

Allocation of DART's FY 2023 Expenditures by Member City

Prepared for DART (Dallas Area Rapid Transit)
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Executive summary

Established by voter referendum in August 1983, Dallas Area Rapid Transit (DART) provides bus, light rail, paratransit, and commuter rail services in Dallas County. Its service area is primarily composed of 13 cities, each of which has representation on DART's Board of Directors and contributes a one-cent sales and use tax to support DART's ongoing operations and capital investments.

Over the past few years, DART's member cities have requested additional information regarding DART's level of annual expenditures within each member city. In response, DART staff performed a cost allocation analysis, the results of which are documented in a report entitled *FY 2022 Cost of Services by City* ("FY 2022 Report").

Subsequent to the publication of this report, DART engaged Ernst & Young Infrastructure Advisors, LLC ("EY") to perform a new cost allocation analysis using a methodology developed independently of DART staff and the Board. As part of the contracted scope, DART provided EY with available financial and operational data for its FY 2023 expenditures. Over a six-month period, EY initiated direct outreach to all 13 member cities both individually and in group settings to gather feedback on the FY 2022 Report and methodological approaches the cities would like to see incorporated in the new cost allocation analysis.

This report presents the results of EY's analysis and summarizes a methodology – developed for DART's consideration and potential future use – allocating DART's FY 2023 operating, capital,¹ and interest expenses to its member cities.

Methodology

EY undertook case study research to identify leading practices from other multijurisdictional transit agencies that allocate their annual expenses among multiple entities or funding partners and can hence be considered "peer" agencies to DART. Based in part on this research, a cost allocation methodology for DART's operating, capital, and interest expenses was conceived and developed.² The methodology follows four basic steps:

1. **Identify metrics:** Using available operational and demographic data, develop an inventory of metrics that can be used to allocate an expense across the 13 member cities.
2. **Aggregate costs:** Using the expense attributes identified in DART's accounting data, develop "cost groups" and "asset groups" through the aggregation of related expenses that can be allocated using a single metric.
3. **Allocate costs to cities:** For each cost or asset group, apply the metric best suited to distribute the cost among member cities in a proportional manner.
4. **Calculate city allocations:** Sum up total expenses allocated to each of the 13 member cities to determine each city's total cost allocation.

1. In term of EY's methodology and resulting allocations, "capital" refers to i) depreciation costs, ii) certain non-capitalizable expenses, and iii) capital planning & design. See section 5: Allocation Methodology for more detail.

2. Specifically, for each metric, EY developed a set of 13 allocation factors representing each member city's share of an allocated expense. EY primarily used operational data supplied by DART to calculate allocation factors for the metrics (i.e., "Revenue Miles, Boardings") utilized in this report. The sum of the 13 factors (one for each city), always equals 100%.

Results

Table 1 summarizes the results of EY’s analysis, with operating, capital, and interest expense allocations broken down by member city. The operating cost allocation reflects both direct expenditures in a member city (for example, provision of bus or rail service) and systemwide costs shared among the member cities to enable such services. The capital cost allocation represents the annual depreciation expense associated with all of DART’s assets, inclusive of assets physically located in a city and systemwide assets that may be located elsewhere but are needed to support DART operations.

Table 1. Total FY 2023 expense allocation by city, \$m

City	Operating expenses	Capital depreciation expenses ³	Interest expenses ⁴	Total	Sales tax contribution
Addison	8.5	0.7	0.3	9.5	16.3
Carrollton	19.6	11.9	5.9	37.3	48.3
Cockrell Hill	2.4	0.3	0.1	2.8	0.6
Dallas	412.5	186.3	91.7	690.5	407.8
Farmers Branch	12.7	5.5	2.7	20.8	24.3
Garland	41.3	14.3	7.1	62.7	45.2
Glenn Heights	1.3	0.1	0.1	1.5	1.1
Highland Park	1.7	0.1	0.0	1.9	6.3
Irving	59.1	43.1	21.2	123.5	102.2
Plano	35.0	6.4	3.2	44.6	109.6
Richardson	34.9	10.6	5.2	50.7	56.9
Rowlett	7.1	6.0	3.0	16.1	9.2
University Park	1.7	0.1	0.0	1.8	6.4
TOTAL	638.0	285.3	140.5	1,063.7	834.4

Source: EY analysis. Sales tax contribution amounts provided by DART.

- The capital cost allocation results are not directly comparable to those shown in the FY 2022 Report, which allocates DART’s actual cash expenditures on capital projects during the fiscal year. EY’s approach allocates the FY 2023 depreciation expense amount shown in DART’s audited financial statements plus two other capital expense categories captured in DART’s financials outside of FY 2023 depreciation expense.
- The debt allocations are not directly comparable to those shown in the FY 2022 Report, which allocates both principal and interest expenses to the member cities. Generally, debt is used to advance DART’s capital plan, and the costs for which debt is utilized are expensed as assets depreciate. Since depreciation is already captured, the principal repayment is not allocated because doing so would essentially be allocating those costs twice.



Discussion

The results of this analysis highlight some of the complexities and challenges inherent in allocating DART's operating, capital, and interest expenditures among its 13 member cities. DART operates a regional transit network, and its accounting system is not set up to track expenditures at the city level. The agency collects limited information on its customers' trip origins and destinations. A better understanding of how DART's system is used and by whom would potentially enable additional metrics to be incorporated into this analysis.

Were additional types of data to be collected in the future, DART could potentially capture measures of value (e.g. who is using DART's system and how often) with greater reliability than it does today. Member cities have expressed a keen desire to better understand these measures of value. Supplemental analysis by EY, to be provided to DART approximately one month following presentation of this analysis, will identify other potential types of data, data collection methods and/or sources that could be leveraged to improve future cost allocation analyses.

Lastly, it is important to note that the FY 2023 allocation results represent a "snapshot in time" at a dynamic moment for DART, with a nearly \$2b capital investment in system expansion nearing completion in FY 2026, along with \$674m in light rail assets set to be fully depreciated in FY 2027. The cumulative impact of these changes on the cost allocation results over the next three years should be considered accordingly.



1 Purpose of Report

The purpose of this report is to summarize the results of Ernst & Young Infrastructure Advisors, LLC (EY) analysis allocating Dallas Area Rapid Transit's (DART) FY 2023 operating, capital and interest expenses to each of its 13 member cities.

The report responds to a March 2023 member city request for “a detailed report” to be produced by an independent third party “showing how much it costs DART to provide services [within a given member city] ... compared to how much sales tax [each member city] contributes.” DART released a request for proposals in September 2023 and selected EY through a competitive procurement process in December 2023.

The cost allocation developed by EY uses a methodology informed by leading practices among DART's peer agencies and has been adapted to reflect data and information currently available from DART's accounting and scheduling systems. The methodology outlined in this report may, at DART's discretion, be used in future fiscal years to perform an annual or recurring cost allocation analysis on behalf of its member cities. To that end, this report summarizes both the results of the cost allocation analysis for FY 2023 expenses and the methodology itself to support the future replication of EY's analysis by DART staff.

Scope of report

The contracted scope includes the following:

- ▶ Benchmarking analysis of peer agency cost allocation methodologies
- ▶ Outreach to member cities
- ▶ Development of a cost allocation methodology for DART's consideration and potential future use
- ▶ Cost allocation results: estimate of DART FY 2023 operating, capital and interest expenditures by member city

Given the requirement to deliver an independent third-party analysis, numerous safeguards were put in place at the start of the engagement with DART to avoid any undue influence by DART staff or the Board. The EY team communicated with DART staff through a neutral, appointed intermediary who was present for discussions between EY and DART. These discussions were limited to data requests, clarifications or transmittal of factual information.

Certain topics fall outside the scope of this analysis. The cost allocation analysis does not measure the value, return on investment, or benefits provided by DART to its member cities. This analysis also does not, and is not intended to, address any policy proposals or any recommendations to address potential member city concerns.

2 Background

On August 13, 1983, 58% of voters in Dallas County cities cast ballots in favor of establishing a regional transportation authority authorized to collect a one-cent sales and use tax contribution from member cities. Pursuant to this vote, DART was formed with a new governing body consisting of 15 Board members appointed by the 13 member cities they represent: Addison, Carrollton, Cockrell Hill, Dallas, Farmers Branch, Garland, Glenn Heights, Highland Park, Irving, Plano, Richardson, Rowlett, and University Park.

As the entity responsible for planning, funding and operating public transportation in Dallas County, as shown in Figure 1, DART provides a comprehensive network of multimodal transit services, including bus, light rail, commuter rail, GoLink and paratransit. DART's service area encompasses approximately 700 square miles.

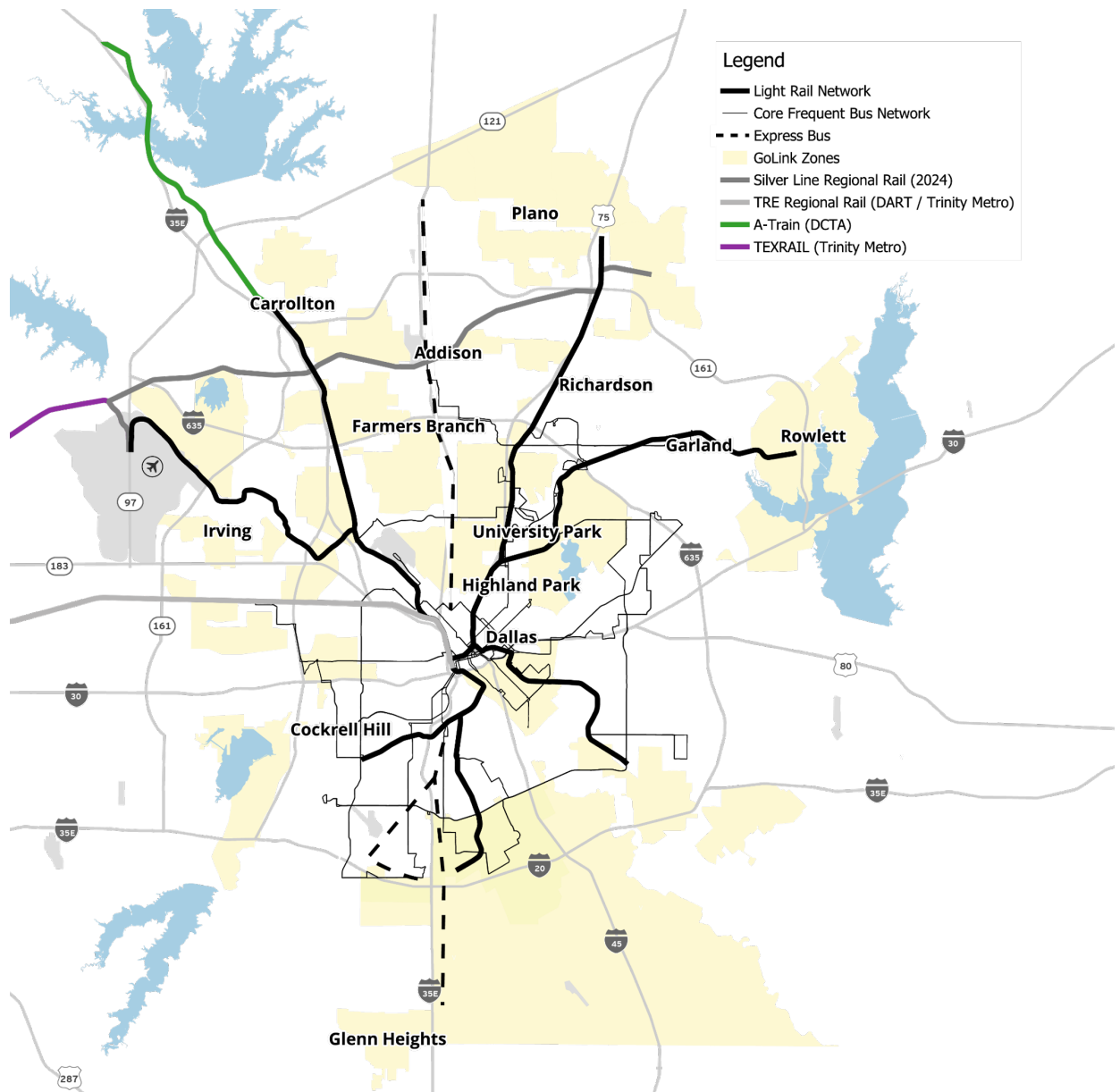




A dedicated one cent sales and use tax (hereinafter “sales tax”) went into effect on January 1, 1984, and has been the primary funding source for operations and ongoing expansion of DART’s light rail system, now one of the largest in the United States. All 13 member cities contribute the full one cent sales tax regardless of population size or the level of transit service provided by DART. The sales tax rate has remained unchanged since the August 1983 vote to establish DART.

Over the last decade, the Texas State Legislature has imposed new constraints on the ability of local governments to raise revenue. The 2019 passage of Senate Bill 2 lowered the allowable year-over-year growth in property tax collections from 8% to 3.5%. Additionally, the Legislature caps the combined state and local sales tax rate at 8.25%. With the state sales tax rate set at 6.25%, local governments can collect up to two cents in additional sales tax. As a result of these constraints, some member cities have started to apply an increased level of scrutiny to their available sources of revenue and existing expenditures. They have requested more information from DART surrounding its use of sales tax dollars and how DART’s expenditures compare with the amounts contributed to the DART system.

Figure 1. DART network reference map



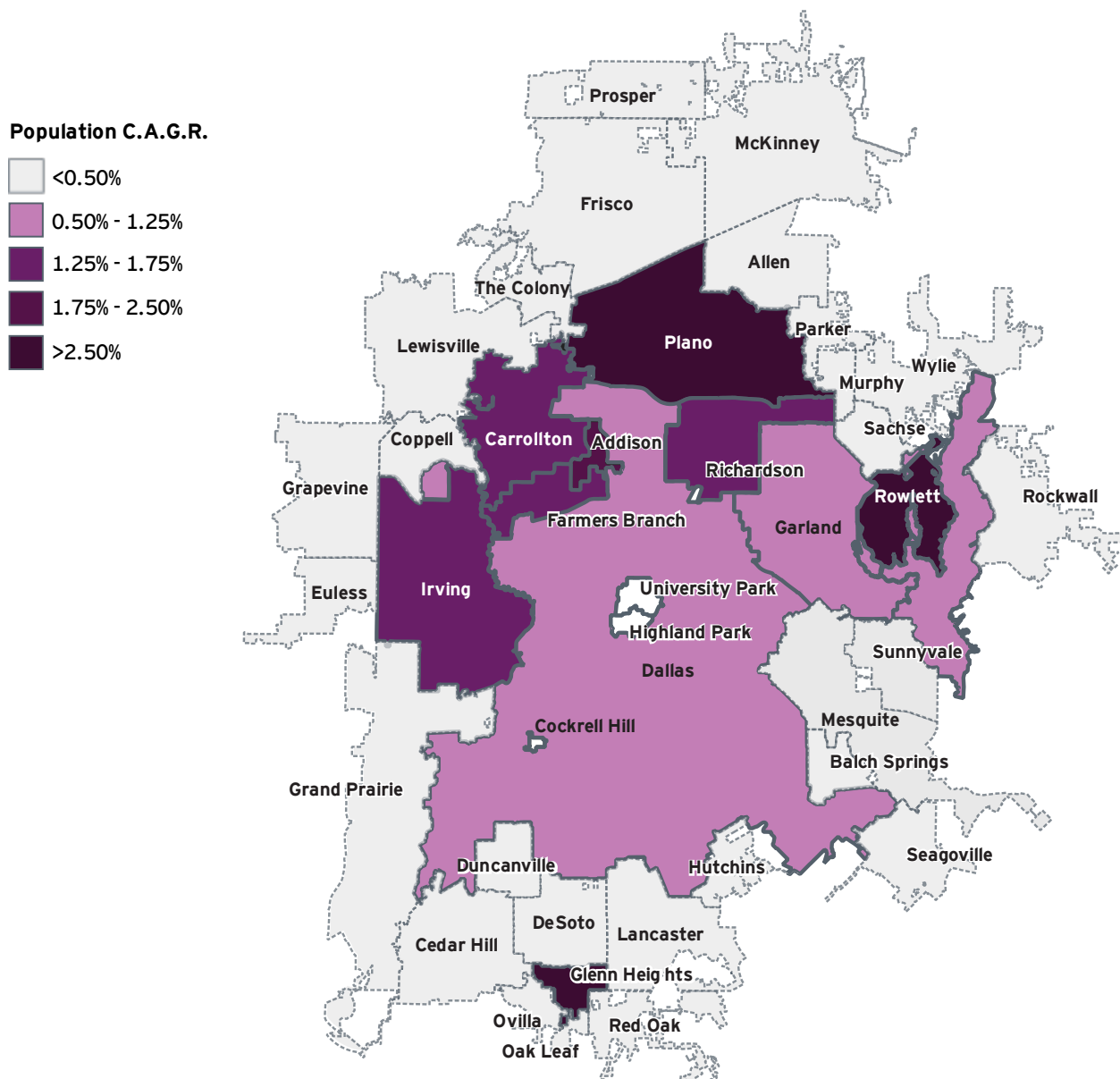
Prior DART efforts to address member city inquiries

Between late 2021 and mid-2023, DART produced multiple analyses to address member city inquiries regarding its expenditures and the return on investment provided by public transit.

In its FY 2022 Report, DART staff undertook a cost allocation analysis to quantify the amount DART spends annually in each of the 13 member cities. This report used certain metrics to allocate operating costs, including system-level maintenance, boardings, route miles, and direct service asset placement. In May 2023, DART also published a [Value of Transit Study](#) to highlight the economic, social and environmental benefits of public transit to the Dallas region.



Figure 2. Population, Compound Annual Growth Rate (C.A.G.R.) by Member City, 1990-2020. Source: U.S. Census Bureau



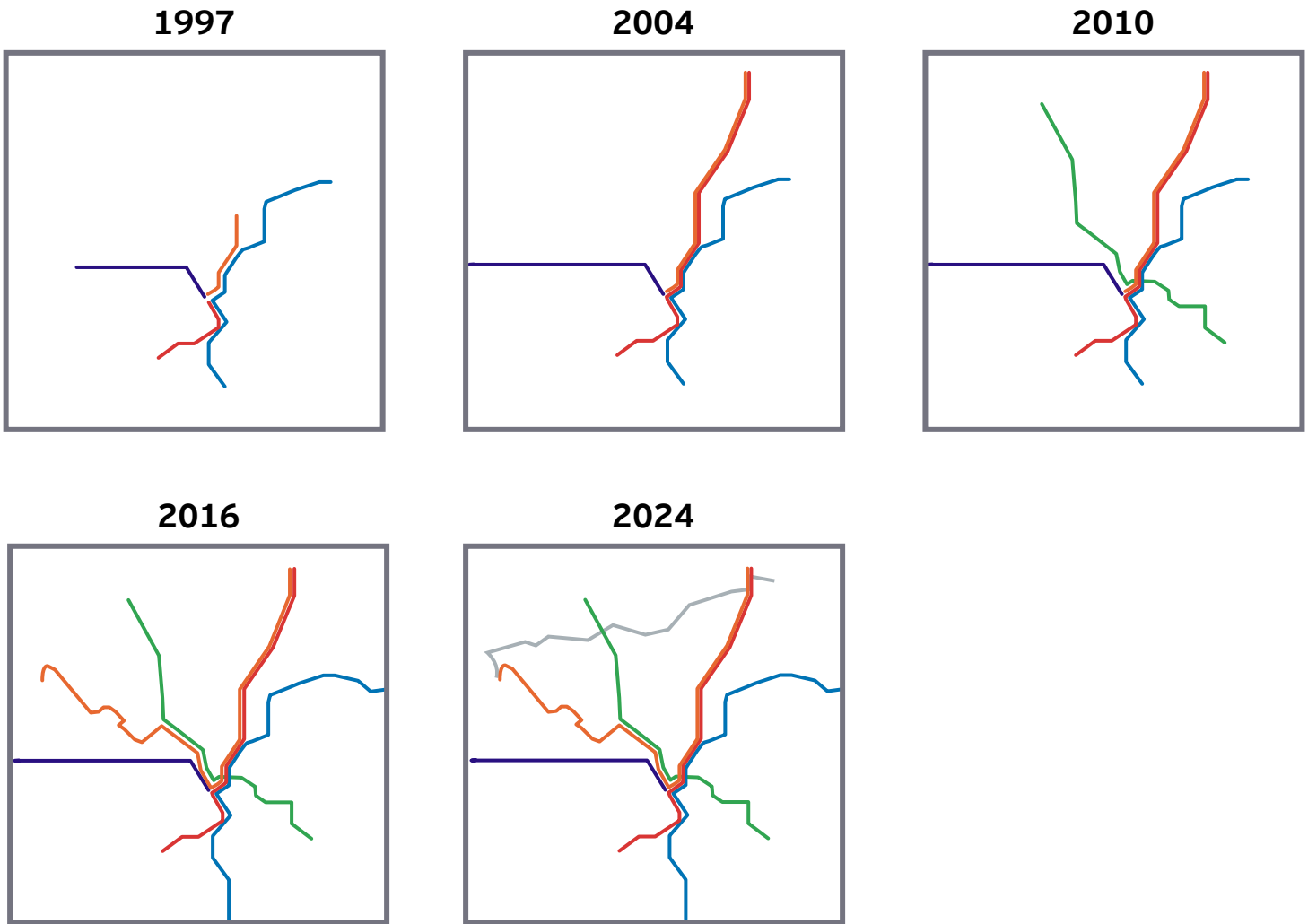
Regional growth trends in DART service area

Like most transit systems first planned in the 1980s, DART’s network is designed as a “hub and spoke” system with its light rail lines radiating outward from a central business district in downtown Dallas (see **Figure 3**). At the time, the concentration of major employment centers in downtown Dallas relative to other Dallas County cities supported a “hub and spoke” approach and drove the buildout of DART’s fixed guideway network.

DART’s service area has experienced significant population and employment growth since its formation in August 1983; however, growth has not been evenly distributed across the service area. Between 1990 and 2020, northern suburban cities such as Plano, Irving, Richardson, Rowlett and Addison expanded at a faster rate than the City of Dallas, as shown in **Figure 1**. Regional employment growth has undergone a similar dispersion, with some of the densest clusters of jobs now located in the northern suburbs. DART’s network continues to serve those commuters. According to the 2022-23 North Central Texas Regional Transit Onboard Origin Destination Survey, 48.6% of the trips taken on DART are home-based work trips, by far the most commonly stated trip purpose.

Sales tax contributions reflect these population and employment growth trends. The City of Dallas generated 66% of total sales tax dollars in DART’s first full fiscal year (FY 1984/85), compared to 49% today (FY 2023/24).

Figure 3. Evolution of the DART system, 1997 to the present



Source: adapted from DART’s 2023 Value of Transit Study



3 Benchmarking analysis

EY performed a benchmarking analysis of multijurisdictional transit agencies that allocate operating and/or capital expenses among multiple entities or funding partners and can be considered “peer” agencies to DART based on their governance structure, service area coverage, fleet size, and the type of services delivered. Key aspects of the cost allocation methodologies utilized by these peer agencies, include:

- ▶ **Allocation metrics:** The specific metrics, such as boardings, route miles, service hours, or population, used by each agency to allocate costs among members.
- ▶ **Weighting and distribution:** The weights assigned to the selected metrics that are then used to distribute costs associated with a given cost pool.
- ▶ **Cost group development:** The organizational logic governing the aggregation of different expenses into cost “groups” for the purpose of allocation.
- ▶ **Outcomes and challenges:** The level of member agency satisfaction with the cost allocation results, documentation of any challenges or objections made by member agencies, and how those were resolved.

The benchmarking analysis primarily focused on Washington Metropolitan Area Transit Authority (WMATA), Metro-North Railroad (MNRR), Sound Transit, and Southern California Regional Rail Authority (Metrolink).⁵ The agencies selected for comparison capture a broad spectrum of allocation approaches. While some of their methodological practices are potentially relevant and applicable to DART, none of these agencies represents an exact match in terms of governance structure or agency profile.



5. The agencies allocation methodologies are discussed in the following agency documents: WMATA's subsidy allocation formulas - Resolutions #95-14 & #98-27 of the Board of Directors of WMATA, MNRR's operating cost allocation formula - Amended and Restated Service Agreement (ARSA), Sound Transit's allocation methodology - Annual Schedule of Sources and Uses of Funds by Subarea Report, and Metrolink's cost allocation methodology - Annual Budget Book.



Applicability of benchmarking analysis findings to DART

The benchmarking analysis identified a set of leading cost allocation practices common to multiple peer transit agencies. These practices include:

- ▶ **Methodological emphasis on supply-based metrics:** Supply-based cost allocation metrics reflect the amount of service provided to or within each member jurisdiction, while demand-based metrics reflect the usage of these services by the traveling public. Supply-based cost allocation metrics such as revenue service hours, revenue miles and/or route miles are more commonly used in peer agency methodologies than demand-based metrics such as boardings or passenger revenue miles. This methodological emphasis on supply-based metrics recognizes that the level of service provided to a given jurisdiction more directly drives the cost of delivering that service than does ridership demand.
- ▶ **Incorporation of a diverse mix of metrics:** The number of cost allocation metrics used in peer agency methodologies ranges from 11 to 26 - a broader, more diversified set of metrics than the five selected for the FY 2022 Report. This diversification helps to stabilize the cost allocation results from one year to the next; changes in the value of a single metric are less likely to create wide swings in the cost allocation model outputs.
- ▶ **Treatment of systemwide assets:** Some transit assets and facilities such as vehicles and storage facilities are used by multiple routes and have systemwide utility. As such, their maintenance cost cannot be reasonably allocated solely to the jurisdiction in which those assets are placed. Most peer agencies establish a separate cost pool to distribute the maintenance cost of systemwide assets across all member jurisdictions.
- ▶ **Disaggregation of costs by route:** Two of the peer agencies disaggregate rail and bus costs by route rather than by mode. This approach supports appropriate allocation of both capital and operating expenses to the member jurisdictions served by the route.



Other lessons learned

The benchmarking analysis offered other lessons learned:

- 1. Long-term balance between methodological consistency and adaptability:** Application of a consistent methodology enables an “apples to apples” comparison of cost allocation model outputs across different fiscal years. That said, agencies with the longest-running partnerships also demonstrate adaptability to changing conditions and responsiveness to member feedback through periodic amendments to the original cost-sharing arrangement. For example, the service agreement governing the allocation of costs for MNRR service was executed in January 1971, then amended in June 1985, September 2001, and March 2023.
- 2. Service-based vs. non-service-based metrics:** Service-based metrics such as revenue service hours offer a clear nexus with operational costs. Non-service-based metrics measuring service area demographic characteristics can also play a role in aligning the cost allocation methodology with evolving regional trends and growth patterns. WMATA, for example, uses the weighted average of urbanized area population and population density to allocate one-third of its rail operating costs.
- 3. Intended use of cost allocation analysis:** Agencies have different motivations for adopting a cost allocation model. WMATA, MNRR and Metrolink use their agreed cost allocation methodology to calculate the actual contribution owed by each member agency. In these cases, grant and fare revenues must also be allocated to determine each member agency’s “net” contribution amount.



4 Member city outreach

Outreach to DART’s 13 member cities took place over a six-month period from March to August 2024 and included a variety of formats: an anonymous survey, one-on-one meetings with city managers or other designated representatives, and group workshops.

April 2024:

An anonymous survey was circulated to all 13 member cities prior to the one-on-one meetings to establish a baseline regarding member city views on the FY 2022 Report and solicit candid feedback on the level of satisfaction with various aspects of the report.

May 2024:

One-on-one meetings were conducted with representatives from all 13 member cities. These meetings offered a forum for discussion of city-specific concerns and targeted feedback on the existing cost allocation model used in the FY 2022 Report.

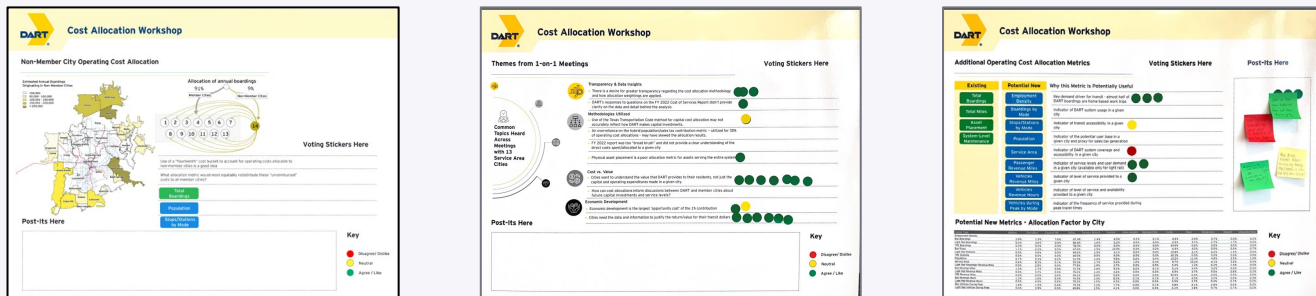
June 2024:

An expanded menu of potential allocation metrics drawn from the benchmarking analysis was presented at an interactive workshop with member city representatives. Representatives were asked to identify which cost allocation metric(s) would in their view most fairly distribute costs. They voted and provided feedback on the options presented using colored dot stickers and sticky notes to indicate points of agreement or disagreement, as shown in Figure 4.

July 2024:

An additional workshop was hosted to outline the guiding principles of the proposed allocation methodology. The presentation described the approach to how costs and assets are grouped and the logic behind applying a certain allocation metric to a specific cost group.

Figure 4. Completed “sticker voting” boards at June 2024 group workshop with member cities



Through these interactions, member cities identified and commented on key areas where they believed the cost allocation methodology and reporting could be improved, including:

- ▶ **Level of detail provided:** The methodology guiding the cost allocation analysis should be explained in greater detail and with examples provided to help member cities understand the series of calculations performed (and assumptions made) to generate the final allocation result. More granular cost groups should also be considered to help member cities understand the types of assets that DART’s capital investments are funding.
- ▶ **Diversity of allocation metrics used:** DART’s method of allocating operating expenses at a modal level using four metrics - boardings, vehicle revenue miles, direct service asset placement and system-level maintenance - is too “broad brush” and yields results that can be highly sensitive to minor changes in allocation weightings. Additionally, member cities suggested the metrics used do not provide a clear understanding of the costs being directly spent in a member city.
- ▶ **Capital expense methodology:** DART’s use of the methodology in Texas Transportation Code Chapter 452 to allocate capital expenses does not accurately reflect where DART makes capital investments. The code’s methodology uses a blended allocation factor based on each city’s share of service area population and sales tax contributions to DART. The statute is not intended to be used for capital cost allocation purposes, but rather to calculate the “breakage” fee to be paid to DART as a condition of member city withdrawal.
- ▶ **Differentiation between cost and value:** The analysis should quantify the value that DART provides to member city residents, not just the expenditures made in a city. The city representatives advocated for more detailed ridership data, so they can better understand usage of the DART system within their cities, and hence the value it delivers to local residents and businesses.
- ▶ **Ongoing engagement and regular reporting:** Regular reporting of cost allocation results would enable member cities to better understand both the cost of services they receive and DART’s investment in their cities over time.



5 Allocation methodology

As a starting point for the development of the methodology, an analysis of DART's FY 2023 costs was completed. In total, this analysis identified costs to allocate totaling \$1.064 billion. This amount ties back with certain minor exceptions⁶ to the total operating expenses plus interest expense shown in the audited financials section of DART's FY 2023 Annual Comprehensive Financial Report.

For allocation purposes, DART's costs were placed into one of three categories: operating expenses, capital expenses, and interest expenses. For each of these three categories, the allocation methodology broadly follows four steps:

- 1. Identify metrics:** Develop an inventory of operational and demographic metrics that can be used to allocate a cost across the 13 member cities (subject to data availability).
- 2. Aggregate costs:** Utilize DART's accounting data to develop "cost groups" and "asset groups" through the aggregation of related expenses or assets that can be allocated using a single metric.
- 3. Allocate costs to cities:** For each cost or asset group, apply an operational or demographic metric to split and allocate the cost among member cities.
- 4. Combine city allocations:** Sum up total expenses allocated to each of the 13 member cities to determine each city's total cost allocation.



Allocation methodology

Figure 5: Key steps followed in EY's cost allocation methodology

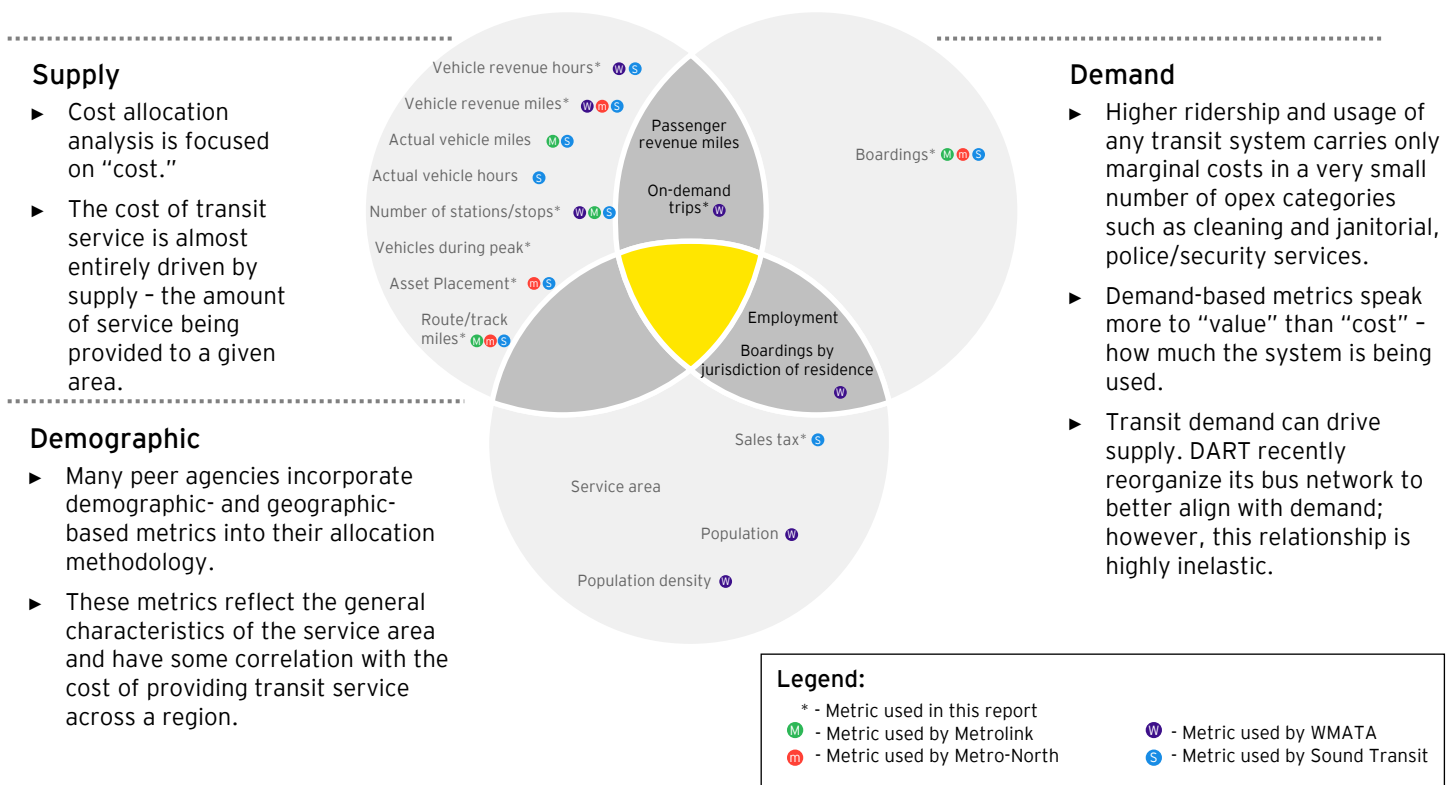


6. Exceptions include certain expenses shown in DART's operating expenses for which it receives direct reimbursement (Streetcar O&M, McKinney Urban Transit District O&M, Inland Port TMA, Collin County Service, Operating Expenses charged to grants) and accounting adjustments (GAAP required adjustments and impacts of benefits allocation).

Guided by the benchmarking analysis, a comprehensive set of metrics commonly used to perform cost allocation analyses in the transit and rail sector were identified. This represented Step 1 in the cost allocation methodology (“Identify Metrics”). These metrics, inventoried in the **Figure 6** Venn diagram below, measure i) transit demand (how intensively a service is used), ii) transit supply (the level of service being provided), or iii) demographic characteristics of the service area that have some correlation with the cost of providing transit service, such as land area or population.

There is some overlap across these three types of metrics. Passenger revenue miles, for example, measures both transit demand and transit supply. Likewise, employment – the number of jobs located in a member city – is a demographic measure, but also a key driver of transit demand. In the case of on-demand services such as GoLink and paratransit, the number of trips taken reflects the number of trips requested, so transit supply and transit demand are effectively the same measure.

Figure 6: Three types of cost allocation metrics



The selection of metrics to apply to individual accounts or cost groups generally followed the principle that the “supply” of transit drives operating costs, and that supply-driven metrics can therefore most accurately and fairly capture DART’s operating expenditures in a given city. An increase in transit “supply,” such as the number of bus routes or frequency of service, typically increases operating expenditures. By contrast, increased demand for and patronage of a transit service – whether available seats on a bus are mostly empty or fully occupied – has a marginal impact on operating costs.

To complete the remainder of Step 1 (“Develop Allocation Factors”), allocation factors were calculated for each metric. Allocation factors are percentage values representing each member city’s share of any costs allocated utilizing that metric. When summed up for all 13 member cities, each allocation factor always equals 100%. Most of the factors were calculated directly from operational or financial data provided by DART (“direct metrics”). A table summarizing the calculation mechanics for all of the metrics utilized is shown in **Table 10**, and the allocation factors calculated for each metric are summarized in **Table 11** at the end of this report.



Operating expenses

For operating expenses, Step 2 of this allocation methodology (“Aggregate Costs”) required an analysis of the costs provided by DART to determine the appropriate level of expense aggregation into cost groups. DART provided expense data at the general ledger account level, along with details on how each account was allocated across transit modes. Certain costs, such as light rail operator wages, were fully assigned to a specific mode (in this case, light rail). Other accounts, such as administrative salaries, were split among various modes by DART. The largest aggregated cost groups are shown in **Table 12** at the end of this report.

The assignment of accounts to a specific mode is a key decision as it governs how costs will flow through to member cities. Assignment of a cost to light rail means it will ultimately be allocated using a rail-related metric rather than those of other modes. The analysis assessed DART’s process for determining these modal allocations and allocation factors used to split accounts between modes and generally determined them to be reasonable. No adjustments were made to DART’s modal allocation of costs in relation to this analysis. In total, \$638 million of operating costs were allocated to the member cities. The modal breakdown is shown in the table below.

Table 2: Operating expense modal allocation

Mode	Allocation (\$m)
Bus	304.1
Light Rail	189.4
System-Wide ⁷	58.6
Paratransit	35.7
Commuter Rail	34.8
GoLink	14.9
Streetcar	0.5
Total	638.0

Note: Figures are rounded to the nearest \$0.1 million. As a result, totals may not precisely sum to the values shown.



7. In the table, \$2,055.00 of General Mobility expenditures are included in System Admin.

At the most detailed level, operational expenditures in DART’s accounting system are coded using the following attributes:

Table 3. Assigned expense attributes in DART’s accounting system

Attribute	Description	Examples
Department/ Cost Center (CC)	Functional area within DART supported by the operating expenditure	Police, Marketing, Bus Services, Light Rail Operations, Government Relations
Mode	The type of transit service supported by the operating expenditure	Bus, Light Rail, Streetcar, Paratransit, GoLink
General Ledger Account (GL)	Reflects the nature of the expenditure	Salaries & Wages, Materials & Supplies, Services, Benefits
Direct/Indirect	Reflects the relationship between the operating expenditure and Mode	Direct expenditures: Bus Operator Wages, Fuel Indirect expenditures: DART Police, Administrative Salaries

Although these attributes do not place expenditures geographically across the 13 member cities, they do provide information regarding the nature of the expense, the functional area supported by the expenditure, and the mode to which the expenditure is related. This information was used to help determine the best way to aggregate related expenses into “cost groups” with similar characteristics and to select an appropriate metric for cost allocation purposes.

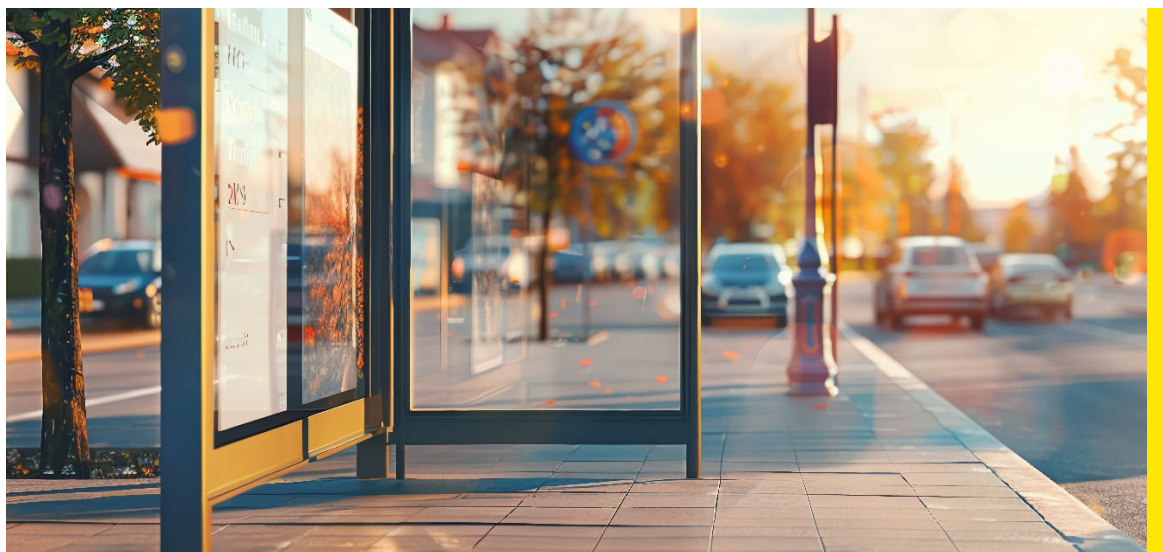
The development of operating cost groups generally used the “GL Account” and “Mode” attributes of DART’s cost data to categorize the detailed cost information into larger cost groups. For example, DART records bus operator wages in the same GL Account across three different cost centers aligned to its three depots - South Oak Cliff, East Dallas, and Northwest. However, since this cost center detail does not provide any information that would allow for more accurate geographic allocation of cost, these costs were summed into one cost group that had the same allocation metric applied. There are certain exceptions to the rule of using “GL Account” and “Mode” attributes. In certain cases, it was necessary to further disaggregate the cost group using cost center detail based on the need to apply a different metric to those costs. For example, “Admin - Salaries and Wages” expenses are recorded within a mode across over 100 different cost centers in DART’s accounting system. Given the varying nature of the salaries present in these cost centers, additional detail was required.





To allocate costs for each operating cost group (Step 3 of the Allocation Methodology), each of the cost groups were sorted into one of three categories:

- ▶ **Operating costs allocable by direct metric (\$444.4m):** This category includes operating expenses whose cost is highly correlated with an operational allocation metric; changes in the quantity of service will drive a proportional change in DART's operating expenses. Those expenses can therefore be allocated using a metric directly sourced from DART's operational or financial data. For example, the largest cost group is bus operator wages. Our analysis allocated these costs based on "Bus Revenue Hours," or the number of hours a bus is scheduled to travel (or actually travels) while in revenue service regardless of passenger count. Should DART offer less revenue service in a particular city, bus operators will spend fewer hours in that city and the city's allocation factor for this metric will subsequently decrease (assuming the level of service remains constant in all other member cities). Another example is the allocation of rail maintenance employee hourly wages using "Light Rail Revenue Miles," or the number of miles traveled by light rail vehicles while in revenue service. As rail revenue vehicles travel additional miles, the need for maintenance increases, resulting in additional maintenance time spent.
- ▶ **Modal administration costs (\$135.0m):** Modal administration costs comprise cost groups modally assigned to either Bus or Light Rail, but which lack a service-based metric for cost allocation purposes. Costs in this group include certain administrative salaries, certain non-operator employees and their benefit expenses, advertising and training. EY developed a derivative metric tied to \$444 million of operating costs allocable by direct metric - one for Bus and one for Light Rail costs ("Bus Modal Admin" and "Light Rail Modal Admin," respectively). This metric applied the relative weight of operating costs allocable by direct metric for each member city to the Modal Administration Costs for Bus and Light Rail, respectively.
- ▶ **General administration costs (\$58.6m):** Certain costs in DART's accounting system are not assigned to any of DART's six transit modes and are instead assigned to a General & Administrative Operations category. These central office and administrative costs include IT, marketing, HR, legal, and finance. EY treated these as "membership dues" used to support DART's ongoing operations and governance. These general administration costs are ultimately shared by all cities through their sales tax contribution.



The table below summarizes the metric(s) used to allocate modal cost groups within each of the three operating cost categories summarized above. Greyed-out cells indicate that there are no modal cost groups to allocate within that operating cost category.

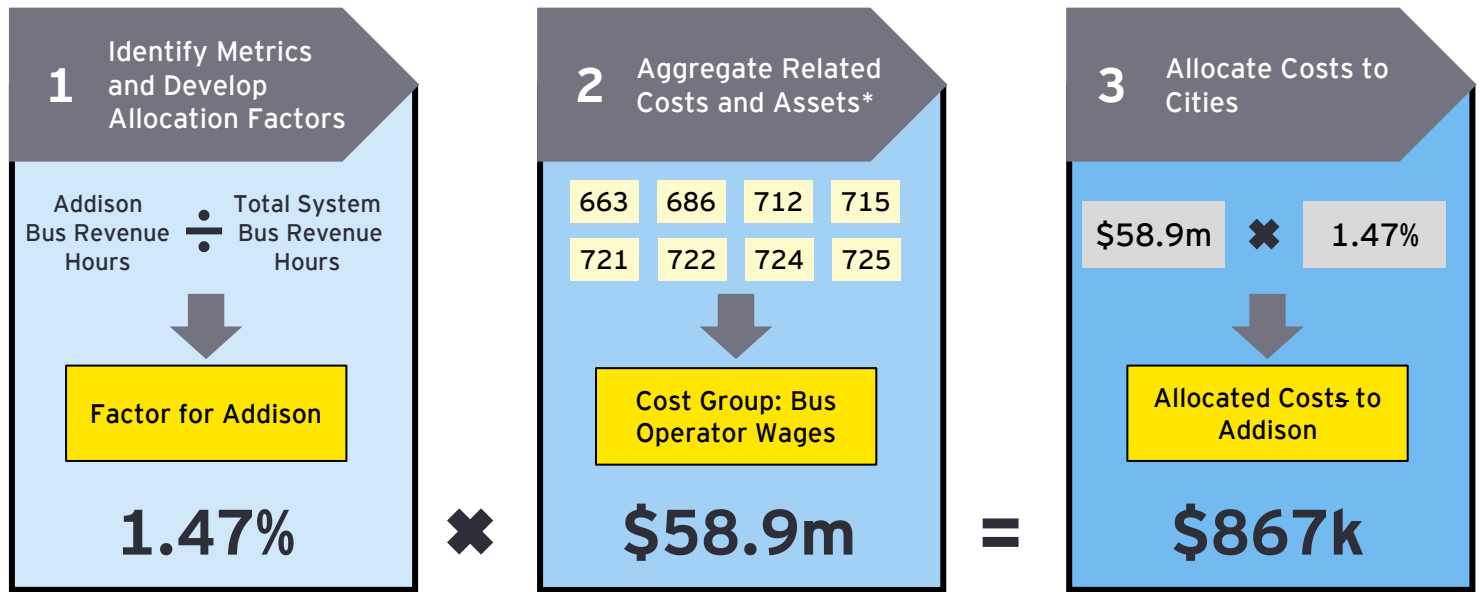
Table 4: Allocation metrics by operating costs and mode

Mode			
	Operating costs allocable by direct metric	Modal administration costs	General administration costs
System Admin			H
Bus	A, B, D, E, F, G	I	
Light Rail	A, B, D, E, F	I	
Paratransit	C		
Commuter Rail	A		
GoLink	C		
Streetcar	G		

Key	
A	Revenue or Track Miles
B	Revenue Hours
C	Direct Billing (GoLink/Paratransit)
D	Asset Placement
E	Peak Vehicles
F	Boardings/Ridership
G	Discrete Operations Allocated Specifically (Streetcar)
H	Sales Tax Contribution
I	Modal Admin (Derivative Metric)

With each of the operating cost groups assigned to a mode, and allocation metrics selected for each modal cost group, EY proceeded to Step 3 of its methodology (“Allocate Costs to Cities”). Figure 7 provides a worked example illustrating how costs are allocated at the city level is calculated.

Figure 7. Worked example of a cost allocation calculation to a member city



* Three-digit numbers in boxes refer to the cost center code assigned by DART's accounting system for a given type of operating expense

Capital expenses

DART provided detailed information on fixed assets, including capital investments and individual asset depreciation, in FY 2023. Given this data, two methods were considered for allocating capital costs: i) allocating actual annual cash disbursements or ii) using the depreciation expense from DART's financial statements (and accounting for certain non-capitalized expenses). The depreciation approach was selected to better reflect the annual cost of capital investments over an asset's useful life.

To illustrate the difference between the two approaches, consider a recent expansion project. DART is in the final phases of construction on the Silver Line, a 26-mile regional rail corridor running east-west from Plano to Dallas-Fort Worth Airport. The cash disbursement approach allocates construction costs in the year of expenditure, with minimal recognition in future years, while the depreciation approach spreads out DART's capital expenditures on the Silver Line over multiple years. This straight-line method of depreciation over the asset's useful life not only offers a smoother, less volatile measure of DART's annual capital expenditures in a given city but is more in line with the way DART users "consume" these assets over time.

To allocate capital expenses, assets were aggregated into cost groups based on asset function or location (Step 2 of the Allocation Methodology) and one of the following three allocation methods were applied to each cost group.

1. Direct asset placement: Depreciation expense for assets serving a discrete function in a specific location and only in that location, such as bus shelters and light rail stations, was fully allocated to the city in which the assets are placed.

A blended metric based on direct asset placement was developed and applied to depreciation expense for track and systems. This asset cost group - the largest by value - demands its own bespoke metric to normalize for variances in the distance between stations across DART's light rail network. Following a precedent from Sound Transit's allocation approach, for multijurisdictional segments of track, the allocation factor is determined by weighting evenly the percentage of track miles located in a member city (50% of weighting) and the station count by member city on that track segment (50% of weighting).

As an example, if two cities have an equal track-mile length on a given segment, the city served by more LRT stations along this segment will be assigned a higher allocation factor. This weighting simply recognizes that while track and system infrastructure enable transit supply (or service) to a location, stations enable actual delivery of that service.

- 2. Systemwide capital allocable by direct metric:** Assets serving a systemwide function whose depreciation expense was allocated using a service-based metric directly correlated with the asset's function. Examples include light rail revenue vehicles and maintenance facilities. These expenses were allocated to cities served by light rail using metrics such as revenue miles or route miles. Light rail track was allocated based on a blended metric of track miles (reflecting asset placement) and station count.
- 3. Systemwide capital allocable by derivative metric:** This includes assets that can be assigned neither a location nor a mode-specific or project-specific systemwide function. Examples of these assets include DART Police Headquarters and DART Headquarters facilities. Because these assets do not lend themselves to a direct allocation metric, a derivative metric was applied for systemwide capital ("Systemwide Capital Derivative Metric"), similar to the treatment of modal administration costs under the allocation methodology for operating expenses. The allocation factor for this metric was derived by calculating each city's share of the combined depreciation expense from the two other Cost Groups (namely direct asset placement and systemwide capital allocable by direct metric).



DART's asset inventory identified a total of \$245.9 million in depreciation expense for FY 2023 and was grouped as follows:

- ▶ **Track and systems (\$129.3m):** Light rail track and supporting infrastructure from DART's 20 corridors. The depreciation expense associated with track and systems was allocated to the city or cities in which each asset is located.
- ▶ **Revenue vehicles (\$55.8m):** Buses, railcars, shuttles, and paratransit vehicles that provide revenue service across the DART system. The depreciation expense of these vehicles was allocated using mode-specific revenue miles given their systemwide benefit.
- ▶ **Stations, stops, and transit centers (\$35.4m):** Bus stops and shelters, light rail stations, and multimodal transit hubs served by DART. Depreciation was allocated entirely to the city where each asset is located.
- ▶ **Maintenance Facilities (\$12.3m):** Three bus maintenance facilities, three rail maintenance and storage facilities and a parts warehouse in Irving. These facilities were allocated using revenue miles relevant to their respective mode.
- ▶ **Other (\$13.1m):** All remaining assets not included in the above categories, such as computer systems or software and assets that cannot be attributed to a specific mode, like DART's Headquarters.

In addition to depreciation expenses, two other categories of capital costs not captured through depreciation alone were included in the allocation:

- ▶ **Capital planning & development (\$12.8m):** These are costs incurred in the operating budget in support of capital projects but not allocated to an operating mode. These costs, mainly administrative salaries (\$8.6m) and benefits (\$2.2m), were allocated using the derivative metric for systemwide capital.
- ▶ **Non-capitalizable expenses (\$26.6m):** These expenses are incurred as part of DART's capital plan but do not meet the criteria for capitalization. Examples include certain repairs, discrete initiatives, and consulting services. Costs were allocated using direct metrics for similar activities or assets when possible, and otherwise allocated using the derivative metric for systemwide capital.

Table 5 summarizes the allocation metric(s) used in conjunction with the allocation method selected for a given asset group. Greyed-out cells indicate that a given allocation method has not been used for that asset group.

Table 5: Allocation metrics by asset group

Asset group	Allocation method			Key
	1. Direct Asset Placement	2. Direct metric - Systemwide Capital	3. Derivative metric - Systemwide Capital	
Maintenance Facilities		A, B		A (GoLink, Paratransit)
Revenue Vehicles		A, B		B Revenue or Track Miles
Stations, Bus Stops, Transit Centers	C			C Direct Asset Placement
Track and Systems	E			D Derivative Metric - Systemwide Capital
Other Assets		A, B, C	D	E Blended Metric - 50% Track Miles + 50% LRT Station Count



Interest expense

Debt is typically issued for project capital costs; however, DART does not tie its debt issuances to specific projects. Proceeds from DART's debt issuances are used as a cash management tool to advance or accelerate the overall capital plan. Consequently, interest expenses are not allocable to specific projects or capital assets.

Accordingly, interest expense was allocated using the Systemwide Capital Derivative Metric. Since interest is incurred to advance the capital plan as a whole, the allocation of interest expense should mirror the allocation of capital expenses (depreciation) among member cities.



Replicability

DART asked EY to consider the level of effort required to replicate this allocation methodology in the event that DART elects to utilize it in future fiscal years. Replication will require DART staff to i) evaluate how costs are grouped and validate the appropriateness of the allocation metric selected for each cost group, and ii) recalculate both direct and derivative metrics with updated data for the new fiscal year.

Cost group development and metrics review: This methodology ties each modally assigned general ledger account (operating) and asset (capital) from FY 2023 to an appropriate allocation metric. This relationship can be reused in future fiscal years. However, there are two important items to assess for potential updates:

- ▶ **New allocation metrics:** If new allocation metrics are developed based on future data collection efforts, those metrics will need to be added and aligned to the appropriate costs.
- ▶ **New assets or modally assigned general ledger accounts:** If there is a new general ledger-mode account combination in operating expenses or new asset that did not exist or was not utilized in FY 2023, it will need to have an allocation metric selected and assigned to the cost group or asset.

Metrics recalculation: As DART periodically changes routes or adjusts scheduling, each member city's relative share of revenue hours, revenue miles, bus stops, or other operational metrics will also change. Most of the effort expended on replication of the cost allocation analysis will arise from the need to recalculate operational and derivative metrics based on the updated financial data from new fiscal years.

6 Allocation results

The resulting total allocations for each member city generated by the methodology outlined in this report are shown in **Table 6**. Allocations of operating costs, capital depreciation and interest expenses are broken out separately.

Due to the recognition of capital expenses on a depreciation basis, any expenditures incurred on construction of the Silver Line – a significant element of DART’s capital plan – are not reflected in the FY 2023 allocations shown below. It is anticipated that both the capital and operating expense allocations to member cities served by the Silver Line – namely Plano, Richardson, Addison, Dallas and Carrollton – will increase starting in FY 2025 and FY 2026 upon project completion and start of revenue operations, respectively.

Table 6: Total cost allocations to member cities, \$m

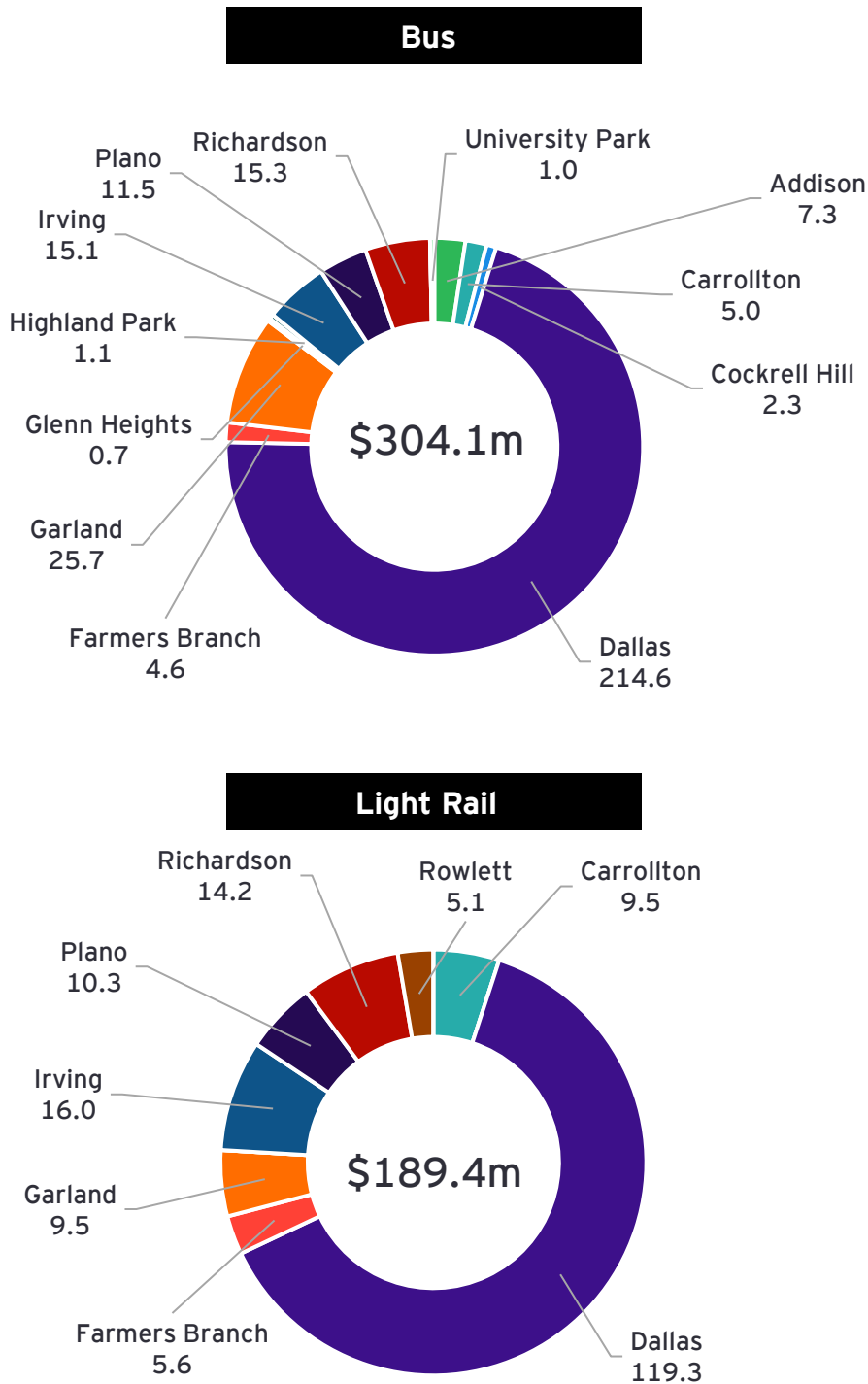
City	Allocation				Sales tax contribution
	Operating expenses	Capital expenses	Interest expenses	Total	
Addison	8.5	0.7	0.3	9.5	16.3
Carrollton	19.6	12.1	5.9	37.6	48.3
Cockrell Hill	2.4	0.3	0.1	2.8	0.6
Dallas	412.5	186.1	91.6	690.2	407.8
Farmers Branch	12.7	4.6	2.3	19.6	24.3
Garland	41.3	13.5	6.7	61.5	45.2
Glenn Heights	1.3	0.1	0.1	1.5	1.1
Highland Park	1.7	0.1	0.0	1.9	6.3
Irving	59.1	44.5	21.9	125.6	102.2
Plano	35.0	6.5	3.2	44.8	109.6
Richardson	34.9	11.1	5.5	51.4	56.9
Rowlett	7.1	5.6	2.8	15.5	9.2
University Park	1.7	0.1	0.0	1.8	6.4
TOTAL	638.0	285.3	140.5	1,063.7	834.4

Note: Figures are rounded to the nearest \$0.1 million. As a result, totals may not precisely sum to the values shown.

Operating cost allocation detail

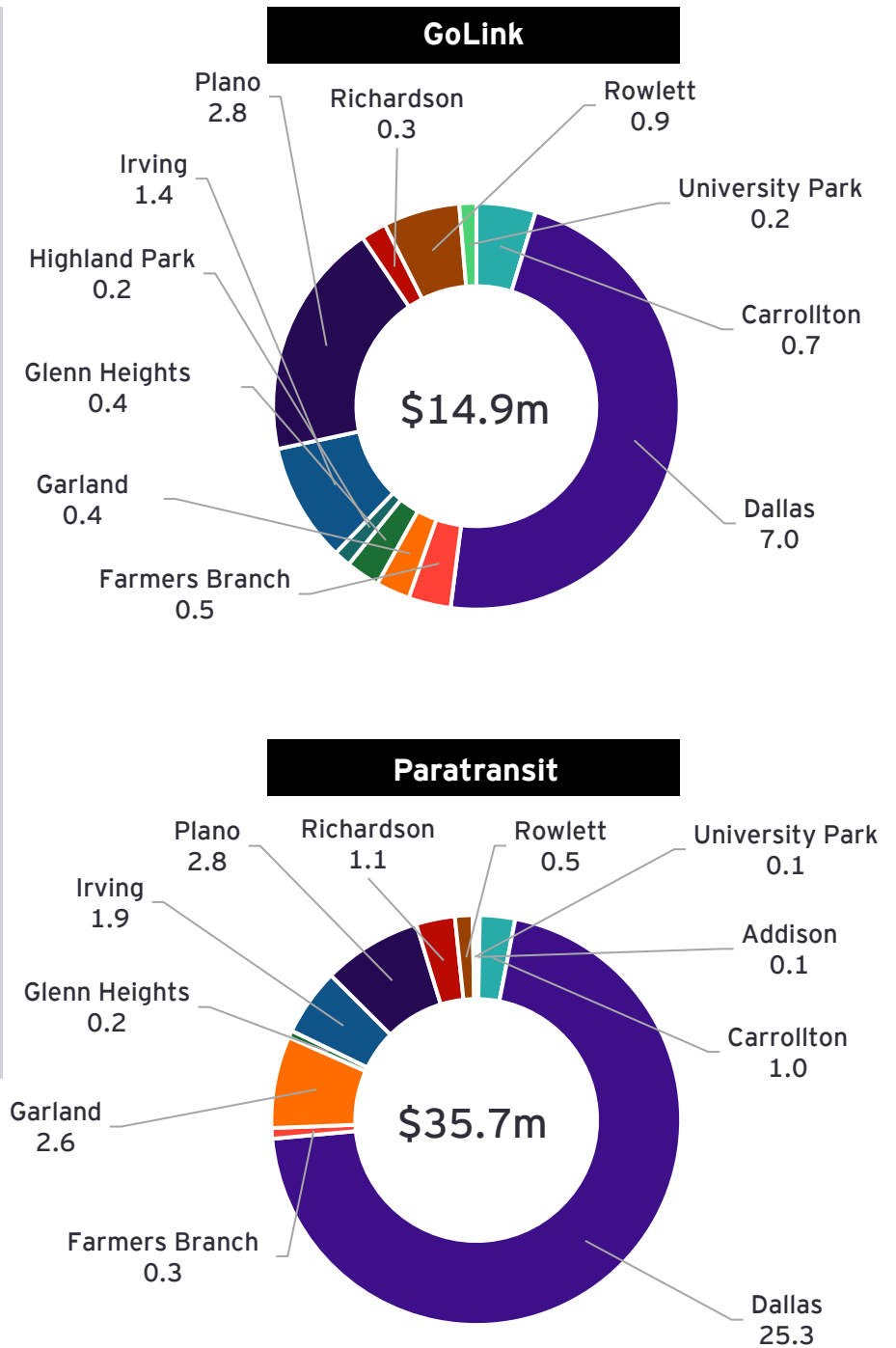
In total, \$638.0 million of FY 2023 operating costs were allocated to the member cities. **Figure 8** illustrates allocated costs by mode while **Figure 9** shows the relative weight of the metrics used in the overall operating expense allocation.

Figure 8: Operating cost allocation by mode and city, \$m



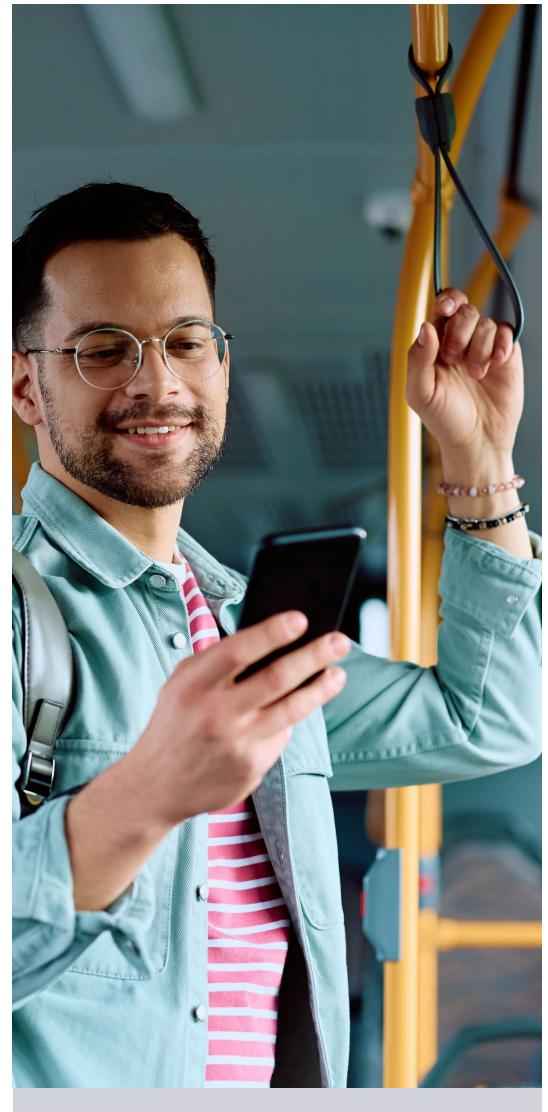
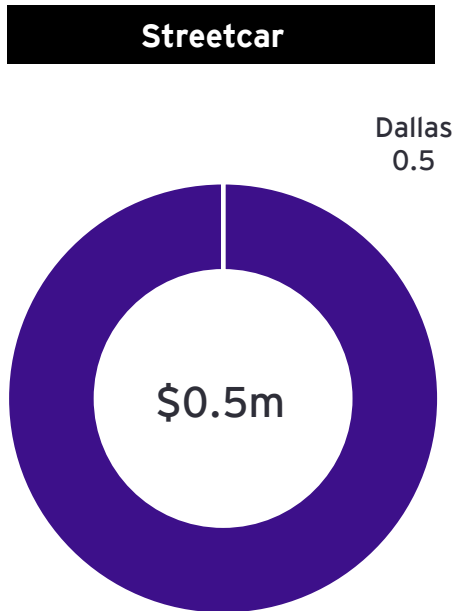
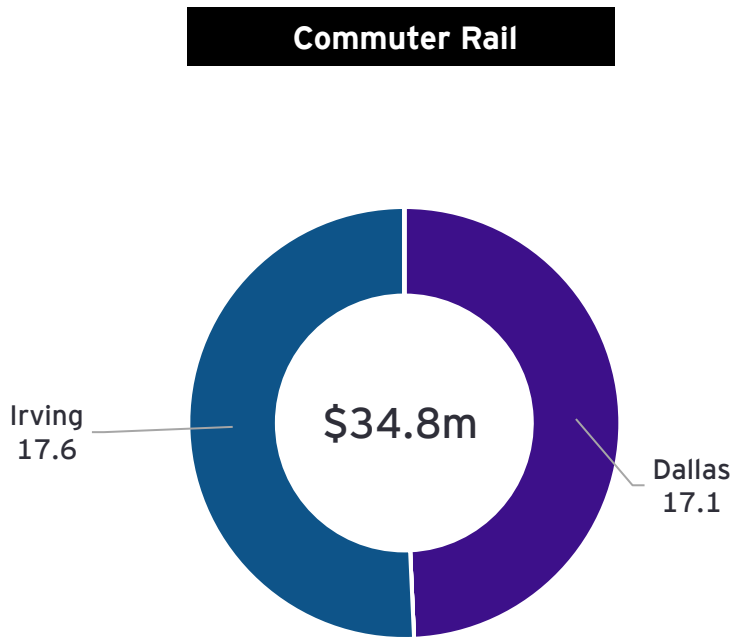
Note: Figures are rounded to the nearest \$0.1 million. Cells showing 0.0 indicate non-zero values too small to be represented due to rounding. Cells marked with '-' represent true zeros. As a result, totals may not precisely sum to the values shown.

Figure 8: Operating cost allocation by mode and city, \$m (continued)



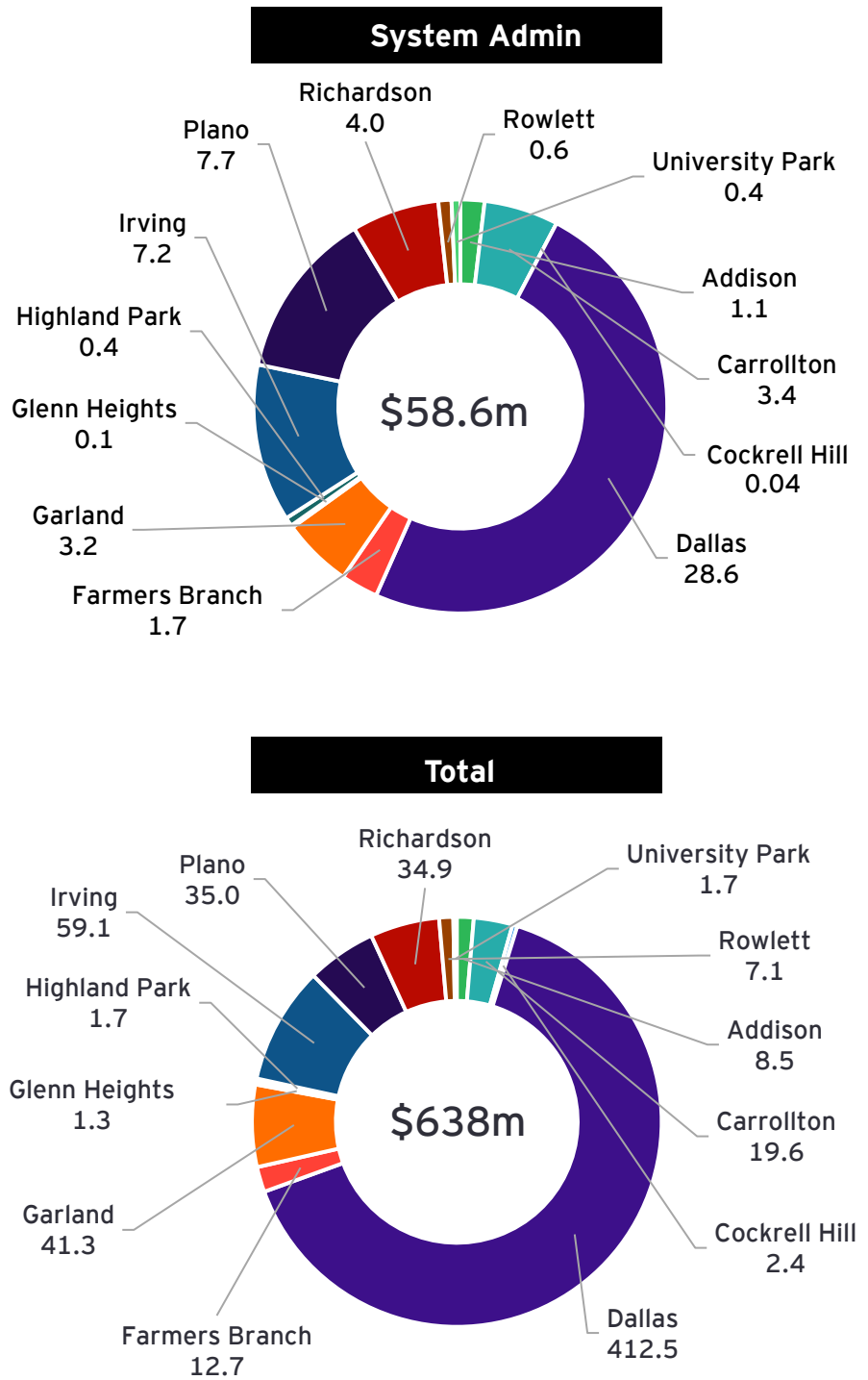
Note: Figures are rounded to the nearest \$0.1 million. As a result, totals may not precisely sum to the values shown.

Figure 8: Operating cost allocation by mode and city, \$m (continued)



Note: Figures are rounded to the nearest \$0.1 million. As a result, totals may not precisely sum to the values shown.

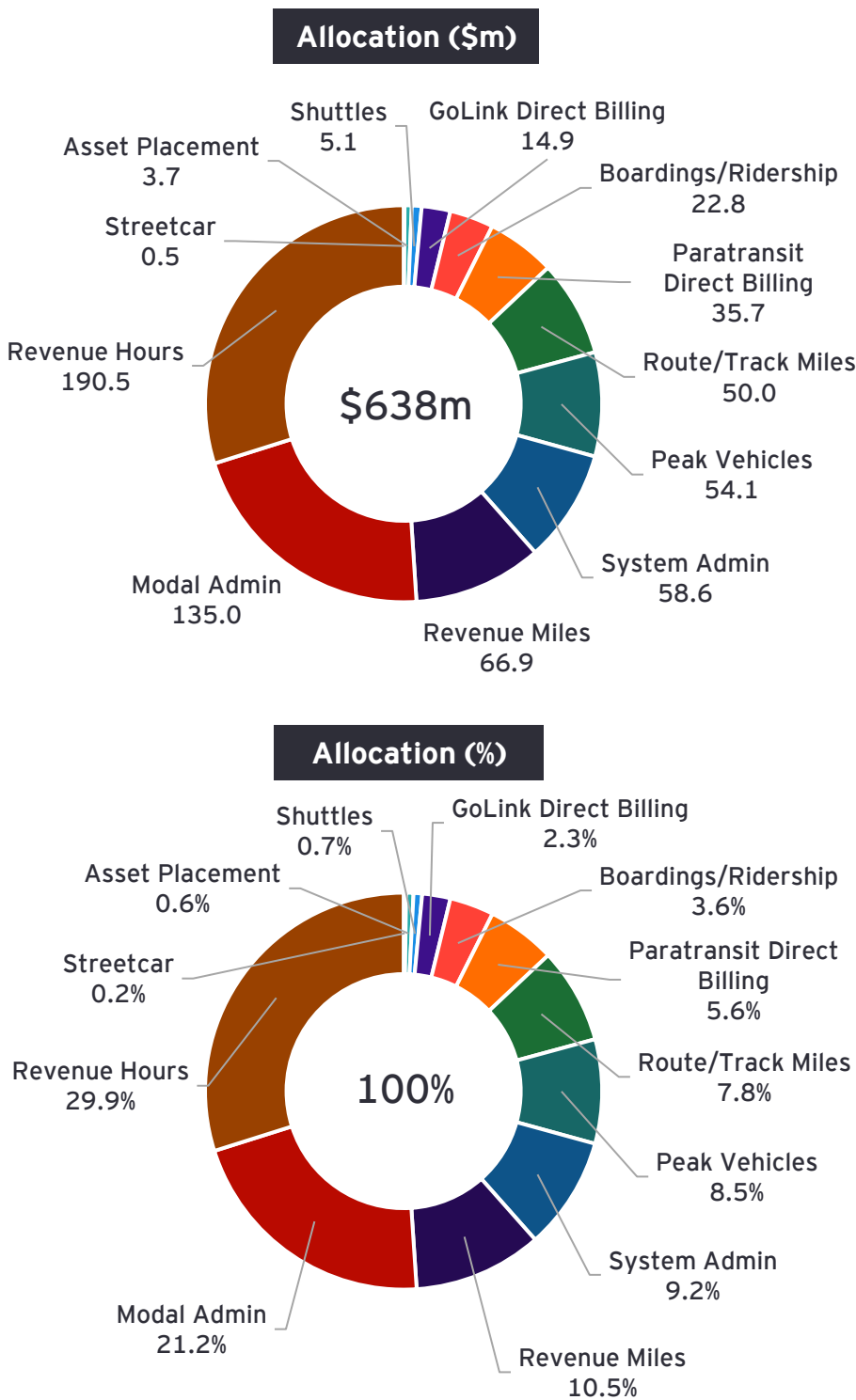
Figure 8: Operating cost allocation by mode and city, \$m (continued)



Note: Figures are rounded to the nearest \$0.1 million. As a result, totals may not precisely sum to the values shown.

Operating cost allocation detail (continued)

Figure 9: Operating cost allocations by metric



Note: Figures are rounded to the nearest 0.1 unit. As a result, totals may not precisely sum to the values shown.

Capital expense allocation detail

Among the three groups of capital costs allocated (Depreciation Expense, Capital Planning & Development and Non-Capitalized costs), a total of \$285.3m was allocated to the member cities. **Table 7** provides detail on city-specific allocations by asset type, and **Table 8** aggregates total allocations by asset type. **Table 9** provides the relative weighting of metrics used in the allocation of capital expenses.

Table 7: Capital cost allocations by asset group and city, \$m

City	Capital P&D	Maintenance Facilities	Other Assets	Revenue Vehicles	Stations, Bus Stops, Transit Centers	Track and Systems	Total
Addison	0.0	0.1	0.1	0.5	0.0	0.0	0.7
Carrollton	0.5	0.5	0.9	1.8	1.3	6.9	11.9
Cockrell Hill	0.0	0.0	0.0	0.1	0.0	0.0	0.3
Dallas	8.4	10.7	17.9	44.2	27.0	78.2	186.3
Farmers Branch	0.2	0.2	0.4	0.9	0.2	3.4	5.5
Garland	0.6	0.8	1.4	3.9	0.7	6.9	14.3
Glenn Heights	0.0	0.0	0.0	0.1	0.0	0.0	0.1
Highland Park	0.0	0.0	0.0	0.1	0.0	0.0	0.1
Irving	1.9	1.6	4.3	5.5	2.0	27.8	43.1
Plano	0.3	0.4	0.6	1.8	1.4	1.9	6.4
Richardson	0.5	0.7	1.0	2.9	1.5	4.0	10.6
Rowlett	0.3	0.2	0.4	0.4	1.2	3.5	6.0
University Park	0.0	0.0	0.0	0.1	0.0	0.0	0.1
Total	12.8	15.3	27.1	62.1	35.4	132.6	285.3

Note: Figures are rounded to the nearest \$0.1 million. Cells showing 0.0 indicate non-zero values too small to be represented due to rounding. As a result, totals may not precisely sum to the values shown.

Table 8: Capital cost allocation by asset group

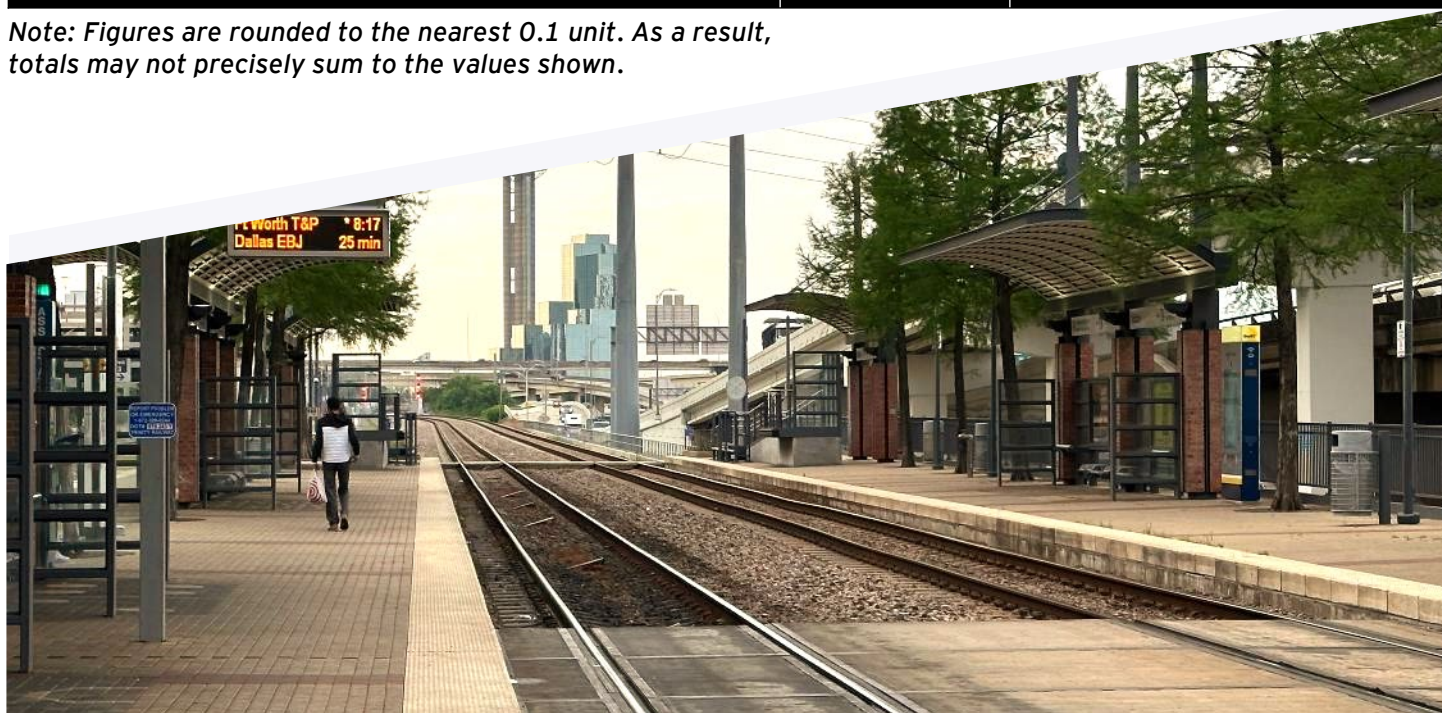
Asset group	Allocation (\$m)	Allocation (%)
Capital P&D	12.8	4.5%
Ops/Maintenance Facilities	15.3	5.4%
Other Assets	27.1	9.5%
Revenue Vehicles	62.1	21.8%
Stations/Bus Stops/Transit Centers	35.4	12.4%
Track and Systems	132.6	46.5%
Total	285.3	100.0%

Note: Figures are rounded to the nearest 0.1 unit. As a result, totals may not precisely sum to the values shown.

Table 9. Use of allocation metrics, by % of total capex

Metric type	Allocation (\$m)	Allocation (%)
Blended Metric - 50% Track Miles + 50% LRT Station Count	130.5	48.5%
Revenue Miles	80.5	28.2%
City-Specific Asset Placement	35.7	12.5%
Systemwide Capital	31.7	11.1%
Route/Track Miles	4.5	1.6%
Asset Placement	1.5	0.5%
Paratransit Direct Billing	0.8	0.3%
Total	285.3	100.0%

Note: Figures are rounded to the nearest 0.1 unit. As a result, totals may not precisely sum to the values shown.



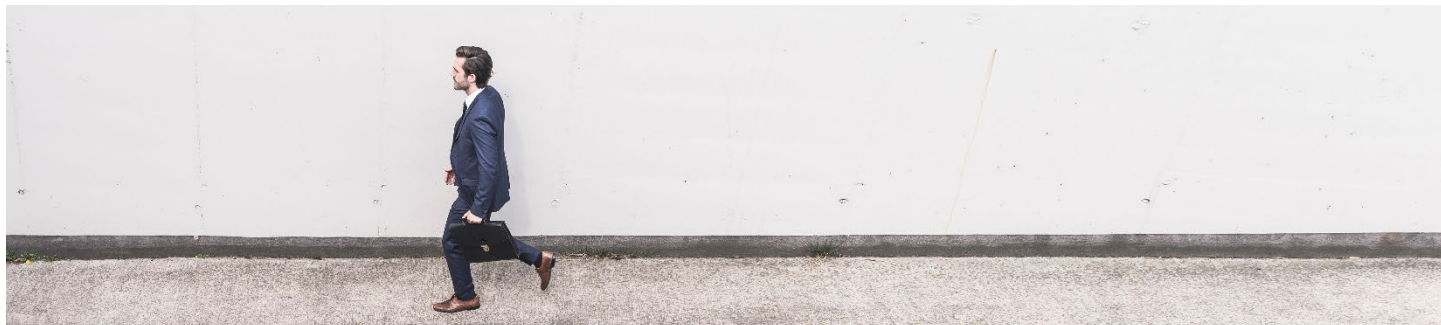
7 Discussion

The FY 2023 allocation results represent a “snapshot in time” at a dynamic moment for DART, with a nearly \$2b capital investment in system expansion nearing completion in FY 2026, along with \$674m in light rail assets set to be fully depreciated in FY 2027. The cumulative impact of these changes on the cost allocation results over the next three years should be considered accordingly.

The results of this analysis highlight some of the complexities and challenges inherent in allocating DART’s operating, capital, and interest expenditures among its 13 member cities. DART operates a regional transit network, and its accounting system is not set up to track expenditures at the city level. Additionally, the agency collects limited information on its customers’ trip origins and destinations. A better understanding of how DART’s system is used and by whom could potentially enable additional metrics to be incorporated into the analysis.

Were the data underlying the calculation of presently-unavailable metrics, such as light rail passenger revenue miles or boardings by jurisdiction of residence, to be collected in the future, DART could potentially capture measures of value (e.g. who is using DART’s system and how often) with greater reliability than it does today. Member cities have expressed a keen desire to better understand these measures of value. Supplemental analysis by EY, to be provided to DART approximately one month following presentation of this analysis, will identify other potential types of data, data collection methods and/or sources that could be leveraged to improve future cost allocation analyses.

Finally, it is important to note that the FY 2023 allocation results shown in **Table 6** above represent a “snapshot in time” at a dynamic moment for DART, with a nearly \$2b investment in system expansion nearing completion. While the allocation of most capital expenses on a depreciation basis should reduce the year-to-year volatility of the total allocation amounts for each member city, the exclusion of Silver Line expenditures from the FY 2023 allocation results has the temporary effect of exaggerating the delta between the total allocation and sales tax contribution amounts for the cities to be directly served starting in FY 2025/26 by Silver Line service. FY 2027 will also mark the full depreciation of approximately \$674m in assets associated with DART’s inaugural light rail network completed prior to 1998 (see **Figure 3**). The full depreciation of these assets is expected to result in a sizable reduction to the City of Dallas’s capital expense allocation. The cumulative impact of these changes on the cost allocation results over the next three years should be considered accordingly.



8 Additional Tables



Table 10. List of allocation metrics


Mode	Metric	Definition	Calculation
<p>Bus</p> 	Bus Stop Count	The number of bus stops in each city as a percentage of total bus stops	$\frac{\text{Bus Stops in a City}}{\text{Total Bus Stops}}$
	Bus Route Miles	The number of bus route miles to complete one cycle or trip in each city as a percentage of the total bus route	$\frac{\text{Bus Route Miles in a City}}{\text{Bus Route Miles}}$
	Bus Revenue Hours	The annual amount of time buses spent in operations on each route in a city, assuming consistent travel speeds across the route, as a percentage of the total annual bus revenue hours	$\frac{\sum ((\% \text{ of Bus Route Miles in a City}) \times (\text{Annual Bus Route Revenue Hours}))}{\text{Total Annual Bus Revenue Hours}}$
	Bus Revenue Miles	The annual amount of miles driven while in operations on each route in a city as a percentage of the total annual bus revenue miles	$\frac{\sum ((\% \text{ of Bus Route Miles in a City}) \times (\text{Annual Bus Route Revenue Miles}))}{\text{Total Annual Bus Revenue Miles}}$
	Bus Boardings	The annual bus boardings in each city as a percentage of total annual bus boardings	$\frac{\text{Annual Bus Boardings in a City}}{\text{Annual Bus Boardings}}$

Table 10. List of allocation metrics (continued)



Mode	Metric	Definition	Calculation
Bus 	Bus Vehicles during Peak	The number of buses on each route during peak travel times in a city as a percentage of total buses during peak travel times	$\frac{\sum \text{Peak Buses per Route in a City}}{\text{Total Peak Buses}}$
	Bus Modal Admin (Derivative Metric)	The bus administrative costs associated with operating the service as a percentage of each city's proportion of direct bus costs	$\frac{\text{Direct Bus Costs Allocated to a City}}{\text{Total Direct Bus Costs}}$
Light Rail 	Light Rail Station Count	The number of light rail stations in each city as a percentage of total light rail stations	$\frac{\text{Light Rail Stations in a City}}{\text{Total Light Rail Stations}}$
	Light Rail Track Miles	The amount of light rail track miles in each city, regardless of how many routes use the track, as a percentage of total light rail track	$\frac{\text{Light Rail Track Miles in a City}}{\text{Total Light Rail Track Miles}}$
	Light Rail Route Miles	The amount of light rail route miles to complete one cycle or trip in each city as a percentage of the total light rail route	$\frac{\text{Light Rail Route Miles in a City}}{\text{Total Light Rail Route Miles}}$

Table 10. List of allocation metrics (continued)


Mode	Metric	Definition	Calculation
Light Rail 	Light Rail Revenue Hours	The annual amount of time trains spent in operations on each route in a city, assuming consistent travel speeds across the route, as a percentage of the total annual light rail revenue hours	$\frac{\sum ((\% \text{ of Light Rail Route Miles in a City}) \times (\text{Annual Light Rail Route Revenue Hours}))}{\text{Total Annual Light Rail Revenue Hours}}$
	Light Rail Revenue Miles	The annual number of miles driven while in operations on each route in a city as a percentage of the total annual light rail revenue miles	$\frac{\sum ((\% \text{ of Light Rail Route Miles in a City}) \times (\text{Annual Light Rail Route Revenue Miles}))}{\text{Total Annual Light Rail Revenue Miles}}$
	Light Rail Boardings	The annual light rail boardings in each city as a percentage of total annual light rail boardings	$\frac{(\text{Annual Light Rail Boardings in a City})}{(\text{Annual Light Rail Boardings})}$
	Light Rail Vehicles during Peak	The number of light rail vehicles on each route during peak travel times in a city as a percentage of total light rail vehicles during peak travel times	$\frac{\sum \text{Peak Light Rail Trains per Route in a City}}{\text{Total Peak Light Rail Trains}}$
	Light Rail Modal Admin (Derivative Metric)	The light rail administrative costs associated with operating the service as a percentage of each city's proportion of direct light rail costs	$\frac{\text{Direct Light Rail Costs Allocated to a City}}{\text{Total Direct Light Rail Costs}}$

Table 10. List of allocation metrics (continued)



Mode	Metric	Definition	Calculation
 Other	Commuter Rail/TRE Track Miles	The amount of commuter rail (TRE) track in a city's limits as a percentage of total commuter rail track within the DART Member Cities	$\frac{\text{Commuter Rail Track Miles in a City}}{\text{Total Commuter Rail Track Miles}}$
	Sales Tax Contribution	The sales tax contribution of a city as a percentage of total collected sales tax	$\frac{\text{Sales Tax Contribution by City}}{\text{Total Sales Tax Contribution}}$
	GoLink Direct Billing	The annual amount of GoLink service invoiced to each zone as a percentage of each city's proportion of a zone	$\frac{\sum \left(\frac{(\% \text{ of GoLink Zone Area in a City}) \times (\text{Annual GoLink Zone Invoice})}{\text{Total GoLink Service Billed}} \right)}{\text{Total GoLink Service Billed}}$
	Paratransit Trips	The annual Paratransit trips in each city as a percentage of total Paratransit trips	$\frac{\text{Annual Paratransit Trips in a City}}{\text{Total Paratransit Trips}}$
	Track and Systems (blended metric)	The percentage of track miles located in a member city (50% of weighting) and the station count by member city on that track segment (50% of weighting).	$50\% \left(\frac{\text{Light Rail Stations in a City}}{\text{Total Light Rail Stations}} \right) + 50\% \left(\frac{\text{Light Rail Track Miles in a City}}{\text{Total Light Rail Miles Track}} \right)$
	Systemwide Capital (Derivative Metric)	The capital (depreciation) costs allocated to each city as a percentage of total depreciation costs	$\frac{\text{Allocated Depreciation Costs by City}}{\text{Total Depreciation Costs}}$

Table 11. Allocation factors by member city

Mode	Metric	City			
		Addison	Carrollton	Cockrell Hill	Dallas
 Bus	Bus Stop Count	1.15 %	2.18 %	0.36 %	67.89 %
	Bus Route Miles	1.90 %	1.90 %	0.40 %	67.72 %
	Bus Revenue Hours	1.47 %	1.53 %	0.50 %	74.29 %
	Bus Revenue Miles	1.59 %	1.62 %	0.49 %	72.61 %
	Bus Boardings	2.89 %	1.23 %	0.89 %	74.19 %
	Bus Vehicles during Peak	9.29 %	2.58 %	2.80 %	48.46 %
	Bus Modal Admin (Derivative Metric)	2.40 %	1.63 %	0.76 %	70.58 %



Mode	Metric	City			
		Farmers Branch	Garland	Glenn Heights	Highland Park
 Bus	Bus Stop Count	1.60 %	10.23 %	0.01 %	0.21 %
	Bus Route Miles	1.65 %	9.68 %	0.57 %	0.25 %
	Bus Revenue Hours	1.22 %	7.80 %	0.11 %	0.21 %
	Bus Revenue Miles	1.39 %	8.52 %	0.20 %	0.21 %
	Bus Boardings	0.86 %	7.03 %	0.15 %	0.05 %
	Bus Vehicles during Peak	3.87 %	13.91 %	0.95 %	1.68 %
	Bus Modal Admin (Derivative Metric)	1.52 %	8.45 %	0.22 %	0.37 %

Table 11. Allocation factors by member city (continued)

Mode	Metric	City				
		Irving	Plano	Richardson	Rowlett	University Park
Bus 	Bus Stop Count	6.54 %	4.11 %	5.04 %	0.00 %	0.68 %
	Bus Route Miles	5.91 %	4.88 %	4.93 %	0.00 %	0.20 %
	Bus Revenue Hours	5.13 %	3.68 %	3.88 %	0.00 %	0.18 %
	Bus Revenue Miles	5.25 %	3.85 %	4.12 %	0.00 %	0.17 %
	Bus Boardings	4.46 %	2.43 %	5.66 %	0.00 %	0.15 %
	Bus Vehicles during Peak	4.47 %	5.29 %	6.06 %	0.00 %	0.64 %
	Bus Modal Admin (Derivative Metric)	4.95 %	3.78 %	5.02 %	0.00 %	0.32 %



Mode	Metric	City			
		Addison	Carrollton	Cockrell Hill	Dallas
Light rail 	Light Rail Station Count	0.00 %	4.69 %	0.00 %	70.31 %
	Light Rail Track Miles	0.00 %	4.87 %	0.00 %	63.57 %
	Light Rail Route Miles	0.00 %	3.53 %	0.00 %	67.80 %
	Light Rail Revenue Hours	0.00 %	4.36 %	0.00 %	71.94 %
	Light Rail Revenue Miles	0.00 %	4.12 %	0.00 %	70.89 %
	Light Rail Boardings	0.00 %	3.57 %	0.00 %	82.58 %
	Light Rail Vehicles during Peak	0.00 %	7.88 %	0.00 %	30.30 %
	Light Rail Modal Admin (Derivative Metric)	0.00 %	5.04 %	0.00 %	62.97 %

Table 11. Allocation factors by member city (continued)

Mode	Metric	City			
		Farmers Branch	Garland	Glenn Heights	Highland Park
Light rail 	Light Rail Station Count	1.56 %	3.13 %	0.00 %	0.00 %
	Light Rail Track Miles	1.86 %	6.81 %	0.00 %	0.00 %
	Light Rail Route Miles	1.35 %	4.93 %	0.00 %	0.00 %
	Light Rail Revenue Hours	1.66 %	4.74 %	0.00 %	0.00 %
	Light Rail Revenue Miles	1.57 %	4.49 %	0.00 %	0.00 %
	Light Rail Boardings	1.03 %	2.22 %	0.00 %	0.00 %
	Light Rail Vehicles during Peak	7.88 %	6.66 %	0.00 %	0.00 %
	Light Rail Modal Admin (Derivative Metric)	2.94 %	5.00 %	0.00 %	0.00 %



Mode	Metric	City				
		Irving	Plano	Richardson	Rowlett	University Park
Light rail 	Light Rail Station Count	9.38 %	3.13 %	6.25 %	1.56 %	0.00 %
	Light Rail Track Miles	12.78 %	2.30 %	5.71 %	2.10 %	0.00 %
	Light Rail Route Miles	9.27 %	3.33 %	8.28 %	1.51 %	0.00 %
	Light Rail Revenue Hours	7.54 %	2.38 %	5.92 %	1.45 %	0.00 %
	Light Rail Revenue Miles	10.01 %	2.16 %	5.38 %	1.38 %	0.00 %
	Light Rail Boardings	2.50 %	3.69 %	2.68 %	1.73 %	0.00 %
	Light Rail Vehicles during Peak	9.10 %	15.76 %	15.76 %	6.66 %	0.00 %
	Light Rail Modal Admin (Derivative Metric)	8.43 %	5.43 %	7.51 %	2.69 %	0.00 %

Table 11. Allocation factors by member city (continued)

Mode	Metric	City			
		Addison	Carrollton	Cockrell Hill	Dallas
 Other	Commuter Rail/TRE Track Miles	0.00 %	0.00 %	0.00 %	49.32 %
	Sales Tax Contribution	1.95 %	5.79 %	0.07 %	48.89 %
	GoLink Direct Billing	0.13 %	4.54 %	0.00 %	47.03 %
	Paratransit Direct Billing	0.21 %	2.82 %	0.04 %	70.81 %
	Track & Systems (blended metric) ¹	0.00 %	4.78%	0.00%	66.94%
	Systemwide Capital (Derivative Metric)	0.23 %	4.23 %	0.09 %	65.23 %
¹ Weighted 50% Light Rail Station Count, 50% Light Rail Track Miles					


Mode	Metric	City			
		Farmers Branch	Garland	Glenn Heights	Highland Park
 Other	Commuter Rail/TRE Track Miles	0.00 %	0.00 %	0.00 %	0.00 %
	Sales Tax Contribution	2.91 %	5.42 %	0.13 %	0.76 %
	GoLink Direct Billing	3.43 %	2.71 %	2.65 %	1.16 %
	Paratransit Direct Billing	0.81 %	7.19 %	0.52 %	0.02 %
	Track & Systems (blended metric) ¹	1.71%	4.97%	0.00%	0.00%
	Systemwide Capital (Derivative Metric)	1.62 %	4.74 %	0.05 %	0.03 %
¹ Weighted 50% Light Rail Station Count, 50% Light Rail Track Miles					

Table 11. Allocation factors by member city (continued)


Mode	Metric	City				
		Irving	Plano	Richardson	Rowlett	University Park
Other 	Commuter Rail/TRE Track Miles	50.68 %	0.00 %	0.00 %	0.00 %	0.00 %
	Sales Tax Contribution	12.25 %	13.14 %	6.82 %	1.10 %	0.77 %
	GoLink Direct Billing	9.46 %	18.82 %	2.29 %	6.13 %	1.65 %
	Paratransit Direct Billing	5.30 %	7.75 %	3.02 %	1.33 %	0.17 %
	Track & Systems (blended metric) ¹	11.08%	2.71%	5.98%	1.83%	0.00%
	Systemwide Capital (Derivative Metric)	15.61 %	2.29 %	3.88 %	1.97 %	0.03 %
¹ Weighted 50% Light Rail Station Count, 50% Light Rail Track Miles						



Table 12. Largest Cost Groups for Operational Expenditures and Capital

Cost Category	Cost Group Name	Amount Allocated (\$m)	Metric Employed
Operational Expenses	Bus Operator Wages	58.9	Bus Revenue Hours
Operational Expenses	Paratransit Costs (All)	35.7	Paratransit Direct Billing
Operational Expenses	Employee Medical Claims	30.3	Bus Revenue Hours
Operational Expenses	Mode-Agnostic Admin Salaries	22.2	System Admin Metric
Operational Expenses	Light Rail Admin Salaries	19.9	LRT Modal Admin Metric
Operational Expenses	Bus Admin Salaries	18.4	Bus Modal Admin Metric
Operational Expenses	Defined Benefit Pension Plan	15.9	Bus Revenue Hours
Operational Expenses	GoLink Costs (All)	14.9	GoLink Direct Billing
Operational Expenses	LRT Police Field Ops Patrol	12.2	Light Rail Boardings
Operational Expenses	Bus Corrective Based Maintenance	12.2	Bus Revenue Miles
Capital	Light Rail Revenue Vehicles ¹	29.7	Light Rail Revenue Miles
Capital	Bus Revenue Vehicles ¹	24.5	Bus Revenue Miles
Capital	Light Rail Stations located in Dallas ¹	22.6	Direct Asset Placement
Capital	Capital Planning & Design	12.8	Capital P&D Metric
Capital	LRT Track Segment - Bachman to Irving Convention Center ¹	11.4	Blended metric - 50% Track Miles + 50% LRT Station Count
Capital	LRT Track Segment - Pearl to Park Lane ¹	9.5	Same as above
Capital	LRT Track Segment - Park Lane to Parker Road ¹	9.5	Same as above
Capital	LRT Track Segment - North Carrollton to Frankford ¹	8.9	Same as above
Capital	Light Rail Ops Maintenance Facilities ¹	8.5	Light Rail Revenue Miles
Capital	LRT Track Segment - Irving Convention Center to Belt Line ¹	8.2	Blended metric - 50% Track Miles + 50% LRT Station Count

1. Allocated amount represents depreciation expense, not cash disbursements



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