FY 2022 Cost of Services by City

Executive Summary
May 3, 2023

What is DART?

Dallas Area Rapid Transit is a regional transit agency connecting residents in 13 cities across more than 700 square miles. Our service area cities are Addison, Carrollton, Cockrell Hill, Dallas, Farmers Branch, Garland, Glenn Heights, Highland Park, Irving, Richardson, Rowlett, Plano, and University Park. Last year, we moved nearly 43 million passengers across the North Texas region.

Today, DART operates a 93-mile light rail system with 65 stations, 570 buses with 14 bus transfer facilities, and the 34-mile Trinity Railway Express between Dallas and Fort Worth (in partnership with Trinity Metro). DART's other services include paratransit and the largest microtransit operation in North America, with 30 GoLink zones and 359 square miles of coverage. We fund these services in large part through a one-percent sales tax within our service area, as well as federal grants and fare revenue. Sales tax revenue comes directly to DART from the State Comptroller as approved by voters when DART was created in 1983.

What is this report?

DART is committed to sharing clear and transparent financial information with our Board of Directors, our service area cities, and our residents, which we do each year through our annual budget, 20-Year Financial Plan, and audited financial statements. To better understand how DART uses its sales tax collections, our service area cities have asked us to also estimate how much DART spends, by city, each year.

A note:

Because DART is a collective effort, we develop and deliver services on a systemwide basis, not by separate geographies. This allows us to charge the same fares to all residents, providing affordable access to employment, essential services, and cultural and leisure activities across the region.

The estimates in this report are based on the best data available and serve only as a snapshot in time. Additionally, as we implement DART's 2045 Transit System Plan, update the bus network, and enhance our services, there will be years when we invest more in certain cities than in others. Finally, we are building the Silver Line, which we plan to begin operating in late 2025/early 2026. Because this report is based on costs for Fiscal Year (FY) 2022, Silver Line miles and stations are not yet reflected.

Methodology

DART has developed a methodology for allocating operating, capital, and debt service costs by city based on feedback from our service area city managers, finance directors, and elected officials and using data from FY 2022.

The resulting model allocates operating expenses based on:

- **System-Level Maintenance (30%):** A percentage of operational costs that mirrors each city's proportional share of DART's debt and capital obligations
- **Boardings (20%):** The percentage of boardings in FY 2022 within each city across all modes
- **Miles (25%):** The percentage of miles traveled within a city by bus, light rail, and commuter rail, along with the directly billed costs of paratransit and GoLink services
- **Direct Service Asset Placement (25%):** The percentage of bus stops and rail stations, along with the directly billed costs of paratransit and GoLink services

Capital and debt service costs are allocated according to Texas Transportation Code Sec. 452.659 and Sec. 452.660 and treated as fixed costs for each city.

FY 2022 Expenses Allocated by Service Area City ($M)

CITY	OPERATING ALLOCATION	CAPITAL & DEBT ALLOCATION	TOTAL ALLOCATION	SALES TAX CONTRIBUTION*
Addison	$5.3	$6.4	**$11.7**	$15.4
Carrollton	$18.7	$27.9	**$46.7**	$46.4
Cockrell Hill	$1.3	$0.6	**$1.9**	$0.6
Dallas	$355.7	$274.2	**$629.9**	$388.2
Farmers Branch	$8.1	$10.2	**$18.3**	$23.3
Garland	$36.9	$43.3	**$80.2**	$37.6
Glenn Heights	$1.2	$2.4	**$3.6**	$1.0
Highland Park	$1.0	$2.2	**$3.2**	$6.7
Irving	$50.5	$54.9	**$105.5**	$94.3
Plano	$33.5	$61.9	**$95.4**	$103.4
Richardson	$25.1	$27.0	**$52.1**	$51.9
Rowlett	$6.1	$10.6	**$16.7**	$8.5
University Park	$2.4	$4.8	**$7.3**	$6.6
TOTAL	**$545.8**	**$526.5**	**$1,072.3**	**$783.7**

* In FY 2022, sales tax accounted for only 61% of DART's total revenue, which is why the total allocation is greater than total sales tax contributions.

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FY 2022 Cost of Services by City

May 2023 Report
Prepared by Finance

Introduction

DART is a regional transit agency that provides multi-modal transportation to millions of riders within its 13 service area cities each year. Annually, it spends more than half a billion dollars on operations and hundreds of millions more on capital projects.

DART is committed to sharing clear and transparent financial information with our Board of Directors, our service area cities, and our residents, which we do each year through our annual budget, 20-Year Financial Plan, and audited financial statements. To better understand how DART uses its sales tax collections, our service area cities have asked us to also estimate how much DART spends each year by city.

How does DART work?

Like other transportation agencies across the country (sometimes called authorities), DART is a public organization created by voters to provide public transportation to residents and visitors in its service area. It is governed by a 15-member Board of Directors, and each service area city appoints representatives to the Board in proportion to its population. The Board approves DART's budget, 20-Year Financial Plan, and other system planning efforts, and it also selects the President & Chief Executive Officer who oversees the agency.

When you think of DART, you likely think of our buses or light rail system, but we actually provide several other services to help people across North Texas get where they need to go safely and reliably. DART operates the Trinity Railway Express (TRE) commuter rail service between Dallas and Fort Worth in partnership with Trinity Metro, and we operate the Dallas Streetcar on behalf of the City of Dallas. We also provide curb-to-curb paratransit services for seniors and disabled riders and on-demand microtransit service through our GoLink program. DART even offers limited paratransit and microtransit services in cities outside of our service area to support the region's mobility goals. (DART is fully reimbursed for those programs by the cities served.)
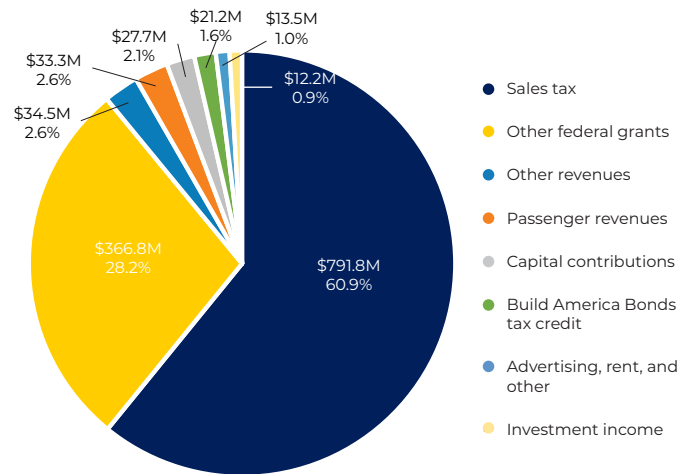
Where does DART's money come from?

DART's three main revenue sources are a one-percent sales tax from cities within its service area, federal funding, and operating revenue, which includes things like the fares we charge to passengers, advertising revenue, leases, rentals, and access and impact fees. One thing to note is that the sales tax allocation was approved by voters when DART was created and comes directly to DART from the State Comptroller, not from the cities themselves.

Exhibit 1 summarizes DART's revenues for FY 2022, which totaled $1.30 billion. More than half of the passenger revenue came from buses (52 percent) and another 39 percent from light rail; the rest came from TRE, GoLink, and paratransit.

Exhibit 1: FY 2022 Revenues by Type ($M)

- Sales tax — $791.8M 60.9%
- Other federal grants — $366.8M 28.2%
- Other revenues — $34.5M 2.6%
- Passenger revenues — $33.3M 2.6%
- Capital contributions — $27.7M 2.1%
- Build America Bonds tax credit — $21.2M 1.6%
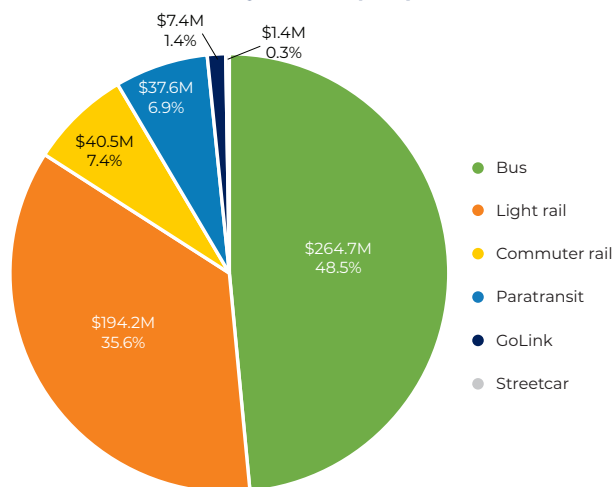- Advertising, rent, and other — $13.5M 1.0%
- Investment income — $12.2M 0.9%

How does DART spend money?

DART's expenses include operating expenses (the costs associated with providing transportation services), capital and non-operating expenses, and debt service, which includes principal and interest payments for prior capital and improvement programs. For clarification, capital projects are long-term projects to build, maintain, or improve facilities or infrastructure, like a bus station or train tracks (a "capital asset"). Capital projects are usually expensive and often financed with debt that is paid back over time, just like a home mortgage or a car loan.

All of DART's operating costs are assigned, in whole or in part, to a specific mode depending on how an item is used or what a person is doing. A bus driver's activities, for example, belong completely within bus costs, but training programs for system operators may be allocated partly to bus and partly to rail because both bus and train operators attend the program. We also spread administrative costs across all modes, giving us a total cost for each.

Exhibit 2 summarizes DART's operating expenses by mode for FY 2022, which totaled $545.8 million. Capital expenses in FY 2022 were $330.3 million (31 percent) and debt service was $196.2 million (18 percent), for $1.07 billion in total expenses.

Exhibit 2: FY 2022 Operating Expenses by Mode ($M)

- Bus — $264.7M / 48.5%
- Light rail — $194.2M / 35.6%
- Commuter rail — $40.5M / 7.4%
- Paratransit — $37.6M / 6.9%
- GoLink — $7.4M / 1.4%
- Streetcar — $1.4M / 0.3%

Methodology

Building on several prior efforts, DART has finalized a methodology for allocating operating, capital, and debt service costs by city for FY 2022. This new analysis incorporates feedback from DART's service area city managers, finance directors, and elected officials, as well as extensive research into similar efforts by other multi-jurisdictional transit agencies across the U.S. and several newly available factors, including miles of service, hours of operation, and directly invoiced costs within each city. The resulting methodology focuses primarily on usage (boardings and miles driven) and asset placement (bus stops/ rail stations).

Methodological Principles

As discussed previously, DART is a regional partnership between 13 cities—a system—not a set of services provided discretely to or in each city. Therefore, any methodology we develop will make certain assumptions to approximate costs by city.

In determining the methodology for allocating operating expenses, we have tried to balance activity in a specific place with systemwide costs that benefit the entire service area. Unlike other possible allocation variables (population, sales tax, square miles, etc.), the four selected factors are closely tied to the system itself. Given that, most weighting combinations are probably "correct" and which factor(s) to emphasize most are a matter of educated opinion.

Texas Transportation Code Secs. 452.659 and 452.660 outline a methodology for calculating the capital and debt service obligations of a service area city upon withdrawal from the transportation authority. We have chosen to apply this calculation here not only because it is supported by state law, but also because it recognizes that the location of a capital project alone is not an adequate basis for allocating its costs. DART assets are located where they make the most operational sense—because it makes the entire system more efficient, effective, and ultimately more valuable to our riders. For these reasons, capital and debt costs are fixed and applied uniformly in all methodologies.

Operating Expense Allocation

DART's total operating costs for all modes in FY 2022 were $545.8 million. The final analysis assigns a proportion of those costs to each of four variables as shown—e.g., 30 percent of operating costs are allocated to system-level maintenance— then determines each city's proportional share of those costs using the calculations below.

For example, boardings are weighted at 20 percent, which means we assigned 20 percent of total operating costs ($109.2 million) to boardings. Carrollton had 959,815 boardings in FY 2022, or 2.2 percent of total boardings. We multiplied Carrollton's percentage of boardings by the total boarding allocation, resulting in about $2.5 million allocated to Carrollton for boardings.

The selected variables are weighted and defined as follows:

- **System-Level Maintenance (30%):** A percentage of operational costs that mirrors each city's proportional share of DART's debt and capital obligations
- **Boardings (20%):** The percentage of boardings in FY 2022 within each city across all modes
- **Miles (25%):** The percentage of miles traveled within a city by bus, light rail, and commuter rail, along with the directly billed costs of paratransit and GoLink services
- **Direct Service Asset Placement (25%):** The percentage of bus stops and rail stations, along with the directly billed costs of paratransit and GoLink services

Based on that analysis, we arrived at the final allocation in Exhibit 3.

Exhibit 3: FY 2022 Expenses Allocated by Service Area City ($M)

City	System-Level Maintenance (30%)	Boardings (20%)	Miles (25%)	Asset Placement (25%)	Operating Allocation	Capital & Debt Allocation	Total Allocation
Addison	$1,999,090	$1,597,295	$910,485	$795,497	$5,302,367	$6,428,012	**$11,730,379**
Carrollton	$8,687,680	$2,451,462	$3,532,844	$4,064,471	$18,736,457	$27,935,833	**$46,672,290**
Cockrell Hill	$194,952	$553,381	$273,894	$231,049	$1,253,277	$626,894	**$1,880,170**
Dallas	$85,277,175	$84,931,378	$93,703,243	$91,804,774	$355,716,569	$274,214,533	**$629,931,103**
Farmers Branch	$3,168,096	$1,018,822	$1,900,508	$2,003,247	$8,090,673	$10,187,049	**$18,277,721**
Garland	$13,475,850	$4,794,260	$9,355,596	$9,229,023	$36,854,730	$43,333,076	**$80,187,806**
Glenn Heights	$741,605	$114,533	$234,556	$95,117	$1,185,812	$2,384,745	**$3,570,557**
Highland Park	$695,594	$38,748	$83,451	$167,785	$985,579	$2,236,706	**$3,222,285**
Irving	$17,078,746	$4,872,523	$14,222,224	$14,360,182	$50,533,675	$54,917,799	**$105,451,474**
Plano	$19,262,710	$3,483,349	$5,263,191	$5,460,618	$33,469,868	$61,940,419	**$95,410,288**
Richardson	$8,384,346	$4,355,321	$5,687,784	$6,691,290	$25,118,740	$26,960,306	**$52,079,046**
Rowlett	$3,284,741	$840,209	$971,046	$1,043,213	$6,139,209	$10,562,483	**$16,701,692**
University Park	$1,498,111	$114,516	$318,426	$510,981	$2,442,035	$4,817,312	**$7,259,346**
Total	**$163,748,697**	**$109,165,798**	**$136,457,248**	**$136,457,248**	**$545,828,991**	**$526,545,166**	**$1,072,374,157**

Supporting Data

The following sections provide details on the underlying data and calculations for each of the four operating cost allocation variables, as well as the capital and debt allocation.

Data on miles, direct service assets, boardings, and other services are sourced from several non-financial data sets that, in some cases, were developed specifically for this analysis. DART has a professional service planning department skilled in geographic information systems (GIS) and data analysis. This team was tasked with re-analyzing our existing data to adjust how we report and track our operations, especially miles traveled within each city.

> System-Level Maintenance

The first variable in the operating cost allocation is intended to capture the operation and maintenance costs required to keep the DART system in good repair. These costs are essentially the "overhead" or fixed cost of participating in a functional transportation system.

Exhibit 4: FY 2022 System-Level Maintenance (SLM) Allocation

City	Capital & Debt (% of Total)	SLM Operating Allocation
Addison	$6,428,012 (1.2%)	$1,999,028
Carrollton	$27,935,833 (5.3%)	$8,687,681
Cockrell Hill	$626,894 (0.1%)	$194,956
Dallas	$274,214,533 (52.1%)	$85,277,153
Farmers Branch	$10,187,049 (1.9%)	$3,168,040
Garland	$43,333,076 (8.2%)	$13,476,023
Glenn Heights	$2,384,745 (0.5%)	$741,625
Highland Park	$2,236,706	$695,586
Irving	$1,907,727 (4.5%)	$4,872,523
Plano	$1,363,827 (3.2%)	$3,483,349
Richardson	$1,705,228 (4.0%)	$4,355,321
Rowlett	$328,965 (0.8%)	$840,209
University Park	$44,836 (0.1%)	$114,516
Total	**$42,741,416**	**$109,165,798**

Because these fixed costs are shared among service area cities like capital and debt service costs, we have mirrored each city's proportional share of DART's total capital and debt and then multiplied that percentage by the total weighted system-level maintenance allocation, or $163.7 million (30 percent of total operating costs).

> Passenger Boardings

By DART Board policy, our light and commuter rail systems have always been barrier-free, meaning passengers do not pass through a gate before boarding. Data on boardings is from our automated passenger counting system that counts each person as they enter or leave a bus, light rail, or commuter rail train (unlinked trips).

Because DART is not a "closed" system, we are not able to track the path of a single rider across the system from entry to exit (linked trips). A single person might use two or more modes of transportation on the system in a single trip, resulting in two or more boardings in the total count. Although boardings are a useful proxy for ridership, no system currently used by DART can provide reliable, real-time linked trip data.[1]

We arrived at the boarding allocations in Exhibit 5 by calculating boardings in each city as a percentage of total boardings and then multiplying that percentage by the total weighted boarding allocation, or $109.2 million (20 percent of total operating costs).

Exhibit 5: FY 2022 Boarding Allocation

City	Boardings (% of Total)	Boarding Allocation
Addison	625,385 (1.5%)	$1,597,295
Carrollton	959,815 (2.2%)	$2,451,462
Cockrell Hill	216,664 (0.5%)	$553,381
Dallas	33,252,973 (77.8%)	$84,931,378
Farmers Branch	398,897 (0.9%)	$1,018,822
Garland	1,877,085 (4.4%)	$4,794,260
Glenn Heights	44,843 (0.1%)	$114,533
Highland Park	15,171 (0.0%)	$38,748
Irving	1,907,727 (4.5%)	$4,872,523
Plano	1,363,827 (3.2%)	$3,483,349
Richardson	1,705,228 (4.0%)	$4,355,321
Rowlett	328,965 (0.8%)	$840,209
University Park	44,836 (0.1%)	$114,516
Total	**42,741,416**	**$109,165,798**

> Single-Allocation Costs

Paratransit and GoLink are allocated directly to each city based on the invoiced cost of services provided by the contractors who operate these programs in each city (plus DART's overhead and operational costs), and then added to two categories: miles and direct asset placement.

Paratransit is a curb-to-curb accessible transportation service for disabled riders who are unable to use DART's bus or rail services. GoLink is an innovative "microtransit" service that provides riders with direct point-to-point service on demand within a specified zone. Generally, a trip must be within a zone, but in some cases, inter-zone trips are possible; riders can travel between the three zones in Plano, for instance. GoLink includes always-available bus or van service within a zone and on-demand service, which is activated when ridership levels are higher.

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[1] A statistical analysis conducted by the North Central Texas Council of Governments will be available later in 2023 that samples thousands of riders to better understand who is using the system and how, and that will provide data on linked trips. That study, typically completed every five years, is primarily used for planning purposes as it is a point-in-time indication of behavior.

Exhibit 6: FY 2022 Paratransit Allocation

City	Direct Invoice Costs (% of Total)	Paratransit Allocation
Addison	$80,321 (0.3%)	$122,407
Carrollton	$797,955 (3.2%)	$1,216,064
Cockrell Hill	$11,585 (0.0%)	$17,655
Dallas	$15,969,518 (64.7%)	$24,337,178
Farmers Branch	$245,519 (1.0%)	$374,165
Garland	$2,287,632 (9.3%)	$3,486,299
Glenn Heights	$171,917 (0.7%)	$261,998
Highland Park	$10,310 (0.0%)	$15,713
Irving	$1,422,486 (5.8%)	$2,167,836
Plano	$2,322,927 (9.4%)	$3,540,087
Richardson	$862,559 (3.5%)	$1,314,520
Rowlett	$413,613 (1.7%)	$630,336
University Park	$68,388 (0.3%)	$104,222
Total	**$24,664,728**	**$37,588,479**

Exhibit 7: FY 2022 GoLink Allocation

City	Direct Invoice Costs (% of Total)	GoLink Allocation
Addison	$0 (0%)	$0
Carrollton	$206,291 (3.5%)	$260,044
Cockrell Hill	$0 (0%)	$0
Dallas	$2,472,003 (42.2%)	$3,116,129
Farmers Branch	$333,203 (5.7%)	$420,025
Garland	$263,791 (4.5%)	$332,527
Glenn Heights	$64,017 (1.1%)	$80,698
Highland Park	$70,475 (1.2%)	$88,838
Irving	$716,338 (12.2%)	$902,993
Plano	$1,118,202 (19.1%)	$1,409,570
Richardson	$70,052 (1.2%)	$88,305
Rowlett	$439,685 (7.5%)	$554,253
University Park	$100,445 (1.7%)	$126,618
Total	**$5,854,502**	**$7,379,999**

> Miles

DART has not historically compiled service data by city because we deliver and track services by mode. For example, we know the number of miles our buses and light rail cars travel on the system each day, based on routes and frequencies, but we have not needed to track the number of miles traveled within a particular city.

FY 2022 was a particularly challenging year for such an analysis because DART operations underwent two major changes: implementation of the redesigned bus network (DARTzoom) and extreme staffing shortages that led the Board to authorize a temporary reduction in service from June 2022 through January 2023.

We arrived at the miles allocation in Exhibit 8 on the next page by calculating miles traveled in each city as a percentage of total miles traveled and then multiplying that percentage by the total operating expenses for bus ($264.7 million), as divided into three main services: general bus service, shuttle service, and the Rider Assistance Program, which provides transportation to residents age 65 and older and disabled residents who do not qualify for paratransit under the Americans with Disabilities Act (ADA).

The number of bus and light rail miles traveled in this analysis are based on the system plan in effect in April 2022 and allocated to each city using GIS data.

Exhibit 8: FY 2022 Bus Allocation by Miles

City	Miles Traveled (% of Total)	General Bus Service	Shuttle Service	Ridership Assistance Program	Bus Miles Allocation
Addison	386,308 (1.3%)	$3,518,968	$0	$564	$3,519,531
Carrollton	487,382 (1.7%)	$4,439,667	$0	$11,087	$4,450,754
Cockrell Hill	118,333 (0.4%)	$1,077,921	$0	$0	$1,077,921
Dallas	20,795,658 (72.3%)	$189,432,211	$1,065,972	$121,869	$190,620,053
Farmers Branch	402,650 (1.4%)	$3,667,825	$0	$689	$3,668,514
Garland	2,677,474 (9.3%)	$24,389,699	$0	$3,320	$24,393,018
Glenn Heights	65,377 (0.2%)	$595,530	$0	$0	$595,530
Highland Park	25,167 (0.1%)	$229,254	$0	$0	$229,254
Irving	1,465,228 (5.1%)	$13,347,084	$85,447	$10,606	$13,443,137
Plano	1,265,531 (4.4%)	$11,528,003	$123,188	$63,513	$11,714,705
Richardson	1,007,126 (3.5%)	$9,174,135	$960,592	$8,017	$10,142,745
Rowlett	0 (0%)	$0	$0	$1,566	$1,566
University Park	85,114 (0.3%)	$775,321	$78,446	$21	$853,789
Total	**28,781,348**	**$262,175,618**	**$2,313,646**	**$221,252**	**$264,710,516**

We arrived at the miles allocations in Exhibit 9 by calculating miles traveled in each city as a percentage of total miles traveled and then multiplying that percentage by the total operating expenses for light rail ($194.2 million).

Exhibit 9: FY 2022 Light Rail Allocation by Miles

City	Car Miles Traveled* (% of Total)	Light Rail Miles Allocation
Addison	0 (0%)	$0
Carrollton	429,567 (4.2%)	$8,204,512
Cockrell Hill	0 (0%)	$0
Dallas	7,089,749 (69.7%)	$135,410,500
Farmers Branch	164,367 (1.6%)	$3,139,329
Garland	482,241 (4.7%)	$9,210,541
Glenn Heights	0 (0%)	$0
Highland Park	0 (0%)	$0
Irving	1,036,216 (10.2%)	$19,791,175
Plano	229,766 (2.3%)	$4,388,405
Richardson	586,695 (5.8%)	$11,205,566
Rowlett	141,262 (1.4%)	$2,698,027
University Park	9,900 (0.1%)	$189,077
Total	**10,169,762**	**$194,237,130**

*Miles driven are counted for each light rail car individually, whether the car is running singly or within a linked train.

Exhibit 10: FY 2022 Commuter Rail Allocation by Miles

City	Track Miles (% of Total)	Commuter Rail Miles Allocation
Dallas	7.2 (49.1%)	$19,891,165
Irving	7.4 (50.9%)	$20,583,754
Total	**14.6**	**$40,474,920**

As mentioned above, commuter rail refers to the TRE, a single-line fixed service that runs from Dallas to Fort Worth, including stops in Irving. For this mode, we allocated costs to Dallas and Irving based on the number of track miles in each city; costs are not allocated to other cities and so are not shown in Exhibit 10.

Exhibit 11 adds all the fixed-route inputs from this section, plus the paratransit and GoLink costs from the previous section to get a total operating cost allocation based on miles traveled, multiplied by 0.25 (25 percent) to arrive at the final weighted allocation for miles.

Exhibit 11: FY 2022 Operating Allocation by Miles

City	Bus Miles Allocation	Light Rail Miles Allocation	Commuter Rail Miles Allocation	Streetcar Allocation*	Paratransit Allocation	GoLink Allocation	Total Operating Allocation by Miles	Weighted Operating Allocation by Miles (25%)
Addison	$3,519,531	$0	$0	$0	$122,407	$0	$3,641,938	$910,485
Carrollton	$4,450,754	$8,204,512	$0	$0	$1,216,064	$260,044	$14,131,374	$3,532,844
Cockrell Hill	$1,077,921	$0	$0	$0	$17,655	$0	$1,095,576	$273,894
Dallas	$190,620,053	$135,410,500	$19,891,165	$1,437,945	$24,337,178	$3,116,129	$374,812,970	$93,703,243
Farmers Branch	$3,668,514	$3,139,329	$0	$0	$374,165	$420,025	$7,602,032	$1,900,508
Garland	$24,393,018	$9,210,541	$0	$0	$3,486,299	$332,527	$37,422,385	$9,355,596
Glenn Heights	$595,530	$0	$0	$0	$261,998	$80,698	$938,226	$234,556
Highland Park	$229,254	$0	$0	$0	$15,713	$88,838	$333,805	$83,451
Irving	$13,443,137	$19,791,175	$20,583,754	$0	$2,167,836	$902,993	$56,888,896	$14,222,224
Plano	$11,714,705	$4,388,405	$0	$0	$3,540,087	$1,409,570	$21,052,766	$5,263,191
Richardson	$10,142,745	$11,205,566	$0	$0	$1,314,520	$88,305	$22,751,135	$5,687,784
Rowlett	$1,566	$2,698,027	$0	$0	$630,336	$554,253	$3,884,182	$971,046
University Park	$853,789	$189,077	$0	$0	$104,222	$126,618	$1,273,706	$318,426
Total	**$264,710,516**	**$194,237,130**	**$40,474,920**	**$1,437,945**	**$37,588,479**	**$7,379,999**	**$545,828,991**	**$136,457,248**

The Dallas Streetcar is located only in Dallas, so 100 percent of its costs are allocated to Dallas.

> Direct Service Asset Placement
Direct service assets are bus stops, light rail stations, and commuter rail stations. We assigned each stop to a city using GIS data, and we did not distinguish between the various types of bus stops, e.g. a bus transfer center that serves many routes versus a stop on a single route.

Exhibit 13 adds all the fixed-route inputs from Exhibit 12, plus the paratransit and GoLink costs from the previous section to get a total operating cost allocation based on direct service asset placement, multiplied by 0.25 (25 percent) to arrive at the final weighted allocation.

Exhibit 12: FY 2022 Fixed-Route Allocations by Stops and Stations

City	Bus Stops (% of Total)	Bus Stop Allocation	Light Rail Stations (% of Total)	LRT Station Allocation	Commuter Rail Stations (% of Total)	Commuter Rail Station Allocation
Addison	81 (1.2%)	$3,059,582	0 (0%)	$0	0	$0
Carrollton	154 (2.2%)	$5,816,983	3 (4.6%)	$8,964,791	0	$0
Cockrell Hill	24 (0.3%)	$906,543	0 (0%)	$0	0	$0
Dallas	4,754 (67.8%)	$179,571,033	45 (69.2%)	$134,471,860	3 (60%)	$24,284,952
Farmers Branch	112 (1.6%)	$4,230,533	1 (1.5%)	$2,988,264	0	$0
Garland	718 (10.2%)	$27,120,741	2 (3.1%)	$5,976,527	0	$0
Glenn Heights	1 (0.0%)	$37,773	0 (0%)	$0	0	$0
Highland Park	15 (0.2%)	$566,589	0 (0%)	$0	0	$0
Irving	457 (6.5%)	$17,262,087	7 (10.8%)	$20,917,845	2 (40%)	$16,189,968
Plano	289 (4.1%)	$10,916,287	2 (3.1%)	$5,976,527	0	$0
Richardson	355 (5.1%)	$13,409,280	4 (6.2%)	$11,953,054	0	$0
Rowlett	0 (0%)	$0	1 (1.5%)	$2,988,264	0	$0
University Park	48 (0.7%)	$1,813,086	0 (0%)	$0	0	$0
Total	**7,008**	**$264,710,517**	**65**	**$194,237,130**	**5**	**$40,474,920**

Exhibit 13: FY 2022 Operating Allocation by Direct Service Asset Placement

City	Bus Stops Allocation	Light Rail Stations Allocation	Commuter Rail Stations Allocation	Streetcar Allocation*	Paratransit Allocation	GoLink Allocation	Total Operating Allocation by Assets	Weighted Operating Allocation by Assets (25%)
Addison	$3,059,582	$0	$0	$0	$122,407	$0	$3,181,989	$795,497
Carrollton	$5,816,983	$8,964,791	$0	$0	$1,216,064	$260,044	$16,257,883	$4,064,471
Cockrell Hill	$906,543	$0	$0	$0	$17,655	$0	$924,198	$231,049
Dallas	$179,571,033	$134,471,860	$24,284,952	$1,437,945	$24,337,178	$3,116,129	$367,219,096	$91,804,774
Farmers Branch	$4,230,533	$2,988,264	$0	$0	$374,165	$420,025	$8,012,986	$2,003,247
Garland	$27,120,741	$5,976,527	$0	$0	$3,486,299	$332,527	$36,916,094	$9,229,023
Glenn Heights	$37,773	$0	$0	$0	$261,998	$80,698	$380,468	$95,117
Highland Park	$566,589	$0	$0	$0	$15,713	$88,838	$671,140	$167,785
Irving	$17,262,087	$20,917,845	$16,189,968	$0	$2,167,836	$902,993	$57,440,729	$14,360,182
Plano	$10,916,287	$5,976,527	$0	$0	$3,540,087	$1,409,570	$21,842,471	$5,460,618
Richardson	$13,409,280	$11,953,054	$0	$0	$1,314,520	$88,305	$26,765,158	$6,691,290
Rowlett	$0	$2,988,264	$0	$0	$630,336	$554,253	$4,172,853	$1,043,213
University Park	$1,813,086	$0	$0	$0	$104,222	$126,618	$2,043,926	$510,981
Total	**$264,710,516**	**$194,237,130**	**$40,474,920**	**$1,437,945**	**$37,588,479**	**$7,379,999**	**$545,828,991**	**$136,457,248**

The Dallas Streetcar is located only in Dallas, so 100 percent of its costs are allocated to Dallas.

> Capital and Debt Allocations

The capital and debt costs allocated in this report are actual expenditures on capital and debt in FY 2022. As mentioned above, we have allocated those costs using the methodology outlined in Texas Transportation Code Chapter 452.

Per that methodology, debt is allocated by calculating each city's population as of the most recent census (or its estimated population per the North Central Texas Council of Governments, if more than five years have passed since the census) as a percentage of the total service area population and then multiplying that percentage by DART's total debt service ($196.3 million). Capital is distributed using a blended percentage based on each city's proportional population and sales tax collections (refer to Exhibit 14 note).

Exhibit 14: FY 2022 Capital and Debt Allocations by Service Area City

City	2020 Census Population (% of Total)	Sales Tax Collections (% of Total)	Blended Percentage*	Capital Allocation	Debt Allocation	Total Capital & Debt Allocation
Addison	16,661 (0.7%)	$344,493,557 (2.4%)	1.55%	$5,127,550	$1,300,462	$6,428,012
Carrollton	133,434 (5.3%)	$747,970,656 (5.3%)	5.30%	$17,520,738	$10,415,094	$27,935,833
Cockrell Hill	3,815 (0.2%)	$6,709,857 (0.1%)	0.10%	$329,117	$297,777	$626,894
Dallas	1,304,379 (51.9%)	$7,408,177,296 (52.5%)	52.20%	$172,402,174	$101,812,359	$274,214,533
Farmers Branch	35,991 (1.4%)	$428,258,161 (3.0%)	2.23%	$7,377,797	$2,809,251	$10,187,049
Garland	246,018 (9.8%)	$680,955,541 (4.8%)	7.31%	$24,130,319	$19,202,757	$43,333,076
Glenn Heights	15,819 (0.6%)	$9,485,759 (0.1%)	0.35%	$1,150,004	$1,234,741	$2,384,745
Highland Park	8,864 (0.4%)	$82,223,903 (0.6%)	0.47%	$1,544,833	$691,873	$2,236,706
Irving	256,684 (10.2%)	$1,539,492,460 (10.9%)	10.56%	$34,882,515	$20,035,284	$54,917,799
Plano	285,494 (11.4%)	$1,785,626,643 (12.7%)	12.01%	$39,656,392	$22,284,028	$61,940,419
Richardson	119,469 (4.8%)	$836,088,920 (5.9%)	5.34%	$17,635,240	$9,325,066	$26,960,306
Rowlett	62,535 (2.5%)	$134,459,580 (1.0%)	1.72%	$5,681,359	$4,881,124	$10,562,483
University Park	25,278 (1.0%)	$101,134,111 (0.7%)	0.86%	$2,844,256	$1,973,056	$4,817,312
Total	**2,514,441**	**$14,105,076,444**	**100.00%**	**$330,282,293**	**$196,262,873**	**$526,545,166**

Blended % = (Population % + Sales Tax %) / 2

Discussion

We chose a weighted variable methodology to mitigate the disadvantages of any single factor.

An analysis based on boardings alone, for instance, is an adequate measure of system usage, but does not account for the miles traveled or stops in a city, i.e. the accessibility of the system to riders. It also allocates the full "cost" of riders from non-service area cities to the service area city where they enter the DART system. For example, Carrollton has high light rail boardings, likely because it is the transfer point from Denton County Transportation Authority (DCTA) to DART, and a significant number of Plano boardings are by residents of non-service area cities.

Similarly, the number of stops or stations in a city can provide some insight into how accessible the system is but doesn't indicate how or whether people are using it. Such an analysis almost certainly overstates the costs to Dallas given that the network, especially for light rail, is based on a "hub-and-spoke" model with Dallas as the hub. A commuter might travel from Parker Road Station in Plano to Pacific Station in Dallas for work (and get little value out of any stop in between), yet Dallas would be assigned almost all the costs for light rail operations for that passenger.

Neither boardings nor direct service asset placement accounts for the overall operating and maintenance costs associated with a system, nor do they account for customer service-related costs like keeping the system safe and clean for our riders. No single variable can fully capture the complexity of such a large system; a blended methodology based on multiple variables is the most reasonable way to allocate those costs. Ultimately though, because DART was designed as a regional system, the whole is greater than the sum of its parts, and no methodology will allocate costs by city perfectly.

Additionally, while financial inputs and outputs are an important facet of determining our service area cities' "return on investment," they will never capture the full value of DART to our communities and the region. In February 2023, DART released a draft Value of Transit Study report outlining the many economic, environmental, and social benefits of our public transportation system, based on qualitative and quantitative factors. We expect to release the final Value of Transit Study report, including fact sheets specific to each city, this summer.

Finally, please note the estimates in this report are based on the best data available and serve only as a snapshot in time. We believe this methodology is appropriate for the system in place in FY 2022, but that may change in the future.

Going forward, the implementation of DART's 2045 Transit System Plan, systemwide updates to the bus network, rapid growth in GoLink usage, and other planned system enhancements will impact these metrics, as will the completion of the Silver Line, which is scheduled to begin operating in late 2025/ early 2026.

We will continue to review this methodology each year and update it as needed to reflect current system realities and the requirements of our service area cities.

Appendix A: Previous Methodologies

September 2021

Using FY 2019 data, DART's general consultant compiled a report for the City of Plano that compared the average cost of DART services provided to Plano and Plano's sales tax contribution to DART. This report was the first of several efforts related to a request from Plano to provide a quantitative analysis of the cost of services provided to the City by DART. While the consultant provided only Plano's data in the final technical memo, they collected and analyzed data on all 13 service area cities, which is captured in Exhibit 15.

Exhibit 15: FY 2019 Average Cost of Services Provided ($M)

City	Average Cost of Services Provided*	Sales Tax Collection	$ Variance	% Variance
Dallas	$538.0	$306.5	$231.5	43%
Plano	$108.6	$86.7	$21.9	20%
Irving	$97.2	$74.1	$23.2	24%
Richardson	$43.5	$40.0	$3.4	8%
Carrollton	$54.3	$39.2	$15.0	28%
Garland	$88.8	$29.0	$59.8	67%
Farmers Branch	$15.0	$17.0	($2.0)	(13%)
Addison	$15.1	$14.8	$0.3	2%
Rowlett	$18.2	$7.1	$11.1	61%
University Park	$7.3	$4.6	$2.7	37%
Highland Park	$3.3	$4.2	($0.9)	(27%)
Glenn Heights	$7.5	$0.7	$6.8	91%
Cockrell Hill	$1.3	$0.4	$0.9	69%

*Average Cost = ((Cost of Service / Population) + (Cost of Service / Square Miles)) / 2

March 10, 2023

Through a series of meetings with service area city financial leadership, DART developed nine allocation scenarios and provided a detailed analysis of the pros and cons associated with each. Based on feedback from that group, DART recommended a cost allocation that considered four weighted factors:

- **System-Level Maintenance (10%):** A percentage of operational costs that mirrors each city's proportional share of DART's debt and capital obligations
- **Accessibility (35%):** The percentage of a city's population within half a mile of frequent service (weighted most heavily), within half a mile of any service, and more than half a mile from any service (weighted least heavily)
- **Passenger Boardings (35%):** The percentage of total boardings in FY 2022 within each city across all modes
- **Economic Activity (10%):** A percentage of operational costs that mirrors each city's proportional contribution to DART's sales tax revenue

Applying that methodology to FY 2022 data resulted in the allocation in Exhibit 16.

Some cities thought this analysis weighted accessibility and boardings too heavily and recommended each factor be weighted equally at 25 percent. That analysis produced the allocation in Exhibit 17.

Exhibit 16: March 10 Allocation by City

City	Operating Allocation ($M)	Capital & Debt Allocation ($M)	Total Allocation ($M)
Addison	$6.6	$6.4	$13.0
Carrollton	$20.1	$27.9	$48.0
Cockrell Hill	$1.7	$0.6	$2.3
Dallas	$355.9	$274.2	$630.1
Farmers Branch	$7.3	$10.2	$17.5
Garland	$35.7	$43.3	$79.1
Glenn Heights	$1.5	$2.4	$3.8
Highland Park	$1.5	$2.2	$3.8
Irving	$40.4	$54.9	$95.3
Plano	$40.0	$61.9	$101.9
Richardson	$24.4	$27.0	$51.4
Rowlett	$7.0	$10.6	$17.5
University Park	$3.9	$4.8	$8.7

Exhibit 17: Revised March 10 Allocation by City

City	Operating Allocation ($M)	Capital & Debt Allocation ($M)	Total Allocation ($M)
Addison	$7.3	$6.4	$13.7
Carrollton	$23.2	$27.9	$51.1
Cockrell Hill	$1.3	$0.6	$2.0
Dallas	$332.9	$274.2	$607.1
Farmers Branch	$9.2	$10.2	$19.4
Garland	$35.0	$43.3	$78.3
Glenn Heights	$1.4	$2.4	$3.8
Highland Park	$2.2	$2.2	$4.4
Irving	$46.7	$54.9	$101.6
Plano	$48.3	$61.9	$110.2
Richardson	$26.9	$27.0	$53.9
Rowlett	$7.2	$10.6	$17.8
University Park	$4.1	$4.8	$8.9

Appendix B: Sales Tax by City

As discussed above, in accordance with state law and as approved by voters in 1983, DART levies a one-percent sales tax within its service area. The numbers below may differ from State Comptroller reports for each individual city because municipalities are eligible to collect additional sales taxes that DART is not (e.g., residential utilities, etc.).

Exhibit 18: FY 2018-2022 DART Sales Tax Collections by City ($M)

City	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Addison	$15.6	$14.8	$13.8	$14.4	$15.3
Carrollton	$35.6	$39.2	$38.4	$40.9	$46.3
Cockrell Hill	$0.5	$0.4	$0.5	$0.5	$0.6
Dallas	$297.0	$306.7	$301.3	$341.0	$388.2
Farmers Branch	$14.2	$17.0	$16.6	$18.0	$23.3
Garland	$27.8	$29.0	$28.2	$32.9	$37.6
Glenn Heights	$0.6	$0.7	$0.8	$0.9	$1.0
Highland Park	$4.0	$4.2	$4.1	$5.5	$6.6
Irving	$65.7	$74.0	$73.7	$78.1	$94.2
Plano	$87.3	$86.7	$84.7	$90.1	$103.5
Richardson	$36.0	$40.0	$42.3	$46.0	$52.0
Rowlett	$7.1	$7.0	$7.0	$7.8	$8.5
University Park	$4.2	$4.6	$4.4	$5.3	$6.6
DART Total	**$595.6**	**$624.4**	**$615.8**	**$681.5**	**$783.7**

Appendix C: Benchmarking

Staff canvassed DART's professional networks and peers, including the American Public Transportation Association (APTA), the Transit Finance Learning Exchange (TFLEx), and the financial leadership of various regional transit authorities, as well as our service area city CFOs and city managers to identify any organization with experience in this area.

We identified just two agencies—Sound Transit in Seattle, WA, and Metrolink in Southern California—that have allocated costs to subregions or member jurisdictions in a substantially similar way to this analysis. Our thanks to Sound Transit for their time and support in providing us documentation of their processes.

We also spoke with Valley Metro in Phoenix, AZ, about their allocation methodologies. Their allocations are used to bill each member for the direct services provided in their communities, not to simply analyze system-level costs by municipality, and their operating model is substantially different from DART's. We also appreciate their time and support.