



APRIL 2022

CLIMATE ACTION PLAN



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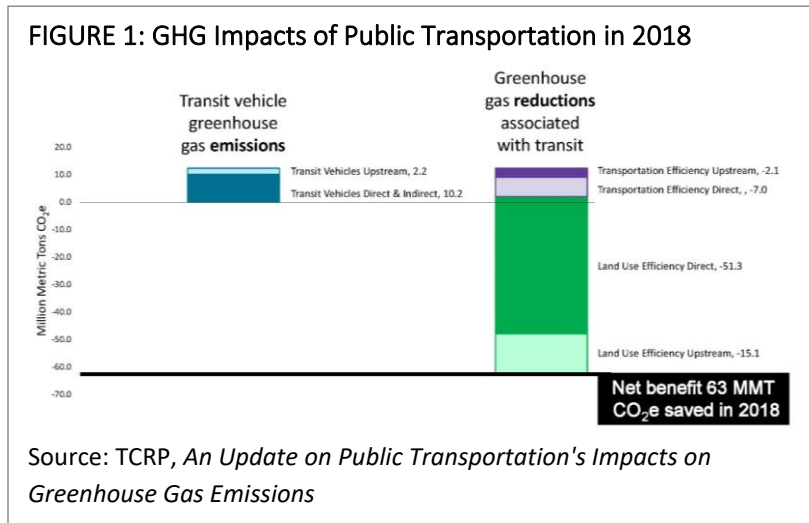
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Executive Summary

The transportation sector is one of the largest contributors to greenhouse gas (GHG) emissions that are causing climate change. In fact, the transportation sector accounted for the largest portion (29%) of total U.S. GHG emissions in 2019, with light-duty vehicles (including passenger cars and light-duty trucks) contributing 58% of GHG emissions. (U.S. EPA)

Cities are seeking ways to meet increasingly stringent emissions reduction targets to diminish the impacts of climate change and support state, federal and global agreements, such as the Paris Agreement.

Public transportation has the opportunity to make a significant impact on GHG emission reduction, by shifting transport from cars and trucks, reducing operational emissions, and increasing land use efficiency. Emissions are reported as Metric Tons of Carbon Dioxide Equivalent (MT CO₂e), which is the unit of measure used to compare emissions from various greenhouse gases based upon their global warming potential (GWP). In 2018, public transportation in the United States saved 63 million MT CO₂e emissions – the equivalent of taking 16 coal power plants offline for a year. Figure 1 demonstrates public transportation’s impacts on GHG emissions by highlighting the difference between GHG emissions from transit vehicles and GHG reductions associated with transit.



DART operations, which span multiple transit modes, reduce GHG emissions through promoting use of transit and mode shift via coordinated transit-oriented development (TOD), service enhancements and improved access to transit, as well as through ongoing operational efficiency measures related to renewable energy, clean fleet transitions, and incorporation of technologies that reduce energy consumption.

In 2019, prior to the COVID-19 pandemic, total system ridership reached 70.5 million, with average weekday riders totaling 243,600. The 438,541,808 passenger miles traveled on DART vehicles in 2019 resulted in a GHG emissions reduction of 718,451 MT CO₂e over automobiles, equivalent to carbon sequestered by 850,240 acres of U.S. forests in one year. DART’s own operational emissions for 2019 were a fraction of the emissions displaced by mode shift (85,536 MT CO₂e), resulting in a net emissions reduction of 632,915 MT CO₂e.

DART’s goals and strategies, outlined in Section 7 of this report, address opportunities to further reduce emissions through fleet changes, greater use of renewable energy sources, integration of zero-emission technologies into facilities and operations, retrofitting facilities for energy efficiency, and increasing transit ridership and supporting mode shifts through land use efficiency. As DART’s first *Climate Action Plan*, this report will be foundational for further advancing goals and strategies as part of the broader DART Sustainability Plan.

1 Introduction

Dallas Area Rapid Transit (DART) inherently supports alternatives to driving and reducing air pollution through its provision of multimodal transit services. The DART Board of Directors adopted a DART Clean Fleet Policy in 1996 [Policy III.12 (Operations)], which incorporates: “DART shall assess, evaluate or consider participation in programs to test, commercialize or demonstrate new technologies to improve efficiency, reduce emissions, and/or increase fuel efficiency.” In addition, the agency is a strong supporter of innovation as it relates to sustainable vehicles, facilities, and energy use. DART became a signatory to the American Public Transportation Association’s (APTA) Sustainability Commitment Program in 2011, created a Sustainability Framework Plan in 2012, submitted its Plan and sustainability baseline to APTA in May 2013, and received APTA’s Bronze level recognition in July 2013.

In subsequent years, DART worked on many sustainability initiatives including a full transition of its bus fleet from diesel and liquified natural gas (LNG) to compressed natural gas (CNG). A Low-No Emission Grant Application to FTA resulted in a grant award for the purchase of seven electric buses. The electric buses were placed into service in 2018, initially for the Downtown Dallas D-Link circulator, and now for other short bus routes. DART has received various Clean Fleet awards from the Dallas Fort Worth (DFW) Clean Cities Coalition over the years and most recently was recognized in 2020 for the Gold level and in 2021 for the Gold level + New Shining Star award for its clean fleet.

In 2018, DART created a new Sustainability Plan to update its previous plan and continue to document initiatives and outline goals. Significantly, DART signed a contract in 2019 for renewable natural gas (RNG) as an alternative to CNG from carbon-based sources. The CNG bus fleet operates 100% with RNG. In addition, 30% of the electricity used for the light rail transit (LRT) system and DART facilities is from clean, renewable sources.

In 2021, DART committed to FTA’s *Sustainable Transit for a Healthy Planet Challenge* and has completed this Climate Action Plan to focus on DART’s GHG emissions reduction efforts and goals for a cleaner future. DART’s *Climate Action Plan* focuses on fleet operations and related initiatives. It builds upon the history of sustainability initiatives and will serve as an appendix document to the broader DART Sustainability Plan. Climate action planning goes beyond just fleet operations. Thus, as DART continues to build on this document, it will become foundational for updates to the DART Sustainability Plan, which are in progress and will further outline GHG emission reduction efforts.

Our vision statement

Transforming Our Region with Mobility Options that Connect People, Communities, and Destinations.

Our mission statement

To benefit the region by providing a sustainable system of innovative, affordable, reliable and safe mobility options for our riders that enhances the quality of life and stimulates economic development.

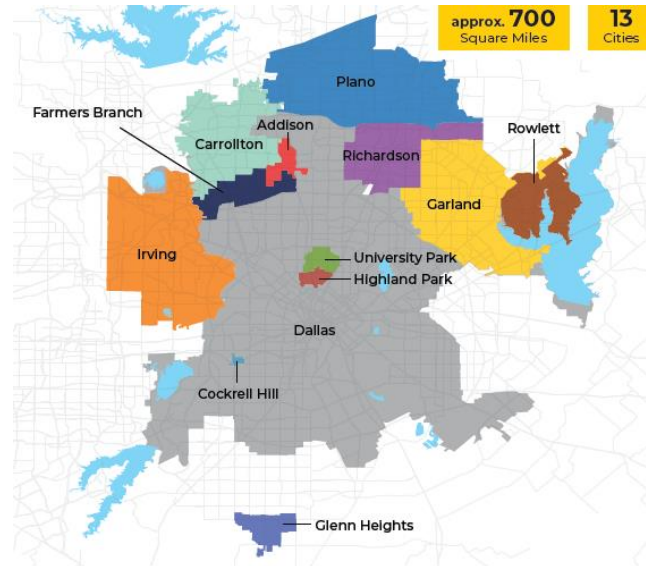
In 2020, DART’s Board adopted new vision and mission statements that include “providing a sustainable system.”

2 Agency Overview

2.1 Service Area

DART is a regional transit agency authorized under Chapter 452 of the Texas Transportation Code and was created by voters and funded with a one-cent local sales tax on August 13, 1983. The service area consists of 13 cities: Addison, Carrollton, Cockrell Hill, Dallas, Farmers Branch, Garland, Glenn Heights, Highland Park, Irving, Plano, Richardson, Rowlett, and University Park (see Figure 2). DART is governed by a 15-member board appointed by service area city councils based on population. Revenue from the voter-approved one-cent sales tax, federal funds, investment income, short and long-term financing, and farebox revenue fund the operations of the agency and ongoing development and implementation of DART’s multimodal *Transit System Plan*.

FIGURE 2: DART Service Area



Source: DART 2045 Transit System Plan (January 2022)

DART continues to be a leader in Mobility as a Service (MaaS), with the GoPass® app being the region’s digital platform to integrate mobility options. DART launched a new bus network on January 24, 2022, which increased frequent bus routes from 7 to 22, and nearly doubled the number of demand responsive GoLinkSM zones from 16 to 30. In addition, three major capital projects are in various phases of development and implementation: Red/Blue Line platform extensions (complete in 2022), the Silver Line Regional Rail Project (under construction to open in 2024), and the D2 Subway to provide a second light rail alignment through downtown Dallas (planning and corridor preservation phase). Additional investments and initiatives focus on state of good repair and modernization of the rail system and facilities to improve reliability and resiliency.

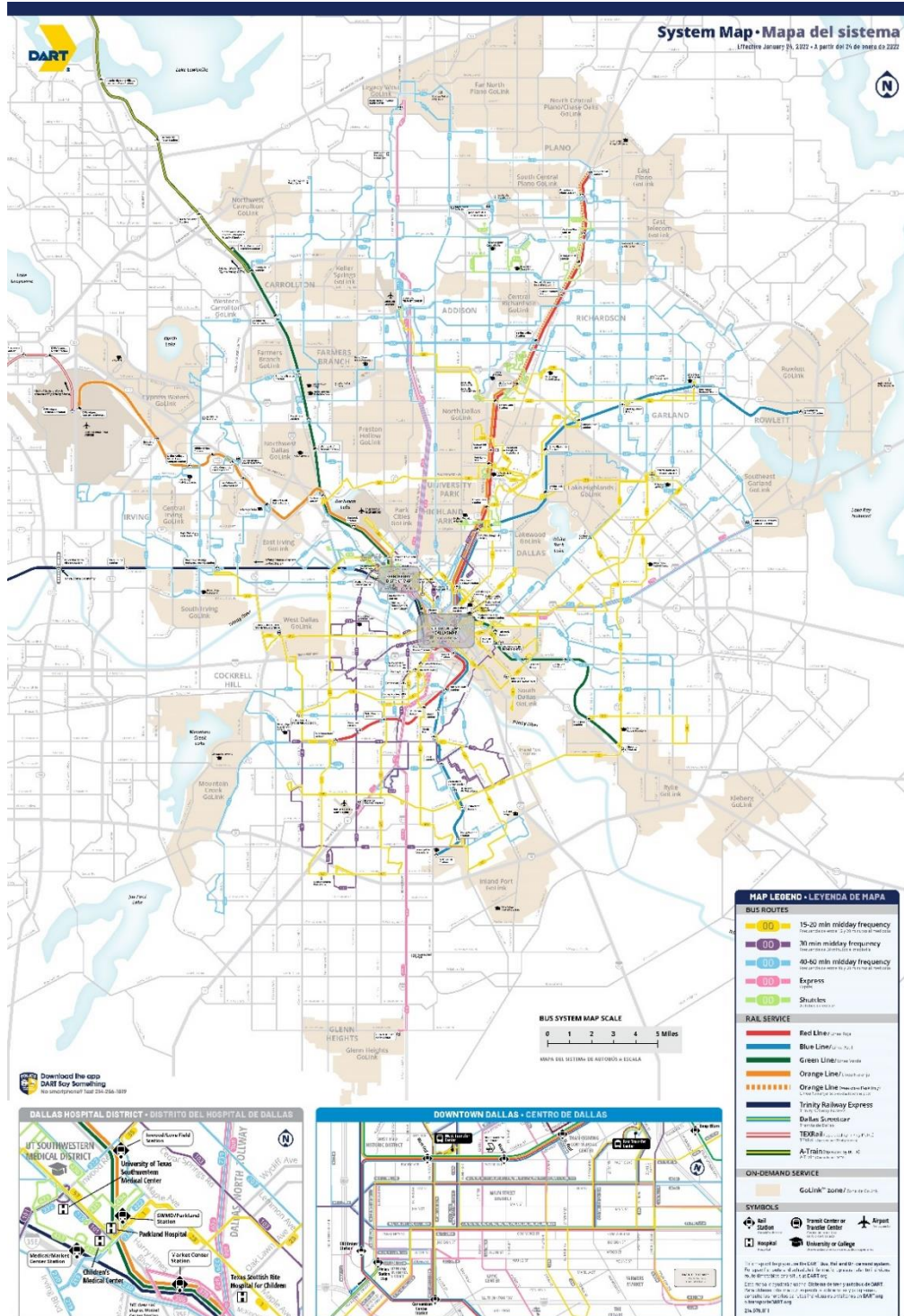
DART’s bus fleet is primarily CNG, operating with 100% renewable energy sources. DART added seven all electric buses to the fleet in 2018 and is considering expansion of electric vehicles as technology continues to advance. The next major bus fleet replacement is scheduled for 2025-2028. Smaller fleet changes will occur in the interim as well.

2.2 Transit Services

Figure 3 shows the DART system map. As of March 2022, DART serves its 13 Service Area cities with 95 bus or shuttle routes, 30 On-Demand GoLinkSM zones, 93 miles of light rail transit (DART Rail) with 65 stations, and paratransit service for persons who are mobility impaired. DART and Trinity Metro jointly operate 34 miles of commuter rail (the Trinity Railway Express or TRE), linking downtown Dallas and Fort Worth with stops in the mid-cities and Dallas/Fort Worth International Airport (DFW Airport). DART launched a new bus network on January 24, 2022, with an emphasis on increased frequency, reduced travel time, improved service, and better access. With the new network, 74% of residents are

now within ½ mile of DART service, providing improved access to jobs and destination points. GoLink is DART's on-demand service. Using a variety of vehicles and service providers, GoLink delivers on-demand DART service within a designated zone to assist with first- and last-mile connections.

FIGURE 3: DART System Map



Source: www.dart.org/maps/pdfmaps/DARTSystemMap24jan22.pdf



Table 1 summarizes DART’s fleet of buses, LRVs, paratransit vehicles and non-revenue vehicles. DART also operates the Dallas Streetcar under contract with the City of Dallas.

TABLE 1: Summary of Transit Service, Fleet and Facilities

BUS		
Services	Fleet*	Facilities and Infrastructure
<ul style="list-style-type: none"> 95 bus routes 30 GoLink zones provide on demand service (with average 15 wait time), most 6 days per week from 6 am to 8 pm 22 frequent routes operate with 15/20 peak/ midday service All local routes operate 7 days a week from 5 am - Midnight 	<ul style="list-style-type: none"> 516 NABI Transit (CNG) Buses <ul style="list-style-type: none"> Capacity: Up to 37 seats 123 Arboc Buses (CNG) <ul style="list-style-type: none"> Capacity: 17 seats 46 New Flyer (CNG) <ul style="list-style-type: none"> Capacity: 39 7 Proterra Electric Buses <ul style="list-style-type: none"> Capacity: 35 seats <p><i>*Note: DART is initiating a process to auction off several buses due to lower fleet requirements of the new bus network.</i></p>	<ul style="list-style-type: none"> 6,878 bus stops 1,309 shelters 56 enhanced shelters 1,563 benches 14 bus transit centers/transfer centers/transfer locations/park-and-rides 3 maintenance and operations facilities
LIGHT RAIL TRANSIT (LRT)		
Services	Fleet	Facilities and Infrastructure
<ul style="list-style-type: none"> Four LRT lines (Red, Blue, Green, Orange) Service Span 4 am to 1 am 15/20/30 peak/midday/ evening service frequency 	<ul style="list-style-type: none"> 163 Kinkisharyo Super LRVs <ul style="list-style-type: none"> Capacity: 94 seated (165 peak hour per DART policy) 	<ul style="list-style-type: none"> 93-mile system 3.2 miles tunnel 65 stations – 53 at-grade, 9 aerial, 2 below-grade, 1 tunnel 2 maintenance and operations facilities
COMMUTER RAIL (TRE)		
Services	Fleet	Facilities and Infrastructure
<ul style="list-style-type: none"> Service Monday through Saturday connecting Dallas to Fort Worth Operates 5 am to 1 am 20 peak/60 off peak service frequency 	<ul style="list-style-type: none"> 9 TRE locomotives <ul style="list-style-type: none"> Diesel-powered 17 bi-level coaches <ul style="list-style-type: none"> Capacity: 152 seats 8 bi-level cab cars <ul style="list-style-type: none"> Capacity: 132 to 138 seats 	<ul style="list-style-type: none"> 33.8 TRE miles 10 TRE stations TRE Equipment Maintenance Facility (EMF)
PARATRANSIT		
Services	Fleet	Facilities and Infrastructure
<ul style="list-style-type: none"> Modern, accessible vehicles provide curb-to-curb transportation to people with disabilities who are unable to use regular fixed-route buses or trains. 	<ul style="list-style-type: none"> 77 Starcraft <ul style="list-style-type: none"> Capacity: 6-10 seated/ 2-3 wheelchair Non-dedicated fleet of 116 Braun Entervans 	<ul style="list-style-type: none"> Senate Street Paratransit facility (MV Transportation)
DALLAS STREETCAR		
Services	Fleet	Facilities and Infrastructure
<ul style="list-style-type: none"> Dallas Streetcar (City of Dallas owned) Service 5:30 am-Midnight, 7 days a week 20-minute frequency 	<ul style="list-style-type: none"> 4 Dual-Mode Brookville Equipment Corporation <ul style="list-style-type: none"> Capacity: 36 seats 	<ul style="list-style-type: none"> 2.45 miles 6 stations Maintained at LRT Central Rail Operating Facility
NON-REVENUE VEHICLES		
Services	Fleet	Facilities and Infrastructure
<ul style="list-style-type: none"> Agency use 	<ul style="list-style-type: none"> 746 vehicles 	<ul style="list-style-type: none"> Oak Cliff NRV facility

Source: [DART Reference Book](#)



2.2.1 Ridership Summary and Trends

Table 2 summarizes annual ridership and average weekday ridership by mode from 2014 to 2021. Ridership in 2020 and 2021 were affected by the COVID-19 pandemic. With shelter-in-place and other restrictions, DART’s ridership dropped across all modes starting March 12, 2020, reaching levels that were approximately 58% below the previous year. DART implemented a modified weekday service on April 6, 2020, in response to the severe decline in ridership at the outset of the pandemic.

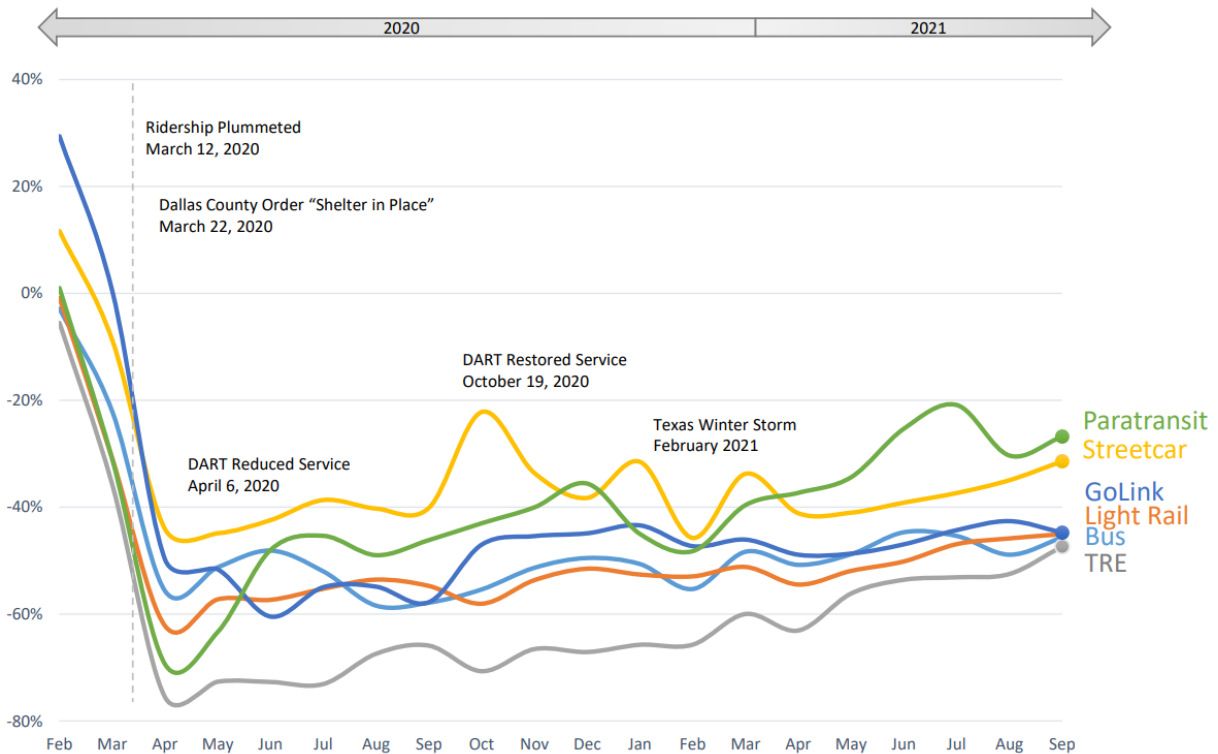
TABLE 2: Annual Ridership and Annual Weekday Ridership by Mode

	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21
Bus								
Annual Ridership	37.4 M	36.5 M	33.7 M	32.1 M	30.2 M	38.7 M	27.7 M	20.1 M
Annual Weekday	126,200	122,300	122,300	108,100	100,800	138,300	88,300	63,600
Light Rail								
Annual Ridership	29.5 M	29.9 M	29.7 M	30 M	28.9 M	28.3 M	20.1 M	14.5 M
Annual Weekday	96,400	97,800	97,800	97,200	93,400	92,700	62,600	44,800
Commuter Rail								
Annual Ridership	2.3 M	2.2 M	2.1 M	2.1 M	2 M	2 M	1.3 M	795,300
Annual Weekday	8,200	7,800	7,800	7,400	7,200	7,100	4,300	2,700
Paratransit								
Annual Ridership	753,400	771,300	816,200	800,800	819,200	906,200	643, 800	571,300
Annual Weekday	2,570	2,670	2,780	2,770	2,860	3,100	2,200	1,900
Vanpool								
Annual Ridership	893,000	871,000	789,000	675,000	596,000	611,500	309,700	31,200
Annual Weekday	3,500	3,400	3,100	2,700	2,300	2,400	1,200	120

Source: [DART Reference Book](#)

The ongoing COVID-19 pandemic continues to impact DART ridership. DART restored service to nearly 90% pre-pandemic miles and hours on October 19, 2020. Ridership began to increase gradually during FY 2021 with the service restored, more people vaccinated and feeling more comfortable to use transit, as well as more employment and schools opening. The in-person State Fair of Texas also resumed in late September 2021, which boosted the rail ridership significantly for a few weeks. FY21 ridership was still down approximately 40% compared to pre-pandemic levels, but was up approximately 20% compared to the previous year in the pandemic. Figure 4 illustrates ridership trends on all modes since early 2020. Ridership on all modes has been steadily increasing.

FIGURE 4: Ridership Trends Since February 2020 (Post-COVID Ridership Recovery)



Source: DART Service Planning

2.3 Financial Information

DART develops an annual budget and *Twenty-Year Financial Plan* (available at dart.org). The FY 2022 annual budget and financial plan include increased resources to support key initiatives along with capital and debt service to fund projects that expand and enhance service and maintain infrastructure in a state of good repair. The FY 2022 Annual Budget is broken down as follows (dollars in millions):

Operating	\$580.4
Capital & Non-Operating	\$841.9
<u>Debt Service</u>	<u>\$206.5</u>
Total Budget	\$1,628.8

The *Twenty-Year Financial Plan* demonstrates that DART has the financial capacity to achieve its strategic priorities over the next twenty years. The sources of funds in the proposed FY 2022 Financial Plan total \$31.0 billion. Sales tax continues to exceed expectations, but are partly offset by lower operating revenue forecasts, reflecting decreased passenger revenue expectations associated with COVID-19 and recovery. In addition, federal funding from COVID-19 pandemic-related legislation enabled the agency to set aside a portion of its sales tax revenues for new programs that will have dramatic and long-lasting benefit to our region. The FY 2022 Financial Plan reflects the ability to invest in these programs, totaling \$443 million over 20 years, on a New Programs line item. These items are under discussion and include potential projects or programs to support sustainability and climate related initiatives.

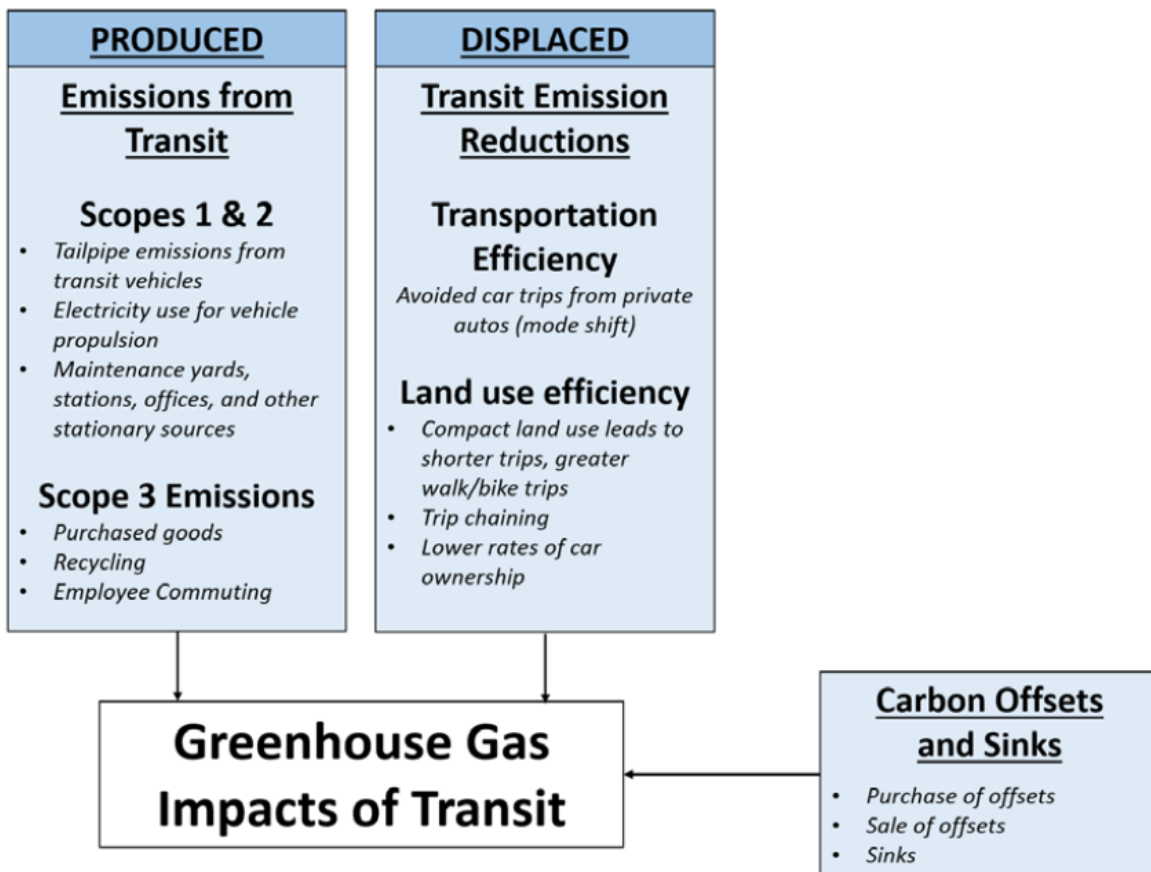
DART also funds much of its capital program with long-term debt. The investment community is increasingly interested in documenting environmental and sustainability management practices, including GHG emissions data and efforts. Environment, Social, Governance (ESG) investing is a form of socially responsible investing that prioritizes financial returns alongside a company's impact on the environment, its stakeholders, and the planet. To many investors, performance validated ESG investing reflects responsible corporate behavior and better business results. Even without formal green bond designation, DART attracts bond investors that focus on ESG, since as a transit agency DART intrinsically provides services and infrastructure that positively impact the environment. ESG is gaining importance in the financial markets and will continue to do so in the coming years. Bond rating agencies have incorporated ESG analyses into their analyses and DART scores well in general credit analyses regarding our commitment to ESG principles. This *Climate Action Plan*, the broader *Sustainability Plan*, and subsequent reporting and progress will be important information to document how DART integrates sustainable design into planning and development of a variety of projects and services.

3 Emissions Inventory

DART’s GHG emissions inventory has been quantified utilizing the APTA Emissions Quantifier Tool for the past several years. The baseline year of 2014 was selected based on the quality and scale of operational data collected, and trends are presented through 2019. 2020 data has been omitted due to the COVID-19 pandemic and associated impacts on the ridership and operations of the transit agency.

Figure 5 provides an overview of the typology of GHG impacts associated with transit, including a definition of scopes and emissions. As shown, GHG emissions produced by transit are classified into three scopes, based on the level of control that an entity has over the activity, and where the emissions are physically generated. Emission sources that are quantified in this inventory include the fuel combustion associated with transportation fleet operations (Scope 1 emissions), and the electricity that is purchased to support electric vehicles, light rail, and DART-owned facilities (Scope 2 emissions). At this time, additional data on Scope 1 fuel combustion for building heating is still being collected and will be included in future reports. Indirect Scope 3 GHG emissions from employee travel, solid waste, and other sources are anticipated to be a small portion of the overall agency total emissions and are excluded from the inventory at this time.

FIGURE 5: Typology of Greenhouse Gas Impacts



Source: APTA SUDS CC-RP-001-09, Rev. 1; Quantifying Greenhouse Gas Emissions from Transit

The APTA Standards that describe GHG impacts associated with transit are further described below. It should be noted that a significant source of emission reductions is displaced emissions associated with land use efficiencies created or supported by transit and avoided car trips (mode shift). While a preliminary estimate of displaced emissions for 2019 is included in this plan, future inventory updates will seek to quantify and track additional GHG reductions associated with displaced emissions.

- **Emissions from transit:** Within transit agencies, the source of emissions is primarily mobile combustion; that is, the tailpipe or life-cycle emissions from fuel used in transit vehicles and electricity used by rail, agency fleet and revenue fleet vehicles. Sources also include stationary combustion, such as on-site furnaces, as well as indirect emissions from electricity generation, employee travel, purchased goods and services, and waste management. These sources are calculated at the agency level, except for emissions associated with new capital works, which are quantified on a project basis.
- **Emissions reductions:** The main source of transit agency emissions reductions is the diversion of trips to transit and rail. These can be divided into two subcategories:
 - Emissions avoided from displaced trips through mode shift from private modes to transit.
 - Emissions avoided when transit enables denser land-use patterns that promote shorter trips, walking and cycling, and reduced car use and ownership. This is expressed through the land-use efficiency effect.
- **Carbon offsets and sinks:** These are agency practices such as the purchase of emissions credits or the selling of such credits, attributed to agency practices such as emissions saved from additional diversions or fuel changes to a less carbon-intensive option. Agencies can also engage in practices such as landscaping or tree planting, which create carbon sinks that store carbon dioxide or remove it from the atmosphere.

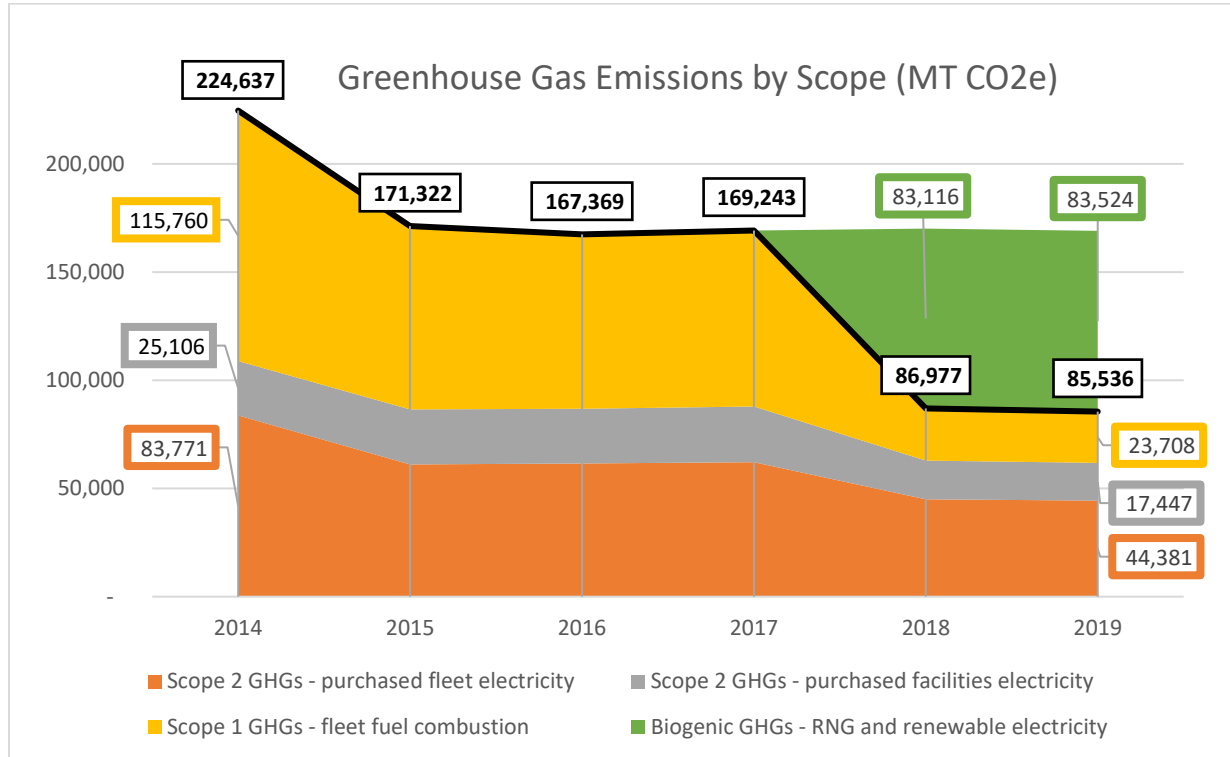
Figure 6 illustrates DART GHG emissions by scope. Information is presented for GHG emissions from the baseline year of 2014 through 2019. Two major fleet shifts are reflected in the data and evidenced by corresponding reductions in GHG emissions:

- **Cleaner Fuels:** The first shift was due to phasing out diesel and LNG buses between 2014 and 2017, which reduced GHG emissions by replacing those buses with CNG.
- **Renewable Resources:** The second fleet change was sourcing RNG for the bus fleet beginning in 2018. RNG is considered a biogenic emissions source as it is created from renewable materials, known as feedstock, and therefore per the GHG Protocol Guidelines, is reported as biogenic emissions outside of the agency's Scope 1 emissions total. DART also brought electric buses into its fleet in 2018, contributing to a further reduction of GHGs. Also in 2018, DART made a commitment to source 30% of purchased electricity from renewable resources, which further reduced Scope 2 GHG emissions.

DART's emissions trends are improving over time thanks to sustainability initiatives, including the fleet transition to cleaner and/or renewable fuels over the past several years. Since the baseline year of 2014, the transitions in DART's fleet have provided reductions in Scope 1 GHG emissions (shown in yellow) from 115,760 MT CO₂e in 2014 to 23,708 MT CO₂e in 2019, which is nearly an 80% decrease for Scope 1. Scope 2 emissions (shown in orange and gray) have also decreased in 2018 and 2019 thanks to DART's commitment to obtain at least 30% of purchased power from renewable sources like wind and solar. Scope 2 emissions averaged 87,000 MT CO₂e in 2015-2017 and averaged 62,000 in 2018-2019, a 28% decrease.

In Figure 6 below, the black line indicates total reportable GHGs. Totals for each scope from 2014 and 2019 are noted on the respective side in a coordinated color box. Biogenic emissions totals are shown in green.

FIGURE 6: DART Greenhouse Gas Emissions by Scope

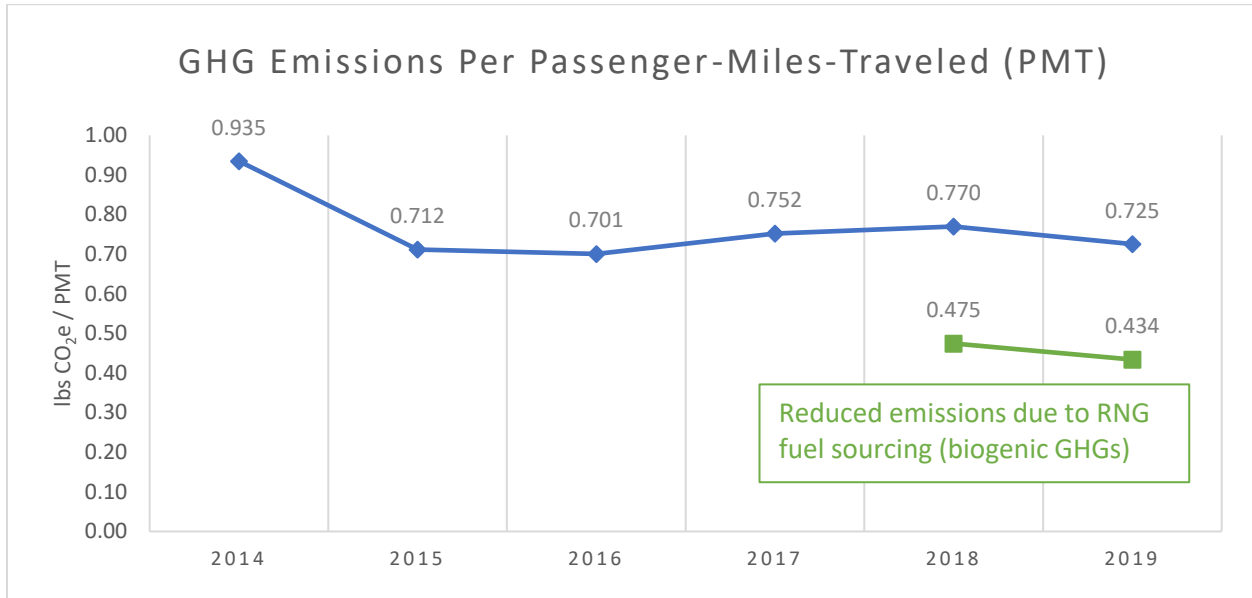


Source: DART Operational Data, 2022

Note: MT CO_{2e} - Metric Tons of Carbon Dioxide Equivalent

Figure 7 shows GHG emissions per passenger-miles-traveled (PMT). This metric has shown a decrease or generally held steady since the baseline year as overall emissions trended downward. Emissions are normalized by passenger-miles-traveled to help compare the fleet and facilities efficiency, while accounting for fluctuation in ridership year-over-year. A lower GHG per PMT ratio means that the agency is being more energy efficient in its movement of passengers. As shown in Figure 7, DART has calculated the GHG per PMT values with both the overall GHG emissions total for all scopes plus biogenic emissions from RNG, and again after removing the biogenic emissions from RNG. This renewable fuel sourcing is beneficially reducing the reportable anthropogenic or man-made GHG emissions from the fleet.

FIGURE 7: Greenhouse Gas Emissions Per Passenger Miles Traveled



Source: DART Operational Data, 2022

As noted earlier in this section, displaced emissions are a significant benefit of public transit. Based on calculations performed within the APTA Emissions Quantifier Tool, and congestion relief metrics sourced from the Texas Transportation Institute's *Urban Mobility Report for the Dallas-Fort Worth Metro Area* (2014), it is estimated that DART displaces a significant amount of GHG emissions in the metro area that would otherwise be generated if passengers utilize personal vehicles. As shown in the inset box, more than 700,000 MT CO₂e were estimated to be displaced in 2019. DART's operational emissions for 2019 (85,536 MT CO₂e) were a fraction of the emissions displaced by mode shift, resulting in a net emissions reduction of 632,915 MT CO₂e. This calculation shows that displaced emissions was more than seven times the reduction achieved by fleet and renewable energy shifts, demonstrating the importance of transit within the broader climate action strategy, whether local, national or global. This factor is consistent with the range of transit multipliers estimated in a recent study by the National Academies of Sciences, Engineering and Medicine titled *An Update on Public Transportation's Impacts on Greenhouse Gas Emissions* (2021).

2019 GHG Emissions Displaced:

718,451 MT CO₂e

This is equivalent to keeping
~155,000 cars off the roads
for an entire year!

Overall, DART is working to reduce its climate and environmental impacts and has a number of goals that will shape these actions in the coming years. Many of these goals require collaboration with local and regional partners to realize additional benefits through coordinated land use and transit planning.

4 Past and Current Initiatives

4.1 DART Sustainability Plans

4.1.1 DART Sustainability Framework Plan (2012)

In 2012, DART joined APTA’s Sustainability Commitment Program in support of the DART Board’s Strategic Priorities. With a focus on sustainable efforts, DART developed and formalized a sustainability framework upon which to build and guide actions and decisions over the coming years. The five-year action plan described in the 2012 plan served as the foundation of a sustainability program. The framework also documents the development of the framework plan, including the creation of the DART Green Team, comprised of representatives from all the departments in the agency. Key elements of the plan included:



- Metrics, measurements, and actions to achieve short-range goals and objectives
- Definition of additional mid- and long-range targets or “stretch goals”
- Articulation and commitment of annual sustainability targets
- Definition of reports and tracking requirements for the sustainability plan
- Communication plan regarding internal and external stakeholder engagement

This *2012 Sustainability Plan* led DART to receive Bronze level recognition in APTA’s Sustainability Commitment Program.

4.1.2 DART Sustainability Plan Report (2018)

The *2018 Sustainability Plan Report* documents the vision, purpose, and process in creating an updated framework for advancing sustainability at DART, including the potential for higher level APTA recognition. This plan broadened the sustainability discussion under three pillars: Our Community, Our Agency, Our Planet.

Figure 8 illustrates the 2018 sustainability framework including the range of focus areas and associated goal statements. Participants in the process discussed how the framework can help DART tell its story and demonstrate the many ways the agency provides social, economic, and environmental benefits to a range of stakeholders including efforts around energy-efficiency and air quality improvements. The energy goal focuses on efficiency and renewable sources. Many of the other goals support strategies that will continue to grow displaced emissions by integrating land use decisions, improving service, and enhancing access.

FIGURE 8: 2018 Sustainability Framework

SUSTAINABILITY FRAMEWORK

CUSTOMERS & COMMUNITY	OUR AGENCY	OUR PLANET
DIVERSITY & INCLUSION Support the diverse communities in our service area through inclusive, universally accessible transit. Provide education, outreach, and opportunities for traditionally underrepresented businesses. 	DIVERSITY & INCLUSION Create an inclusive culture that welcomes the diverse qualities of all employees, and support efforts to attract and retain an innovative and skilled workforce. 	PLANNING Minimize DART's impact to the community and natural environment through context-sensitive planning, design, construction, and operation that incorporates responsive mitigation . 
RIDERSHIP & ACCESS Grow ridership through quality transit services that are reliable, comfortable, convenient, and equitable . Enhance the reach of transit through quality fixed route service, innovative services, and first/last mile connections. 	EMPLOYEE ENGAGEMENT Engage our people in collaborative programs to encourage professional development, recognize talent, and promote employee health and financial wellness . 	SUSTAINABLE PROCUREMENT Collaborate with suppliers and professional service providers to identify and implement sustainable best practices and innovative solutions that create incentives for social, economic and environmental benefits . 
EQUITY Provide fair and affordable service for all service area residents, with a focus on improved mobility and job access opportunities for transit-dependent communities. 	FINANCIAL STRENGTH Be good stewards of public funds through responsible financial planning and investing in services, programs, and projects that deliver sustainable value to the community. 	ENERGY Improve fuel and energy use efficiency while transitioning to cleaner fuels and renewable energy sources. 
LIVABLE COMMUNITIES Be a regional catalyst for vibrant places to live, work, and play. Collaborate with communities to create walkable, transit-oriented developments around transit investments. 	OCCUPATIONAL SAFETY Promote a "safety-first" attitude through a pro-active approach that focuses on employee behavior and communication to prevent accidents and injuries throughout the agency. 	WATER Improve water use efficiency and stormwater quality through conservation, reuse, and best practices . 
COMMUNITY ENGAGEMENT Be an active member of the community, creating connections and positive impacts through transparent, inclusive communication, and engagement. 	OPERATIONAL RESILIENCY Invest in technology, staff, and assets in a forward-thinking manner. Collaborate on plans and improvements that lead to more secure, resilient, and nimble systems and operations that benefit both agency and customers. 	WASTE Minimize waste through durable design, preventive maintenance, material recovery, and business practices . 
SECURITY Improve customers' sense of safety and security at facilities and on vehicles through education, design features, increased presence, and communication tools. 		

Source: DART Sustainability Plan Report

5 Local Plans and Policies to Reduce GHG Emissions

5.1 The Metropolitan Transportation Plan: Mobility 2045 (June 2018)

Mobility 2045 was adopted in June 2018 (update of the plan is currently underway) by the Regional Transportation Council (RTC), which serves as the policy body for the Metropolitan Planning Organization (MPO) for the North Central Texas 12-county region. As the MPO, the North Central Texas Council of Governments (NCTCOG) outlines programs and policies in *Mobility 2045* to improve the efficiency of the transportation system, which in turn improves air quality by reducing regulated pollutants, and also serves to reduce non-regulated pollutants (e.g., GHG) and petroleum use.

The RTC has instituted many programs and policies with the primary goal of improving air quality. NCTCOG is responsible for coordinating air quality planning in the federally classified nonattainment area. As the majority of ozone-forming emissions can be attributed to mobile sources and other transportation-related activities, NCTCOG and other stakeholders, including local governments and various public and private associations and coalitions, have taken a proactive approach toward improving regional air quality. These stakeholders have implemented policies and programs to support emission reductions and air quality impacts. Key air quality policies included in *Mobility 2045* are listed below:

FIGURE 9: Metropolitan Transportation Plan: Mobility 2045-Air Quality Policies

MTP Reference #	Air Quality
AQ3-001	Pursue successful transportation conformity determinations of the Metropolitan Transportation Plan and Transportation Improvement Program consistent with federal and state guidelines.
AQ3-002	Provide technical assistance and analysis to attain and maintain National Ambient Air Quality Standards and reduce negative impacts of other air pollutants.
AQ3-003	Support and implement educational, operational, technological, and other innovative strategies that improve air quality in North Central Texas, including participation in collaborative efforts with local, regional, state, federal, and private sector stakeholders.
AQ3-004	Support and implement strategies that promote energy conservation, reduce demand for energy needs, reduce petroleum consumption, and/or decrease greenhouse gas emissions.
F3-002	Incorporate sustainability and livability options during the project selection process. Include additional weighting or emphasis as appropriate and consistent with Regional Transportation Council policy objectives including, but not limited to, demand management, air quality, natural environment preservation, social equity, or consideration of transportation options and accessibility to other modes (such as freight, aviation, bicycle, and pedestrian). <i>(While this is listed as a financial policy, it has specific implications for the air quality portion of the plan.)</i>

Source: NCTCOG *Mobility 2045* Plan

In addition, the *Metropolitan Transportation Plan* highlights air quality programs that seek to reduce NO_x, VOC, and criteria air pollutant emissions through the use of advanced technologies and demonstration programs to study the feasibility of control measures that could be used across the region. More information can be found at nctcog.org/trans/plan/mtp/2045.

5.2 DART 2045 Transit System Plan (January 2022)

Dallas-Fort Worth is the fourth largest metropolitan area in the U.S. and is projected to add nearly 4 million residents and 2.2 million jobs by the year 2045. To address this rapid growth and new mobility trends, DART adopted the *2045 Transit System Plan* as an update to its prior long-range plan. The *2045 Transit System Plan* will shape DART's new mobility future through strategic improvements and investments to create a more accessible, sustainable, and reliable system.

The 2045 Transit System Plan includes five themes for the agency’s focus and corresponding goals and actions for short-, mid- and long-term implementation. Three themes—Mobility and Innovation, Service and Expansion, and Collaboration—include goals and actions that would have an immediate influence on reducing DART’s GHG emissions in the future. These themes, goals, and actions are highlighted below and will be initiated and tracked by DART’s TSP Implementation Working Group. Two other themes—Rider Experience and Land Use and Economic Development—highlight goals and actions to improve walk and bike connectivity to bus stops and rail stations, as well as encourage mixed use development around stations to help with shifting more people to transit.

FIGURE 10: 2045 Transit System Plan DART Related Themes

WHAT	WHEN Timeframe				WHO Responsible			
	ON-GOING	SHORT-TERM (1-5 yrs)	MID-TERM (6-10 yrs)	LONG-TERM (10+ yrs)	DART	DART CITIES*	AGENCY PARTNERS	PRIVATE SECTOR
GOALS AND ACTIONS								
MOBILITY AND INNOVATION THEME								
GOAL 5: Explore fleet options and facility enhancements that support local and regional air quality and climate action goals								
ACTION 5.1 Evaluate potential to transition to all electric bus fleet by 2045 while considering other emerging clean technologies	■				●			●
ACTION 5.2 Explore and integrate LEED principles and clean energy sources such as solar into operating and passenger facilities to reduce energy consumption and reduce costs		■			●	●		●
ACTION 5.3 Develop a strategy for the integration of electric vehicle (EV) charging stations at DART facilities to promote EV use by employees and residents		■			●	●		
SERVICE AND EXPANSION THEME								
GOAL 8: Explore opportunities for regional rail improvements for TRE and Silver Line								
ACTION 8.1 Purchase new commuter trains to replace TRE fleet that address ridership needs and create opportunities for regional vehicle compatibility				■	●		●	
COLLABORATION THEME								
GOAL 4: Collaborate with local and regional agencies on policies and programs that promote transit through access, equity, resiliency and air quality related initiatives								
ACTION 4.1 Coordinate the development and implementation of city and regional climate action plans to reduce transportation emissions	■				●	●		
ACTION 4.2 Work with NCTCOG to promote programs that increase transit mode share and reduce air pollution from single-occupancy vehicles	■				●		●	
ACTION 4.3 Work with Service Area cities on a range of housing and employment near stations and transit supportive zoning around transit corridors and stations		■	■		●	●		●
ACTION 4.4 Advance complete streets and curb management policies within important transit corridors to prioritize and enhance transit operations	■				●	●		
ACTION 4.5 Partner on coordinated plans for electric vehicle (EV) charging stations and infrastructure on DART properties as appropriate		■			●	●		●

Source: DART 2045 Transit System Plan (January 2022)

5.3 Dallas Comprehensive Environmental and Climate Action Plan (May 2020)

The Dallas Comprehensive Environmental and Climate Action Plan (CECAP) was published in May 2020. DART was a key stakeholder and collaborated with the City of Dallas in creating this plan. The plan lists eight city-wide goals. The primary goal and objectives related to DART’s transportation role in reducing GHG emissions city-wide are shown below. To meet their goals and targets, the CECAP proposes 97 actions across eight sectors, of which 45 are aimed at primarily reducing GHG emissions. Of those actions, 19 are related to the transportation sector/goal. Several relate specifically to DART:

Goal 3: Dallas' communities have access to sustainable, affordable, transportation options

- **Shift the surface transportation system to move people and goods in fuel-efficient vehicles.**
 - ✓ Work with City of Dallas, DISD, and DART to transition the bus and light duty fleet to 100% electric by 2040.
- **Reduce trips where people drive alone.**
 - ✓ Work with DART to expand the GoPass platform application as a comprehensive “Mobility as a Service” (MaaS) provider to unify and streamline connectivity between public and private multi-modal networks.
 - ✓ Increase bus service across the City by adding new routes, shortening headways, and overall increasing service reliability and customer experience.
- **Synergize jobs and housing with transportation infrastructure to increase access to walking and biking options, and public transit.**
 - ✓ Expand upon the DART Transit Oriented Development (TOD) guidelines to collaborate on a new proactive TOD and housing strategy with DART.
 - ✓ Work with DART to roll out a sustainable transport “Mobility Hub” infrastructure program.
- **Ensure that walking, biking, public transit, vehicular transportation infrastructure is reliable and safe under all weather conditions.**
 - ✓ Work with DART to improve bus station shelter amenities that reduce the impact of weather on rider comfort and usability.

In this plan, the City of Dallas outlines key GHG reduction targets:

2050 Carbon Neutrality Target: The City of Dallas is committed to meeting the international emission reduction targets set by the Paris Agreement in 2016 and the goal to keep warming temperatures at or below 1.5 degrees Celsius.

2030 Interim Target: Since the 2050 target year is still decades away, the City set interim targets. Based on the trajectory from the 2015 emissions base year to carbon neutrality by 2050, this would translate to a 43% reduction in total emissions below 2015 levels by 2030 for the City of Dallas.

TARGETS

INSTALL 1,500 EV CHARGING OUTLETS TO SUPPORT 39,000 VEHICLES THROUGHOUT THE CITY BY 2030.

ALL NEW TRANSIT BUSES AND LIGHT DUTY VEHICLES PURCHASED BY THE CITY, DALLAS SCHOOLS, AND DART AFTER 2030 TO BE FULLY ELECTRIFIED, AND THEN FULL FLEET TRANSITION BY 2040.

SINGLE OCCUPANT VEHICLE TRAVEL MODE SHIFT FROM 88% TO 79% IN 2030 AND 88% TO 62% IN 2050.

6 Existing GHG Emission Reduction Efforts

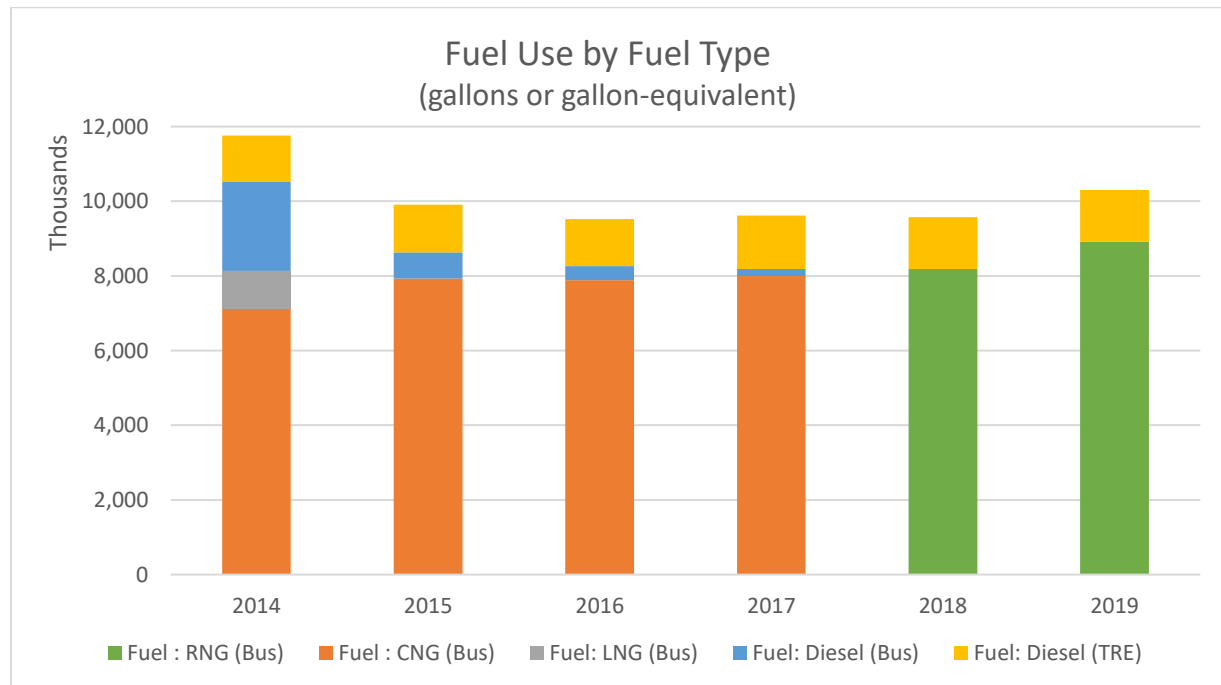
6.1 Transition to Low Emissions Vehicles – CNG and Electric

DART's bus fleet is primarily CNG, operating with 100% renewable energy sources. DART added seven all electric buses to the fleet in 2018 and is considering expansion of electric vehicles as technology continues to advance. The next major bus fleet replacements are scheduled for 2025-2028. Smaller fleet changes will occur in the interim as well.

In 2013, DART's current fleet of buses began service, replacing a mix of diesel and LNG buses by 2017. The bus fleet today is 685 CNG and 7 electric buses (as noted in Table 1 peak fleet requirements are less with the new bus network and many buses will be auctioned off in the coming months). Electric buses emit no tailpipe pollution, reducing carbon dioxide emissions by nearly 244,000 pounds per year versus a diesel bus, totaling approximately 1.7 million pounds of carbon reduced per year by DART's seven electric buses. (2020 Texan by Nature 20, DART Profile)

In 2018, DART signed an agreement with [Element Markets Renewable Energy](#) to provide RNG for DART's fleet of CNG powered buses. RNG has up to 90.7% less GHG emissions and 85.9% less nitrogen oxides (NOx) than traditional electricity sources as reported by the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy. RNG also produces zero particulate matter. Figure 11 illustrates the fuel type changes for the bus and commuter rail fleets from 2014 to 2019.

FIGURE 11: Fuel Use by Fuel Type (2014 to 2019)



Source: DART Operational Data, 2022

As shown in Figure 11, TRE is the only mode that DART operates using diesel-powered vehicles. DART plans to conduct a [TRE Fleet Assessment study](#) in FY23 to explore options to replace the aging TRE fleet with more efficient and/or alternative fuel options. Also, the DART Silver Line is under construction and scheduled to open in late 2024. The Silver Line regional rail vehicles will be the latest diesel-electric self-propelled vehicles with diesel engines compliant with EPA Tier 4 [ultra-low emission standards](#). Emissions testing for the engines indicates that emission levels for carbon monoxide, hydrocarbon, NOx and particulate matter (PM) were below the per engine limit prescribed for EPA Tier 4 Certification. The Tier 4 standards are the latest standards and require that emissions of PM and NOx be further reduced by about 90 percent beyond prior standards.

DART continues to [research new fleet technology options](#) including long-range battery electric buses for future fleet replacements in an effort to continue to reduce the agency's GHG emissions. DART is developing a *Zero Emissions Bus Fleet Transition Plan* by the end of 2022 that will outline a strategy and a road map for converting the CNG fleet to a zero emissions fleet by 2040, including potential changes to bus operating facilities.

6.2 Operational Emissions Reductions

DART has a [focus on renewable energy](#). Currently, 30% of DART's electricity is from renewable sources, and DART is developing a procurement strategy to potentially increase this to 100% by the end of 2024. The renewable energy commitment also includes equipping DART's passenger shelters with solar-powered lights. DART is in the process of renewing its bus shelter contract, which includes provisions for incorporating new technology. Approximately 70% of DART's passenger shelters have solar-powered lights. There are also 100 freestanding solar-powered LED bus stop lights throughout the system to improve security for riders, make it easier for bus operators to see waiting passengers, and further the agency's sustainability goals.

DART is [installing LED lighting](#) at all DART bus and rail facilities, including administrative buildings and the downtown Dallas headquarters. Ten facilities have been completed to date, which included replacing 90 percent of the lights in the West Transfer Center area with brighter LED bulbs and installing new lighting fixtures along the transit mall between West End and Pearl/Arts District stations and at the CBD East Transfer Center. A future contract for LED Installation is in process for all administrative buildings and 36 additional rail stations. DART has also installed switches in its East Dallas offices so that lights automatically turn off in unoccupied workspaces. At the Northwest Rail Operating Facility, motion detectors trigger the lights only when the area is in use. When unoccupied, spaces like hallways, conference rooms and bathrooms are dim or dark to save electricity. The HVAC system recognizes whether the room is occupied or empty and adjusts itself accordingly.

DART Police Headquarters, located in the historic Monroe Shops building, was honored by the United States Green Building Council as the first publicly owned building listed on the National Register of Historic Places to achieve the [LEED® Platinum Certification](#), the organization's highest recognition. The building features Energy Star®-rated systems, daylight-responsive controls, and water-efficient faucets, shower heads and toilets to reduce power and water consumption.

In February 2021, DART completed an Investment Grade Audit (IGA) Report. This report outlines a range of projects to improve DART infrastructure, reduce energy consumption, comply with DART D/M/WBE goals and provide sustainable, [onsite renewable energy production](#). The IGA Report identified \$21 million

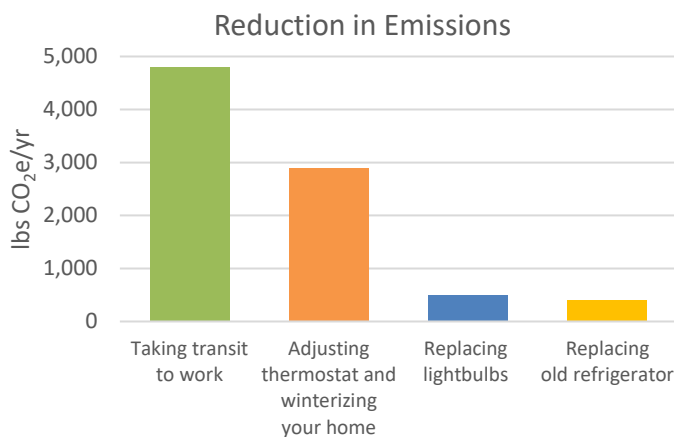
in needed infrastructure improvements at nineteen (19) facilities. DART is in the process of planning and implementing a range of projects to improve productivity and reduce energy consumption. These items have a reasonable potential to create annual energy costs savings through LED lighting conversions, HVAC controls upgrades, and amongst others, solar panels installation at DART facilities and various infrastructure locations, while also reducing GHG emissions.

6.3 Reducing GHG Emissions and CO₂ through Public Transit

DART helps commuters curb pollution. By riding instead of driving, commuters not only help the environment, but they also limit wear and tear on their cars, lower auto expenses and eliminate the stress of stop-and-go driving. Per APTA, the benefits of public transit include [reducing travel by private vehicles](#), [reducing congestion](#), and [offering people energy efficient choices](#). A single person, commuting alone by car, who switches a 20-mile round trip commute to existing public transportation, can reduce his or her annual CO₂ emissions by 4,800 pounds per year, equal to a 10% reduction in all GHG produced by a typical two-adult, two-car household. By eliminating one car and taking public transportation instead of driving, a savings of up to 30% of carbon dioxide emissions can be realized. Public transportation reduces overall GHG emissions without reducing the mobility so vital to our nation’s economic health and our citizens’ quality of life. Further, Public transportation is essential to energy efficient land use patterns. APTA notes that efficient land use produces results far beyond the immediate benefit of increased use of public transportation. It has the potential to significantly change the way we

Public transportation with its overarching effects on land use, is estimated to reduce CO₂ emissions by 37 million metric tons annually.

FIGURE 12: Commuting by Public Transportation (One of the most Significant Actions to Reduce Household Carbon Emissions)



Source: APTA, [Public Transportation Reduces Greenhouse Gases and Conserves Energy](#)

live and travel, reducing our individual carbon footprints while preserving and enhancing our mobility. Figure 12 illustrates that public transportation use is one of the most effective actions individuals can take. (APTA)

Transit facilities offer good [opportunities for EV chargers](#) to further incentivize public transition to EVs. A 2016 study titled *Integrated Approaches to EV Charging Infrastructure and Transit System Planning* by the National Center for Transit Research, proposed a planning model for siting EV charging in connection with transit stations. The model focused on "promoting multi-modal trips that include EV driving and transit use to reduce VMT and emissions.

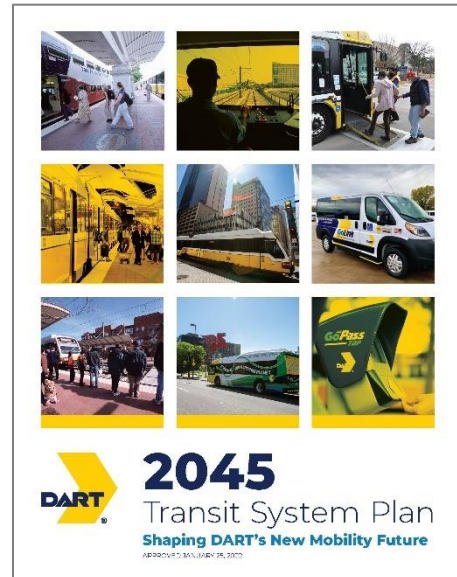
Distinct from existing practice, we take into account both work trips and activity-based trips (ABT), which involves multiple trip segments/purposes on commuting trips." The report noted for anticipated impacts that "regional impacts of VMT and emission reductions should not be solely based on the planned number of EV charging outlets. The impacts will be broader due to the parking turnover at public sites."

6.4 Regional Leadership

DART is a founding member of the [Air North Texas](#) (formerly North Texas Clean Air Coalition), a group that encourages voluntary efforts to improve air quality in our region by educating, motivating, and recognizing the business community. DART supports Air North Texas in many ways, from participating in the group's annual efforts like [tryparkingit.com](#) – a resource for finding greener travel options like carpool, vanpool, and transit – to informing businesses about the benefits of employer-sponsored commute options.

One of the goals of DART's *2045 Transit System Plan* is to [collaborate with local and regional agencies on policies and programs that promote transit](#) through access, equity, resiliency and air quality related initiatives. DART will continue to collaborate with the NCTCOG and its service area cities to improve transit service, multi-modal connectivity, and transit-oriented development to help reduce GHG emissions.

DART also assists on regional issues outside its service area. In 2019, DART led the creation of the [Southern Dallas County Inland Port Transportation Management Association](#) (IPTMA) when area leaders recognized a need to find ways to connect potential employees to a major job center located mostly outside of the DART Service Area. The IPTMA provides transportation and transit solutions to employers and employees in the Southern Dallas County Inland Port area.



DART's 2045 Transit System Plan was approved January 25, 2022.

7 Emission Reduction Goals, Strategies and Actions

DART has outlined the following goals for reducing GHG emissions, aligned with federal, state, regional, or local GHG emission reduction goals. For each goal, DART has identified short-term and longer-term strategies the agency will take to achieve the goal. For each action, the tables below present related metrics that will be used to measure performance, the targeted timeframe for completion, and the staff/department(s) responsible for implementation.

Goal #1: By 2030, decrease total GHG emissions from transit fleet by 25 percent.

This goal emphasizes actions to develop plans for DART's non-electric fleets (bus and TRE) to support additional reductions in GHG emissions. In addition, actions are in place to target emissions reductions of DART's diesel-powered commuter trains through possible fleet replacement and procuring technology to reduce engine idling.

Goal #2: By 2035, use 100% renewable electricity for facility and light rail/streetcar operations.

This goal focuses on actions that will reduce our dependency on nonrenewable sources of electricity for DART facilities to more sustainable sources including wind and solar that have a lighter emissions footprint.

Goal #3: Integrate zero-emission technologies into agency facilities and operations.

This goal targets actions to develop implementation plans and pilot studies to identify where new technologies can be integrated into our current facilities and transit operations. Actions include consideration for solar panels, EV chargers installation and non-revenue fleet replacement.

Goal #4: Retrofit facilities with energy-efficient technology to reduce energy needs.

This goal identifies actions that target the optimization of facilities with emission reducing technologies that will provide energy efficiency and cost savings through retrofitting obsolete or inefficient systems and adding features such as motion sensors and LED lighting.

Goal #5: Increase transit ridership and reduce automobile trips through coordinated land use planning.

This goal incorporates the development, implementation, and collaboration of transit-oriented development plans for DART properties and for projects in service area Cities. The actions outlined in this goal encourage the type of development and access to transit that have the potential to lower GHG emissions by increasing transit ridership, decreasing vehicle miles traveled, and facilitating more walking and biking.

Goal #1: By 2030, decrease total GHG emissions from transit fleet by 25 percent.				
Strategy	Actions	Metric to track progress	Timeframe	Responsible Office
Electrify bus fleet	Develop and adopt bus electrification transition plan	Y/N plan developed	September 2023	DART Engineering
	Upgrade maintenance facility to accommodate electric buses	Y/N facility updated	September 2028	DART Engineering
	Purchase at least 10-12 additional electric buses	# of buses purchased	December 2028	DART Engineering
		% change in emissions	N/A	DART Engineering
	Continue electric bus testing and evaluation as new buses are operational	Y/N complete	Ongoing	DART Engineering
	Transition to zero emission bus fleet	Y/N transition complete	September 2040	DART Engineering
Reduce commuter rail locomotive emissions	Conduct TRE Fleet Assessment to evaluate more energy efficient or clean fuel alternatives for TRE locomotives	Y/N plan developed	December 2023	TRE, Capital Planning
	Reduce idling and improve efficiencies of locomotive operations	Y/N installation of wayside power units	December 2024	TRE

Goal #2: By 2035, use 100% renewable electricity for facility and light rail/streetcar operations				
Strategy	Actions	Metric to track progress	Timeframe	Responsible Office
Convert to 100% renewable energy by 2035	Procure new electricity contract for FY24-FY34 with focus on renewable energy sources	Y/N contract executed	September 2024	DART Procurement
	Install on-site solar photovoltaic installations at 3 facilities	# of facilities with solar photovoltaic installations	December 2025	DART Growth & Regional Development (GRD)/DART Engineering
		kW produced / % of energy needs met	December 2025	N/A
	Increase purchase of renewable energy to 50%	% change in renewable energy purchased	September 2030	DART Procurement
	Increase purchase of renewable energy to 100%	% change in renewable energy purchased	September 2035	DART Procurement

Goal #3: Integrate zero-emission technologies into agency facilities and operations				
Strategy	Actions	Metric to track progress	Timeframe	Responsible Office
Plan all new maintenance facilities to accommodate zero-emission technologies	Develop Bus Operating Facilities Master Plan	Y/N plan developed	December 2024	GRD, DART Operations, DART Engineering
	Develop bus operations facility design guidelines	Y/N guidelines developed	December 2025	GRD, DART Operations, DART Engineering
Improve public access to EV charging infrastructure	Install 10 EV charging spaces at DART facilities for public use (pilot program)	# of charging stations installed	July 2023	GRD, DART Engineering
	Develop strategy and implementation program to expand EV chargers in the DART Service Area	Y/N program developed	December 2024	DART Capital Planning
Explore opportunities to integrate new technologies into agency operations	Pilot zero-emission EVs for fleet vehicles, including non-revenue vehicles (NRV) or police vehicles	Y/N pilot completed	December 2030	DART Engineering, Operations and Police
	Install EV charging at operations facilities	# of charging stations installed	December 2030	GRD, DART Engineering
	Research renewable gasoline options	Y/N research completed	December 2025	DART Engineering

Goal #4: Retrofit facilities with energy-efficient technology to reduce energy needs				
Strategy	Actions	Metric to track progress	Timeframe	Responsible Office
Install LED lighting at existing DART facilities	Install LED lighting in 36 rail stations	# of facilities upgraded / # of LED lights installed	December 2024	DART Procurement, DART Engineering
		% reduction in energy use		
	Install LED lighting at 18 administration buildings	# of facilities upgraded / # of LED lights installed	December 2024	DART Procurement, DART Engineering
		% reduction in energy use		
Install motion detector and/or occupancy sensor technology at existing facilities	Develop a strategy and schedule to install motion detectors and/or occupancy sensors in DART facilities to reduce energy needs	Strategy and schedule developed	June 2023	DART Facilities Management
		# of motion detectors and/or occupancy sensors installed	September 2025	

Goal #5: Increase transit ridership and reduce automobile trips through coordinated land use planning				
Strategy	Actions	Metric to track progress	Timeframe	Responsible Office
Develop and implement TOD plans in collaboration with DART cities	Complete eight (8) TOD plans at DART facilities where there is underutilized parking to support TOD requests for proposals and appropriate agreements	# of TOD plans completed	December 2025	DART Economic Development
	Collaborate with city and/or developer to implement TOD projects on two DART properties	# of TOD projects completed	December 2028	DART Economic Development
		Development data (acres, # residential units, SF of office/retail)	December 2028	
		Average weekday/weekend ridership changes	Monthly post-opening	DART Service Planning
Support advancement of station area TOD plans within cities	Provide technical data and support for development of a city-wide TOD Strategy to advance station area plans within the City of Dallas as part of their Forward Dallas comprehensive plan update	Y/N TOD Strategy developed and adopted by Dallas	December 2023	DART Economic Development, DART Capital Planning
	Collaborate with DART cities to advance ten conceptual station area plans	# of TOD plans developed	December 2028	DART Economic Development, DART Capital Planning
Participate on City station area, comprehensive plan, or zoning review committees to encourage TOD and transit incentives	Attend technical committee meetings and provide input to promote density and transit supportive land use and zoning controls to incentivize mode shift to transit and more efficient land use patterns.	# of meetings attended	December 2025	DART Economic Development, Capital Planning, Service Planning
		# of zoning changes approved	December 2027	
		# of plans updated with strong transit supportive actions	December 2027	

8 Implementation and Monitoring

Chapter 7 documents the agency's strategies, actions, and tracking metrics to inventory DART's progress toward achieving its climate action plan goals. These goals supplement and will be integrated into the broader *DART Sustainability Plan*. Over time, the agency anticipates developing a formal tracking tool and dashboard to document its sustainability and climate action plan progress. This tool will include the sources of the data collected, as well as the process for calculating metrics.

DART's sustainability initiatives represent nearly every department of the organization. Staff at all levels will be engaged as appropriate to help achieve the goals and actions outlined in this plan. Collaboration with partner agencies will also be critical.

Implementation of the plan will focus on the following strategies:

Annual Work Plans: DART staff will engage a "Green Team" with representatives from relevant departments to develop an annual work plan to show how activities will be defined and accomplished to ensure progress toward actions. The work plans will align with the goals and actions set in the *Climate Action Plan*. These work plans will document steps to advance an action, which may include submitting a project request for funding through DART's annual budget process, defining a scope of work, advancing a pilot program or project, or developing a strategy to seek grant funding under current or new regional, state, or federal programs.

Partnerships: Reducing greenhouse gas emissions and adapting to changing climate conditions will require collective action at the local, regional, state, and federal level. It will require strategic alignment internally at DART and among agencies to support new or updated policies or programs, remove barriers to implementation, identify funding, and coordinate financial investments. DART will continue to collaborate with DART Service Area cities and regional partners on initiatives and actions to achieve the initial goals and actions in this plan, and more importantly to build on this plan and define additional actions that can further decrease GHG emissions. Recent examples of partnerships include our participation in the development of the City of Dallas' CECAP, coordination with the NCTCOG on funding opportunities for EV and zero emission technologies, and DART's update to our TOD policy and development of TOD guidelines to promote and encourage more density and development on DART property and around our station areas. As discussed in this plan, land use efficiency and mode shift to transit, coupled with DART investments in fleet, energy, and technology, can have a substantial impact on reducing GHG emissions.

Funding Opportunities: The Bipartisan Infrastructure Law, as enacted in the Infrastructure Investment and Jobs Act, authorizes up to \$108 billion for public transportation – the largest federal investment in public transportation in the nation's history. With an emphasis on safety, modernization, climate, and equity, there is significant potential for funding sources to advance actions defined in this plan through investments in modern systems that results in efficiencies in energy and operations, expansion of cleaner and greener fleet and facilities, and improved services and access to transit. DART will work internally and with regional, state, and federal partners to strategically position projects and programs for these funding opportunities.

Data Collection and Tracking: DART collects data annually for several of its sustainability goals and will formalize an internal process to collection and track data. Some data is already reported internally or to the national transit database (NTD), while some is manually collected. DART will track data and performance by assessing department work plans, collecting necessary data, and identifying data gaps and potential opportunities for improving data collection and reporting from internal departments.

Reporting: DART will produce an annual Sustainability and Climate Action Plan update to report on the progress toward the actions identified for each goal. The DART.org website is in the process of being updated and will include a new sustainability section where updates and a new dashboard to document progress and performance can be posted. The *DART Sustainability Plan* is in the process of being updated and will incorporate this first *DART Climate Action Plan*. In general, major plan updates will occur approximately every five years or more frequently to respond to changing policies, goals, and conditions in the future. The community and key stakeholders will be informed through these reports. The DART Board of Directors will be updated more regularly to discuss progress and future goals and strategies.

Agency Strategic Priorities: Current DART plans support continued progress towards sustainability and climate action goals. To strengthen the commitment and internal alignment, DART will incorporate discussions around how to better integrate goals and strategies around sustainability into the agency's next strategic plan, which will be developed over the next one to two years. This can influence funding commitments and investment priorities in the near and long-term.

9 References

- 2020 Texan by Nature 20, DART Profile, <https://txn20.org/honorees/dallas-area-rapid-transit/>)
- [An Update on Public Transportation's Impacts on Greenhouse Gas Emissions \(2021\)](#)
- [APTA, Public Transportation Reduces Greenhouse Gases and Conserves Energy](#)
- [APTA SUDS CC-RP-001-09, Rev. 1; Quantifying Greenhouse Gas Emissions from Transit](#)
- [Climate Mayors' National Climate Agreement](#)
- DART Related
 - [Dallas Area Rapid Transit Reference Book 2022](#)
 - [Dallas Climate Action website](#)
 - [Dallas Comprehensive Environmental and Climate Action Plan, May 2020](#)
 - [DART 2045 Transit System Plan \(January 2022\)](#)
 - DART website: www.dart.org/maps/pdfmaps/DARTSystemMap24jan22.pdf
- [EPA Center for Corporate Climate Leadership](#)
- GHG Emissions Inventory Methodology
 - GHG emissions from transportation sources were quantified using the methodology described in [APTA's Quantifying Greenhouse Gas Emissions from Transit](#).
 - APTA's [Transit Emissions Quantifier Tool](#) is used by DART to calculate emissions annually.
 - GHG emissions scope boundaries follow the [Climate Registry guidelines](#).
 - GHG emissions from stationary sources were calculated based on the [EPA's Emission Factors for GHG Inventories](#).
- [Integrated Approaches to EV Charging Infrastructure and Transit System Planning by the National Center for Transit Research, 2016](#)
- [National Academies of Sciences, Engineering, and Medicine 2021. TCRP: An Update on Public Transportation's Impacts on Greenhouse Gas Emissions. Washington, DC: The National Academies Press](#)
- [Paris Agreement](#)
- [U.S. EPA Fast Facts, U.S. Transportation Sector Greenhouse Gas Emissions 1990–2019](#)

10 Acronyms

ABT	Activity Based Trips
APTA	American Public Transportation Association
CECAP	Comprehensive Environmental and Climate Action Plan (Dallas)
CNG	Compressed Natural Gas
CO ₂	Carbon Dioxide
DART	Dallas Area Rapid Transit
DFW	Dallas/Fort Worth
DISD	Dallas Independent School District
D/M/WBE	Disadvantaged Minority Women Business Enterprise
EMF	Equipment Maintenance Facility
EPA	Environmental Protection Agency
ESG	Environment, Social, Governance
EV	Electric Vehicle
FTA	Federal Transit Administration
GHG	Greenhouse Gas Emissions
GRD	(DART) Growth & Regional Development Department
GWP	Global Warming Potential
IGA	Investment Grade Audit
IPTMA	Inland Port Transportation Management Association
LED	Light Emitting Diode
LEED	Leadership in Energy and Environmental Design
LNG	Liquified Natural Gas
LRT	Light Rail Transit
LRV	Light Rail Vehicle
MaaS	Mobility as a Service
MT CO ₂ e	Metric tons of carbon dioxide equivalent
MPO	Metropolitan Planning Organization
MT	Metric Tons
MMT	Million Metric Tons
MTP	Metropolitan Transportation Plan
NCTCOG	North Central Texas Council of Governments
NO _x	Nitrogen Oxide
NRV	Non-revenue vehicles
NTD	National transit database
PM	Particulate Matter
PMT	Passenger Miles Traveled
RNG	Renewable Natural Gas
RTC	Regional Transportation Council
TOD	Transit Oriented Development



TSP	Transit System Plan
TRE	Trinity Railway Express
VMT	Vehicle Miles Traveled
VOC	Volatile Organic Compounds