

SAME Infrastructure Forum

DART Sustainability Program and Climate Action Plan

December 2, 2022

Victor Ibewuiké, PhD, ENV SP

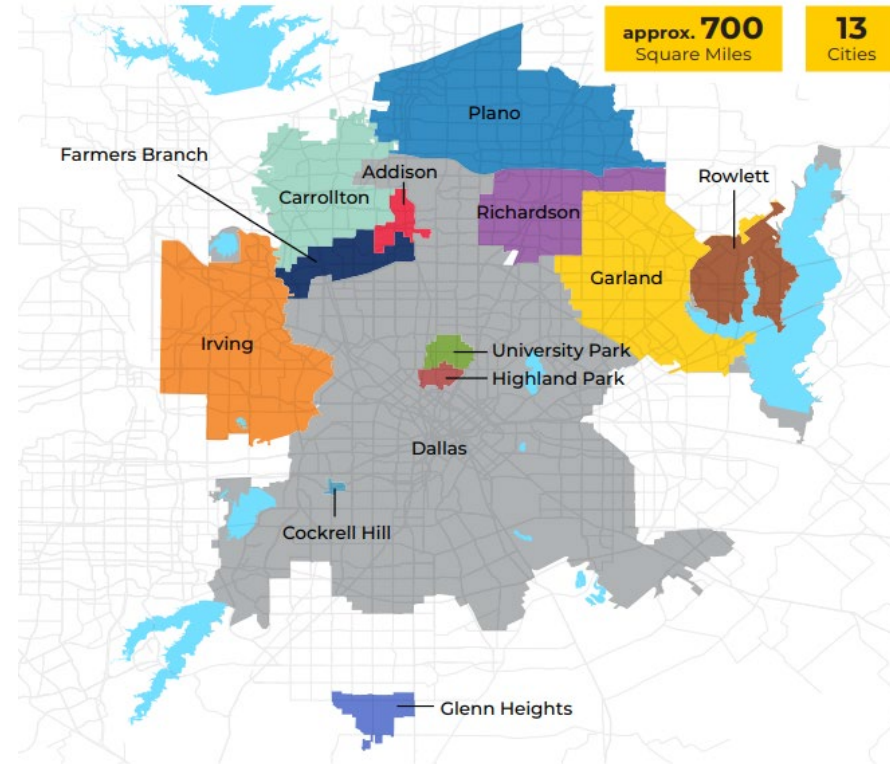


Discussion

- About DART
- Sustainability Efforts & Climate Action Plan
- What's Next

Our System

- Formed in 1983
- 13 Service Area Cities, providing 1% sales tax
- 15 Board Members and 3,748 budgeted employees
- 700+ square mile service area
- 2.6M people residing in the service area
- \$580.4M Operating Budget for FY22
- FY19 Total Ridership – 70.8M (currently at 60-65% of pre-pandemic ridership)



Our System

- 95 bus routes (22 in frequent network)
- Nearly 7,000 bus stops
- 30 GoLink Zones
- 93 miles of light rail
- 34 miles of commuter rail
- 65 light rail stations
- Paratransit
- City of Dallas Modern Streetcar



Current and Future Services

Map Legend

Blue Line

Red Line

Green Line

Orange Line

Orange Line
Weekdays Peak Only

Trinity Railway Express
(No Sunday Service)

TEXRail (Trinity Metro)

A-Train (DCTA)

M-Line Trolley

Dallas Streetcar

Transit Center or
Park & Ride

TRE

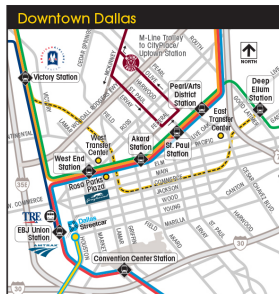
Trinity Metro
TEXRail

A-Train

M-Line

Dallas Streetcar

Inset Map



Future Services

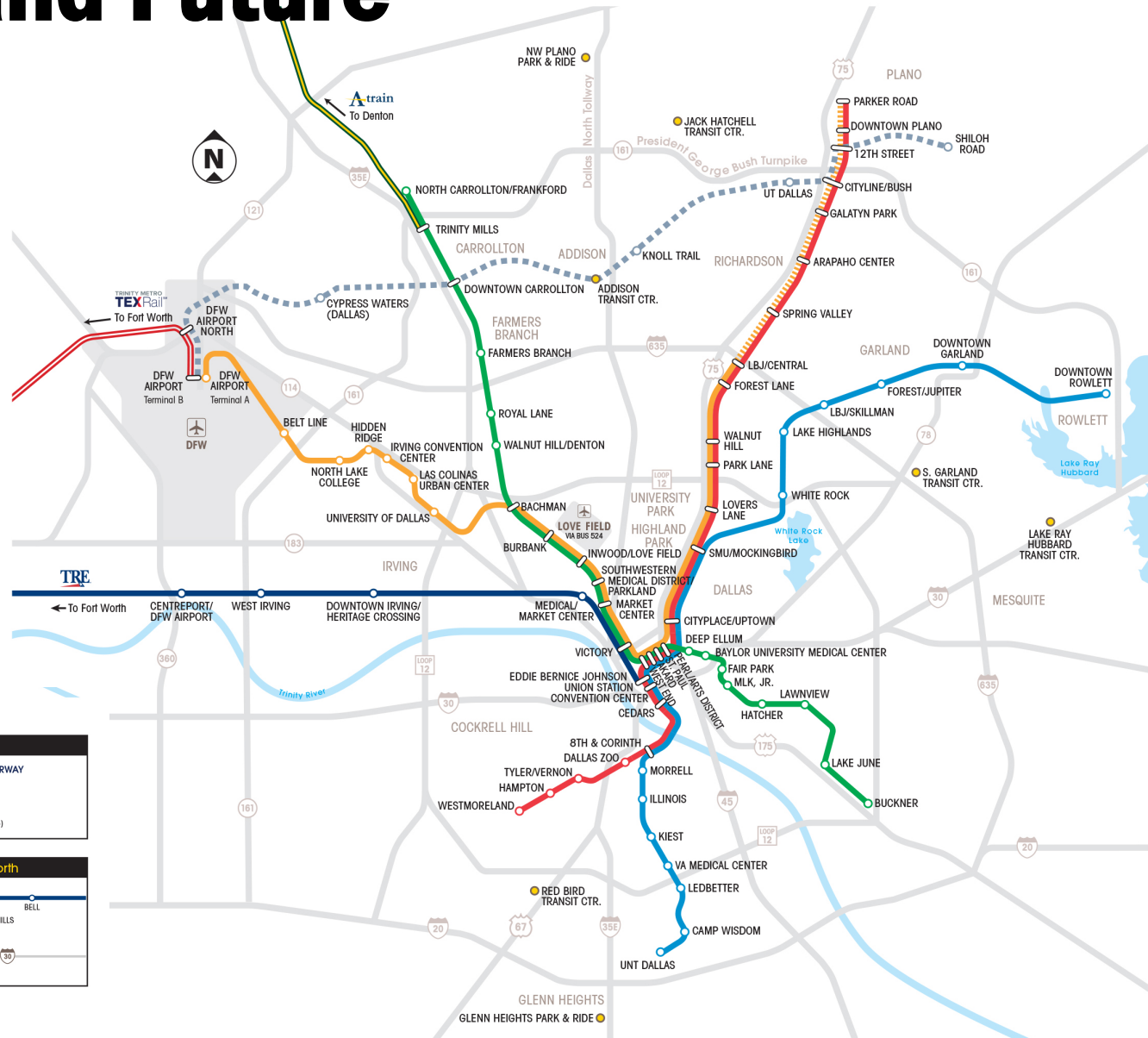
DESIGN/CONSTRUCTION UNDERWAY

Silver Line (2024)

PLANNING/DESIGN UNDERWAY

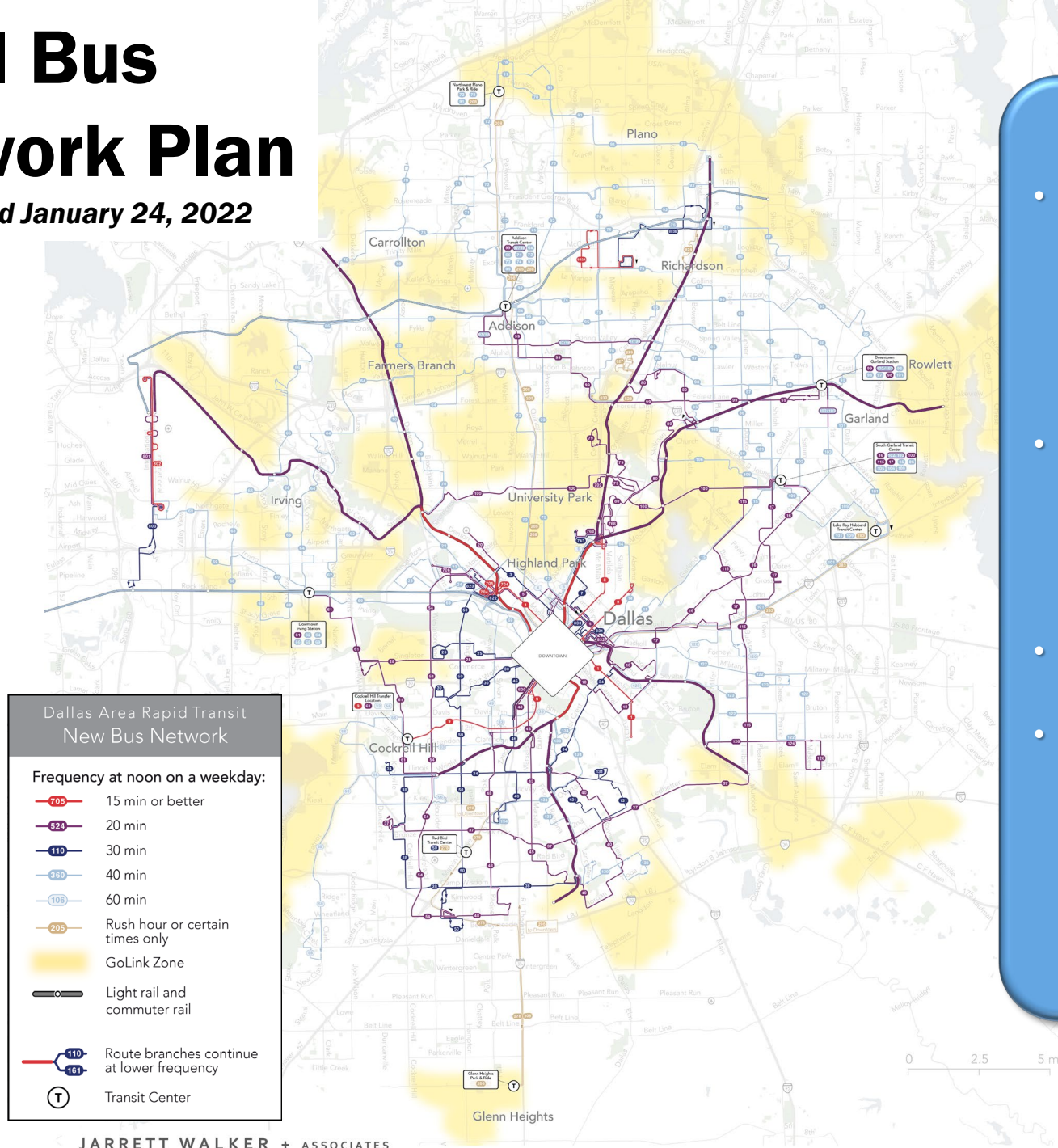
D2 Subway (Inset Map)

TRE and TEXRail to Fort Worth



Final Bus Network Plan

Implemented January 24, 2022



- Fixed-route service emphasis on frequency, with smaller areal footprint
- GoLink zones serve lower-ridership areas, doubles overall GoLink coverage
- 22 core frequent bus routes
- 2/3 of pre-pandemic ridership served by frequent routes

DART Vision and Mission

VISION STATEMENT

Transforming our region with mobility options that connect people, communities and destinations.

MISSION STATEMENT

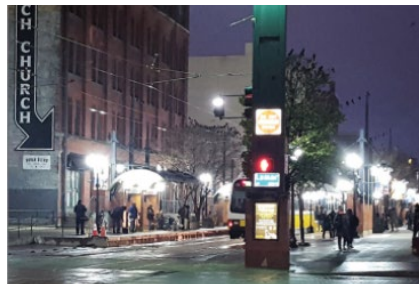
To benefit the region by providing a **sustainable system** of innovative, affordable, reliable and safe **mobility options** for our riders that **enhances the quality of life** and **stimulates economic development**.



Sustainability at DART

DART has a long history of sustainable planning, project development, as well as operations and maintenance practices.

- 2011 – DART became a signatory to the APTA Sustainability Program
- 2012 – First DART Sustainability Framework Plan
- 2013 – Bronze recognition level from APTA Sustainability Commitment program
- 2018 – Sustainability planning process updated framework and goals
 - Several department staff involved in workshops and interviews



Defining Sustainability

Three pillars of sustainability:

➔ ENVIRONMENTAL

Living within the means of our natural resources – materials, energy fuels, land, water...etc.

➔ SOCIAL

Maintain/enhance long-term stakeholder wellbeing – employees, community

➔ ECONOMIC

Operate in a sustainable manner to support ongoing operations; maintaining economic growth and stability for the people of a community



Sustainability Plan

OUR COMMUNITY

- DIVERSITY & INCLUSION
- ✚ RIDERSHIP & SERVICE
- EQUITY & ACCESS
- LIVABLE COMMUNITIES
- COMMUNITY ENGAGEMENT
- SECURITY

OUR AGENCY

- DIVERSITY & INCLUSION
- EMPLOYEE ENGAGEMENT
- FINANCIAL STRENGTH
- OCCUPATIONAL SAFETY
- OPERATIONAL RESILIENCY

OUR PLANET

- PLANNING & DESIGN
- SUSTAINABLE PROCUREMENT
- ENERGY & AIR QUALITY
- WATER
- WASTE



“To promote a culture of sustainability that adds value for our customers, improves quality of service, attracts tomorrow’s workforce, and positions DART as a leader in sustainability with a focus on continuous improvement.”

Sustainability Goals

OUR COMMUNITY	OUR AGENCY	OUR PLANET
DIVERSITY & INCLUSION Create opportunities for the diverse business community in our service area by providing education, outreach, and awarding contracts. 	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 & DESIGN Minimize DART's impacts to the natural environment and maximize benefits to the community through context-sensitive planning and design that incorporates responsive mitigation . 
RIDERSHIP & SERVICE Grow ridership by improving rider experience through reliable, inclusive, universally accessible, comfortable, and convenient transit services. 	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 & ACCESS 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 & AIR QUALITY 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 " culture where all employees proactively collaborate to prevent accidents and injuries throughout the agency. 	WATER Improve water use efficiency through conservation, reuse, and best practices. 
COMMUNITY ENGAGEMENT Be an active member of the community , creating connections that bring people together in the communities we serve. 	OPERATIONAL RESILIENCY Collaborate on plans and improvements that lead to more secure , reliable , and resilient systems, operations, and vehicles that benefit both agency and customers. 	WASTE Minimize waste through durable design, preventive maintenance, material recovery, and business practices. 
SAFETY & SECURITY Improve customers' sense of safety and security at facilities and on vehicles through improved awareness, enhanced design features, and increased visibility. 		

Growing Importance of Sustainability



- Increasing global recognition and urgency, as evidenced by:
 - Current Administration sustainability viewpoint and policies
 - **FTA's Sustainable Transit for a Healthy Planet Challenge**
 - January 2021 Executive Order (EO) – Tackling the Climate Crisis at Home and Abroad
 - Justice40 Initiative
 - December 2021 EO – Catalyzing America's Clean Energy Economy Through Federal Sustainability
 - Bipartisan Infrastructure Law
 - Funding tied to sustainability and climate

Current Focus

FTA Climate
Action Plan

April 15, 2022

Review
Sustainability
Framework, Goals
and Targets

2022

Submit for APTA
Silver and Define
Path to Gold

2023



FTA Climate Action Plan

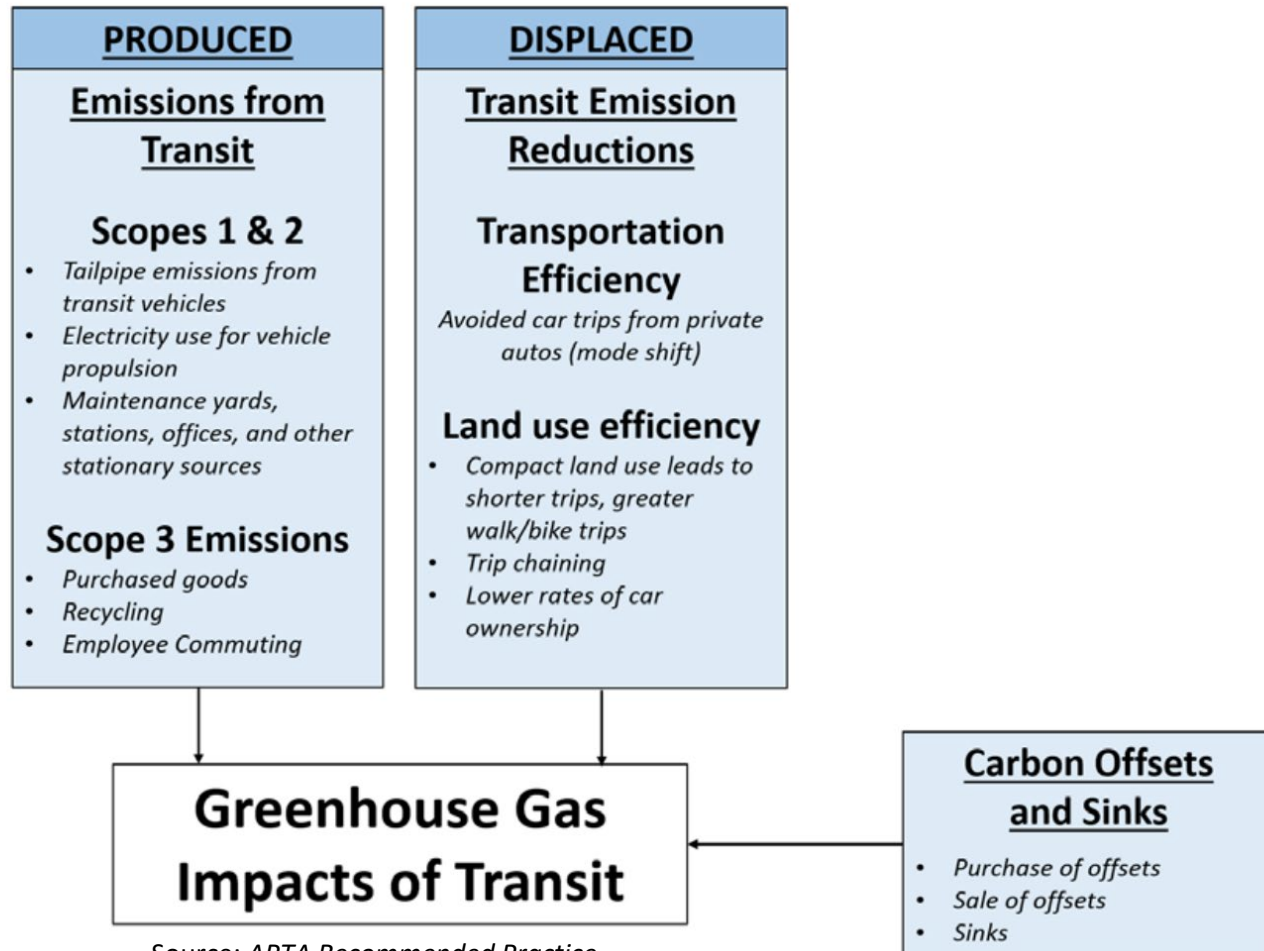
FTA's Sustainable Transit for a Healthy Planet Challenge

- FTA called on transit agencies to develop climate action strategies with measurable goals to achieve Greenhouse Gas (GHG) emission targets.
- 168 agencies signed up
- DART's Climate Action Plan
 - GHG emissions inventory
 - Reduction goals and targets
 - Actions needed to achieve the targets
 - Methods for tracking progress



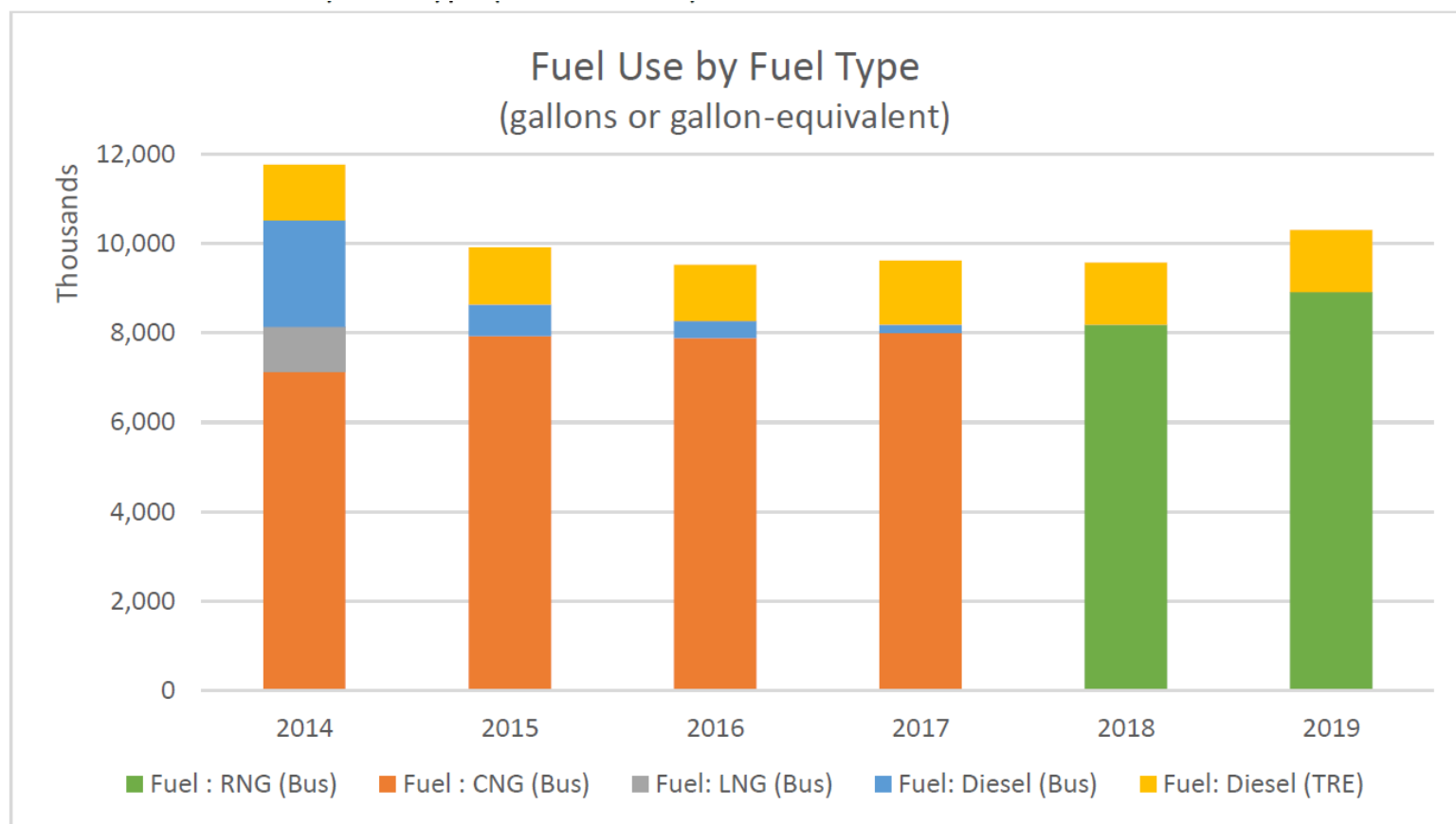
Climate Action Plan

Transit GHG Emission Scopes



Source: APTA Recommended Practice
Quantifying Greenhouse Gas Emissions from Transit

Fuel Use 2014-2019



Source: DART Operational Data, 2022

DART GHG Emissions 2014-2019

Scope 1 (yellow)

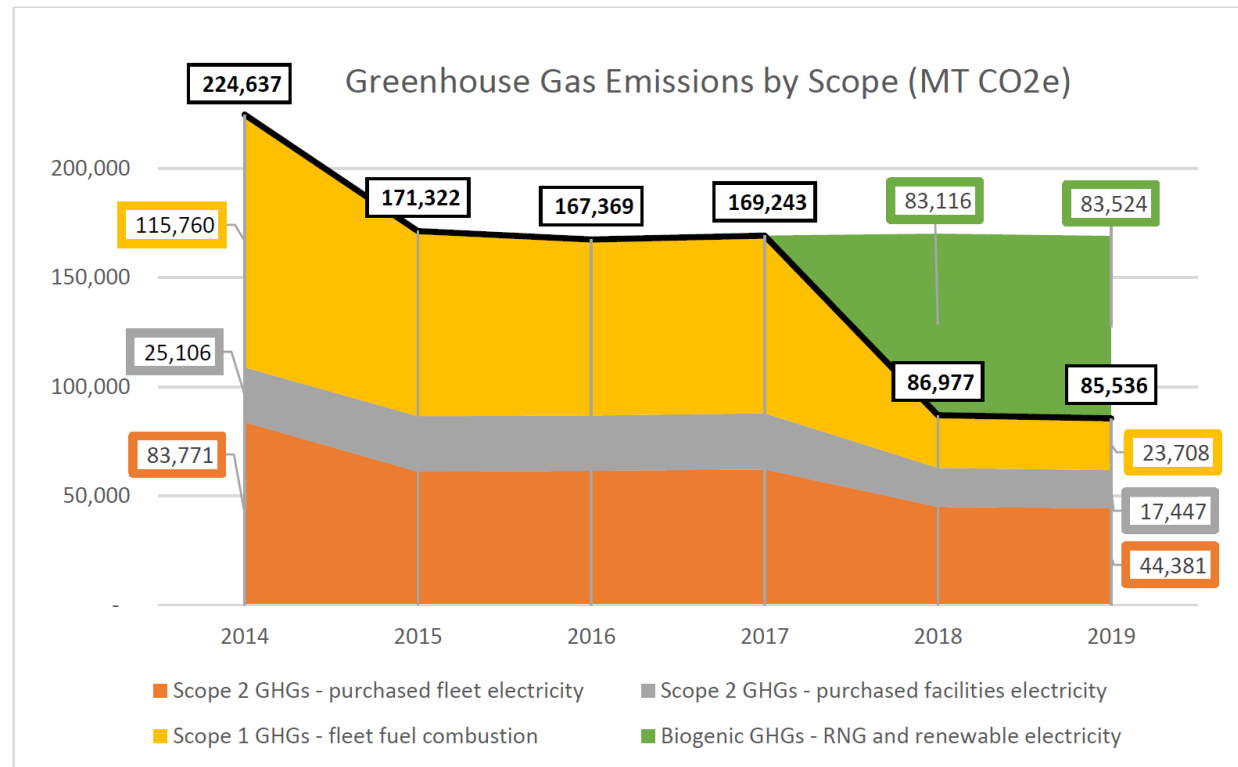
80% decrease

- Bus fleet transition
- 100% renewable natural gas for bus fleet
- Added 7 electric buses

Scope 2 emissions (orange and gray)

28% decrease

- 30% of purchased electricity from renewable sources like wind and solar

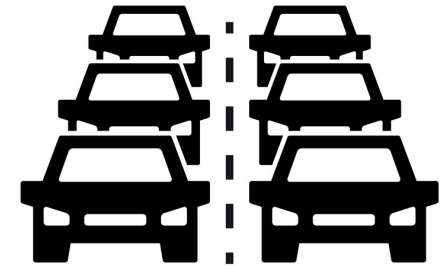


Source: DART Operational Data, 2022

Note: MT CO₂e - Metric Tons of Carbon Dioxide Equivalent

Displaced Emissions

- DART's operational emissions for 2019 were nearly 86,000 MT CO₂e
- Displaced emissions were more than 700,000 MT CO₂e – **more than seven times** the reduction achieved by fleet and renewable energy shifts, demonstrating the importance of transit within a broader strategy that focuses on mode shift and land use efficiencies

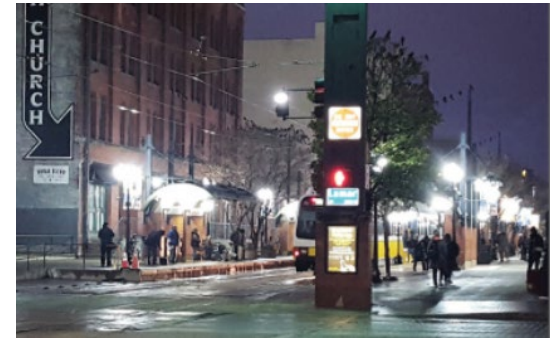
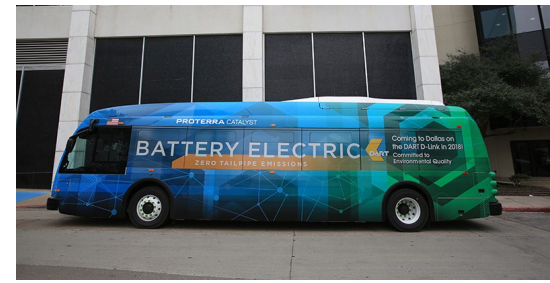


Displaced emissions in 2019 were equivalent to removing 155,000 cars from the roads every year



Climate Action Plan Goals

1. By 2030, decrease total GHG emissions from transit fleet by 25 percent.
2. By 2035, use 100% renewable electricity for facility and light rail/streetcar operations.
3. Integrate zero-emission technologies into agency facilities and operations.
4. Retrofit facilities with energy-efficient technology to reduce energy needs.
5. Increase transit ridership and reduce automobile trips through coordinated land use planning.



Sustainability Project Highlights

- Electricity Contract and LED Lighting
- EV Chargers Grant Award
- TRE Fleet Assessment and Wayside Power Source
- Walnut Hill/Denton Facility Solar Panels

Electricity Contract and LED Lighting

- Going from 30% to 100% Renewable Electricity Contract for our facilities and light rail - will displace an additional nearly 62,000 MT CO2e (metric tons of CO2 equivalent)
- Using an EPA conversion tool this is equivalent to GHG emissions of:
 - More than 150 million miles driven by an average gasoline-powered passenger vehicle, OR
 - The electricity use of 12,000 homes for one year, OR
 - Carbon sequestered by 400 Acres of U.S. forests
- LED lighting retrofits are also in process across all facilities
 - Promote enhanced security
 - Reduce electricity consumption

EV Chargers Grant Award

- NCTCOG Electric Vehicle (EV) Charging Station Call for Projects
- DART applied for five sites and was awarded \$80,000 to install Level 2 dual port chargers at:
 - Illinois Station
 - Glenn Heights Park-and-Ride
- Grant covers 100% of eligible costs related to design, engineering, purchase, installation, and construction costs



- ☐ Fill charging infrastructure grants or advance fleet
- ☐ Justice40 communities
- ☐ Minimize grid impacts

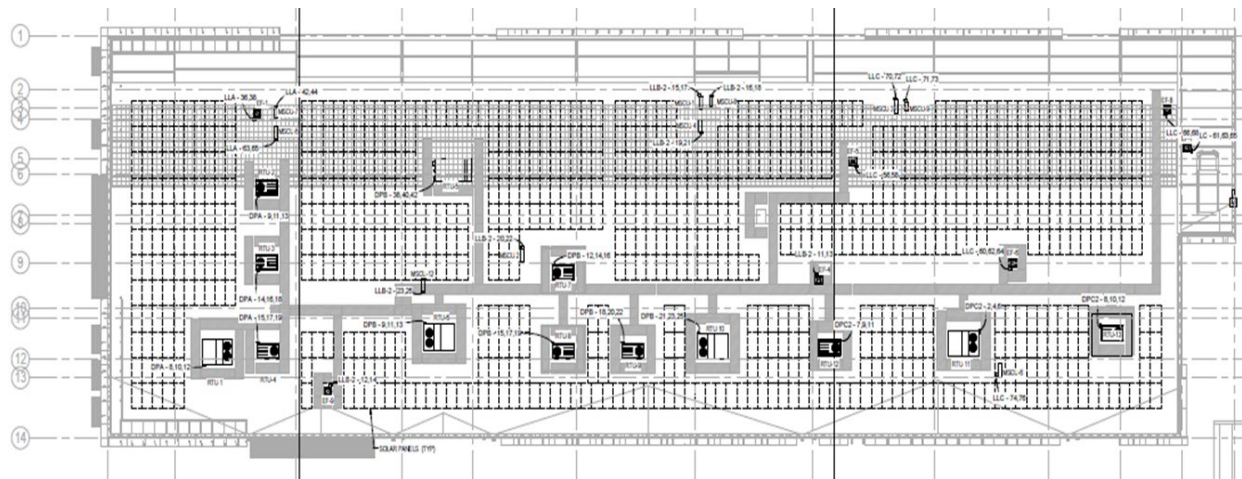
TRE Wayside Power and Fleet Assessment

- Average age of TRE fleet is over 30 years
- TRE Fleet Assessment in progress to determine strategy for fleet replacement
 - Improved reliability
 - Meet the most current U.S. EPA Emissions standards
- TRE also will be installing electric wayside power for HEP engines during layovers and overnight
 - Reduced wear and tear of the primary diesel engine
 - Fuel savings to the TRE
 - Reduced emissions



Walnut Hill Facility Solar Panels

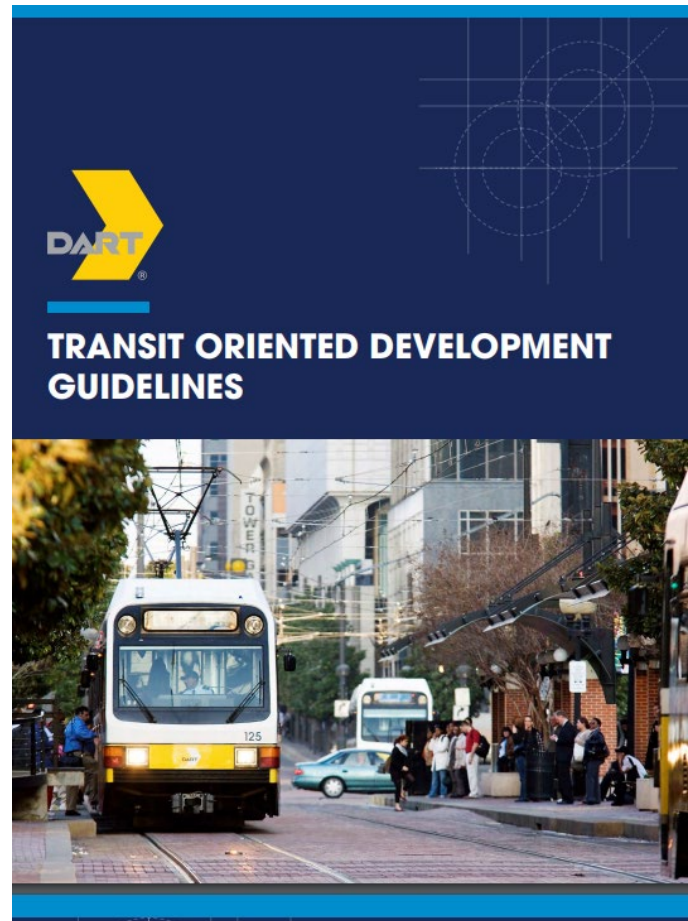
- 292 solar panels on roof
 - Will supply 75% of power to facility
 - Standby generator to provide power in case grid shut down to improve resiliency and redundancy
- First DART facility project to use solar power
 - Data and information will support future decisions for new/retrofitted facilities



DART Transit Oriented Development (TOD) Policy & Program

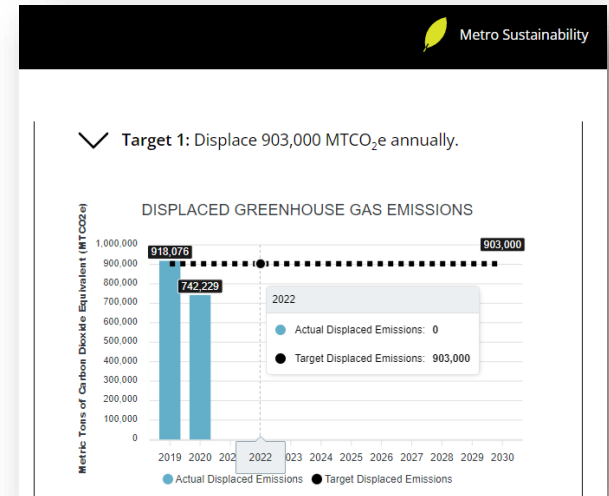
Strategies

- Foster cooperative relationships with other governmental entities and private sector...
- ... reallocating surface parking spaces to incorporate eventual TOD...
- ... expanding opportunities for a broad range of housing and employment options serving increasingly diverse populations.
- ... incorporate service area cities housing goals....



Next Steps to Advance Sustainability

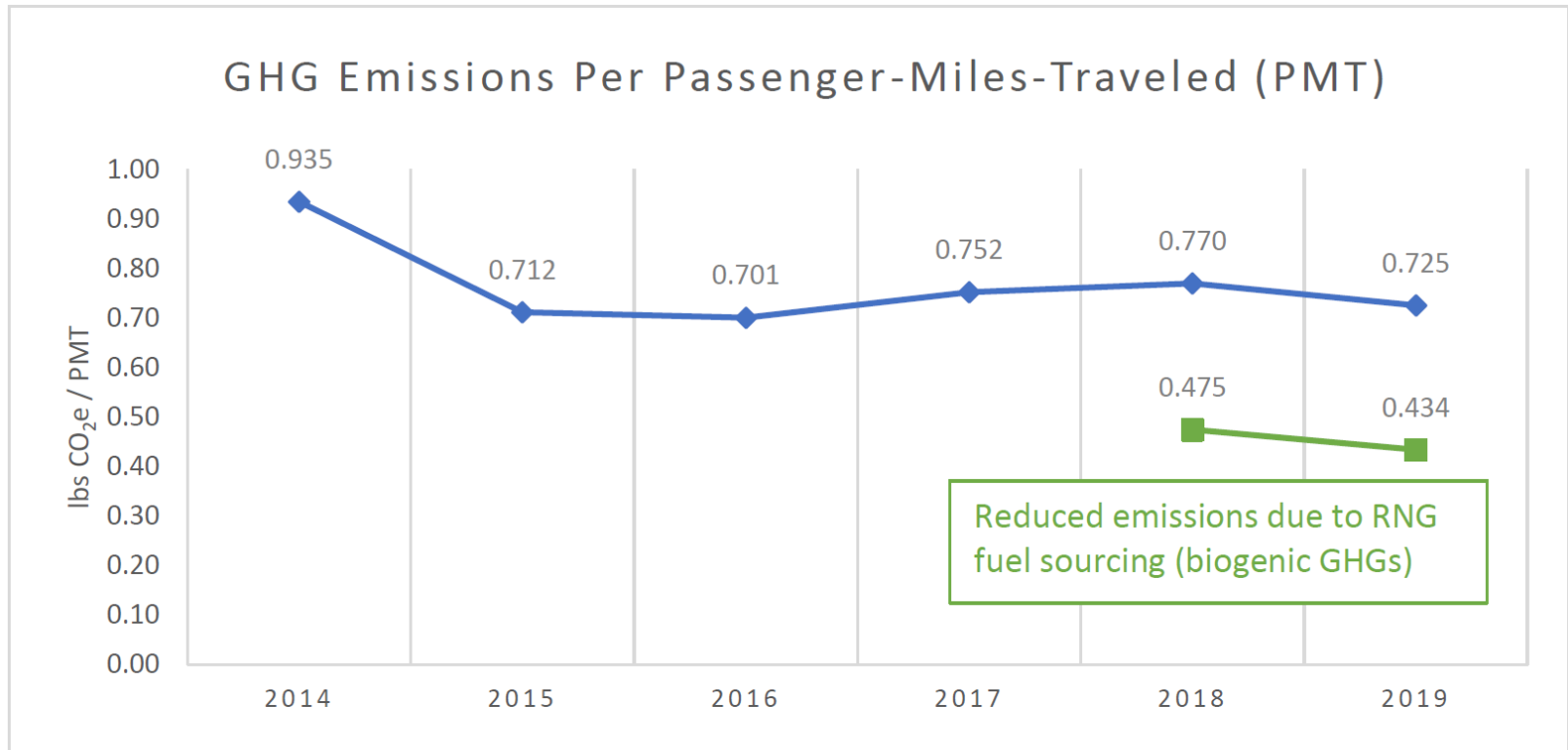
- Internal Sustainability Work Group
- Regular agency-wide updates and data tracking
- Get to APTA Silver and set the path for Gold within 5 years
- Streamline data collection
- Develop a Sustainability Dashboard and communications strategy to tell the story and document progress





DART.org

DART GHG Emissions per PMT



Source: DART Operational Data, 2022

Displaced Emissions

- DART's operational emissions for 2019 were 85,536 MT CO₂e
- Displaced emissions were **more than seven times** the reduction achieved by fleet and renewable energy shifts, demonstrating the importance of transit within a broader climate action strategy that focuses on mode shift and land use efficiencies
 - 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!

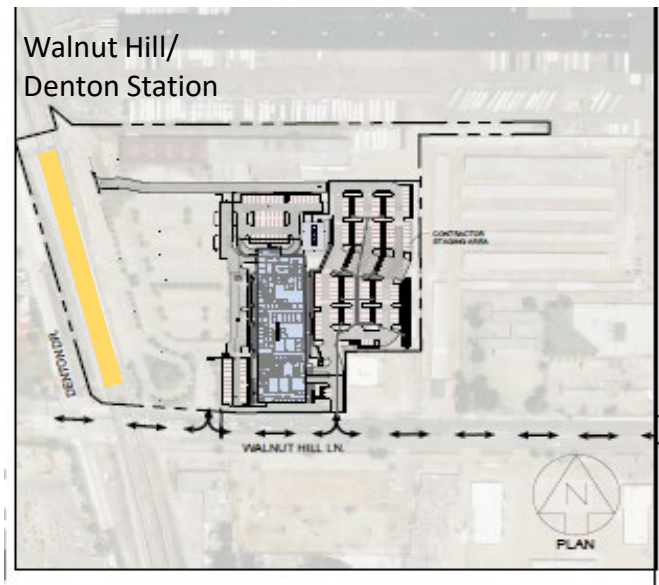
Walnut Hill Facility



BUILDING A - ENTRY VIEW

SCALE: 1/8" = 1'-0"

- ☐ Police Substation
- ☐ Finance count room
- ☐ Training Facility
- ☐ LRV Acceptance



BUILDING A - BIRD'S EYE VIEW

SCALE: 1/8" = 1'-0"

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