCY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | | |
| 1 | 44969 | 70.1 | 13591 | 21.2 | 5634 | 8.8 | 0 | 0.0 | 64194 | 100.0 | 51147 | 1.14 |
| 2 | 118915 | 53.2 | 100428 | 45.0 | 3119 | 1.4 | 898 | 0.4 | 223360 | 100.0 | 164564 | 1.33 |
| 3 | 127574 | 53.6 | 106599 | 44.8 | 2949 | 1.2 | 932 | 0.4 | 238053 | 100.0 | 176028 | 1.33 |
| 4 | 43312 | 53.8 | 35882 | 44.6 | 999 | 1.2 | 342 | 0.4 | 80535 | 100.0 | 59622 | 1.33 |
| 5 | 40503 | 53.2 | 34235 | 45.0 | 978 | 1.3 | 359 | 0.5 | 76074 | 100.0 | 56064 | 1.33 |
| 6 | 47076 | 53.4 | 39985 | 45.4 | 737 | 0.8 | 345 | 0.4 | 88144 | 100.0 | 65251 | 1.33 |
| 7 | 35553 | 52.5 | 31710 | 46.9 | 226 | 0.3 | 186 | 0.3 | 67675 | 100.0 | 49967 | 1.35 |
| 8 | 37558 | 52.4 | 33961 | 47.4 | 76 | 0.1 | 61 | 0.1 | 71657 | 100.0 | 52995 | 1.35 |
| 9 | 50595 | 53.0 | 44091 | 46.2 | 487 | 0.5 | 219 | 0.2 | 95392 | 100.0 | 70636 | 1.34 |
| 10 | 59460 | 53.0 | 51042 | 45.5 | 1217 | 1.1 | 427 | 0.4 | 112145 | 100.0 | 82661 | 1.34 |
| 11 | 106499 | 53.0 | 92064 | 45.8 | 1572 | 0.8 | 732 | 0.4 | 200867 | 100.0 | 148346 | 1.34 |
| 12 | 61710 | 53.0 | 53875 | 46.2 | 652 | 0.6 | 285 | 0.2 | 116523 | 100.0 | 86199 | 1.34 |
| 13 | 48501 | 53.0 | 42367 | 46.3 | 453 | 0.5 | 222 | 0.2 | 91543 | 100.0 | 67759 | 1.34 |
| 14 | 49108 | 53.1 | 42308 | 45.8 | 767 | 0.8 | 269 | 0.3 | 92451 | 100.0 | 68339 | 1.34 |
| 15 | 55721 | 53.1 | 48485 | 46.2 | 568 | 0.5 | 242 | 0.2 | 105016 | 100.0 | 77760 | 1.34 |
| 16 | 67014 | 53.0 | 57949 | 45.9 | 952 | 0.8 | 414 | 0.3 | 126329 | 100.0 | 93355 | 1.34 |
| 17 | 77873 | 52.4 | 69492 | 46.7 | 898 | 0.6 | 420 | 0.3 | 148682 | 100.0 | 109460 | 1.35 |
| 18 | 48217 | 52.9 | 42520 | 46.7 | 210 | 0.2 | 121 | 0.1 | 91067 | 100.0 | 67544 | 1.34 |
| 19 | 12295 | 51.8 | 11379 | 47.9 | 32 | 0.1 | 52 | 0.2 | 23758 | 100.0 | 17467 | 1.36 |
| 20 | 10251 | 51.3 | 9629 | 48.2 | 35 | 0.2 | 48 | 0.2 | 19964 | 100.0 | 14628 | 1.36 |
| 21 | 33939 | 51.9 | 31278 | 47.8 | 115 | 0.2 | 123 | 0.2 | 65455 | 100.0 | 48156 | 1.35 |
| 22 | 10342 | 52.1 | 9487 | 47.8 | 0 | 0.0 | 15 | 0.1 | 19844 | 100.0 | 14654 | 1.35 |
| 23 | 19325 | 65.2 | 9619 | 32.4 | 715 | 2.4 | 0 | 0.0 | 29659 | 100.0 | 23697 | 1.22 |
| 24 | 34522 | 52.2 | 31091 | 47.1 | 408 | 0.6 | 57 | 0.1 | 66079 | 100.0 | 48655 | 1.35 |
| 25 | 35939 | 51.6 | 33483 | 48.1 | 129 | 0.2 | 37 | 0.1 | 69588 | 100.0 | 51158 | 1.36 |

## Table E8 – Opening Day Estimate
## Green Line MOS Mode Choice Person Trip Summary – Non-Home-Based Productions, continued

| DISTRICT NUMBER | DRIVE ALONE | | SHARE RIDE | | TRANSIT/WALK | | TRANSIT/AUTO | | ALL MODES | | TOTAL VEHICLE TRIPS | AVG AUTO OCCUPANCY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | | |
| 26 | 18946 | 52.6 | 16978 | 47.1 | 93 | 0.3 | 23 | 0.1 | 36040 | 100.0 | 26663 | 1.35 |
| 27 | 43322 | 50.7 | 41775 | 48.9 | 276 | 0.3 | 88 | 0.1 | 85461 | 100.0 | 62310 | 1.37 |
| 28 | 51686 | 50.1 | 51066 | 49.5 | 226 | 0.2 | 92 | 0.1 | 103069 | 100.0 | 74898 | 1.37 |
| 29 | 81921 | 50.3 | 80296 | 49.3 | 393 | 0.2 | 155 | 0.1 | 162765 | 100.0 | 118419 | 1.37 |
| 30 | 32650 | 51.5 | 30635 | 48.4 | 28 | 0.0 | 27 | 0.0 | 63341 | 100.0 | 46575 | 1.36 |
| 31 | 24802 | 52.3 | 22411 | 47.2 | 146 | 0.3 | 103 | 0.2 | 47463 | 100.0 | 34989 | 1.35 |
| 32 | 50691 | 52.4 | 45936 | 47.4 | 144 | 0.1 | 57 | 0.1 | 96829 | 100.0 | 71571 | 1.35 |
| 33 | 104695 | 50.6 | 102157 | 49.4 | 41 | 0.0 | 61 | 0.0 | 206954 | 100.0 | 151130 | 1.37 |
| 34 | 21474 | 50.9 | 20681 | 49.0 | 0 | 0.0 | 14 | 0.0 | 42169 | 100.0 | 30874 | 1.37 |
| 35 | 14261 | 49.9 | 14327 | 50.1 | 0 | 0.0 | 3 | 0.0 | 28591 | 100.0 | 20773 | 1.38 |
| 36 | 22342 | 50.3 | 21887 | 49.3 | 110 | 0.2 | 42 | 0.1 | 44381 | 100.0 | 32290 | 1.37 |
| 37 | 5040 | 50.6 | 4922 | 49.4 | 0 | 0.0 | 0 | 0.0 | 9962 | 100.0 | 7277 | 1.37 |
| 38 | 16592 | 49.9 | 16571 | 49.8 | 74 | 0.2 | 26 | 0.1 | 33263 | 100.0 | 24124 | 1.37 |
| 39 | 3122 | 49.2 | 3220 | 50.8 | 0 | 0.0 | 0 | 0.0 | 6342 | 100.0 | 4586 | 1.38 |
| 40 | 9700 | 49.9 | 9731 | 50.0 | 0 | 0.0 | 11 | 0.1 | 19442 | 100.0 | 14124 | 1.38 |
| 41 | 12594 | 50.1 | 12542 | 49.9 | 0 | 0.0 | 0 | 0.0 | 25136 | 100.0 | 18295 | 1.37 |
| 42 | 6522 | 50.1 | 6500 | 49.9 | 0 | 0.0 | 0 | 0.0 | 13022 | 100.0 | 9477 | 1.37 |
| 43 | 40069 | 49.8 | 40437 | 50.2 | 0 | 0.0 | 0 | 0.0 | 80506 | 100.0 | 58449 | 1.38 |
| 44 | 13549 | 51.0 | 12978 | 48.9 | 4 | 0.0 | 11 | 0.0 | 26542 | 100.0 | 19449 | 1.36 |
| 45 | 45441 | 52.7 | 40623 | 47.1 | 27 | 0.0 | 77 | 0.1 | 86169 | 100.0 | 63907 | 1.35 |
| 46 | 25115 | 50.3 | 24775 | 49.6 | 0 | 0.0 | 26 | 0.1 | 49916 | 100.0 | 36376 | 1.37 |
| 47 | 49229 | 51.7 | 45682 | 48.0 | 169 | 0.2 | 122 | 0.1 | 95203 | 100.0 | 69994 | 1.36 |
| 48 | 12552 | 51.4 | 11817 | 48.4 | 0 | 0.0 | 34 | 0.1 | 24404 | 100.0 | 17924 | 1.36 |
| 49 | 54045 | 52.5 | 48217 | 46.8 | 485 | 0.5 | 245 | 0.2 | 102993 | 100.0 | 75962 | 1.35 |

Table E8 – Opening Day Estimate
Green Line MOS Mode Choice Person Trip Summary – Non-Home-Based Productions, continued

| DISTRICT NUMBER | DRIVE ALONE | | SHARE RIDE | | TRANSIT/WALK | | TRANSIT/AUTO | | ALL MODES | | TOTAL VEHICLE TRIPS | AVG AUTO OCCUPANCY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | | |
| 50 | 8752 | 50.4 | 8599 | 49.5 | 0 | 0.0 | 31 | 0.2 | 17381 | 100.0 | 12660 | 1.37 |
| 51 | 2540 | 50.5 | 2482 | 49.3 | 0 | 0.0 | 9 | 0.2 | 5031 | 100.0 | 3668 | 1.37 |
| 52 | 1594 | 49.0 | 1656 | 51.0 | 0 | 0.0 | 0 | 0.0 | 3250 | 100.0 | 2347 | 1.38 |
| 53 | 4450 | 50.3 | 4380 | 49.5 | 0 | 0.0 | 16 | 0.2 | 8845 | 100.0 | 6441 | 1.37 |
| 54 | 8819 | 49.2 | 9122 | 50.8 | 0 | 0.0 | 0 | 0.0 | 17941 | 100.0 | 12965 | 1.38 |
| 55 | 12702 | 49.7 | 12870 | 50.3 | 0 | 0.0 | 0 | 0.0 | 25572 | 100.0 | 18552 | 1.38 |
| 56 | 8212 | 50.0 | 8197 | 50.0 | 0 | 0.0 | 0 | 0.0 | 16409 | 100.0 | 11938 | 1.37 |
| 57 | 12929 | 49.8 | 13042 | 50.2 | 0 | 0.0 | 0 | 0.0 | 25971 | 100.0 | 18857 | 1.38 |
| 58 | 2724 | 49.3 | 2798 | 50.7 | 0 | 0.0 | 0 | 0.0 | 5522 | 100.0 | 3996 | 1.38 |
| 59 | 1756 | 49.3 | 1809 | 50.7 | 0 | 0.0 | 0 | 0.0 | 3565 | 100.0 | 2578 | 1.38 |
| 60 | 3653 | 49.3 | 3751 | 50.7 | 0 | 0.0 | 0 | 0.0 | 7404 | 100.0 | 5358 | 1.38 |
| 61 | 4528 | 49.3 | 4656 | 50.7 | 0 | 0.0 | 0 | 0.0 | 9185 | 100.0 | 6645 | 1.38 |
| 62 | 6484 | 51.4 | 6109 | 48.4 | 0 | 0.0 | 22 | 0.2 | 12616 | 100.0 | 9261 | 1.36 |
| 63 | 2955 | 49.4 | 3023 | 50.5 | 0 | 0.0 | 3 | 0.1 | 5981 | 100.0 | 4329 | 1.38 |

## Table E9 – Opening Day Estimate
## Green Line MOS Mode Choice Person Trip Summary – Non-Home-Based Attractions

| DISTRICT NUMBER | DRIVE ALONE | | SHARE RIDE | | TRANSIT/WALK | | TRANSIT/AUTO | | ALL MODES | | TOTAL VEHICLE TRIPS | AVG AUTO OCCUPANCY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | | |
| 1 | 43266 | 66.8 | 12431 | 19.2 | 6536 | 10.1 | 2553 | 3.9 | 64785 | 100.0 | 48916 | 1.14 |
| 2 | 117808 | 52.4 | 102855 | 45.8 | 3307¬ | 1.5 | 728 | 0.3 | 224697 | 100.0 | 164560 | 1.34 |
| 3 | 129534 | 54.1 | 106727 | 44.6 | 2683 | 1.1 | 567 | 0.2 | 239511 | 100.0 | 178046 | 1.33 |
| 4 | 43873 | 54.2 | 36016 | 44.5 | 853 | 1.1 | 214 | 0.3 | 80955 | 100.0 | 60244 | 1.33 |
| 5 | 41087 | 53.8 | 34297 | 44.9 | 763 | 1.0 | 194 | 0.3 | 76341 | 100.0 | 56676 | 1.33 |
| 6 | 47666 | 53.9 | 39947 | 45.1 | 684 | 0.8 | 182 | 0.2 | 88478 | 100.0 | 65824 | 1.33 |
| 7 | 35720 | 52.7 | 31697 | 46.8 | 239 | 0.4 | 93 | 0.1 | 67749 | 100.0 | 50128 | 1.34 |
| 8 | 37784 | 52.7 | 33881 | 47.2 | 71 | 0.1 | 8 | 0.0 | 71745 | 100.0 | 53185 | 1.35 |
| 9 | 51193 | 53.5 | 43804 | 45.8 | 467 | 0.5 | 138 | 0.1 | 95601 | 100.0 | 71103 | 1.34 |
| 10 | 60637 | 53.8 | 50731 | 45.0 | 1013 | 0.9 | 326 | 0.3 | 112706 | 100.0 | 83696 | 1.33 |
| 11 | 107604 | 53.3 | 92319 | 45.7 | 1496 | 0.7 | 508 | 0.3 | 201926 | 100.0 | 149567 | 1.34 |
| 12 | 62676 | 53.5 | 53628 | 45.8 | 639 | 0.5 | 173 | 0.1 | 117116 | 100.0 | 87053 | 1.34 |
| 13 | 48971 | 53.3 | 42339 | 46.1 | 457 | 0.5 | 168 | 0.2 | 91934 | 100.0 | 68216 | 1.34 |
| 14 | 49660 | 53.5 | 42200 | 45.5 | 729 | 0.8 | 248 | 0.3 | 92838 | 100.0 | 68842 | 1.33 |
| 15 | 56201 | 53.3 | 48619 | 46.1 | 505 | 0.5 | 195 | 0.2 | 105519 | 100.0 | 78300 | 1.34 |
| 16 | 67634 | 53.3 | 57994 | 45.7 | 894 | 0.7 | 343 | 0.3 | 126866 | 100.0 | 93996 | 1.34 |
| 17 | 78402 | 52.5 | 69783 | 46.8 | 747 | 0.5 | 319 | 0.2 | 149250 | 100.0 | 110122 | 1.35 |
| 18 | 48474 | 53.0 | 42711 | 46.7 | 217 | 0.2 | 74 | 0.1 | 91475 | 100.0 | 67888 | 1.34 |
| 19 | 12341 | 51.8 | 11435 | 48.0 | 24 | 0.1 | 9 | 0.0 | 23808 | 100.0 | 17539 | 1.36 |
| 20 | 10323 | 51.6 | 9612 | 48.1 | 43 | 0.2 | 21 | 0.1 | 19998 | 100.0 | 14692 | 1.36 |
| 21 | 34033 | 51.9 | 31332 | 47.8 | 135 | 0.2 | 59 | 0.1 | 65559 | 100.0 | 48275 | 1.35 |
| 22 | 10396 | 52.3 | 9474 | 47.7 | 0 | 0.0 | 0 | 0.0 | 19869 | 100.0 | 14702 | 1.35 |
| 23 | 15270 | 51.8 | 12272 | 41.6 | 1581 | 5.4 | 383 | 1.3 | 29506 | 100.0 | 20848 | 1.32 |
| 24 | 34950 | 53.3 | 30389 | 46.3 | 240 | 0.4 | 48 | 0.1 | 65627 | 100.0 | 48763 | 1.34 |
| 25 | 36106 | 52.1 | 33032 | 47.7 | 82 | 0.1 | 28 | 0.0 | 69248 | 100.0 | 51120 | 1.35 |

Table E9 – Opening Day Estimate
Green Line MOS Mode Choice Person Trip Summary – Non-Home-Based Attractions, continued

| | DRIVE ALONE | | SHARE RIDE | | TRANSIT/WALK | | TRANSIT/AUTO | | ALL MODES | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DISTRICT NUMBER | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | TOTAL VEHICLE TRIPS | AVG AUTO OCCUPANCY |
| 26 | 19020 | 52.8 | 16880 | 46.9 | 63 | 0.2 | 25 | 0.1 | 35988 | 100.0 | 26692 | 1.34 |
| 27 | 43597 | 51.2 | 41368 | 48.6 | 115 | 0.1 | 27 | 0.0 | 85107 | 100.0 | 62400 | 1.36 |
| 28 | 51894 | 50.8 | 50231 | 49.1 | 87 | 0.1 | 12 | 0.0 | 102224 | 100 | 74726 | 1.37 |
| 29 | 82086 | 50.9 | 7888 | 48.9 | 182 | 0.1 | 29 | 0.0 | 161185 | 100.0 | 117944 | 1.36 |
| 30 | 32833 | 52.0 | 30320 | 48.0 | 22 | 0.0 | 7 | 0.0 | 63182 | 100.0 | 46615 | 1.35 |
| 31 | 20078 | 42.1 | 27238 | 57.2 | 279 | 0.6 | 62 | 0.1 | 47658 | 100.0 | 32459 | 1.46 |
| 32 | 50877 | 52.6 | 45702 | 47.2 | 131 | 0.1 | 38 | 0.0 | 96748 | 100.0 | 71651 | 1.35 |
| 33 | 105187 | 50.8 | 101717 | 49.2 | 42 | 0.0 | 0 | 0.0 | 206945 | 100.0 | 151422 | 1.37 |
| 34 | 21507 | 51.1 | 20585 | 48.9 | 0 | 0.0 | 0 | 0.0 | 42092 | 100.0 | 30864 | 1.36 |
| 35 | 14001 | 50.0 | 13975 | 50.0 | 0 | 0.0 | 0 | 0.0 | 27976 | 100.0 | 20354 | 1.37 |
| 36 | 22358 | 50.9 | 21491 | 48.9 | 63 | 0.1 | 13 | 0.0 | 43925 | 100.0 | 32127 | 1.36 |
| 37 | 5004 | 51.3 | 4756 | 48.7 | 0 | 0.0 | 0 | 0.0 | 9760 | 100.0 | 7166 | 1.36 |
| 38 | 16505 | 50.3 | 16249 | 49.5 | 45 | 0.1 | 11 | 0.0 | 32809 | 100.0 | 23891 | 1.37 |
| 39 | 3083 | 49.8 | 3113 | 50.2 | 0 | 0.0 | 0 | 0.0 | 6196 | 100.0 | 4498 | 1.38 |
| 40 | 9512 | 50.1 | 9464 | 49.9 | 0 | 0.0 | 0 | 0.0 | 18976 | 100.0 | 13814 | 1.37 |
| 41 | 12498 | 50.3 | 12369 | 49.7 | 0 | 0.0 | 0 | 0.0 | 24867 | 100.0 | 18120 | 1.37 |
| 42 | 6511 | 50.2 | 6457 | 49.8 | 0 | 0.0 | 0 | 0.0 | 12968 | 100.0 | 9446 | 1.37 |
| 43 | 39347 | 49.9 | 39565 | 50.1 | 0 | 0.0 | 0 | 0.0 | 78912 | 100.0 | 57331 | 1.38 |
| 44 | 13570 | 51.2 | 12908 | 48.7 | 2 | 0.0 | 1 | 0.0 | 26481 | 100.0 | 19437 | 1.36 |
| 45 | 45868 | 53.1 | 40451 | 46.8 | 21 | 0.0 | 7 | 0.0 | 86347 | 100.0 | 64255 | 1.34 |
| 46 | 25135 | 50.4 | 24767 | 49.6 | 0 | 0.0 | 0 | 0.0 | 49902 | 100.0 | 36393 | 1.37 |
| 47 | 49526 | 51.8 | 45788 | 47.9 | 234 | 0.2 | 98 | 0.1 | 95646 | 100.0 | 70339 | 1.36 |
| 48 | 12614 | 51.6 | 11835 | 48.4 | 0 | 0.0 | 0 | 0.0 | 24449 | 100.0 | 17993 | 1.36 |
| 49 | 54351 | 52.6 | 48395 | 46.8 | 462 | 0.4 | 204 | 0.2 | 103412 | 100.0 | 76348 | 1.35 |
| 50 | 8784 | 50.4 | 8638 | 49.6 | 0 | 0.0 | 0 | 0.0 | 17422 | 100.0 | 12711 | 1.37 |

Table E9 – Opening Day Estimate
Green Line MOS Mode Choice Person Trip Summary – Non-Home-Based Attractions, continued

| DISTRICT NUMBER | DRIVE ALONE | | SHARE RIDE | | TRANSIT/WALK | | TRANSIT/AUTO | | ALL MODES | | TOTAL VEHICLE TRIPS | AVG AUTO OCCUPANCY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | | |
| 51 | 2556 | 50.5 | 2502 | 49.5 | 0 | 0.0 | 0 | 0.0 | 5059 | 100.0 | 3694 | 1 .37 |
| 52 | 1584 | 48.7 | 1666 | 51.3 | 0 | 0.0 | 0 | 0.0 | 3250 | 100.0 | 2341 | 1.39 |
| 53 | 4451 | 50.5 | 4366 | 49.5 | 0 | 0.0 | 0 | 0.0 | 8817 | 100.0 | 6436 | 1.37 |
| 54 | 8727 | 49.0 | 9092 | 51.0 | 0 | 0.0 | 0 | 0.0 | 17819 | 100.0 | 12860 | 1.39 |
| 55 | 12650 | 49.7 | 12819 | 50.3 | 0 | 0.0 | 0 | 0.0 | 25469 | 100.0 | 18477 | 1.38 |
| 56 | 8082 | 50.3 | 7970 | 49.7 | 0 | 0.0 | 0 | 0.0 | 16052 | 100.0 | 11705 | 1.37 |
| 57 | 12428 | 49.9 | 12453 | 50.1 | 0 | 0.0 | 0 | 0.0 | 24881 | 100.0 | 18089 | 1.38 |
| 58 | 2681 | 49.4 | 2751 | 50.6 | 0 | 0.0 | 0 | 0.0 | 5432 | 100.0 | 3932 | 1.38 |
| 59 | 1732 | 49.4 | 1774 | 50.6 | 0 | 0.0 | 0 | 0.0 | 3506 | 100.0 | 2538 | 1.38 |
| 60 | 3632 | 49.4 | 3721 | 50.6 | 0 | 0.0 | 0 | 0.0 | 7353 | 100.0 | 5323 | 1.38 |
| 61 | 4463 | 49.3 | 4583 | 50.7 | 0 | 0.0 | 0 | 0.0 | 9047 | 100.0 | 6547 | 1.38 |
| 62 | 6526 | 51.5 | 6145 | 48.5 | 0 | 0.0 | 0 | 0.0 | 12671 | 100.0 | 9319 | 1.36 |
| 63 | 2917 | 49.5 | 2981 | 50.5 | 0 | 0.0 | 0 | 0.0 | 5898 | 100.0 | 4272 | 1.38 |

## 1.2 2025 FORECAST RIDERSHIP ESTIMATES

Tables E10 and E11 contain summary information from the 2025 estimate of ridership for the entire federal project, including linked and unlinked trips, and an overall summary of mode of access distribution by transit mode. These tables summarize transit and vehicle trips purposes for 63 summary districts and were generated by mode choice, including home-based work, home-based non-work, and non-home-based trips. The trips reported are those produced in each district and reflect attraction to each district.

### Table E10 – Year 2025 Forecast Transit Summary Statistics

| PATRONAGE | LOCAL BUS | EXPRESS BUS | LIGHT RAIL | COMMUTER RAIL | TOTAL RAIL | TOTAL |
|---|---|---|---|---|---|---|
| Unlinked Transit Trips | 213,000 | 8,220 | 121,100 | 10,100 | 131,200 | 352,420 |
| Linked Transit Trips | 145,100 | 4,900 | 58,600 | 5,400 | 64,000 | 214,000 |
| Transfers to Rail (%) | | | 51.6% | 46.5% | 51.2% | |
| Passengers per Vehicle Mile | 2.0 | 0.9 | 3.6 | 3.7 | 3.6 | 2.3 |
| Daily Passenger Miles | 727,500 | 63,000 | 903,500 | 167,400 | 1,070,900 | 1,861,400 |
| Daily Passenger Hours | 48,100 | 4,400 | 29,200 | 5,000 | 34,200 | 86,700 |
| Average Passenger Trip Length (miles) | 3.4 | 7.7 | 7.5 | 16.6 | 8.2 | 5.3 |
| Average Passenger Trip Length (minutes) | 13.5 | 32.1 | 14.5 | 29.7 | 15.6 | 14.8 |
| *Average Speed (mph)* | *15.1* | *14.3* | *30.9* | *33.5* | *31.3* | *21.5* |

The first comparison of actual ridership on the line will include overall riders in the corridor and daily station activity. The 2025 estimate for riders in the corridor was 45,904 riders per day, as shown in Table E12. Also included in Table E12 is the average daily station activity for each station along the Green Line MOS. The ridership is shown as boarding or alighting, by mode of access, and totaled for each station and corridor section. Figures E8 through E14 represent this data graphically.

Table E11 – Year 2025 Forecast Systemwide Mode of Access to Rail

| MODE OF ACCESS | PERCENT TO LIGHT RAIL | PERCERNT TO COMMUTER RAIIL | PERCENT TO TOTAL RAIL |
|---|---|---|---|
| Walk | | 23.7 % | 23.7 % |
| Drive | 24.7 % | 30.2 % | 25.0 % |
| Local Bus | 41.2 % | 36.1 % | 40.6 % |
| Express Bus | 0.10 % | 1.2 % | 0.2 % |
| Rail | 10.0 % | 1.2 % | 9.8 % |

Table E12 – Year 2025 Forecast
Station Daily Volume by Mode of Arrivals and Departures

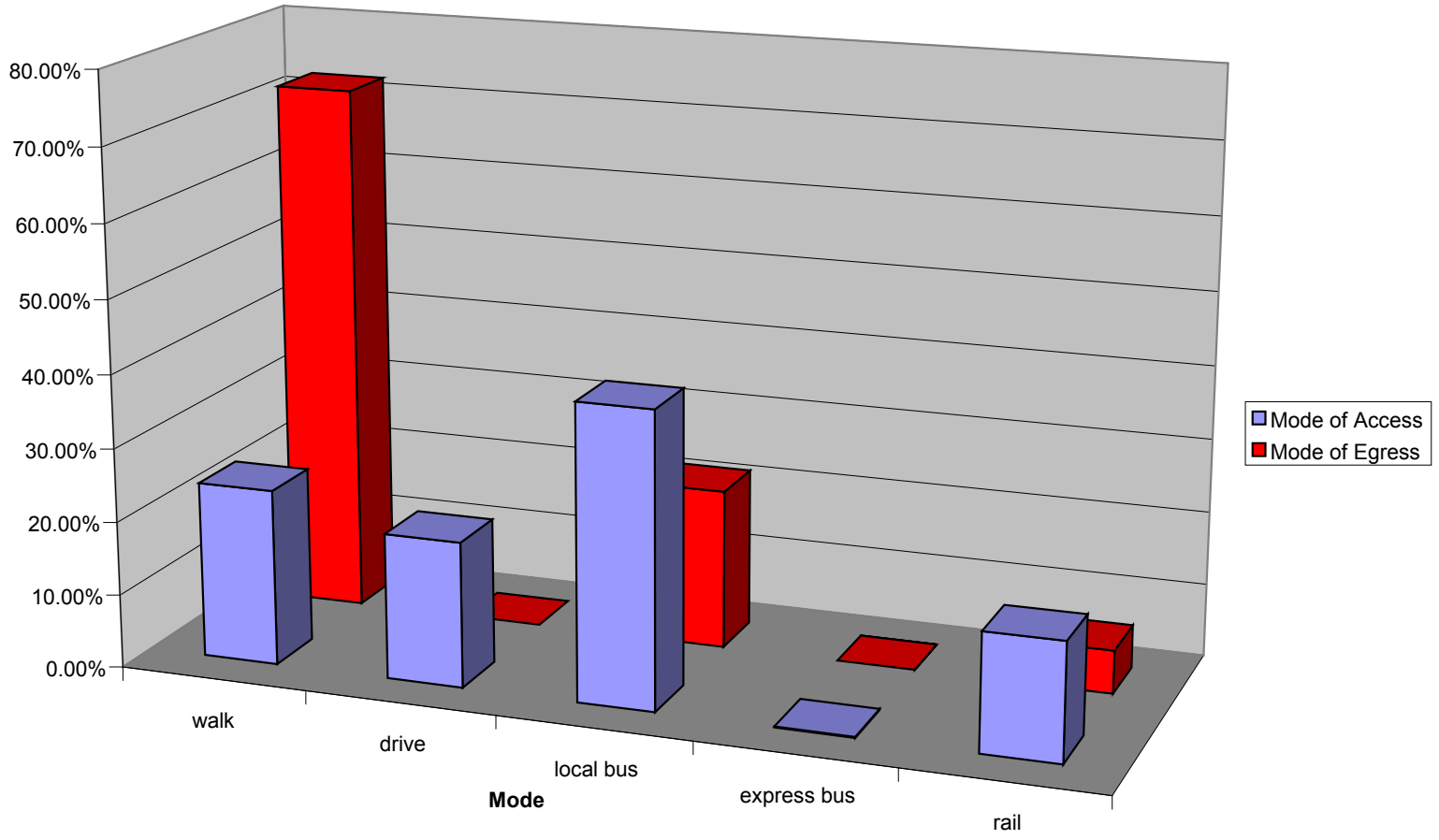
| | BOARDINGS (TO RAIL) | | | | | | ALIGHTINGS (FROM RAIL) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STATION | WALK | AUTO | BUS | XBUS | XRAIL | TOTAL | WALK | BUS | XBUS | XRAIL | TOTAL | TOTAL STATION ACTIVITY | TOTAL STATION RIDERS |
| SOUTHEAST CORRIDOR | | | | | | | | | | | | | |
| Buckner | 489 | 2,148 | 1,500 | 0 | 0 | 4,137 | 79 | 398 | 0 | 0 | 477 | 4,614 | 2,307 |
| Lake June | 515 | 449 | 3,527 | 0 | 0 | 4,491 | 89 | 170 | 0 | 0 | 259 | 4,750 | 2,375 |
| Lawnview | 409 | 1,016 | 1,765 | 0 | 0 | 3,190 | 59 | 149 | 0 | 0 | 208 | 3,398 | 1,699 |
| Hatcher | 1,475 | 0 | 1,933 | 0 | 0 | 3,408 | 131 | 182 | 0 | 0 | 313 | 3,721 | 1,861 |
| MLK | 430 | 487 | 1,209 | 0 | 0 | 2,126 | 118 | 427 | 0 | 0 | 545 | 2,671 | 1,336 |
| Fair Park | | | | | | | | | | | | | |
| Baylor | 333 | 0 | 77 | 0 | 0 | 410 | 605 | 367 | 0 | 0 | 972 | 1,382 | 691 |
| Deep Ellum | 367 | 0 | 136 | 0 | 0 | 503 | 457 | 89 | 0 | 0 | 546 | 1,049 | 525 |
| **Southeast Corridor Total** | **4,360** | **4,100** | **10,356** | **0** | **0** | **18,816** | **1,780** | **2,188** | **0** | **0** | **3,968** | **22,784** | **11,392** |
| CBD | | | | | | | | | | | | | |
| Pearl | | | | | | | | | | | | | |
| St. Paul | 348 | 0 | 16 | 0 | 0 | 364 | 7,625 | 10 | 0 | 0 | 7,635 | 7,999 | 4,000 |
| Akard | 502 | 0 | 0 | 0 | 0 | 502 | 10,346 | 0 | 0 | 0 | 10,346 | 10,848 | 5,424 |
| West End | 474 | 0 | 1,320 | 10 | 1,375 | 3,179 | 5,226 | 1,653 | 10 | 669 | 7,558 | 10,737 | 5,369 |
| **CBD Total** | **1,512** | **0** | **1,519** | **10** | **1,916** | **4,957** | **27,217** | **1,704** | **10** | **2,302** | **31,233** | **36,190** | **18,095** |

## Table E12 – Year 2025 Forecast
## Station Daily Volume by Mode of Arrivals and Departures, continued

| | BOARDINGS (TO RAIL) | | | | | | ALIGHTINGS (FROM RAIL) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STATION | WALK | AUTO | BUS | XBUS | XRAIL | TOTAL | WALK | BUS | XBUS | XRAIL | TOTAL | TOTAL STATION ACTIVITY | TOTAL STATION RIDERS |
| **Northwest Corridor** | | | | | | | | | | | | | |
| Victory | 1,645 | 0 | 527 | 0 | 5,401 | 7,573 | 766 | 102 | 0 | 419 | 1,287 | 8,860 | 4,430 |
| Market Center | 349 | 865 | 297 | 0 | 0 | 1,511 | 267 | 284 | 0 | 0 | 551 | 2,062 | 1,031 |
| Parkland | 238 | 0 | 871 | 0 | 0 | 1,109 | 518 | 1,302 | 0 | 0 | 1,820 | 2,929 | 1,465 |
| Inwood | 1,076 | 771 | 219 | 0 | 0 | 2,066 | 582 | 287 | 0 | 0 | 869 | 2,935 | 1,468 |
| Burbank | | | | | | | | | | | | | |
| Bachman | 734 | 830 | 1,331 | 0 | 0 | 2,895 | 481 | 548 | 0 | 0 | 1,029 | 3,924 | 1,962 |
| Walnut/ Denton | 306 | 385 | 404 | 0 | 0 | 1,095 | 431 | 312 | 0 | 0 | 743 | 1,838 | 919 |
| Royal | 292 | 489 | 356 | 0 | 0 | 1,137 | 303 | 1,151 | 0 | 0 | 1,454 | 2,591 | 1,296 |
| Farmers Branch | 142 | 1,593 | 2,015 | 53 | 0 | 3,803 | 380 | 1,149 | 0 | 0 | 1,529 | 5,332 | 2,666 |
| **Northwest Corridor Total** | **5,061** | **4,933** | **6,466** | **53** | **5,401** | **21,914** | **4,359** | **6,142** | **0** | **419** | **10,920** | **32,834** | **16,417** |
| **Green Line Total** | **10,933** | **9,033** | **18,341** | **63** | **7,317** | **45,687** | **33,356** | **10,034** | **10** | **2,721** | **46,121** | **91,808** | **45,904** |

*NOTE: NWSE MOS2025 June24, 2005 Run Lines 3 & 4 Merged*

Figure E8 – Year 2025 Forecast Green Line
MOS Mode of Access/Egress – Total Corridor



## Figure E9 – Year 2025 Forecasts Green Line MOS Mode of Access/Egress – Northwest Corridor

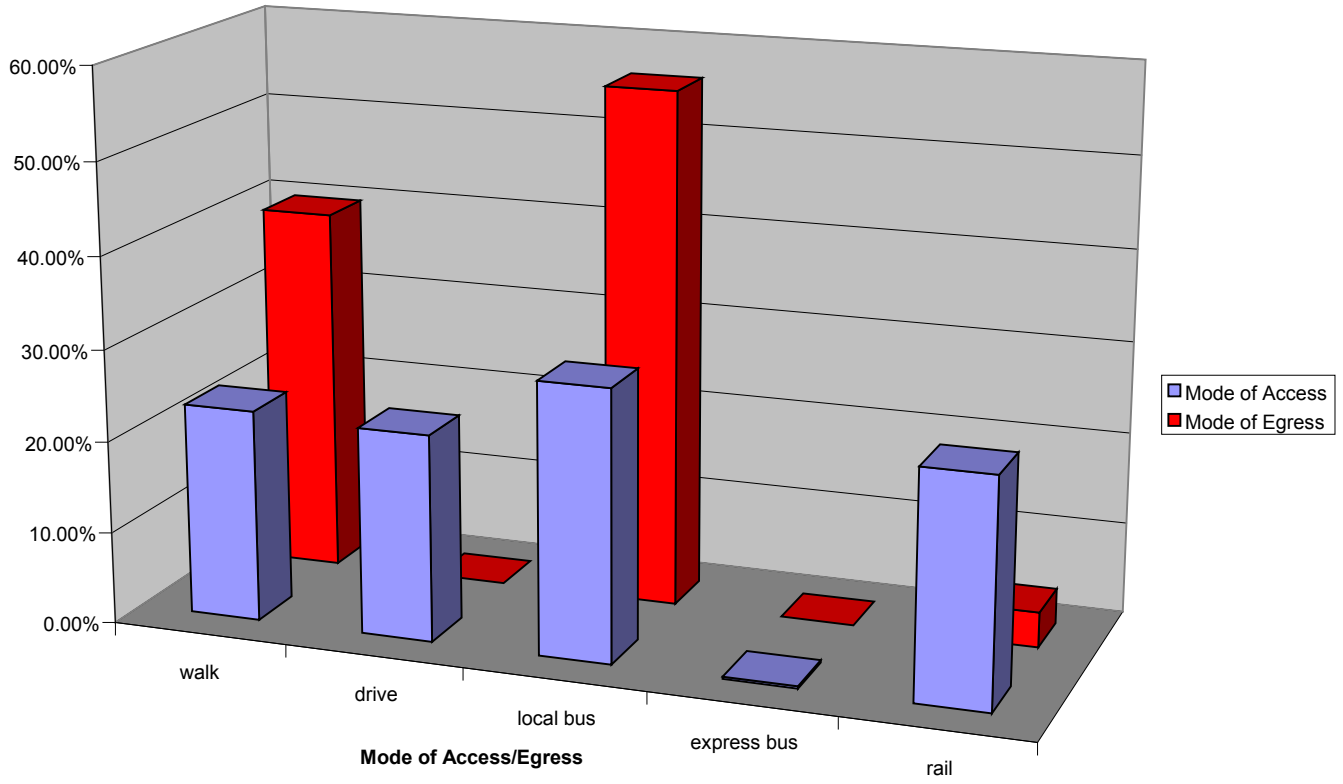
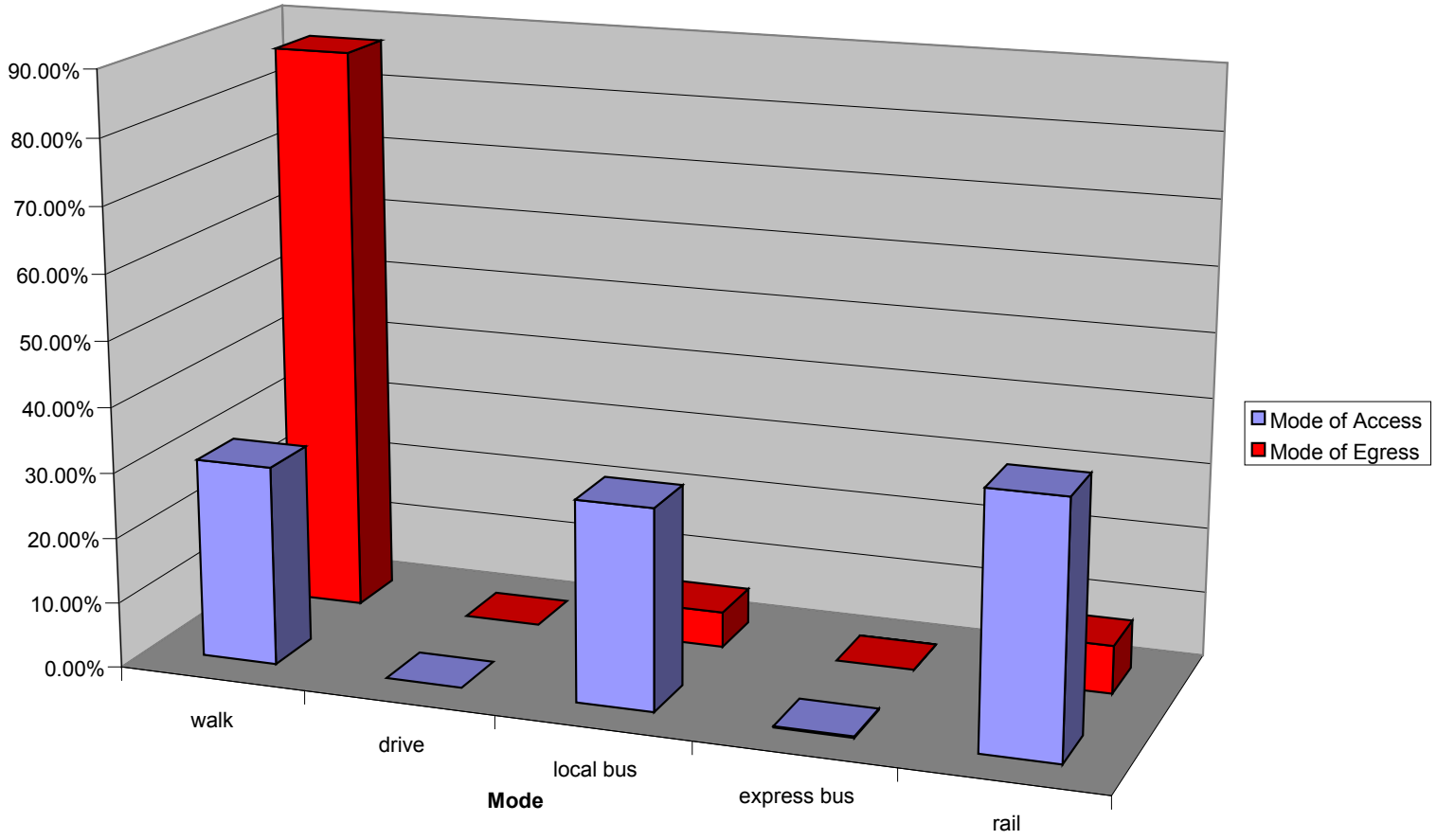


Figure E10 – Year 2025 Forecast Green Line
MOS Mode of Access/Egress – Dallas CBD



## Figure E11 – Year 2025 Forecast Green Line MOS Mode of Access/Egress – Southeast Corridor

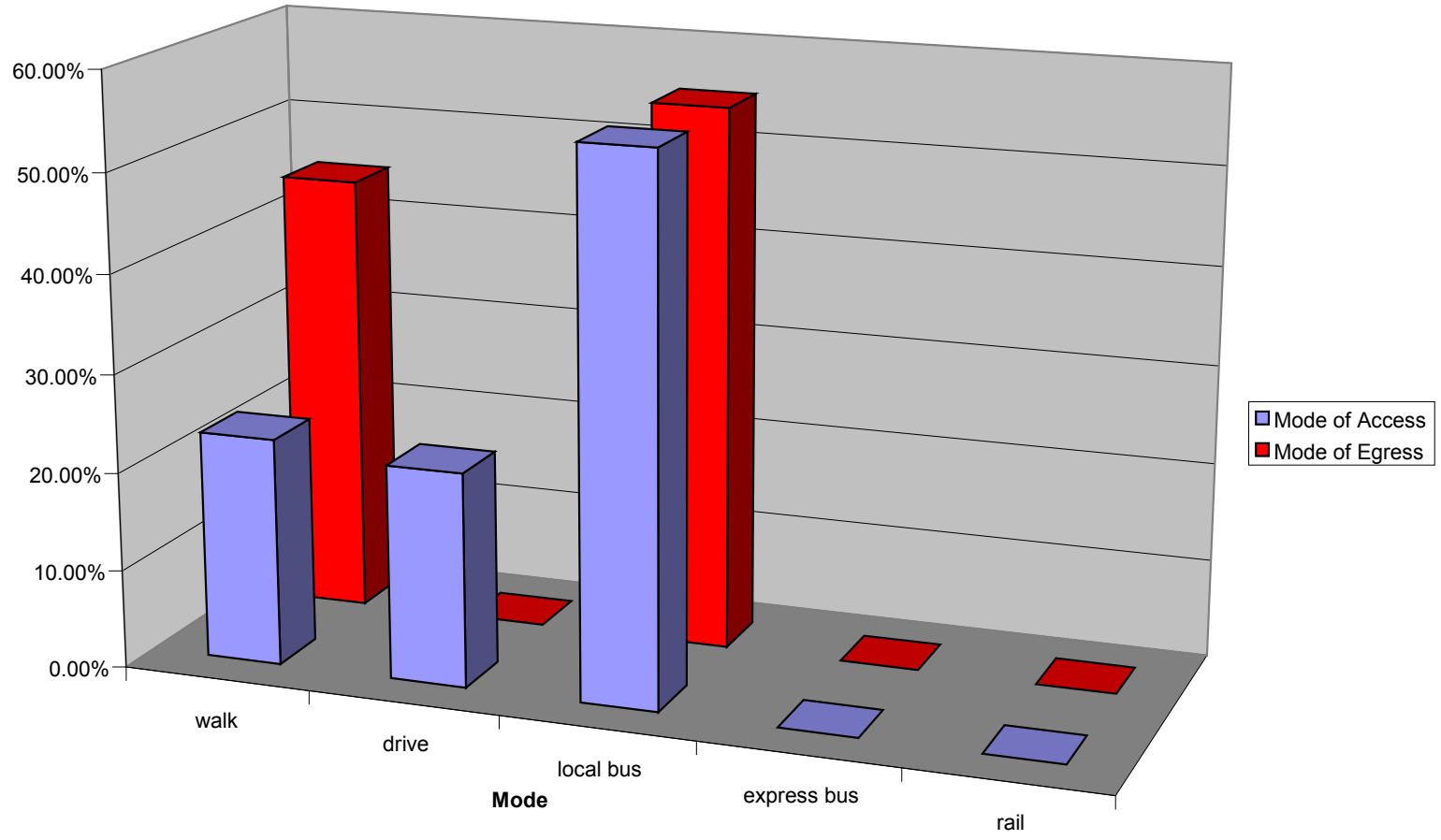


Figure E12 – Year 2025 Forecast Green Line MOS Daily Station Riders – Northwest Corridor

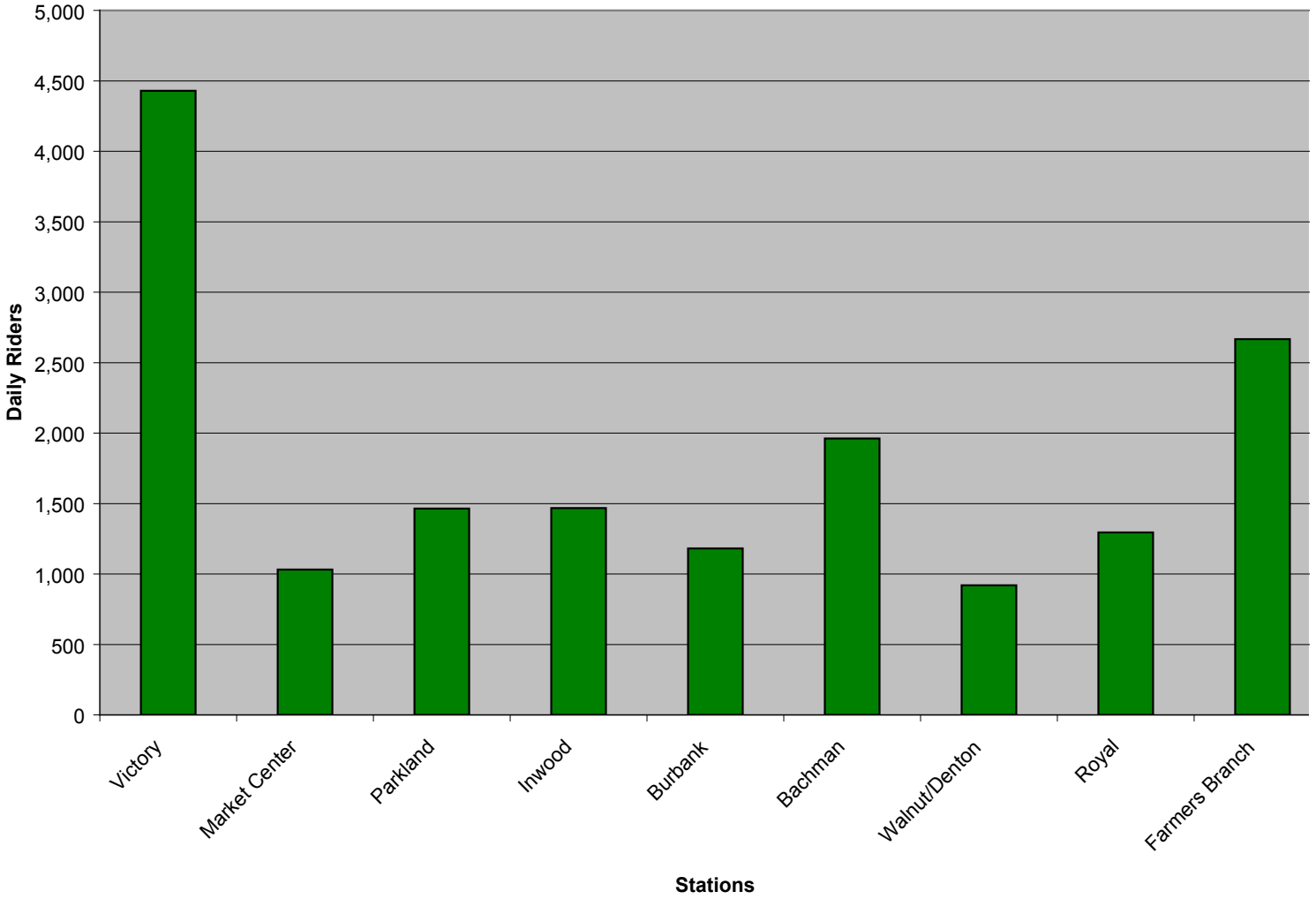


Figure E13 – Year 2025 Forecast Green Line MOS Daily Station Riders – Dallas Central Business District

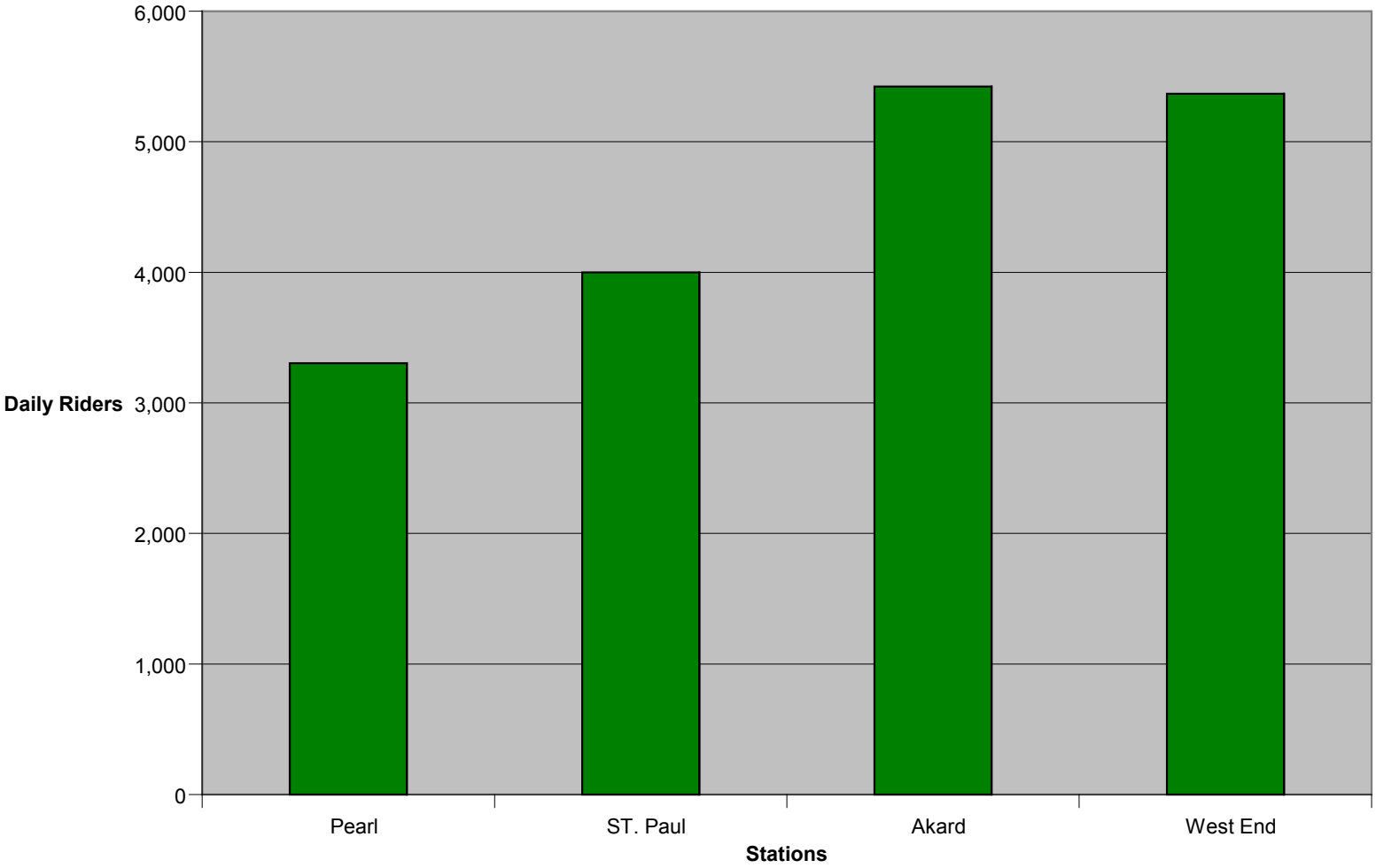


Figure E14 – Year 2025 Forecast Green Line MOS Daily Station Riders – Southeast Corridor

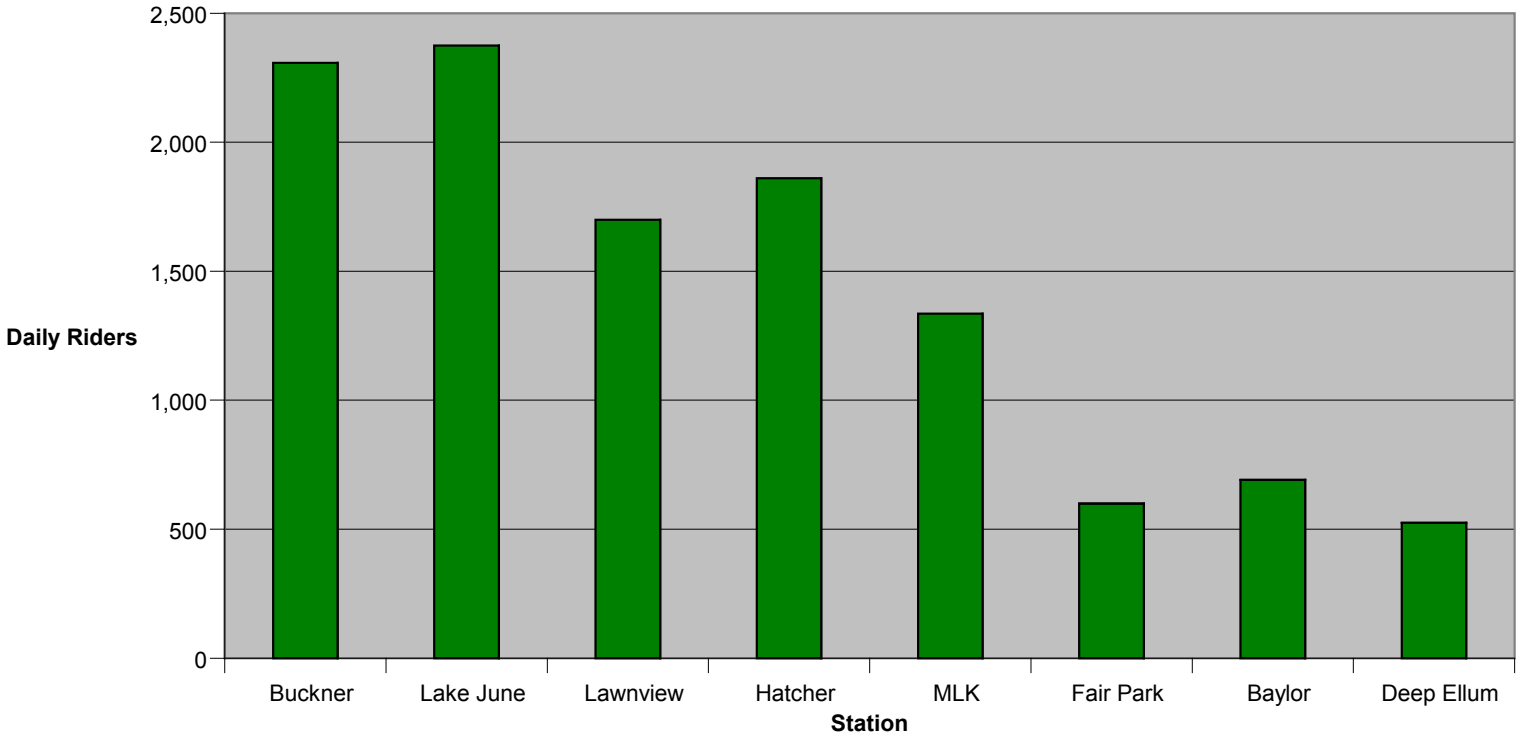


Table E13 – Year 2025

Green Line MOS Mode Choice Person Trip Summary – Home-Based Work Mode Choice Productions

| DISTRICT NUMBER | DRIVE ALONE | | SHARE RIDE 2 | | SHARE RIDE 3+ | | TRANSIT/WALK | | TRANSIT/AUTO | | ALL MODES | | TOTAL VEHICLE TRIPS | AVG AUTO OCCUPANCY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | | |
| 1 | 8588 | 50.8 | 3669 | 21.7 | 1575 | 9.3 | 3077 | 18.2 | 0 | 0.0 | 16909 | 100.0 | 10930 | 1.27 |
| 2 | 33587 | 61.8 | 8762 | 16.1 | 4288 | 7.9 | 6974 | 12.8 | 740 | 1.4 | 54350 | 100.0 | 39351 | 1.19 |
| 3 | 187978 | 69.0 | 39196 | 14.4 | 16817 | 6.2 | 24416 | 9.0 | 4158 | 1.5 | 272566 | 100.0 | 213001 | 1.15 |
| 4 | 66816 | 65.0 | 16114 | 15.7 | 7639 | 7.4 | 10972 | 10.7 | 1197 | 1.2 | 102738 | 100.0 | 77337 | 1.17 |
| 5 | 64402 | 60.7 | 17394 | 16.4 | 8865 | 8.4 | 13919 | 13.1 | 1525 | 1.4 | 106105 | 100.0 | 75959 | 1.19 |
| 6 | 76745 | 70.0 | 16728 | 15.3 | 7572 | 6.9 | 7054 | 6.4 | 1559 | 1.4 | 109657 | 100.0 | 87551 | 1.15 |
| 7 | 45136 | 73.1 | 9463 | 15.3 | 4170 | 6.8 | 2349 | 3.8 | 594 | 1.0 | 61711 | 100.0 | 51212 | 1.15 |
| 8 | 44075 | 73.3 | 10852 | 18.0 | 4697 | 7.8 | 196 | 0.3 | 302 | 0.5 | 60122 | 100.0 | 51016 | 1.17 |
| 9 | 78987 | 72.4 | 17797 | 16.3 | 7822 | 7.2 | 3710 | 3.4 | 770 | 0.7 | 109085 | 100.0 | 90408 | 1.16 |
| 10 | 62851 | 74.4 | 12279 | 14.5 | 5337 | 6.3 | 3401 | 4.0 | 609 | 0.7 | 84478 | 100.0 | 70712 | 1.14 |
| 11 | 132614 | 73.3 | 26398 | 14.6 | 11176 | 6.2 | 8956 | 5.0 | 1721 | 1.0 | 180864 | 100.0 | 149418 | 1.14 |
| 12 | 67641 | 74.5 | 14088 | 15.5 | 6015 | 6.6 | 2564 | 2.8 | 458 | 0.5 | 90766 | 100.0 | 76626 | 1.15 |
| 13 | 117579 | 72.3 | 29546 | 18.2 | 12652 | 7.8 | 2056 | 1.3 | 706 | 0.4 | 162540 | 100.0 | 136434 | 1.17 |
| 14 | 40727 | 74.5 | 8450 | 15.5 | 3567 | 6.5 | 1683 | 3.1 | 234 | 0.4 | 54661 | 100.0 | 46103 | 1.14 |
| 15 | 64516 | 77.6 | 11764 | 14.2 | 4911 | 5.9 | 1564 | 1.9 | 356 | 0.4 | 83111 | 100.0 | 71982 | 1.13 |
| 16 | 83833 | 74.5 | 17714 | 15.7 | 7499 | 6.7 | 2734 | 2.4 | 732 | 0.7 | 112511 | 100.0 | 95109 | 1.15 |
| 17 | 188324 | 70.8 | 49939 | 18.8 | 21574 | 8.1 | 4012 | 1.5 | 2324 | 0.9 | 266175 | 100.0 | 220253 | 1.18 |
| 18 | 115461 | 73.6 | 26972 | 17.2 | 11662 | 7.4 | 1442 | 0.9 | 1401 | 0.9 | 156937 | 100.0 | 132708 | 1.16 |
| 19 | 42019 | 73.6 | 9866 | 17.3 | 4311 | 7.5 | 292 | 0.5 | 634 | 1.1 | 57123 | 100.0 | 48343 | 1.16 |
| 20 | 44864 | 75.8 | 9126 | 15.4 | 3883 | 6.6 | 526 | 0.9 | 767 | 1.3 | 59166 | 100.0 | 50680 | 1.14 |
| 21 | 138024 | 77. 1 | 27081 | 15.1 | 11582 | 6.5 | 1116 | 0.6 | 1197 | 0.7 | 179001 | 100.0 | 155301 | 1.14 |
| 22 | 65218 | 71.0 | 18471 | 20.1 | 7913 | 8.6 | 0 | 0.0 | 300 | 0.3 | 91902 | 100.0 | 77006 | 1.19 |
| 23 | 3196 | 45.4 | 1752 | 24.9 | 787 | 11.2 | 1300 | 18.5 | 0 | 0.0 | 7035 | 100.0 | 4325 | 1.33 |
| 24 | 23995 | 67.3 | 6921 | 19.4 | 3059 | 8.6 | 1553 | 4.4 | 118 | 0.3 | 35646 | 100.0 | 28442 | 1.19 |
| 25 | 83682 | 73.0 | 20761 | 18.1 | 8876 | 7.7 | 865 | 0.8 | 468 | 0.4 | 114652 | 100.0 | 96925 | 1.17 |

## Table E13 – Year 2025
## Green Line MOS Mode Choice Person Trip Summary – Home-Based Work Mode Choice Productions, continued

| DISTRICT NUMBER | DRIVE ALONE | | SHARE RIDE 2 | | SHARE RIDE 3+ | | TRANSIT/WALK | | TRANSIT/AUTO | | ALL MODES | | TOTAL VEHICLE TRIPS | AVG AUTO OCCUPANCY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | | |
| 26 | 18900 | 68.5 | 5674 | 20.6 | 2411 | 8.7 | 426 | 1.5 | 167 | 0.6 | 27577 | 100.0 | 22515 | 1.20 |
| 27 | 91649 | 71.1 | 25117 | 19.5 | 10782 | 8.4 | 814 | 0.6 | 603 | 0.5 | 128964 | 100.0 | 107685 | 1.18 |
| 28 | 64020 | 80.4 | 10808 | 13.6 | 4154 | 5.2 | 401 | 0.5 | 253 | 0.3 | 79635 | 100.0 | 70764 | 1.12 |
| 29 | 117025 | 76.3 | 24647 | 16.1 | 10170 | 6.6 | 919 | 0.6 | 621 | 0.4 | 153382 | 100.0 | 132629 | 1.14 |
| 30 | 119917 | 76.1 | 26318 | 16.7 | 11040 | 7.0 | 14 | 0.0 | 311 | 0.2 | 157600 | 100.0 | 136637 | 1.15 |
| 31 | 3 | 67.0 | 1 | 23.2 | 0 | 9.8 | 0 | 0.0 | 0 | 0.0 | 5 | 100.0 | 4 | 1.22 |
| 32 | 97137 | 74.3 | 22405 | 17. 1 | 9615 | 7.4 | 979 | 0.7 | 621 | 0.5 | 130757 | 100.0 | 111441 | 1.16 |
| 33 | 193538 | 77.4 | 39621 | 15.9 | 16334 | 6.5 | 26 | 0,0 | 371 | 0.1 | 249890 | 100.0 | 218618 | 1.14 |
| 34 | 130351 | 74.1 | 31730 | 18.0 | 13632 | 7.8 | 0 | 0.0 | 127 | 0.1 | 175840 | 100.0 | 150613 | 1.17 |
| 35 | 73441 | 78.5 | 14242 | 15.2 | 5853 | 6.3 | 0 | 0.0 | 27 | 0.0 | 93564 | 100.0 | 82450 | 1.13 |
| 36 | 59897 | 73.9 | 14449 | 17.6 | 5977 | 7.4 | 440 | 0.5 | 254 | 0.3 | 81017 | 100.0 | 69049 | 1.16 |
| 37 | 74118 | 72.6 | 19409 | 19.0 | 8589 | 8.4 | 0 | 0.0 | 0 | 0.0 | 102116 | 100.0 | 86593 | 1.18 |
| 38 | 106031 | 66.7 | 36171 | 22.8 | 15885 | 10.0 | 431 | 0.3 | 392 | 0.2 | 158910 | 100.0 | 129241 | 1.22 |
| 39 | 33743 | 69.5 | 10325 | 21.3 | 4512 | 9.3 | 0 | 0.0 | 0 | 0.0 | 48580 | 100.0 | 40361 | 1.20 |
| 40 | 96914 | 70.9 | 27548 | 20.2 | 11950 | 8.7 | 0 | 0.0 | 282 | 0.2 | 136694 | 100.0 | 114543 | 1.19 |
| 41 | 106899 | 80.8 | 18253 | 13.8 | 6979 | 5.3 | 142 | 0.1 | 0 | 0.0 | 132273 | 100.0 | 118277 | 1.12 |
| 42 | 101006 | 79.0 | 19151 | 15.0 | 7698 | 6.0 | 0 | 0.0 | 0 | 0.0 | 127855 | 100.0 | 113065 | 1.13 |
| 43 | 105067 | 79.0 | 19963 | 15.0 | 7916 | 6.0 | 0 | 0.0 | 0 | 0.0 | 132947 | 100.0 | 117602 | 1.13 |
| 44 | 185938 | 72.1 | 49867 | 19.3 | 21713 | 8.4 | 104 | 0.0 | 339 | 0.1 | 257961 | 100.0 | 217876 | 1.18 |
| 45 | 180504 | 75.1 | 41284 | 17.2 | 17704 | 7.4 | 173 | 0.1 | 579 | 0.2 | 240243 | 100.0 | 206857 | 1.16 |
| 46 | 204305 | 76.4 | 44168 | 16.5 | 18658 | 7.0 | 0 | 0.0 | 348 | 0.1 | 267479 | 100.0 | 232408 | 1.15 |
| 47 | 107867 | 74.8 | 25031 | 17.4 | 10445 | 7.2 | 347 | 0.2 | 502 | 0.3 | 144191 | 100.0 | 123751 | 1.16 |
| 48 | 98203 | 74.6 | 23154 | 17.6 | 9673 | 7.3 | 0 | 0.0 | 606 | 0.5 | 131636 | 100.0 | 112900 | 1.16 |
| 49 | 98905 | 74.4 | 22717 | 17.1 | 9767 | 7.3 | 1012 | 0.8 | 614 | 0.5 | 133015 | 100.0 | 113414 | 1.16 |
| 50 | 61185 | 70.4 | 17243 | 19.8 | 7463 | 8.6 | 0 | 0.0 | 1050 | 1.2 | 86941 | 100.0 | 72214 | 1.19 |

Table E13 – Year 2025

Green Line MOS Mode Choice Person Trip Summary – Home-Based Work Mode Choice Productions, continued

| DISTRICT NUMBER | DRIVE ALONE | | SHARE RIDE 2 | | SHARE RIDE 3+ | | TRANSIT/WALK | | TRANSIT/AUTO | | ALL MODES | | TOTAL VEHICLE TRIPS | AVG AUTO OCCUPANCY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | | |
| 51 | 38281 | 73.7 | 9231 | 17.8 | 4070 | 7.8 | 0 | 0.0 | 328 | 0.6 | 51910 | 100.0 | 44210 | 1.17 |
| 52 | 14238 | 64.3 | 5460 | 24.6 | 2455 | 11.1 | 0 | 0.0 | 0 | 0.0 | 22153 | 100.0 | 17760 | 1.25 |
| 53 | 65138 | 76.8 | 13190 | 15.6 | 5695 | 6.7 | 227 | 0.3 | 557 | 0.7 | 84807 | 100.0 | 73570 | 1.14 |
| 54 | 62855 | 74.2 | 15144 | 17.9 | 6664 | 7.9 | 0 | 0.0 | 0 | 0.0 | 84663 | 100.0 | 72577 | 1.17 |
| 55 | 89320 | 76.6 | 18821 | 16.1 | 8003 | 6.9 | 0 | 0.0 | 409 | 0.4 | 116552 | 100.0 | 101312 | 1.15 |
| 56 | 61358 | 71.8 | 16718 | 19.6 | 7339 | 8.6 | 0 | 0.0 | 0 | 0.0 | 85415 | 100.0 | 72085 | 1.18 |
| 57 | 52323 | 76.6 | 11321 | 16.6 | 4625 | 6.8 | 0 | 0.0 | 0 | 0.0 | 68268 | 100.0 | 59475 | 1.15 |
| 58 | 23665 | 69.9 | 7051 | 20.8 | 3157 | 9.3 | 0 | 0.0 | 0 | 0.0 | 33872 | 100.0 | 28208 | 1.20 |
| 59 | 13166 | 68.2 | 4235 | 21.9 | 1898 | 9.8 | 0 | 0.0 | 0 | 0.0 | 19299 | 100.0 | 15896 | 1.21 |
| 60 | 45671 | 71.3 | 12877 | 20.1 | 5530 | 8.6 | 0 | 0.0 | 0 | 0.0 | 64079 | 100.0 | 53894 | 1.19 |
| 61 | 52030 | 69.2 | 16064 | 21.4 | 7095 | 9.4 | 0 | 0.0 | 0 | 0.0 | 75189 | 100.0 | 62351 | 1.21 |
| 62 | 71732 | 73.2 | 18019 | 18.4 | 7695 | 7.9 | 0 | 0.0 | 550 | 0.6 | 97996 | 100.0 | 83223 | 1.17 |
| 63 | 21502 | 65.5 | 7669 | 23.4 | 3418 | 10.4 | 0 | 0.0 | 243 | 0.7 | 32833 | 100.0 | 26439 | 1.23 |

## Table E14 – Year 2025
## Green Line MOS Mode Choice Person Trip Summary – Home-Based Work Mode Choice Attractions

| DISTRICT NUMBER | DRIVE ALONE | | SHARE RIDE 2 | | SHARE RIDE 3+ | | TRANSIT/WALK | | TRANSIT/AUTO | | ALL MODES | | TOTAL VEHICLE TRIPS | AVG AUTO OCCUPANCY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | | |
| 1 | 84555 | 33.1 | 50012 | 19.6 | 27467 | 10.7 | 64413 | 25.2 | 29364 | 11.5 | 255811 | 100.0 | 118421 | 1.37 |
| 2 | 205337 | 69.8 | 57773 | 19.6 | 25248 | 8.6 | 5788 | 2.0 | 204 | 0.1 | 294349 | 100.0 | 242367 | 1.19 |
| 3 | 261064 | 71.9 | 65231 | 18.0 | 28068 | 7.7 | 8600 | 2.4 | 332 | 0.1 | 363296 | 100.0 | 302734 | 1.17 |
| 4 | 64078 | 72.7 | 15088 | 17.1 | 6626 | 7.5 | 2306 | 2.6 | 45 | 0.1 | 88143 | 100.0 | 73759 | 1.16 |
| 5 | 75473 | 72.2 | 18299 | 17.5 | 8119 | 7.8 | 2622 | 2.5 | 50 | 0.0 | 104563 | 100.0 | 87241 | 1.17 |
| 6 | 75029 | 73.9 | 17153 | 16.9 | 7529 | 7.4 | 1730 | 1.7 | 36 | 0.0 | 101477 | 100.0 | 86035 | 1.16 |
| 7 | 71649 | 75.7 | 15546 | 16.4 | 6821 | 7.2 | 665 | 0.7 | 14 | 0.0 | 94696 | 100.0 | 81623 | 1.15 |
| 8 | 90495 | 73.7 | 22498 | 18.3 | 9774 | 8.0 | 102 | 0.1 | 2 | 0.0 | 122871 | 100.0 | 104897 | 1.17 |
| 9 | 83232 | 71.3 | 22458 | 19.2 | 9839 | 8.4 | 1124 | 1.0 | 27 | 0.0 | 116680 | 100.0 | 97634 | 1.18 |
| 10 | 130580 | 71.6 | 34441 | 18.9 | 14955 | 8.2 | 2382 | 1.3 | 76 | 0.0 | 182433 | 100.0 | 152625 | 1.18 |
| 11 | 197398 | 73.4 | 47077 | 17.5 | 20224 | 7.5 | 4039 | 1.5 | 151 | 0.1 | 268889 | 100.0 | 227460 | 1.16 |
| 12 | 179060 | 70.6 | 50355 | 19.8 | 22028 | 8.7 | 2190 | 0.9 | 59 | 0.0 | 253693 | 100.0 | 211344 | 1.19 |
| 13 | 93349 | 72.5 | 24123 | 18.7 | 10412 | 8.1 | 846 | 0.7 | 31 | 0.0 | 128760 | 100.0 | 108769 | 1.18 |
| 14 | 175408 | 71.2 | 47817 | 19.4 | 20548 | 8.3 | 2466 | 1.0 | 97 | 0.0 | 246336 | 100.0 | 205944 | 1.18 |
| 15 | 98237 | 74.0 | 23389 | 17.6 | 10030 | 7.6 | 1089 | 0.8 | 40 | 0.0 | 132785 | 100.0 | 113167 | 1.16 |
| 16 | 165748 | 72.0 | 43315 | 18.8 | 18677 | 8.1 | 2309 | 1.0 | 96 | 0.0 | 230146 | 100.0 | 193430 | 1.18 |
| 17 | 133244 | 74.1 | 31590 | 17.6 | 13508 | 7.5 | 1422 | 0.8 | 60 | 0.0 | 179825 | 100.0 | 153397 | 1.16 |
| 18 | 92635 | 75.1 | 20977 | 17.0 | 9098 | 7.4 | 592 | 0.5 | 12 | 0.0 | 123314 | 100.0 | 106058 | 1.16 |
| 19 | 34173 | 75.1 | 7776 | 17.1 | 3468 | 7.6 | 58 | 0.1 | 1 | 0.0 | 45475 | 100.0 | 39180 | 1.16 |
| 20 | 40064 | 77.6 | 8023 | 15.5 | 3433 | 6.7 | 81 | 0.2 | 1 | 0.0 | 51602 | 100.0 | 45183 | 1.14 |
| 21 | 72360 | 79.2 | 13274 | 14.5 | 5511 | 6.0 | 219 | 0.2 | 5 | 0.0 | 91368 | 100.0 | 80775 | 1.13 |
| 22 | 34591 | 78.0 | 6868 | 15.5 | 2908 | 6.6 | 0 | 0.0 | 0 | 0.0 | 44368 | 100.0 | 38964 | 1.14 |
| 23 | 50869 | 42.8 | 40995 | 34.5 | 19447 | 16.4 | 5448 | 4.6 | 2134 | 1.8 | 118893 | 100.0 | 77639 | 1.43 |
| 24 | 75578 | 72.9 | 19214 | 18.5 | 8313 | 8.0 | 526 | 0.5 | 64 | 0.0 | 103696 | 100.0 | 87867 | 1.17 |
| 25 | 67750 | 76.2 | 14763 | 16.6 | 6206 | 7.0 | 130 | 0.1 | 5 | 0.1 | 88853 | 100.0 | 77133 | 1.15 |

Table E14 – Year 2025

Green Line MOS Mode Choice Person Trip Summary – Home-Based Work Mode Choice Attractions, continued

| DISTRICT NUMBER | DRIVE ALONE | | SHARE RIDE 2 | | SHARE RIDE 3+ | | TRANSIT/WALK | | TRANSIT/AUTO | | ALL MODES | | TOTAL VEHICLE TRIPS | AVG AUTO OCCUPANCY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | | |
| 26 | 69576 | 71.0 | 19577 | 20.0 | 8526 | 8.7 | 333 | 0.3 | 20 | 0.0 | 98032 | 100.0 | 82115 | 1.19 |
| 27 | 76375 | 77.1 | 15948 | 16. 1 | 6610 | 6.7 | 72 | O.1 | 3 | 0.0 | 99007 | 100.0 | 86481 | 1.14 |
| 28 | 110136 | 78.9 | 20902 | 15.0 | 8561 | 6.1 | 63 | 0.0 | 8 | 0.0 | 139670 | 100.0 | 123349 | 1.13 |
| 29 | 163919 | 78.7 | 31328 | 15.0 | 12939 | 6.2 | 172 | 0.1 | 5 | 0.0 | 208364 | 100.0 | 183757 | 1.13 |
| 30 | 112883 | 77.0 | 23710 | 16.2 | 10062 | 6.9 | 15 | 0.0 | 0 | 0.0 | 146670 | 100.0 | 127983 | 1.15 |
| 31 | 61255 | 71.8 | 16602 | 19.5 | 7208 | 8.5 | 205 | 0.2 | 7 | 0.0 | 85277 | 100.0 | 71881 | 1.18 |
| 32 | 76742 | 74.5 | 18207 | 17.7 | 7830 | 7.6 | 223 | 0.2 | 6 | 0.0 | 103008 | 100.0 | 88371 | 1.16 |
| 33 | 169760 | 79.5 | 31263 | 14.6 | 12630 | 5.9 | 16 | 0.0 | 0 | 0.0 | 213668 | 100.0 | 189465 | 1.13 |
| 34 | 59910 | 81.6 | 9665 | 13.2 | 3847 | 5.2 | 0 | 0.0 | 0 | 0.0 | 73422 | 100.0 | 65983 | 1.11 |
| 35 | 40099 | 84.4 | 5577 | 11.7 | 1844 | 3.9 | 0 | 0.0 | 0 | 0.0 | 47520 | 100.0 | 43482 | 1.09 |
| 36 | 70543 | 79.8 | 12632 | 14.3 | 5148 | 5.8 | 30 | 0.0 | 1 | 0.0 | 88354 | 100.0 | 78520 | 1.12 |
| 37 | 21924 | 80.8 | 3768 | 13.9 | 1456 | 5.4 | 19 | 0.0 | 0 | 0.0 | 27148 | 100.0 | 24278 | 1.12 |
| 38 | 41047 | 77.3 | 8586 | 16.2 | 3432 | 6.5 | 0 | 0.0 | 1 | 0.0 | 53085 | 100.0 | 46447 | 1.14 |
| 39 | 19282 | 83.4 | 2853 | 12.3 | 984 | 4.3 | 0 | 0.0 | 0 | 0.0 | 23120 | 100.0 | 21026 | 1.10 |
| 40 | 38074 | 81.1 | 6407 | 13.7 | 2448 | 5.2 | 0 | 0.0 | 0 | 0.0 | 46930 | 100.0 | 42068 | 1.12 |
| 41 | 89496 | 82.1 | 14261 | 13.1 | 5214 | 4.8 | 0 | 0.0 | 0 | 0.0 | 108971 | 100.0 | 98308 | 1.11 |
| 42 | 98331 | 80.0 | 17577 | 14.3 | 7044 | 5.7 | 0 | 0.0 | 0 | 0.0 | 122952 | 100.0 | 109392 | 1.12 |
| 43 | 117228 | 80.1 | 20972 | 14.3 | 8134 | 5.6 | 3 | 0.0 | 0 | 0.0 | 146334 | 100.0 | 130338 | 1.12 |
| 44 | 61053 | 79.3 | 11352 | 14.7 | 4597 | 6.0 | 37 | 0.0 | 0 | 0.0 | 77005 | 100.0 | 68212 | 1.13 |
| 45 | 107312 | 76.7 | 22880 | 16.3 | 9752 | 7.0 | 0 | 0.0 | 1 | 0.0 | 139981 | 100.0 | 121897 | 1.15 |
| 46 | 132544 | 81.7 | 21302 | 13.1 | 8344 | 5.1 | 0 | 0.0 | 0 | 0.0 | 162189 | 100.0 | 145886 | 1.11 |
| 47 | 92920 | 75.8 | 20828 | 17.0 | 8749 | 7.1 | 122 | 0.1 | 4 | 0.0 | 122623 | 100.0 | 106156 | 1.15 |
| 48 | 64489 | 77.7 | 13172 | 15.9 | 5339 | 6.4 | 0 | 0.0 | 0 | 0.0 | 83000 | 100.0 | 72798 | 1.14 |
| 49 | 91321 | 73.7 | 22276 | 18.0 | 9527 | 7.7 | 681 | 0.6 | 29 | 0.0 | 123834 | 100.0 | 105532 | 1.17 |
| 50 | 25450 | 77.1 | 5401 | 16.4 | 2167 | 6.6 | 0 | 0.0 | 0 | 0.0 | 33018 | 100.0 | 28850 | 1.14 |

## Table E14 – Year 2025
## Green Line MOS Mode Choice Person Trip Summary – Home-Based Work Mode Choice Attractions, continued

| DISTRICT NUMBER | DRIVE ALONE | | SHARE RIDE 2 | | SHARE RIDE 3+ | | TRANSIT/WALK | | TRANSIT/AUTO | | ALL MODES | | TOTAL VEHICLE TRIPS | AVG AUTO OCCUPANCY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | | |
| 51 | 11954 | 76.8 | 2551 | 16.4 | 1062 | 6.8 | 0 | 0.0 | 0 | 0.0 | 15568 | 100.0 | 13573 | 1.15 |
| 52 | 7418 | 77.6 | 1499 | 15.7 | 638 | 6.7 | 0 | 0.0 | 0 | 0.0 | 9555 | 100.0 | 8373 | 1.14 |
| 53 | 29743 | 80.5 | 5156 | 13.9 | 2039 | 5.5 | 21 | 0.1 | 1 | 0.0 | 36959 | 100.0 | 32978 | 1.12 |
| 54 | 37648 | 80.6 | 6520 | 14.0 | 2570 | 5.5 | 0 | 0.0 | 0 | 0.0 | 46738 | 100.0 | 41737 | 1.12 |
| 55 | 63744 | 80.9 | 10712 | 13.6 | 4295 | 5.5 | 0 | 0.0 | 0 | 0.0 | 78751 | 100.0 | 70485 | 1.12 |
| 56 | 34245 | 81.6 | 5567 | 13.3 | 2147 | 5.1 | 0 | 0.0 | 0 | 0.0 | 41960 | 100.0 | 37721 | 1.11 |
| 57 | 49319 | 82.1 | 7875 | 13.1 | 2842 | 4.7 | 0 | 0.0 | 0 | 0.0 | 60036 | 100.0 | 54173 | 1.11 |
| 58 | 12620 | 78.6 | 2417 | 15.1 | 1020 | 6.4 | 0 | 0.0 | 0 | 0.0 | 16056 | 100.0 | 14157 | 1.13 |
| 59 | 7780 | 78.9 | 1465 | 14.9 | 612 | 6.2 | 0 | 0.0 | 0 | 0.0 | 9858 | 100.0 | 8710 | 1.13 |
| 60 | 30839 | 80.9 | 5242 | 13.7 | 2049 | 5.4 | 0 | 0.0 | 0 | 0.0 | 38129 | 100.0 | 34121 | 1.12 |
| 61 | 25521 | 83.0 | 3859 | 12.5 | 1386 | 4.5 | 0 | 0.0 | 0 | 0.0 | 30766 | 100.0 | 27898 | 1.10 |
| 62 | 20898 | 79.9 | 3785 | 14.5 | 1464 | 5.6 | 0 | 0.0 | 0 | 0.0 | 26147 | 100.0 | 23263 | 1.12 |
| 63 | 16985 | 78.8 | 3257 | 15.1 | 1317 | 6.1 | 0 | 0.0 | 0 | 0.0 | 21559 | 100.0 | 19038 | 1.13 |

Table E15 – Year 2025

Green Line MOS Mode Choice Person Trip Summary – Home-Based Non-Work Mode Choice Productions

| DISTRICT NUMBER | DRIVE ALONE | | SHARE RIDE | | TRANSIT/WALK | | TRANSIT/AUTO | | ALL MODES | | TOTAL VEHICLE TRIPS | AVG AUTO OCCUPANCY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | | |
| 1 | 14471 | 36.6 | 24236 | 61.7 | 602 | 1.5 | 0 | 0.0 | 39309 | 100.0 | 25488 | 1.52 |
| 2 | 41171 | 38.8 | 61157 | 57.7 | 3557 | 3.4 | 127 | 0.1 | 106012 | 100.0 | 68970 | 1.48 |
| 3 | 209728 | 44.9 | 250969 | 53.8 | 5619 | 1.2 | 456 | 0.1 | 466773 | 100.0 | 323805 | 1.42 |
| 4 | 76430 | 36.3 | 115118 | 57.7 | 7554 | 3.8 | 261 | 0.1 | 199362 | 100.0 | 128756 | 1.49 |
| 5 | 81010 | 39.8 | 118254 | 58.1 | 3978 | 2.0 | 338 | 0.2 | 203580 | 100.0 | 134762 | 1.46 |
| 6 | 83005 | 38.2 | 130824 | 60.3 | 2917 | 1.3 | 272 | 0.1 | 217018 | 100.0 | 142470 | 1.50 |
| 7 | 45546 | 39.8 | 68087 | 59.5 | 720 | 0.6 | 80 | 0.1 | 114433 | 100.0 | 76494 | 1.49 |
| 8 | 41337 | 37.2 | 69682 | 62.7 | 121 | 0.1 | 35 | 0.0 | 111174 | 100.0 | 73011 | 1.52 |
| 9 | 79108 | 40.8 | 113445 | 58.5 | 1211 | 0.6 | 120 | 0.1 | 193885 | 100.0 | 130674 | 1.47 |
| 10 | 70646 | 40.7 | 101404 | 58.5 | 1303 | 0.8 | 134 | 0.1 | 173487 | 100.0 | 116739 | 1.47 |
| 11 | 133483 | 42.6 | 177662 | 56.7 | 2234 | 0.7 | 212 | 0.1 | 313591 | 100.0 | 214238 | 1.45 |
| 12 | 64592 | 47.2 | 71635 | 52.3 | 570 | 0.4 | 56 | 0.0 | 136852 | 100.0 | 97153 | 1.40 |
| 13 | 114419 | 42.5 | 154193 | 57.3 | 613 | 0.2 | 77 | 0.0 | 269301 | 100.0 | 184506 | 1.46 |
| 14 | 40622 | 42.6 | 54160 | 56.8 | 495 | 0.5 | 50 | 0.1 | 95327 | 100.0 | 65240 | 1.45 |
| 15 | 57693 | 41.6 | 80302 | 58.0 | 472 | 0.3 | 53 | 0.0 | 138520 | 100.0 | 94194 | 1.47 |
| 16 | 85505 | 41.4 | 119957 | 58.1 | 911 | 0.4 | 104 | 0.1 | 206478 | 100.0 | 140031 | 1.47 |
| 17 | 190338 | 38.7 | 299902 | 60.9 | 1624 | 0.3 | 220 | 0.0 | 492084 | 100.0 | 326657 | 1.50 |
| 18 | 109177 | 38.8 | 171708 | 61.0 | 564 | 0.2 | 105 | 0.0 | 281555 | 100.0 | 187226 | 1.50 |
| 19 | 39842 | 37.3 | 66832 | 62.5 | 193 | 0.2 | 62 | 0.1 | 106929 | 100.0 | 70220 | 1.52 |
| 20 | 39391 | 36.6 | 68124 | 63.2 | 165 | 0.2 | 42 | 0.0 | 107722 | 100.0 | 70357 | 1.53 |
| 21 | 124006 | 38.6 | 196674 | 61.2 | 351 | 0.1 | 112 | 0.0 | 321143 | 100.0 | 213404 | 1.50 |
| 22 | 58249 | 34.8 | 109149 | 65.2 | 0 | 0.0 | 27 | 0.0 | 167426 | 100.0 | 107863 | 1.55 |
| 23 | 4601 | 38.2 | 7163 | 59.5 | 271 | 2.2 | 0 | 0.0 | 12035 | 100.0 | 7857 | 1.50 |
| 24 | 25281 | 36.7 | 43138 | 62.6 | 493 | 0.7 | 32 | 0.0 | 68945 | 100.0 | 44890 | 1.52 |
| 25 | 72982 | 36.5 | 126658 | 63.4 | 255 | 0.1 | 35 | 0.0 | 199931 | 100.0 | 130554 | 1.53 |

## Table E15 – Year 2025
## Green Line MOS Mode Choice Person Trip Summary – Home-Based Non-Work Mode Choice Productions, continued

| DISTRICT NUMBER | DRIVE ALONE | | SHARE RIDE | | TRANSIT/WALK | | TRANSIT/AUTO | | ALL MODES | | TOTAL VEHICLE TRIPS | AVG AUTO OCCUPANCY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | | |
| 26 | 17930 | 40.0 | 26771 | 59.7 | 104 | 0.2 | 13 | 0.0 | 44818 | 100.0 | 30099 | 1.49 |
| 27 | 81861 | 35.1 | 150928 | 64.7 | 310 | 0.1 | 73 | 0.0 | 233172 | 100.0 | 150464 | 1.55 |
| 28 | 47150 | 32.3 | 98534 | 67.6 | 122 | 0.1 | 14 | 0.0 | 145819 | 100.0 | 91938 | 1.58 |
| 29 | 91922 | 33.6 | 181470 | 66.3 | 440 | 0.2 | 53 | 0.0 | 273885 | 100.0 | 174408 | 1.57 |
| 30 | 97319 | 36.2 | 171376 | 63.8 | 10 | 0.0 | 21 | 0.0 | 268727 | 100.0 | 175218 | 1.53 |
| 31 | 3 | 45.8 | 3 | 53.8 | 0 | 0.3 | 0 | 0.0 | 6 | 100.0 | 4 | 1.42 |
| 32 | 81840 | 39.2 | 126681 | 60.6 | 318 | 0.2 | 40 | 0.0 | 208879 | 100.0 | 139422 | 1.50 |
| 33 | 147010 | 33.1 | 296586 | 66.9 | 14 | 0.0 | 33 | 0.0 | 443643 | 100.0 | 281822 | 1.57 |
| 34 | 111185 | 34.8 | 208127 | 65.2 | 0 | 0.0 | 26 | 0.0 | 319338 | 100.0 | 205788 | 1.55 |
| 35 | 56946 | 34.1 | 110161 | 65.9 | 0 | 0.0 | 12 | 0.0 | 167118 | 100.0 | 107019 | 1.56 |
| 36 | 55040 | 37.5 | 91730 | 62.4 | 153 | 0.1 | 38 | 0.0 | 146961 | 100.0 | 96735 | 1.52 |
| 37 | 72722 | 38.2 | 117826 | 61.8 | 0 | 0.0 | 0 | 0.0 | 190548 | 100.0 | 126279 | 1.51 |
| 38 | 105495 | 38.2 | 170310 | 61.7 | 112 | 0.0 | 62 | 0.0 | 275978 | 100.0 | 182908 | 1.51 |
| 39 | 28302 | 32.7 | 58376 | 67.3 | 0 | 0.0 | 0 | 0.0 | 86678 | 100.0 | 54837 | 1.58 |
| 40 | 91235 | 36.6 | 158181 | 63.4 | 0 | 0.0 | 60 | 0.0 | 249476 | 100.0 | 163135 | 1.53 |
| 41 | 81362 | 34.6 | 154002 | 65.4 | 0 | 0.0 | 0 | 0.0 | 235364 | 100.0 | 151363 | 1.55 |
| 42 | 73891 | 34.3 | 141225 | 65.7 | 0 | 0.0 | 0 | 0.0 | 215116 | 100.0 | 138084 | 1.56 |
| 43 | 77471 | 32.4 | 161473 | 67.6 | 0 | 0.0 | 0 | 0.0 | 238943 | 100.0 | 150867 | 1.58 |
| 44 | 170560 | 37.7 | 281810 | 62.3 | 29 | 0.0 | 25 | 0.0 | 452424 | 100.0 | 298655 | 1.51 |
| 45 | 162480 | 40.0 | 243509 | 60.0 | 71 | 0.0 | 44 | 0.0 | 406105 | 100.0 | 273166 | 1.49 |
| 46 | 180628 | 35.2 | 332885 | 64.8 | 0 | 0.0 | 52 | 0.0 | 513564 | 100.0 | 331939 | 1.55 |
| 47 | 93759 | 36.9 | 160148 | 63.0 | 146 | 0.1 | 43 | 0.0 | 254096 | 100.0 | 166554 | 1.52 |
| 48 | 90795 | 37.1 | 153815 | 62.9 | 0 | 0.0 | 37 | 0.0 | 244647 | 100.0 | 160711 | 1.52 |
| 49 | 98588 | 38.9 | 154106 | 60.9 | 432 | 0.2 | 64 | 0.0 | 253189 | 100.0 | 168636 | 1.50 |
| 50 | 56106 | 35.5 | 101783 | 64.4 | 0 | 0.0 | 48 | 0.0 | 157937 | 100.0 | 102371 | 1.54 |

Table E15 – Year 2025

Green Line MOS Mode Choice Person Trip Summary – Home-Based Non-Work Mode Choice Productions, continued

| DISTRICT NUMBER | DRIVE ALONE | | SHARE RIDE | | TRANSIT/WALK | | TRANSIT/AUTO | | ALL MODES | | TOTAL VEHICLE TRIPS | AVG AUTO OCCUPANCY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | | |
| 51 | 40635 | 37.9 | 66462 | 62.0 | 0 | 0.0 | 39 | 0.0 | 107136 | 100.0 | 70845 | 1.51 |
| 52 | 12313 | 31.4 | 26862 | 68.6 | 0 | 0.0 | 0 | 0.0 | 39175 | 100.0 | 24523 | 1.60 |
| 53 | 54552 | 36.6 | 94300 | 63.3 | 0 | 0.0 | 56 | 0.0 | 148908 | 100.0 | 97416 | 1.53 |
| 54 | 51971 | 34.1 | 100650 | 65.9 | 0 | 0.0 | 0 | 0.0 | 152621 | 100.0 | 97721 | 1.56 |
| 55 | 73690 | 35.6 | 133344 | 64.4 | 0 | 0.0 | 0 | 0.0 | 207034 | 100.0 | 134301 | 1.54 |
| 56 | 53818 | 35.5 | 97958 | 64.5 | 0 | 0.0 | 0 | 0.0 | 151776 | 100.0 | 98345 | 1.54 |
| 57 | 39187 | 32.0 | 83265 | 68.0 | 0 | 0.0 | 0 | 0.0 | 122452 | 100.0 | 77035 | 1.59 |
| 58 | 21044 | 32.3 | 44048 | 67.7 | 0 | 0.0 | 0 | 0.0 | 65092 | 100.0 | 41066 | 1.59 |
| 59 | 11018 | 32.2 | 23196 | 67.8 | 0 | 0.0 | 0 | 0.0 | 34214 | 100.0 | 21562 | 1.59 |
| 60 | 37103 | 33.0 | 75196 | 67.0 | 0 | 0.0 | 0 | 0.0 | 112299 | 100.0 | 71283 | 1.58 |
| 61 | 43838 | 32.7 | 90273 | 67.3 | 0 | 0.0 | 0 | 0.0 | 134111 | 100.0 | 84871 | 1.58 |
| 62 | 66327 | 37.9 | 108739 | 62.1 | 0 | 0.0 | 46 | 0.0 | 175112 | 100.0 | 115754 | 1.51 |
| 63 | 18861 | 31.8 | 40399 | 68.2 | 0 | 0.0 | 15 | 0.0 | 59275 | 100.0 | 37224 | 1.59 |

## Table E16 – Year 2025
## Green Line MOS Mode Choice Person Trip Summary – Home-Based Non-Work Mode Choice Attractions

| DISTRICT NUMBER | DRIVE ALONE | | SHARE RIDE | | TRANSIT/WALK | | TRANSIT/AUTO | | ALL MODES | | TOTAL VEHICLE TRIPS | AVG AUTO OCCUPANCY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | | |
| 1 | 118891 | 65.3 | 46945 | 25.8 | 14997 | 8.2 | 1328 | 0.7 | 182160 | 100.0 | 140230 | 1.18 |
| 2 | 114777 | 41.0 | 162914 | 58.1 | 2347 | 0.8 | 167 | 0.1 | 280205 | 100.0 | 188828 | 1.47 |
| 3 | 205801 | 41.4 | 288152 | 57.9 | 3279 | 0.7 | 259 | 0.1 | 497491 | 100.0 | 336779 | 1.47 |
| 4 | 69582 | 39.8 | 102729 | 58.7 | 2557 | 1.5 | 119 | 0.1 | 174987 | 100.0 | 116277 | 1.48 |
| 5 | 69985 | 38.8 | 108942 | 60.4 | 1302 | 0.7 | 109 | 0.1 | 180337 | 100.0 | 119504 | 1.50 |
| 6 | 72515 | 38.3 | 115652 | 61.1 | 995 | 0.5 | 100 | 0.1 | 189261 | 100.0 | 125084 | 1.50 |
| 7 | 82499 | 39.7 | 124658 | 60.0 | 640 | 0.3 | 92 | 0.0 | 207888 | 100.0 | 139162 | 1.49 |
| 8 | 69586 | 38.3 | 112097 | 61.7 | 130 | 0.1 | 14 | 0.0 | 181826 | 100.0 | 120539 | 1.51 |
| 9 | 82277 | 40.3 | 120963 | 59.3 | 803 | 0.4 | 85 | 0.0 | 204128 | 100.0 | 137260 | 1.48 |
| 10 | 92935 | 41.7 | 128766 | 57.8 | 1056 | 0.5 | 113 | 0.1 | 222870 | 100.0 | 151465 | 1.46 |
| 11 | 180003 | 41.2 | 254618 | 58.3 | 1721 | 0.4 | 192 | 0.0 | 436533 | 100.0 | 295738 | 1.47 |
| 12 | 130435 | 42.3 | 176998 | 57.4 | 949 | 0.3 | 113 | 0.0 | 308495 | 100.0 | 210889 | 1.46 |
| 13 | 88719 | 40.8 | 128107 | 59.0 | 410 | 0.2 | 61 | 0.0 | 217298 | 100.0 | 146950 | 1.48 |
| 14 | 78074 | 42.5 | 104897 | 57.1 | 599 | 0.3 | 76 | 0.0 | 183646 | 100.0 | 125754 | 1.45 |
| 15 | 66177 | 40.6 | 96234 | 59.1 | 402 | 0.2 | 53 | 0.0 | 162865 | 100.0 | 109919 | 1.48 |
| 16 | 117661 | 41.5 | 165267 | 58.2 | 772 | 0.3 | 113 | 0.0 | 283813 | 100.0 | 192783 | 1.47 |
| 17 | 143247 | 38.1 | 231923 | 61.7 | 853 | 0.2 | 118 | 0.0 | 376142 | 100.0 | 248667 | 1..51 |
| 18 | 107642 | 37.8 | 176159 | 61.9 | 701 | 0.2 | 56 | 0.0 | 284558 | 100.0 | 187714 | 1.51 |
| 19 | 40071 | 34.2 | 77129 | 65.7 | 115 | 0.1 | 10 | 0.0 | 117325 | 100.0 | 75130 | 1.56 |
| 20 | 42915 | 36.4 | 74907 | 63.6 | 35 | 0.0 | 7 | 0.0 | 117864 | 100.0 | 76964 | 1.53 |
| 21 | 81018 | 35.9 | 144240 | 64.0 | 137 | 0.1 | 26 | 0.0 | 225421 | 100.0 | 146582 | 1.54 |
| 22 | 32339 | 35.8 | 58071 | 64.2 | 0 | 0.0 | 0 | 0.0 | 90410 | 100.0 | 58734 | 1.54 |
| 23 | 44649 | 55.6 | 34105 | 42.5 | 1315 | 1.6 | 177 | 0.2 | 80246 | 100.0 | 60151 | 1.31 |
| 24 | 77785 | 39.8 | 117279 | 60.0 | 397 | 0.2 | 72 | 0.0 | 195532 | 100.0 | 131093 | 1.49 |
| 25 | 73387 | 35.6 | 132406 | 64.3 | 135 | 0.1 | 27 | 0.0 | 205954 | 100.0 | 133571 | 1.54 |

Table E16 – Year 2025

Green Line MOS Mode Choice Person Trip Summary – Home-Based Non-Work Mode Choice Attractions, continued

| DISTRICT NUMBER | DRIVE ALONE | | SHARE RIDE | | TRANSIT/WALK | | TRANSIT/AUTO | | ALL MODES | | TOTAL VEHICLE TRIPS | AVG AUTO OCCUPANCY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | | |
| 26 | 32615 | 40.2 | 48430 | 59.7 | 105 | 0.1 | 19 | 0.0 | 81169 | 100.0 | 54629 | 1.48 |
| 27 | 73633 | 34.2 | 141818 | 65.8 | 31 | 0.0 | 8 | 0.0 | 215489 | 100.0 | 138095 | 1.56 |
| 28 | 71560 | 34.9 | 133292 | 65.0 | 67 | 0.0 | 18 | 0.0 | 204938 | 100.0 | 132148 | 1.55 |
| 29 | 152507 | 36.5 | 265570 | 63.5 | 191 | 0.0 | 48 | 0.0 | 418316 | 100.0 | 273221 | 1.53 |
| 30 | 133885 | 37.8 | 220295 | 62.2 | 34 | 0.0 | 8 | 0.0 | 354222 | 100.0 | 234019 | 1.51 |
| 31 | 112822 | 32.8 | 230427 | 66.9 | 1011 | 0.3 | 157 | 0.0 | 344418 | 100.0 | 217562 | 1.58 |
| 32 | 99000 | 38.4 | 158796 | 61.5 | 277 | 0.1 | 49 | 0.0 | 258122 | 100.0 | 171180 | 1.51 |
| 33 | 181799 | 34.0 | 353104 | 66.0 | 14 | 0.0 | 0 | 0.0 | 534917 | 100.0 | 342301 | 1.56 |
| 34 | 67095 | 32.8 | 137205 | 67.2 | 0 | 0.0 | 0 | 0.0 | 204299 | 100.0 | 129460 | 1.58 |
| 35 | 40257 | 31.6 | 87178 | 68.4 | 0 | 0.0 | 0 | 0.0 | 127434 | 100.0 | 79883 | 1.60 |
| 36 | 52951 | 37.1 | 89919 | 62.9 | 16 | 0.0 | 8 | 0.0 | 142894 | 100.0 | 93823 | 1.52 |
| 37 | 27886 | 33.9 | 54480 | 66.1 | 0 | 0.0 | 0 | 0.0 | 82366 | 100.0 | 52650 | 1.56 |
| 38 | 57547 | 33.4 | 114859 | 66.6 | 20 | 0.0 | 4 | 0.0 | 172430 | 100.0 | 109755 | 1..57 |
| 39 | 21901 | 31.6 | 47436 | 68.4 | 0 | 0.0 | 0 | 0.0 | 69337 | 100.0 | 43463 | 1.60 |
| 40 | 35898 | 31.2 | 79014 | 68.8 | 0 | 0.0 | 0 | 0.0 | 114912 | 100.0 | 71814 | 1.60 |
| 41 | 50457 | 31.9 | 107772 | 68.1 | 0 | 0.0 | 0 | 0.0 | 158230 | 100.0 | 99445 | 1.59 |
| 42 | 66223 | 33.4 | 132112 | 66.6 | 0 | 0.0 | 0 | 0.0 | 198334 | 100.0 | 126274 | 1.57 |
| 43 | 102920 | 33.9 | 201001 | 66.1 | 0 | 0.0 | 0 | 0.0 | 303921 | 100.0 | 194284 | 1.56 |
| 44 | 71297 | 34.9 | 132932 | 65.1 | 1 | 0.0 | 1 | 0.0 | 204231 | 100.0 | 131721 | 1.55 |
| 45 | 155142 | 39.9 | 233211 | 60.0 | 63 | 0.0 | 11 | 0.0 | 388428 | 100.0 | 261148 | 1.49 |
| 46 | 127888 | 33.0 | 259934 | 67.0 | 0 | 0.0 | 0 | 0.0 | 387822 | 100.0 | 246040 | 1.58 |
| 47 | 99856 | 37.3 | 167479 | 62.6 | 93 | 0.0 | 19 | 0.0 | 267447 | 100.0 | 175983 | 1.52 |
| 48 | 59081 | 34.6 | 111687 | 65.4 | 0 | 0.0 | 0 | 0.0 | 170768 | 100.0 | 109848 | 1.55 |
| 49 | 102286 | 39.7 | 154971 | 60.2 | 310 | 0.1 | 68 | 0.0 | 257635 | 100.0 | 172727 | 1.49 |
| 50 | 27443 | 32.3 | 57467 | 67.7 | 0 | 0.0 | 0 | 0.0 | 84910 | 100.0 | 53564 | 1.59 |

## Table E16 – Year 2025
## Green Line MOS Mode Choice Person Trip Summary – Home-Based Non-Work Mode Choice Attractions, continued

| DISTRICT NUMBER | DRIVE ALONE | | SHARE RIDE | | TRANSIT/WALK | | TRANSIT/AUTO | | ALL MODES | | TOTAL VEHICLE TRIPS | AVG AUTO OCCUPANCY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | | |
| 51 | 12268 | 32.8 | 25176 | 67.2 | 0 | 0.0 | 0 | 0.0 | 37445 | 100.0 | 23712 | 1.58 |
| 52 | 8641 | 30.9 | 19368 | 69.1 | 0 | 0.0 | 0 | 0.0 | 28009 | 100.0 | 17445 | 1.61 |
| 53 | 30355 | 33.5 | 60247 | 66.5 | 0 | 0.0 | 0 | 0.0 | 90602 | 100.0 | 57740 | 1.57 |
| 54 | 26964 | 31.2 | 59463 | 68.8 | 0 | 0.0 | 0 | 0.0 | 86427 | 100.0 | 53993 | 1.60 |
| 55 | 38192 | 30.8 | 85971 | 69.2 | 0 | 0.0 | 0 | 0.0 | 124163 | 100.0 | 77270 | 1.61 |
| 56 | 30142 | 30.8 | 67621 | 69.2 | 0 | 0.0 | 0 | 0.0 | 97763 | 100.0 | 60879 | 1.61 |
| 57 | 39878 | 32.6 | 82352 | 67.4 | 0 | 0.0 | 0 | 0.0 | 122230 | 100.0 | 77311 | 1.58 |
| 58 | 10657 | 30.8 | 23978 | 69.2 | 0 | 0.0 | 0 | 0.0 | 34636 | 100.0 | 21557 | 1.61 |
| 59 | 7165 | 30.4 | 16398 | 69.6 | 0 | 0.0 | 0 | 0.0 | 23564 | 100.0 | 14619 | 1.61 |
| 60 | 23023 | 30.7 | 52069 | 69.3 | 0 | 0.0 | 0 | 0.0 | 75091 | 100.0 | 46690 | 1.61 |
| 61 | 22131 | 31.3 | 48673 | 68.7 | 0 | 0.0 | 0 | 0.0 | 70804 | 100.0 | 44255 | 1.60 |
| 62 | 25332 | 32.6 | 52484 | 67.4 | 0 | 0.0 | 0 | 0.0 | 77816 | 100.0 | 49188 | 1.58 |
| 63 | 12899 | 30.7 | 29142 | 69.3 | 0 | 0.0 | 0 | 0.0 | 42040 | 100.0 | 26145 | 1.61 |

Table E17 – Year 2025

Green Line MOS Mode Choice Person Trip Summary – Non-Home-Based Mode Choice Productions

| DISTRICT NUMBER | DRIVE ALONE | | SHARE RIDE | | TRANSIT/WALK | | TRANSIT/AUTO | | ALL MODES | | TOTAL VEHICLE TRIPS | AVG AUTO OCCUPANCY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | | |
| 1 | 52738 | 70.1 | 16567 | 22.0 | 5909 | 7.9 | 0 | 0.0 | 75215 | 100.0 | 60269 | 1.15 |
| 2 | 109584 | 53.6 | 91775 | 44.9 | 2305 | 1.1 | 688 | 0.3 | 204352 | 100.0 | 151300 | 1.33 |
| 3 | 162868 | 53.7 | 135771 | 44.8 | 3511 | 1.2 | 1050 | 0.3 | 303200 | 100.0 | 224582 | 1.33 |
| 4 | 51920 | 53.9 | 43037 | 44.7 | 1019 | 1.1 | 345 | 0.4 | 96320 | 100.0 | 71482 | 1.33 |
| 5 | 53217 | 53.5 | 44827 | 45.0 | 1061 | 1.1 | 406 | 0.4 | 99511 | 100.0 | 73593 | 1.33 |
| 6 | 56201 | 53.6 | 47591 | 45.4 | 728 | 0.7 | 353 | 0.3 | 104874 | 100.0 | 77834 | 1.33 |
| 7 | 57277 | 52.9 | 50356 | 46.5 | 327 | 0.3 | 254 | 0.2 | 108214 | 100.0 | 80166 | 1.34 |
| 8 | 59315 | 52.8 | 52868 | 47.0 | 101 | 0.1 | 94 | 0.1 | 112378 | 100.0 | 83346 | 1.35 |
| 9 | 61787 | 53.1 | 53677 | 46.2 | 553 | 0.5 | 238 | 0.2 | 116254 | 100.0 | 86185 | 1.34 |
| 10 | 79544 | 53.2 | 68208 | 45.6 | 1297 | 0.9 | 466 | 0.3 | 149516 | 100.0 | 110548 | 1.34 |
| 11 | 133624 | 53.1 | 115271 | 45.8 | 1879 | 0.7 | 841 | 0.3 | 251616 | 100.0 | 186020 | 1.34 |
| 12 | 108607 | 52.8 | 95747 | 46.5 | 1018 | 0.5 | 414 | 0.2 | 205786 | 100.0 | 152129 | 1.34 |
| 13 | 70313 | 52.9 | 61965 | 46.6 | 475 | 0.4 | 250 | 0.2 | 133003 | 100.0 | 98479 | 1.34 |
| 14 | 80503 | 53.1 | 69871 | 46.1 | 967 | 0.6 | 366 | 0.2 | 151707 | 100.0 | 112262 | 1.34 |
| 15 | 55778 | 53.3 | 48140 | 46.0 | 520 | 0.5 | 234 | 0.2 | 104672 | 100.0 | 77660 | 1.34 |
| 16 | 104900 | 52.9 | 91560 | 46.2 | 1303 | 0.7 | 573 | 0.3 | 198335 | 100.0 | 146518 | 1.34 |
| 17 | 106794 | 52.7 | 94387 | 46.5 | 1077 | 0.5 | 529 | 0.3 | 202787 | 100.0 | 149697 | 1.34 |
| 18 | 77082 | 53.2 | 67395 | 46.5 | 271 | 0.2 | 161 | 0.1 | 144909 | 100.0 | 107716 | 1.34 |
| 19 | 29569 | 51.7 | 27475 | 48.0 | 61 | 0.1 | 95 | 0.2 | 57200 | 100.0 | 42058 | 1.36 |
| 20 | 31777 | 51.3 | 29960 | 48.4 | 74 | 0.1 | 102 | 0.2 | 61913 | 100.0 | 45396 | 1.36 |
| 21 | 59125 | 52.4 | 53427 | 47.3 | 159 | 0.1 | 172 | 0.2 | 112883 | 100.0 | 83410 | 1.35 |
| 22 | 25990 | 52.6 | 23389 | 47.3 | 0 | 0.0 | 29 | 0.1 | 49408 | 100.0 | 36621 | 1.35 |
| 23 | 26037 | 65.4 | 12963 | 32.6 | 810 | 2.0 | 0 | 0.0 | 39810 | 100.0 | 31929 | 1.22 |
| 24 | 57538 | 53.0 | 50388 | 46.4 | 580 | 0.5 | 81 | 0.1 | 108587 | 100.0 | 80442 | 1.34 |
| 25 | 56843 | 51.8 | 52748 | 48.0 | 157 | 0.1 | 46 | 0.0 | 109794 | 100.0 | 80819 | 1.36 |

## Table E17 – Year 2025
## Green Line MOS Mode Choice Person Trip Summary – Non-Home-Based Mode Choice Productions, continued

| DISTRICT NUMBER | DRIVE ALONE | | SHARE RIDE | | TRANSIT/WALK | | TRANSIT/AUTO | | ALL MODES | | TOTAL VEHICLE TRIPS | AVG AUTO OCCUPANCY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | | |
| 26 | 33041 | 53.0 | 29091 | 46.7 | 129 | 0.2 | 37 | 0.1 | 62298 | 100.0 | 46265 | 1.34 |
| 27 | 58003 | 51.4 | 54385 | 48.2 | 342 | 0.3 | 107 | 0.1 | 112837 | 100.0 | 82724 | 1.36 |
| 28 | 58535 | 50.5 | 57082 | 49.2 | 245 | 0.2 | 101 | 0.1 | 115963 | 100.0 | 84481 | 1.37 |
| 29 | 113568 | 51.1 | 108145 | 48.6 | 463 | 0.2 | 191 | 0.1 | 222366 | 100.0 | 162724 | 1.36 |
| 30 | 85528 | 51.9 | 79281 | 48. 1 | 41 | 0.0 | 60 | 0.0 | 164910 | 100.0 | 121564 | 1.36 |
| 31 | 90597 | 52.8 | 80314 | 46.8 | 448 | 0.3 | 287 | 0.2 | 171646 | 100.0 | 127103 | 1.34 |
| 32 | 65355 | 52.8 | 58249 | 47.0 | 154 | 0.1 | 64 | 0.1 | 123822 | 100.0 | 91832 | 1.35 |
| 33 | 137273 | 50.8 | 132753 | 49.1 | 45 | 0.0 | 77 | 0.0 | 270148 | 100.0 | 197615 | 1.37 |
| 34 | 50551 | 51.3 | 47900 | 48.6 | 0 | 0.0 | 24 | 0.0 | 98475 | 100.0 | 72324 | 1.36 |
| 35 | 29823 | 50.1 | 29736 | 49.9 | 0 | 0.0 | 4 | 0.0 | 59562 | 100.0 | 43339 | 1.37 |
| 36 | 43491 | 51.5 | 40595 | 48.1 | 227 | 0.3 | 61 | 0.1 | 84373 | 100.0 | 61943 | 1.36 |
| 37 | 19848 | 51.0 | 19073 | 49.0 | 0 | 0.0 | 0 | 0.0 | 38922 | 100.0 | 28518 | 1.36 |
| 38 | 41343 | 50.6 | 40129 | 49.1 | 226 | 0.3 | 68 | 0.1 | 81766 | 100.0 | 59584 | 1.37 |
| 39 | 15274 | 49.7 | 15441 | 50.3 | 0 | 0.0 | 0 | 0.0 | 30715 | 100.0 | 22293 | 1.38 |
| 40 | 28115 | 50.3 | 27731 | 49.6 | 0 | 0.0 | 25 | 0.0 | 55871 | 100.0 | 40720 | 1.37 |
| 41 | 47679 | 50.4 | 47001 | 49.6 | 0 | 0.0 | 0 | 0.0 | 94680 | 100.0 | 69043 | 1.37 |
| 42 | 50976 | 50.6 | 49771 | 49.4 | 0 | 0.0 | 0 | 0.0 | 100748 | 100.0 | 73600 | 1.37 |
| 43 | 78165 | 50.1 | 77739 | 49.9 | 0 | 0.0 | 0 | 0.0 | 155904 | 100.0 | 113501 | 1.37 |
| 44 | 47993 | 51.5 | 45103 | 48.4 | 2 | 0.0 | 27 | 0.0 | 93125 | 100.0 | 68494 | 1.36 |
| 45 | 97005 | 52.7 | 86920 | 47.2 | 64 | 0.0 | 135 | 0.1 | 184123 | 100.0 | 136513 | 1.35 |
| 46 | 99825 | 50.7 | 97161 | 49.3 | 0 | 0.0 | 64 | 0.0 | 197050 | 100.0 | 143989 | 1.37 |
| 47 | 75076 | 51.7 | 69829 | 48.1 | 183 | 0.1 | 164 | 0.1 | 145251 | 100.0 | 106816 | 1.36 |
| 48 | 47116 | 51.5 | 44262 | 48.4 | 0 | 0.0 | 85 | 0.1 | 91464 | 100.0 | 67236 | 1.36 |
| 49 | 74227 | 52.7 | 65646 | 46.6 | 586 | 0.4 | 294 | 0.2 | 140753 | 100.0 | 104066 | 1.34 |
| 50 | 20759 | 51.0 | 19916 | 48.9 | 0 | 0.0 | 61 | 0.2 | 40736 | 100.0 | 29811 | 1.36 |

Table E17 – Year 2025

Green Line MOS Mode Choice Person Trip Summary – Non-Home-Based Mode Choice Productions, continued

| DISTRICT NUMBER | DRIVE ALONE | | SHARE RIDE | | TRANSIT/WALK | | TRANSIT/AUTO | | ALL MODES | | TOTAL VEHICLE TRIPS | AVG AUTO OCCUPANCY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | | |
| 51 | 9263 | 51.1 | 8834 | 48.8 | 0 | 0.0 | 22 | 0.1 | 18119 | 100.0 | 13278 | 1.36 |
| 52 | 5827 | 49.7 | 5891 | 50.3 | 0 | 0.0 | 0 | 0.0 | 11719 | 100.0 | 8505 | 1.38 |
| 53 | 21883 | 51.0 | 21000 | 48.9 | 0 | 0.0 | 46 | 0.1 | 42929 | 100.0 | 31429 | 1.36 |
| 54 | 22854 | 49.6 | 23250 | 50.4 | 0 | 0.0 | 0 | 0.0 | 46105 | 100.0 | 33423 | 1.38 |
| 55 | 35687 | 50.4 | 35165 | 49.6 | 0 | 0.0 | 0 | 0.0 | 70851 | 100.0 | 51671 | 1.37 |
| 56 | 23233 | 50.8 | 22534 | 49.2 | 0 | 0.0 | 0 | 0.0 | 45766 | 100.0 | 33475 | 1.37 |
| 57 | 31138 | 50.1 | 30996 | 49.9 | 0 | 0.0 | 0 | 0.0 | 62134 | 100.0 | 45227 | 1.37 |
| 58 | 7796 | 49.9 | 7812 | 50.1 | 0 | 0.0 | 0 | 0.0 | 15608 | 100.0 | 11347 | 1.38 |
| 59 | 5389 | 50.0 | 5392 | 50.0 | 0 | 0.0 | 0 | 0.0 | 10781 | 100.0 | 7840 | 1.38 |
| 60 | 18329 | 50.3 | 18098 | 49.7 | 0 | 0.0 | 0 | 0.0 | 36428 | 100.0 | 26556 | 1.37 |
| 61 | 15217 | 49.8 | 15347 | 50.2 | 0 | 0.0 | 0 | 0.0 | 30564 | 100.0 | 22193 | 1.38 |
| 62 | 18332 | 51.7 | 17056 | 48.1 | 0 | 0.0 | 49 | 0.1 | 35437 | 100.0 | 26084 | 1.36 |
| 63 | 9897 | 49.7 | 10011 | 50.3 | 0 | 0.0 | 10 | 0.1 | 19918 | 100.0 | 14447 | 1.38 |

## Table E18 – Year 2025
## Green Line MOS Mode Choice Person Trip Summary – Non-Home-Based Mode Choice Attractions

| DISTRICT NUMBER | DRIVE ALONE | | SHARE RIDE | | TRANSIT/WALK | | TRANSIT/AUTO | | ALL MODES | | TOTAL VEHICLE TRIPS | AVG AUTO OCCUPANCY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | | |
| 1 | 52036 | 68.0 | 15026 | 19.6 | 6593 | 8.6 | 2825 | 3.7 | 76480 | 100.0 | 58866 | 1.14 |
| 2 | 111444 | 54.3 | 91137 | 44.4 | 2163 | 1.1 | 492 | 0.2 | 205237 | 100.0 | 152870 | 1.33 |
| 3 | 165171 | 54.2 | 135808 | 44.5 | 3280 | 1.1 | 727 | 0.2 | 304986 | 100.0 | 226902 | 1.33 |
| 4 | 52539 | 54.3 | 43071 | 44.5 | 877 | 0.9 | 238 | 0.2 | 96725 | 100.0 | 72117 | 1.33 |
| 5 | 53831 | 53.9 | 44886 | 45.0 | 833 | 0.8 | 238 | 0.2 | 99787 | 100.0 | 74233 | 1.33 |
| 6 | 56753 | 54.0 | 47467 | 45.2 | 684 | 0.7 | 203 | 0.2 | 105107 | 100.0 | 78329 | 1.33 |
| 7 | 57601 | 53.1 | 50362 | 46.4 | 349 | 0.3 | 153 | 0.1 | 108465 | 100.0 | 80493 | 1.34 |
| 8 | 59929 | 53.2 | 52511 | 46.7 | 93 | 0.1 | 13 | 0.0 | 112545 | 100.0 | 83797 | 1.34 |
| 9 | 62792 | 53.9 | 53049 | 45.5 | 516 | 0.4 | 161 | 0.1 | 116518 | 100.0 | 86905 | 1.33 |
| 10 | 80998 | 53.9 | 67809 | 45.1 | 1122 | 0.7 | 400 | 0.3 | 150329 | 100.0 | 111820 | 1.33 |
| 11 | 135322 | 53.6 | 114969 | 45.5 | 1753 | 0.7 | 626 | 0.2 | 252670 | 100.0 | 187580 | 1.33 |
| 12 | 110846 | 53.8 | 94080 | 45.6 | 984 | 0.5 | 276 | 0.1 | 206186 | 100.0 | 153610 | 1.33 |
| 13 | 71410 | 53.5 | 61284 | 45.9 | 495 | 0.4 | 222 | 0.2 | 133411 | 100.0 | 99267 | 1.34 |
| 14 | 81668 | 53.5 | 69620 | 45.6 | 943 | 0.6 | 363 | 0.2 | 152594 | 100.0 | 113313 | 1.34 |
| 15 | 56306 | 53.5 | 48180 | 45.8 | 499 | 0.5 | 199 | 0.2 | 105184 | 100.0 | 78206 | 1.34 |
| 16 | 106066 | 53.4 | 90677 | 45.7 | 1241 | 0.6 | 505 | 0.3 | 198489 | 100.0 | 147283 | 1.34 |
| 17 | 107482 | 52.9 | 94432 | 46.5 | 894 | 0.4 | 422 | 0.2 | 203230 | 100.0 | 150406 | 1.34 |
| 18 | 77377 | 53.2 | 67589 | 46.5 | 294 | 0.2 | 114 | 0.1 | 145373 | 100.0 | 108099 | 1.34 |
| 19 | 29803 | 52.1 | 27324 | 47.8 | 46 | 0.1 | 20 | 0.0 | 57193 | 100.0 | 42223 | 1.35 |
| 20 | 32044 | 51.9 | 29534 | 47.9 | 88 | 0.1 | 54 | 0.1 | 61720 | 100.0 | 45469 | 1.35 |
| 21 | 59207 | 52.4 | 53521 | 47.4 | 191 | 0.2 | 95 | 0.1 | 113015 | 100.0 | 83535 | 1.35 |
| 22 | 26151 | 52.9 | 23315 | 47.1 | 0 | 0.0 | 0 | 0.0 | 49467 | 100.0 | 36749 | 1.35 |
| 23 | 21397 | 53.7 | 16294 | 40.9 | 1751 | 4.4 | 416 | 1.0 | 39859 | 100.0 | 28804 | 1.31 |
| 24 | 58103 | 53.7 | 49600 | 45.9 | 363 | 0.3 | 88 | 0.1 | 108154 | 100.0 | 80649 | 1.34 |
| 25 | 57321 | 52.3 | 52030 | 47.5 | 107 | 0.1 | 41 | 0.0 | 109498 | 100.0 | 80971 | 1.35 |

Table E18 – Year 2025
Green Line MOS Mode Choice Person Trip Summary – Non-Home-Based Mode Choice Attractions, continued

| DISTRICT NUMBER | DRIVE ALONE | | SHARE RIDE | | TRANSIT/WALK | | TRANSIT/AUTO | | ALL MODES | | TOTAL VEHICLE TRIPS | AVG AUTO OCCUPANCY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | | |
| 26 | 33090 | 53.3 | 28908 | 46.5 | 94 | 0.2 | 40 | 0.1 | 62133 | 100.0 | 46230 | 1.34 |
| 27 | 58444 | 51.9 | 53934 | 47.9 | 158 | 0.1 | 45 | 0.0 | 112580 | 100.0 | 82959 | 1.35 |
| 28 | 58796 | 51.2 | 55954 | 48.7 | 126 | 0.1 | 22 | 0.0 | 114898 | 100.0 | 84230 | 1.36 |
| 29 | 113898 | 51.6 | 106480 | 48.2 | 272 | 0.1 | 56 | 0.0 | 220706 | 100.0 | 162298 | 1.36 |
| 30 | 86477 | 52.5 | 78276 | 47.5 | 27 | 0.0 | 9 | 0.0 | 164789 | 100.0 | 122057 | 1.35 |
| 31 | 72787 | 42.0 | 99396 | 57.3 | 912 | 0.5 | 222 | 0.1 | 173317 | 100.0 | 117967 | 1.46 |
| 32 | 65580 | 53.0 | 57918 | 46.8 | 140 | 0.1 | 46 | 0.0 | 123684 | 100.0 | 91907 | 1.34 |
| 33 | 138453 | 51.2 | 131707 | 48.7 | 45 | 0.0 | 0 | 0.0 | 270204 | 100.0 | 198320 | 1.36 |
| 34 | 50641 | 51.4 | 47851 | 48.6 | 0 | 0.0 | 0 | 0.0 | 98492 | 100.0 | 72391 | 1.36 |
| 35 | 29429 | 50.3 | 29082 | 49.7 | 0 | 0.0 | 0 | 0.0 | 58511 | 100.0 | 42648 | 1.37 |
| 36 | 43455 | 52.0 | 39918 | 47.8 | 173 | 0.2 | 43 | 0.1 | 83588 | 100.0 | 61600 | 1.35 |
| 37 | 19754 | 51.8 | 18391 | 48.2 | 0 | 0.0 | 0 | 0.0 | 38145 | 100.0 | 28114 | 1.36 |
| 38 | 41404 | 51.5 | 38880 | 48.3 | 168 | 0.2 | 22 | 0.0 | 80473 | 100.0 | 59076 | 1.36 |
| 39 | 15201 | 50.1 | 15114 | 49.9 | 0 | 0.0 | 0 | 0.0 | 30314 | 100.0 | 22070 | 1.37 |
| 40 | 28090 | 50.5 | 27498 | 49.5 | 0 | 0.0 | 0 | 0.0 | 55588 | 100.0 | 40589 | 1.37 |
| 41 | 47631 | 50.6 | 46468 | 49.4 | 0 | 0.0 | 0 | 0.0 | 94099 | 100.0 | 68753 | 1.37 |
| 42 | 50924 | 50.7 | 49576 | 49.3 | 0 | 0.0 | 0 | 0.0 | 100500 | 100.0 | 73458 | 1.37 |
| 43 | 77668 | 50.3 | 76663 | 49.7 | 0 | 0.0 | 0 | 0.0 | 154331 | 100.0 | 112515 | 1.37 |
| 44 | 48245 | 51.9 | 44658 | 48.1 | 3 | 0.0 | 3 | 0.0 | 92909 | 100.0 | 68544 | 1.36 |
| 45 | 98315 | 53.4 | 85878 | 46.6 | 49 | 0.0 | 15 | 0.0 | 184257 | 100.0 | 137351 | 1.34 |
| 46 | 100033 | 50.7 | 97205 | 49.3 | 0 | 0.0 | 0 | 0.0 | 197238 | 100.0 | 144217 | 1.37 |
| 47 | 75729 | 52.0 | 69423 | 47.7 | 245 | 0.2 | 122 | 0.1 | 145520 | 100.0 | 107285 | 1.35 |
| 48 | 47471 | 51.8 | 44147 | 48.2 | 0 | 0.0 | 0 | 0.0 | 91617 | 100.0 | 67537 | 1.36 |
| 49 | 74695 | 53.0 | 65492 | 46.4 | 563 | 0.4 | 261 | 0.2 | 141011 | 100.0 | 104464 | 1.34 |
| 50 | 20778 | 50.8 | 20084 | 49.2 | 0 | 0.0 | 0 | 0.0 | 40862 | 100.0 | 29907 | 1.37 |

Table E18 – Year 2025
Green Line MOS Mode Choice Person Trip Summary – Non-Home-Based Mode Choice Attractions, continued

| DISTRICT NUMBER | DRIVE ALONE | | SHARE RIDE | | TRANSIT/WALK | | TRANSIT/AUTO | | ALL MODES | | TOTAL VEHICLE TRIPS | AVG AUTO OCCUPANCY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | TRIPS | % | | |
| 51 | 9287 | 51.1 | 8870 | 48.9 | 0 | 0.0 | 0 | 0.0 | 18157 | 100.0 | 13319 | 1.36 |
| 52 | 5820 | 49.5 | 5928 | 50.5 | 0 | 0.0 | 0 | 0.0 | 11749 | 100.0 | 8515 | 1.38 |
| 53 | 21917 | 51.1 | 20992 | 48.9 | 0 | 0.0 | 0 | 0.0 | 42909 | 100.0 | 31459 | 1.36 |
| 54 | 22717 | 49.7 | 23006 | 50.3 | 0 | 0.0 | 0 | 0.0 | 45723 | 100.0 | 33174 | 1.38 |
| 55 | 35573 | 50.4 | 35027 | 49.6 | 0 | 0.0 | 0 | 0.0 | 70600 | 100.0 | 51495 | 1.37 |
| 56 | 22962 | 50.9 | 22121 | 49.1 | 0 | 0.0 | 0 | 0.0 | 45083 | 100.0 | 33017 | 1.37 |
| 57 | 30494 | 50.2 | 30222 | 49.8 | 0 | 0.0 | 0 | 0.0 | 60716 | 100.0 | 44231 | 1.37 |
| 58 | 7753 | 50.1 | 7733 | 49.9 | 0 | 0.0 | 0 | 0.0 | 15487 | 100.0 | 11269 | 1.37 |
| 59 | 5364 | 50.1 | 5345 | 49.9 | 0 | 0.0 | 0 | 0.0 | 10709 | 100.0 | 7794 | 1.37 |
| 60 | 18363 | 50.4 | 18052 | 49.6 | 0 | 0.0 | 0 | 0.0 | 36415 | 100.0 | 26568 | 1.37 |
| 61 | 15158 | 49.8 | 15283 | 50.2 | 0 | 0.0 | 0 | 0.0 | 30441 | 100.0 | 22105 | 1.38 |
| 62 | 18426 | 51.8 | 17131 | 48.2 | 0 | 0.0 | 0 | 0.0 | 35557 | 100.0 | 26213 | 1.36 |
| 63 | 10124 | 50.7 | 9825 | 49.3 | 0 | 0.0 | 0 | 0.0 | 19949 | 100.0 | 14590 | 1.37 |

# SPECIAL EVENT RIDERSHIP FORECASTS

**Special Event Ridership - Elam to Frankford (TSM Baseline)**

| Location/Venue | Size of Venue | Special Event | A Average Attendance | B (= 2*A) Annual Person Trips | C Mode Share | D (=C*B) Event Transit Trips | E # of Events per Year | F (=E*D) Annual Special Event Ridership | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Arena | 18,000 | Stars Hockey | 18,000 | 36,000 | 2.0% | 720 | 41 | 29,520 | Source: Stars, Mavericks and Reunion Arena Mgmt |
| Arena | 19,200 | Mavericks Basketball | 17,000 | 34,000 | 2.0% | 680 | 42 | 28,560 | Source: Stars, Mavericks and Reunion Arena Mgmt |
| Arena | 20,000 | Other events | 998,000 | 1,996,000 | 2.0% | 39,920 | 1 | 39,920 | Source: Reunion Arena Mgmt |
| Texas Stadium | 65,850 | Cowboy Football | 65,850 | 131,700 | 1.0% | 1,317 | 9 | 11,853 | Source: Texas Stadium Corp. Need other events |
| Love Field | | Passengers | 625 | per day | | | | 181,875 | Annualization factor 291 for LRT |
| Market Center | | Markets | 305,933 | 611,866 | 2.0% | 12,237 | 1 | 12,237 | Source: Market Center Management |
| West End | | Taste of Dallas | 275,000 | 550,000 | 2.0% | 11,000 | 1 | 11,000 | Source: Alliance for the West End |
| West End | | Hoop it Up | 200,000 | 400,000 | 2.0% | 8,000 | 1 | 8,000 | Source: Alliance for the West End |
| West End | | St. Patricks Day Parade | 60,000 | 120,000 | 2.0% | 2,400 | 1 | 2,400 | Source: Alliance for the West End |
| West End | | State Fair Parade | 100,000 | 200,000 | 2.0% | 4,000 | 1 | 4,000 | Estimate - revise if get info |
| West End | | Neiman Marcus, Adolphus Childrens Christmas Parade | 300,000 | 600,000 | 2.0% | 12,000 | 1 | 12,000 | Source: Ashley with the Adolphus |
| Downtown | | Dallas World Aquarium | 500,000 | 1,000,000 | 2.0% | 20,000 | 1 | 20,000 | Source: Rachel at Dallas World Aquarium |
| West End | | Sixth Floor Museum/ Dealey Plaza - outside metroplex | 368,000 | 736,000 | 1.0% | 7,360 | 1 | 7,360 | 80% (368,000) of visitors come from outside metroplex. 92,000 locat |
| | | Same - inside metroplex | 92,000 | 184,000 | 2.0% | 3,680 | 1 | 3,680 | Source: JFK Sixth Floor Museum |
| State Fair | | 24-day annual event | 3,500,000 | 7,000,000 | 2.0% | 140,000 | 1 | 140,000 | Source: Fair Park |
| Fair Park Events | | Variety of ticketed events | 4,400,000 | 8,800,000 | 2.0% | 176,000 | 1 | 176,000 | Source: Fair Park |
| **Total** | | | 11,200,408 | | | 439,314 | | 688,405 | |

**Special Event Ridership - Elam to Frankford**

| Location/Venue | Size of Venue | Special Event | Average Attendance | Annual Person Trips | Mode Share | Event Transit Trips | # of Events per Year | Annual Special Event Ridership | Notes: |
|---|---|---|---|---|---|---|---|---|---|
| Arena | 18,000 | Stars Hockey | 18,000 | 36,000 | 17.0% | 6,120 | 41 | 250,920 | Source: Stars, Mavericks and Reunion Arena Mgmt |
| Arena | 19,200 | Mavericks Basketball | 17,000 | 34,000 | 17.0% | 5,780 | 42 | 242,760 | Source: Stars, Mavericks and Reunion Arena Mgmt |
| Arena | 20,000 | Other events | 998,000 | 1,996,000 | 17.0% | 339,320 | 1 | 339,320 | Source: Reunion Arena Mgmt |
| Texas Stadium | 65,850 | Cowboy Football | 65,850 | 131,700 | 2.0% | 2,634 | 9 | 23,706 | Source: Texas Stadium Corp; Need other events |
| Love Field | | Passengers | 625 | per day | | | | 181,875 | Annualization factor 291 for LRT |
| Market Center | | Markets | 305,933 | 611,866 | 10.0% | 61,187 | 1 | 61,187 | Source: Market Center Management |
| West End | | Taste of Dallas | 275,000 | 550,000 | 17.0% | 93,500 | 1 | 93,500 | Source: Alliance for the West End |
| West End | | Hoop it Up | 200,000 | 400,000 | 17.0% | 68,000 | 1 | 68,000 | Source: Alliance for the West End |
| West End | | St. Patricks Day Parade | 60,000 | 120,000 | 17.0% | 20,400 | 1 | 20,400 | Source: Alliance for the West End |
| West End | | State Fair Parade | 100,000 | 200,000 | 17.0% | 34,000 | 1 | 34,000 | Estimate - revise if get Info |
| West End | | Neiman Marcus, Adolphus Childrens Christmas Parade | 300,000 | 600,000 | 10.0% | 60,000 | 1 | 60,000 | Source: Ashley with the Adolphus |
| Downtown | | Dallas World Aquarium | 500,000 | 1,000,000 | 10.0% | 100,000 | 1 | 100,000 | Source: Rachel at Dallas World Aquarium |
| West End | | Sixth Floor Museum/ Dealey Plaza - outside metroplex | 368,000 | 736,000 | 20.0% | 147,200 | 1 | 147,200 | 80% (368,000) of visitors come from outside metroplex. 92,000 local |
| | | Same - inside metroplex | 92,000 | 184,000 | 10.0% | 18,400 | 1 | 18,400 | Source: JFK Sixth Floor Museum |
| State Fair | | 24-day annual event | 3,500,000 | 7,000,000 | 20.0% | 1,400,000 | 1 | 1,400,000 | Source: Fair Park |
| Fair Park Events | | Variety of ticketed events | 4,400,000 | 8,800,000 | 20.0% | 1,760,000 | 1 | 1,760,000 | Source: Fair Park |
| Total | | | 11,200,408 | | | 4,116,541 | | 4,801,268 | |

# TABLE 2
## NW/SE Special Event Ridership

**Special Event Ridership - Buckner to Frankford (Build)**

| Location/Venue | Size of Venue | Nearest Station | Distance to Generator | Special Event | A Average Attendance | Growth Rate to 2025 | A (adjusted) 2025 Avg Attendance | B (= 2*A) Annual Person Trips | C Mode Share | D (=C*B) Event Transit Trips | E # of Events per Year | F (=E*D) Annual Special Event Ridership |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| American Airlines Ctr | 18,000 | Victory (NW) | 500 foot walk | Stars Hockey | 18,000 | N/A | | 36,000 | 17.0% | 6,120 | 41 | 250,920 |
| American Airlines Ctr | 19,200 | Victory (NW) | 500 foot walk | Mavericks Basketball | 19,000 | N/A | | 38,000 | 17.0% | 6,460 | 42 | 271,320 |
| American Airlines Ctr | 20,000 | Victory (NW) | 500 foot walk | Other events | 998,000 | N/A | | 1,996,000 | 17.0% | 339,320 | 1 | 339,320 |
| Texas Stadium | 65,850 | Bachman (NW) | 2 miles by bus | Cowboy Football | 65,850 | N/A | | 131,700 | 2.0% | 2,634 | 9 | 23,706 |
| Love Field | | Inwood (NW) | 1.5 miles by bus | Passengers | 625 | N/A | | per day | | | | 181,875 |
| Market Center | | Market Center/Oak Lawn (NW) | 1,000 foot walk to main buildings | Markets | 305,933 | 5% | 321,230 | 642,459 | 10.0% | 64,246 | 1 | 64,246 |
| West End | | West End (downtown) | 1-4 blocks | Taste of Dallas | 275,000 | 10% | 302,500 | 605,000 | 17.0% | 102,850 | 1 | 102,850 |
| West End | | West End (downtown) | 1-4 blocks | Hoop it Up | 200,000 | 10% | 220,000 | 440,000 | 17.0% | 74,800 | 1 | 74,800 |
| West End | | West End, Akard, St. Paul, Pearl | 2 blocks | St. Patricks Day Parade | 60,000 | 10% | 66,000 | 132,000 | 17.0% | 22,440 | 1 | 22,440 |
| West End | | West End, Akard, St. Paul, Pearl | 2 blocks | State Fair Parade | 100,000 | 10% | 110,000 | 220,000 | 17.0% | 37,400 | 1 | 37,400 |
| West End | | West End, Akard, St. Paul, Pearl | 2 blocks | Neiman Marcus Childrens Christmas Parade | 300,000 | 10% | 330,000 | 660,000 | 17.0% | 112,200 | 1 | 112,200 |
| Downtown | | West End (downtown) | 2 blocks | Dallas World Aquarium | 500,000 | 0 | 550,000 | 1,100,000 | 17.0% | 187,000 | 1 | 187,000 |
| Downtown | | Union Station and Conv Center | About 1/4 mile walk to either station | Trinity Fest | 100,000 | 100% | 200,000 | 400,000 | 25.0% | 100,000 | 1 | 100,000 |
| West End | | West End (downtown) | 4 blocks | Sixth Floor Museum/ Dealey Plaza - outside metroplex | 368,000 | 10% | 404,800 | 809,600 | 17.0% | 137,632 | 1 | 137,632 |
| | | West End (downtown) | 4 blocks | Same - inside metroplex | 92,000 | 10% | 101,200 | 202,400 | 17.0% | 34,408 | 1 | 34,408 |
| State Fair | | Fair Park or MLK (SE) | Both stations directly at major entrances to Fair Park, within 200 feet to 1/2 mile of all facilities | 24-day annual event | 3,500,000 | Forecast by Fair Park based on historical growth rate | 6,000,000 | 12,000,000 | 20.0% | 2,400,000 | 1 | 2,400,000 |
| Fair Park Events | | Fair Park or MLK (SE) | | Variety of ticketed events | 4,400,000 | | 8,000,000 | 16,000,000 | 20.0% | 3,200,000 | 1 | 3,200,000 |
| Total | | | | | 11,302,408 | | | | | 6,827,510 | | **7,540,117** |

**Special Event Ridership - Buckner to Frankford (TSM Baseline)**

| Location/Venue | Size of Venue | Nearest Station | Distance to Generator | Special Event | A Average Attendance | Growth Rate to 2025 | A (adjusted) 2025 Avg Attendance | B (= 2*A) Annual Person Trips | C Mode Share | D (=C*B) Event Transit Trips | E # of Events per Year | F (=E*D) Annual Special Event Ridership |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| American Airlines Ctr | 18,000 | Victory (TRE, bus) | 500 foot walk | Stars Hockey | 18,000 | N/A | | 36,000 | 7.0% | 2,520 | 41 | 103,320 |
| American Airlines Ctr | 19,200 | Victory (TRE, bus) | 500 foot walk | Mavericks Basketball | 19,000 | N/A | | 38,000 | 7.0% | 2,660 | 42 | 111,720 |
| American Airlines Ctr | 20,000 | Victory (TRE, bus) | 500 foot walk | Other events | 998,000 | N/A | | 1,996,000 | 7.0% | 139,720 | 1 | 139,720 |
| Texas Stadium | 65,850 | Varies (from P&R lots) | 2-10 miles | Cowboy Football | 65,850 | N/A | | 131,700 | 1.0% | 1,317 | 9 | 11,853 |
| Love Field | | N/A - bus access | N/A | Passengers | 625 | N/A | | per day | | | | 181,875 |
| Market Center | | N/A - bus access | Varies | Markets | 305,933 | 5% | 321,230 | 642,459 | 5.0% | 32,123 | 1 | 32,123 |
| West End | | West End (downtown) | 1-4 blocks | Taste of Dallas | 275,000 | 10% | 302,500 | 605,000 | 10.0% | 60,500 | 1 | 60,500 |
| West End | | West End (downtown) | 1-4 blocks | Hoop it Up | 200,000 | 10% | 220,000 | 440,000 | 10.0% | 44,000 | 1 | 44,000 |
| West End | | West End, Akard, St. Paul, Pearl | 2 blocks | St. Patricks Day Parade | 60,000 | 10% | 66,000 | 132,000 | 10.0% | 13,200 | 1 | 13,200 |
| West End | | West End, Akard, St. Paul, Pearl | 2 blocks | State Fair Parade | 100,000 | 10% | 110,000 | 220,000 | 10.0% | 22,000 | 1 | 22,000 |
| West End | | West End, Akard, St. Paul, Pearl | 2 blocks | Neiman Marcus, Adolphus Childrens Christmas Parade | 300,000 | 10% | 330,000 | 660,000 | 10.0% | 66,000 | 1 | 66,000 |
| Downtown | | West End (downtown) | 2 blocks | Dallas World Aquarium | 500,000 | 10% | 550,000 | 1,100,000 | 10.0% | 110,000 | 1 | 110,000 |
| Downtown | | Union Station and Conv Center | About 1/4 mile walk to either station | Trinityfest | 100,000 | 100% | 200,000 | 400,000 | 20.0% | 80,000 | 1 | 80,000 |
| West End | | West End (downtown) | 4 blocks | Sixth Floor Museum/ Dealey Plaza - outside metroplex | 368,000 | 10% | 404,800 | 809,600 | 10.0% | 80,960 | 1 | 80,960 |
| | | West End (downtown) | 4 blocks | Same - inside metroplex | 92,000 | 10% | 101,200 | 202,400 | 10.0% | 20,240 | 1 | 20,240 |
| State Fair | | N/A - bus access | | 24-day annual event | 3,500,000 | Forecast by Fair Park based on historical growth rate | 6,000,000 | 12,000,000 | 4.0% | 480,000 | 1 | 480,000 |
| Fair Park Events | | N/A - bus access | Varies | Variety of ticketed events | 4,400,000 | | 8,000,000 | 16,000,000 | 2.0% | 320,000 | 1 | 320,000 |
| Total | | | | | 11,302,408 | | | | | 1,475,240 | | **1,877,511** |

**5,662,606**

Revised October 17, 2003

# Special Events Analysis Model

## Inputs and Summary Analysis

### Inputs

| | |
|---|---|
| Analysis Zone | 788 |
| Description | American Airlines Center |
| Total Trip Attractions | 2,534,000 |
| Transit share to event (current) | 7.0% |
| Avg Vehicle Occupancy | 1.50 |
| Event Parking Cost ($) | $15.0 |

**Parameters**

| | |
|---|---|
| Population coefficient | 0.3000 |
| Employment coefficient | - |
| Income coefficient | 0.7000 |
| Modal constant, Transit | -4.55 |
| Coefficient, Cost | -0.002 |
| Coefficient, OVT | -0.01 |
| Coefficient, IVT | 0.00 |
| Number of Zones | 991 |

### Summary

| | |
|---|---|
| Study Area Population | 4,716,171 |
| Study Area Employment | 2,703,017 |
| Transit Trips Base | 177,420 |
| Transit Trips with Improvement | 180,049 |
| ***Net Change in Transit Trips*** | **2,629** |
| Transit Mode Share Base | 7.00% |
| Transit Mode Share Improvement | 7.11% |
| ***Net Change in Transit Mode Share*** | **0.10%** |
| Weighted Utility in Base | -5,785,706 |
| Weighted Utility with Improvement | -5,774,573 |
| ***Net Change in Weighted Utility*** | **11,134** |
| User Benefit Hours | 50,425 |
| Benefits (gain access) | 0 |
| Disbenefits (lose access) | 0 |
| ***Net User Benefits (hours)*** | **50,425** |

# Special Events Analysis Model

## Inputs and Summary Analysis

### Inputs

| | |
|---|---|
| Analysis Zone | 701 |
| Description | Fair Park |
| Total Trip Attractions | 11,380,000 |
| Transit share to event (current) | 15.0% |
| Avg Vehicle Occupancy | 1.35 |
| Event Parking Cost ($) | $8.0 |

**Parameters**

| | |
|---|---|
| Population coefficient | 0.8000 |
| Employment coefficient | - |
| Income coefficient | 0.2000 |
| Modal constant, Transit | -2.52 |
| Average Trip Distance | 21.76 |
| Coefficient, Cost | -0.002 |
| Coefficient, OVT | -0.01 |
| Coefficient, IVT | 0.00 |
| Number of Zones | 991 |

### Summary

| | |
|---|---|
| Study Area Population | 4,716,171 |
| Study Area Employment | 2,703,017 |
| Transit Trips Base | 1,715,010 |
| Transit Trips with Improvement | 1,750,346 |
| ***Net Change in Transit Trips*** | **35,337** |
| Transit Mode Share Base | 15.07% |
| Transit Mode Share Improvement | 15.38% |
| ***Net Change in Transit Mode Share*** | **0.31%** |
| Weighted Utility in Base | -14,806,728 |
| Weighted Utility with Improvement | -14,759,893 |
| ***Net Change in Weighted Utility*** | **46,835** |
| User Benefit Hours | 212,117 |
| Benefits (gain access) | 0 |
| Disbenefits (lose access) | 0 |
| ***Net User Benefits (hours)*** | **212,117** |

# Special Events Analysis Model

## Inputs and Summary Analysis

### Inputs

| | |
|---|---|
| Analysis Zone | 950 |
| Description | West End |
| Total Trip Attractions | 1,995,000 |
| Transit share to event (current) | 10.0% |
| Avg Vehicle Occupancy | 1.50 |
| Event Parking Cost ($) | $6.0 |

**Parameters**

| | |
|---|---|
| Population coefficient | 0.7000 |
| Employment coefficient | - |
| Income coefficient | 0.3000 |
| Modal constant, Transit | -2.80 |
| Average Trip Distance | 10.72 |
| Coefficient, Cost | -0.002 |
| Coefficient, OVT | -0.01 |
| Coefficient, IVT | 0.00 |
| Number of Zones | 991 |

### Summary

| | |
|---|---|
| Study Area Population | 4,716,171 |
| Study Area Employment | 2,703,017 |
| Transit Trips Base | 199,721 |
| Transit Trips with Improvement | 203,412 |
| ***Net Change in Transit Trips*** | **3,691** |
| Transit Mode Share Base | 10.01% |
| Transit Mode Share Improvement | 10.20% |
| ***Net Change in Transit Mode Share*** | **0.18%** |
| Weighted Utility in Base | -1,741,264 |
| Weighted Utility with Improvement | -1,734,898 |
| ***Net Change in Weighted Utility*** | **6,366** |
| User Benefit Hours | 28,832 |
| Benefits (gain access) | 0 |
| Disbenefits (lose access) | 0 |
| ***Net User Benefits (hours)*** | **28,832** |

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