

# Metro Sustainability Overview

MWCOG Region Forward  
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Rachel Healy, Director, Sustainability



## Agenda

- Metro and the Region
- Sustainability Overview
  - Accomplishments
  - Ongoing Activities
  - Partnerships Required for Success



# Metro and the Region

## Metro Advances Regional Sustainability

### Metro's Strategic Goals



#### Service excellence

*Deliver safe, reliable, convenient, equitable, accessible, and enjoyable service for customers.*



#### Talented teams

*Attract, develop, and retain top talent where individuals feel valued, supported, and proud of their contribution.*



#### Regional opportunity & partnership

*Design transit service to move more people and equitably connect a growing region.*



#### Sustainability

*Manage resources responsibly to achieve a sustainable operating, capital, and environmental model.*

### Regional Outcomes

Economic Strength  
Access to Opportunity  
Less Congestion  
Cleaner Air  
Mobility for All

#### Environmental Sustainability Objective

Take action to combat climate change, adapt to its impacts, and steward natural resources

Focus today

# Metro is Inherently Sustainable

### Providing Service, by the Numbers

2nd largest  
heavy rail system



6th largest  
bus network in  
the US



~5 million  
people in  
serviceterritory



220 million+  
rides a year across  
bus,rail&paratransit



### Impacting Communities



240,000  
metric tons of  
CO<sub>2</sub>e avoided



32  
transit-oriented  
development  
projects

70%  
of region's jobs are  
within a half-mile of  
a Metrorail station or  
Metrobus stop



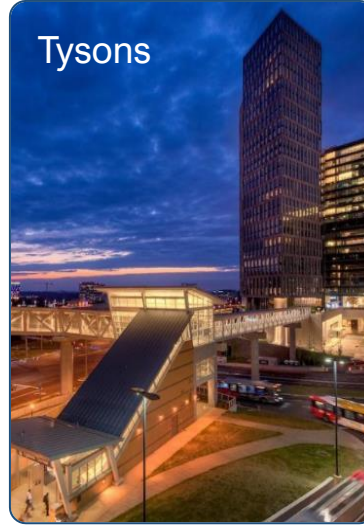
Employs approximately  
12,000+  
people



- Beyond moving people, transit promotes **equity, environmental stewardship, economic prosperity, and social wellbeing**
- Every transit trip taken instead of a car reduces greenhouse gas emissions and supports cleaner air

More people riding Metro is key to meeting regional carbon reduction goals

# Metro and the Region are Growing Together



## Within ½ mile of Metrorail stations and bus stops in the Compact area:

- 60% of population • 2.8M people
- 70% of jobs • 1.7M jobs
- 50% of employers • 134,400 businesses

## The ½ mile around Metrorail stations is just 3% of the region's land but contains:

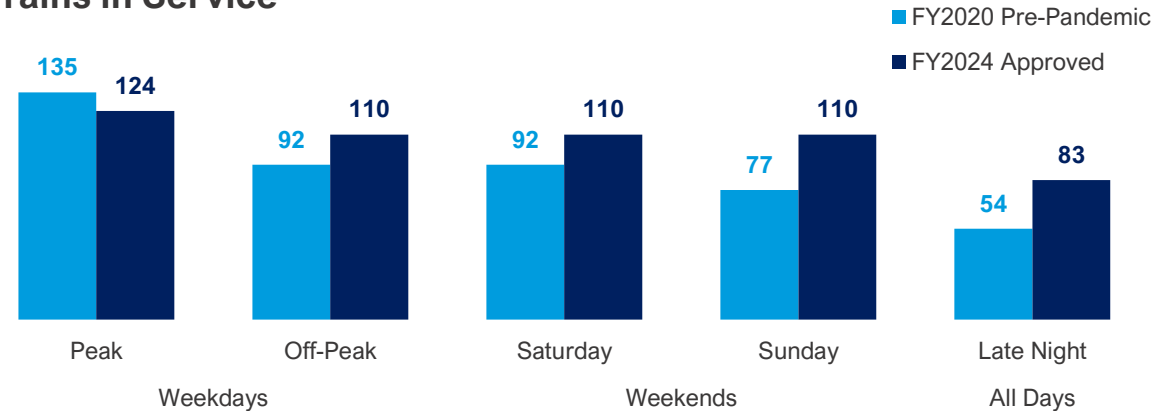
- 30% of property value • \$328B
- 40% of jobs
- 65% of new office development
- 50% of new apartments
- 25% of affordable housing
- 13 Fortune 500 headquarters

Sources: U.S. Census Bureau (2020, 2021); MWCOC Multifamily Rental Housing Construction Indicators Report (Oct. 2022); MWCOC Commercial Construction Indicators Report (Jun. 2022)

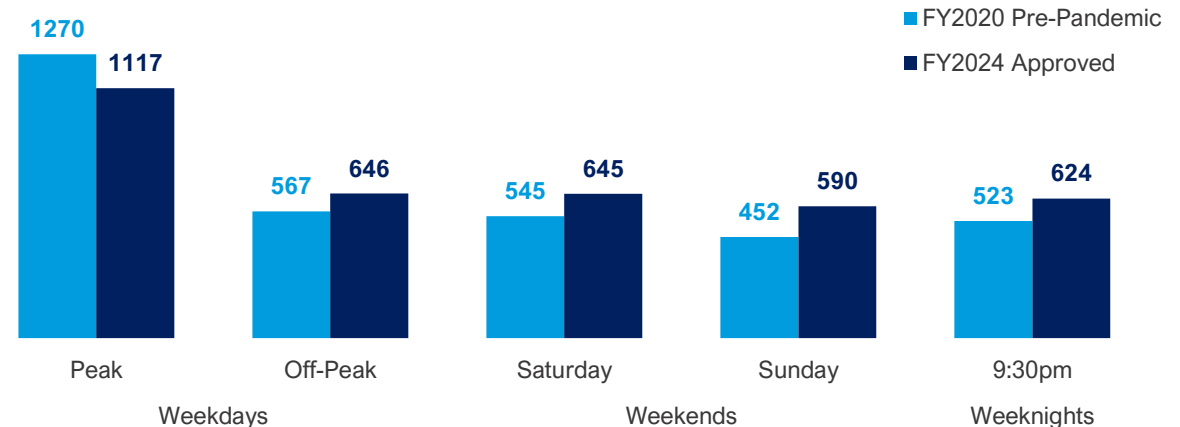
# Metro is Adapting to How Customers Travel

**All day service**  
better meets  
customer needs,  
providing more  
frequent daytime  
and late-night  
service all week.

**Trains in Service**



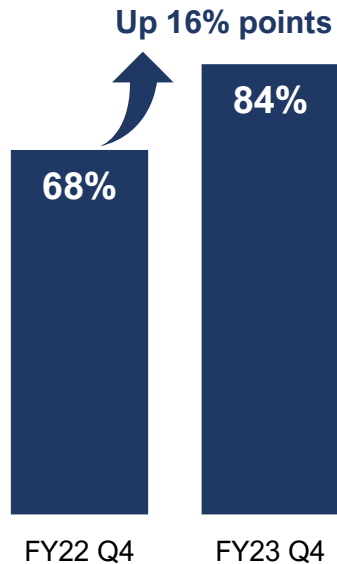
**Buses in Service**



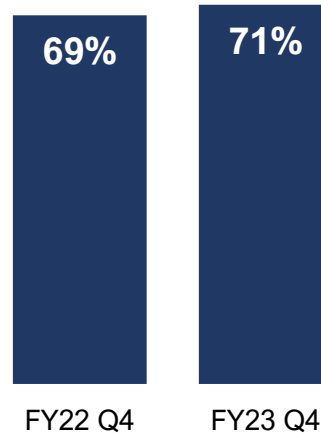
## Customers See an Improving Metro

### Metro Customer Survey

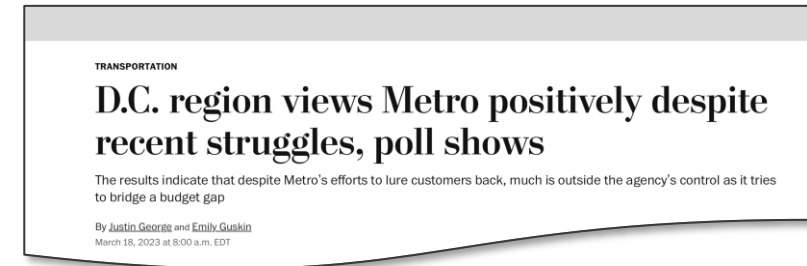
#### Rail Customer Satisfaction



#### Bus Customer Satisfaction



### Washington Post-Schar School Poll



#### Most area residents rate Metro 'good'

Q: How would you rate the Metrorail in the Washington, D.C., region? (Among those who ever ride Metro)



Source: Feb. 17-27, 2023, Washington Post-Schar School poll of 1,367 adults in the Washington, D.C., area who ever ride Metro with an error margin of +/- 3.5 percentage points. EMILY GUSKIN / THE WASHINGTON POST

# Sustainability Overview



# Environmental Sustainability Initiatives and Targets



Decarbonize Metro infrastructure and equipment



Optimize natural resource stewardship



Modernize design, construction, and operations

## Environmental Sustainability Targets:

- Increase regional GHG emission displacement by 10%
- Increase number of facilities with green certifications
- Maintain water use per revenue mile at <1
- Increase to 100% carbon-free electricity by 2033
- Achieve 100% zero-emission bus by 2045
- Achieve 100% zero-emission non-revenue and paratransit fleets by 2050
- Achieve net-zero carbon by 2050

# Increasing Energy Efficiency and Carbon-free Electricity



## Efficiency & Carbon-free Electricity

- Energy efficiency investments have yielded significant annual energy reductions and cost avoidances to-date
  - ~\$7 million annual energy cost avoidance
  - ~\$1.5 million in one-time energy efficiency rebates from utilities
- Example efficiency investments include:
  - Rail automation program
  - 8000-series railcars
- Percent of Metro's renewable (carbon-free) electricity increased from 0% FY2021 to 35% in FY2023

# Generating Renewable Energy

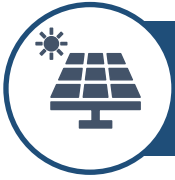


## On-Site Solar



*Solar Installation at Anacostia Garage*

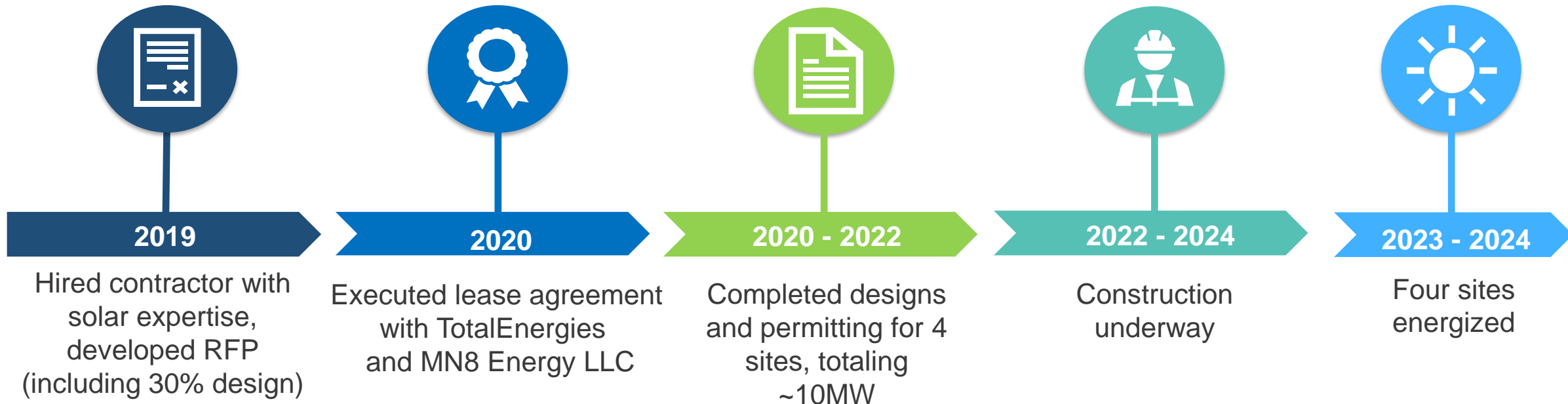
- 10 MW solar carport lease – generating enough clean electricity to power 1,100 homes
  - ☞ 3rd party design, build, and operate – outsourcing risk, management, and cost
  - ☞ Parking amenities for customers and clean energy to our region
- Solar planned for several new facilities: Bladensburg and Northern bus garages, Heavy Repair & Overhaul



## Solar Carport Project Timeline

### Highlights

- Construction substantially complete at all 4 sites
  - First two sites energized fall 2023: Southern Ave, Anacostia
  - Final two sites to be energized spring 2024: Naylor Rd, Cheverly





## Solar Carport Project Lessons Learned



*Solar Installation at Naylor Rd*

- Carports are a good fit to leverage real estate assets for enhanced customer and community benefit
  - Improved parking amenities
  - Clean energy to local community solar subscribers
- Innovative lease agreement
  - Easier to execute than power purchase agreement
  - Revenue potential, low risk, benefits for the region
- Early planning and coordination with internal stakeholders to avoid schedule delays and unexpected costs
  - Integrating capital investments concurrently with design/construction - LED lighting, paving, security cameras, emergency call boxes
  - Construction has customer impacts – importance of partnership with parking/communications teams

# Decarbonizing Vehicle Fleets



## Zero-Emission Vehicles

- Zero Emission Bus (ZEB) fleet
  - Completed ZEB Transition Plan
  - Accelerated delivery goal of 100% ZEB fleet by 2042
  - Broke ground at Northern and Bladensburg Bus Garages
  - \$104M FTA grant awarded in June 2023 to convert Cinder Bed Road Bus Division
- Non-revenue and paratransit fleets
  - ✎ Early planning for initial deployment and transition

# Reducing Waste from Construction



LEED-certified Dulles Rail Yard



## Construction Waste Diversion

- Recent projects utilizing Leadership in Energy and Environmental Design (LEED®) credentials diverted significant amounts of construction waste from landfills:
  - 84% New Carrollton Office Building (~1150 tons of waste diverted)
  - 90% L'Enfant Headquarters (~9300 tons of waste diverted)
  - 92% Andrews Bus Garage (~1900 tons of waste diverted)
  - 91% Dulles Rail Yard Buildings (~4500 tons of waste diverted)

# Increasing Tree Canopy



*Tree planting at  
Hyattsville Crossing*



## Tree Canopy

- Metro partnered with the Anacostia Watershed Society to plant 385 trees at four Metrorail stations in Maryland and D.C.
- Trees provide health and environmental benefits
  - Improve customer experience by providing shade and green space
  - Over 100,000 pounds CO<sub>2</sub> sequestered over 20 years
  - Nearly 2 million gallons rainfall intercepted/ stormwater mitigated over 20 years

# Using Green Certifications to Modernize Facilities



*L'Enfant DC Headquarters building*



## Building LEED® Facilities

- 12 completed LEED® certifications
  - L'Enfant Headquarters received LEED Platinum certification from USGBC
- 3 built to LEED® and awaiting certification
  - New Carrollton and Eisenhower office buildings
  - Potomac Yard-VT Metrorail Station – first LEED® for Transit Pilot and second infill station
- 4 designing to LEED® standards
  - Heavy Repair & Overhaul Facility
  - Northern and Bladensburg Bus Garages
  - MTPD District 3 substation

# Promoting Innovation and Best Practice Adoption



*Testing battery-powered track maintenance equipment*



## Sustainability Awards & Lab

- Sustainability Awards recognize adoption of sustainable innovation and best practices
  - Celebrated 34 employees in 2023
- Sustainability Lab evaluates and supports new sustainability practices and technologies
  - Current projects include battery-powered track maintenance equipment and battery/electric leaf blowers

# Metro Supports Federal and Regional Policy Goals

**Sufficient funding** and **supportive policies** ensure Metro can deliver what the region and federal partners need to meet ambitious sustainability goals by:

- Responsibly using funds to maximize return on investment
- Capitalizing on federal funding opportunities
- Fostering innovative approaches to delivery of capital and operating projects
- Supporting decarbonization and catalyzing investments in electrification
- Building the green economy and green workforce
- Advancing social equity, equitable health and access to opportunity
- Investing in climate resilient communities and infrastructure



# Appendix

## Resources

# Resources

- Sustainability Webpage: <https://www.wmata.com/initiatives/sustainability/>
- 2021 Sustainability Report: <https://www.wmatabonds.com/wmata-bonds-dc/documents/downloads/i2812?docTypeId=40196>
- Energy Action Plan FY22 Progress Report: <https://www.wmatabonds.com/wmata-bonds-dc/documents/downloads/i2812?docTypeId=40196>
- Zero-Emission Bus Webpage: <https://www.wmata.com/initiatives/plans/zero-emission-buses.cfm>
- Solar Carport project: <https://www.wmata.com/initiatives/plans/solar-carports-project.cfm>