

Washington Metropolitan Area Transit Authority

## Board Action/Information Summary

☐ Action ☒ Information

MEAD Number:  
202230

Resolution:  
☐ Yes ☒ No

### TITLE:

Framework for Transit Equity: Sustainability

### PRESENTATION SUMMARY:

Staff will present an update on the sustainability initiatives and Zero Emission Bus Program (ZEB), and the draft sustainability vision and principles for discussion

### PURPOSE:

This presentation highlights Metro's sustainability program and provides draft vision and principles for Board consideration.

### DESCRIPTION:

Sustainability is a fundamental business approach at Metro that advances regional goals and provides social equity, economic and environmental benefits to the communities served. A sustainability vision and principles will provide the Authority guidance and to drive decision making that improves efficiency, reflects customer needs and supports regional sustainability.

#### Key Highlights:

- Metro's sustainability program delivers projects and initiatives including lighting improvements, the solar lease program, Energy Action Plan, the zero-emission bus program and continues to implement initiatives that benefit the social, equity, economic and environmental aspects of the communities served.
- Sustainability is a regional priority - Metro's partners are implementing sustainability policies to guide their operations, planning and decision making.
- Metro encourages vibrant, economically thriving, and healthy communities through collaborative policy engagement with regional and funding partners.
- Metro's Framework for Transit Equity advances equitable policies and practices to support Metro's mission by focusing in key areas, including sustainability.
- Sustainability addresses equity through the areas of environmental racism, health, accessibility, livability, prosperity, affordability and community engagement.
- With interconnected and sometimes competing priorities, sustainability vision and principles help guide long-range planning and investment decisions. The draft sustainability principles recognize sustainability as a core value within Metro as well as the most cost-effective and beneficial way to improve performance, achieve climate and environmental goals, and contribute to livable and equitable communities.

#### Background and History:

## Strategic Approach

Metro is committed to providing a sustainable transportation system designed, constructed and operated in a way that fosters social wellbeing, equity, economic prosperity, and environmental stewardship.

Resilience and sustainability are at the forefront of transportation planning throughout the region. Sustainability planning requires a crosscutting and interconnected effort; therefore, Metro is committed to advance the sustainability dialogue with regional partners and jurisdictions.

On July 9, 2020, the General Manager presented the Board with the Framework for Transit Equity which seeks to advance equitable policies and practices to support Metro's mission. Metro renewed its focus on advancing transit and social equity across its business, through key priority focus areas including: the Bus Transformation Project, DBE/MBE programs, public participation and sustainability.

On the same date, Staff updated the Finance and Capital Committee on Metro's Sustainability initiatives and shared Metro's 2019 Sustainability Report. The report highlights Metro's value to the region and the economic prosperity, livability, accessibility and environmental benefits of the system.

## Sustainability at Metro

Sustainability is at the core of both the service Metro provides and how we provide it. Metro will continue to transform the way it does business to realize a fiscally responsible, equitable, and resilient future by integrating and advancing sustainability in all strategies, plans, and business decisions.

The Board adopted a policy in 2008 requiring all new and substantially rehabilitated facilities be designed and built with the goal of receiving Leadership in Energy and Environmental Design (LEED) Silver Certification. Developed by the U.S. Green Building Council, the LEED rating system for building construction provides incentives to reduce the carbon footprint and impact on the built environment of Metro facilities.

To further contribute to regional sustainability efforts, Metro launched its Sustainability Initiative in 2014, setting three regional and seven internal targets to be achieved by 2025. The initiative provides measurable and manageable progress toward aggressive but achievable targets. In the same year, Metro created the Sustainability Lab and Sustainability Awards to promote and recognize cost effective innovation and best practice adoption across the Authority.

In 2019 Metro adopted its first-ever Energy Action Plan (EAP), a detailed roadmap for saving energy and money through efficiency investments, modernized design and operation, and engagement in the regional energy market.

Metro is on track and approximately 28% of the way towards meeting the 2025 energy savings target. When fully implemented, the plan is expected to net \$16 million annually in energy cost savings and another \$13 million annually in operations and maintenance

savings by 2025. Compared to modelled business-as-usual projections, Metro saved approximately 160,000 MBTUs in FY2019, which equates to approximately \$3 million in avoided costs.

Recent projects include:

- Completed the Station Lighting Improvement Program upgrades to reduce energy use by approximately 60% and save approximately \$25,000 annually, per station.
- Over 75% completion of multi-year program to replace aging chiller equipment with efficient, state-of-the-art technology, reducing \$15,000 per station annually.
- Engagement in the renewable energy market has resulted in an innovative 12-megawatt solar lease agreement anticipated to generate 15,000,000 kWh of power annually, creating the largest community solar project in the National Capital Area and one of the largest in the nation.
- Variable Frequency Drives (VFDs), implemented as part of upgrades to 8 Metro Drainage Pumping Stations, result in 30% less energy use, remote monitoring and reduced maintenance.
- Continued incorporation of green design standards into major capital projects such as, the Bladensburg and Northern Bus facilities that are being designed to LEED Platinum standard, reducing environmental impacts and operating expenses.

The Bus Transformation Program Strategy and Action Plan focuses on improving customer experience, regional connectivity and fostering collaboration across transit and roadway agencies. Metro's actions reduce emissions, improve regional air quality, increase efficiency and ensure equity, these actions include converting its bus fleet to alternative fuel types and more efficient buses.

In FY2021, Metro is renewing its focus on advancing transit and social equity across its business, through a Framework for Transit Equity with focus areas including: The Bus Transformation Project, DBE/MBE programs, public participation, and sustainability. Metro is updating its sustainability targets to expand beyond traditional environmental targets to include targets related to equity, prosperity, livability, and accessibility.

### Zero Emission Bus Program

Building upon the efforts of Metro's first-ever Energy Action Plan, released in 2019, and the Bus Transformation Project, Metro is engaging in zero-emission fleet planning to enable a clean and sustainable region, control operating costs and support a more livable and prosperous region.

In 2020, Metro released its Zero-Emission Bus Update. The update lays out the opportunities that zero-emission bus transportation offers the region, reviews actions Metro has already initiated, and considers the market, infrastructure and policy prerequisites for success.

The transition to zero-emission bus service will require significant regional investment and coordination. Some of the required actions for the region include energy infrastructure investment, development of new policies and rate structures and increased funding to convert existing facilities and replace existing buses.

In 2021, Metro will initiate a test and evaluation program to try out different electric bus manufacturers and charging technology at Shepherd Parkway Bus Garage. Metro is consulting the Transit Cooperative Research Program (TCRP) implementation guidelines.

Some of the actions that reflect the program's progress to date include:

- Awarded Federal Low-No Grant
- Acquiring ~12 electric buses
- Engaging utilities
- Consulting peers and experts
- Updating Metrobus Fleet Plan
- Electric bus ready design - Northern and Bladensburg bus facilities
- Total of ~\$25M included in capital program for test and evaluation

### **Discussion:**

As a vital transportation link that occupies and connects communities, a major employer and purchaser of goods and services and one of the region's largest energy consumers, Metro's investments and operational decisions change lives – our actions have immediate and significant impacts on health, racial equity, economic prosperity, and the overall social and economic wellbeing of the region.

Cost-effective and data-driven sustainable business decisions provide Metro's funding partners with a strong return on investment, while also achieving mutually beneficial goals beyond reliable transit service. By building, operating, and maintaining a resilient and sustainable transit system, Metro enhances environmental stewardship, contains operating costs, and reduces energy use and regional emissions, all while improving the lives of residents and visitors.

Supporting sustainability extends beyond cost driven environmental actions and will continue to provide a sustainable return on investment for the region. The following draft sustainability vision and guiding principles are presented for Board consideration:

Draft vision: Metro provides a sustainable transportation system - a system that meets the needs of people, communities, and businesses in the region, and fosters social wellbeing, equity, economic prosperity, and environmental stewardship.

Draft guiding principles:

1. Develop and Implement an Action Plan with specific priorities, strategies, and targets to advance sustainability at Metro and in the region
2. Recognize that our investments and operational decisions change lives. Make those decisions intentionally to address historical, social, environmental, and economic disparities and racial and social injustice
3. Build, operate, and maintain a resilient transportation system to improve livability, the environment, equity, and access to opportunity
4. Leverage the special nature of Metro's service and our unique market position to advance regional goals
5. Make cost-effective and data-driven business decisions that provide Metro and its partners with the best return on its investment

6. Advance the region's efforts through leading transparent and authentic collaboration with stakeholders and community partners
7. Foster a culture of sustainability and continual improvement through growing staff capacity and leveraging regional expertise and innovation
8. Establish measurable performance indicators to track implementation and successes of Metro's strategies and actions

**FUNDING IMPACT:**

No funding impact from presenting this information item

**TIMELINE:**

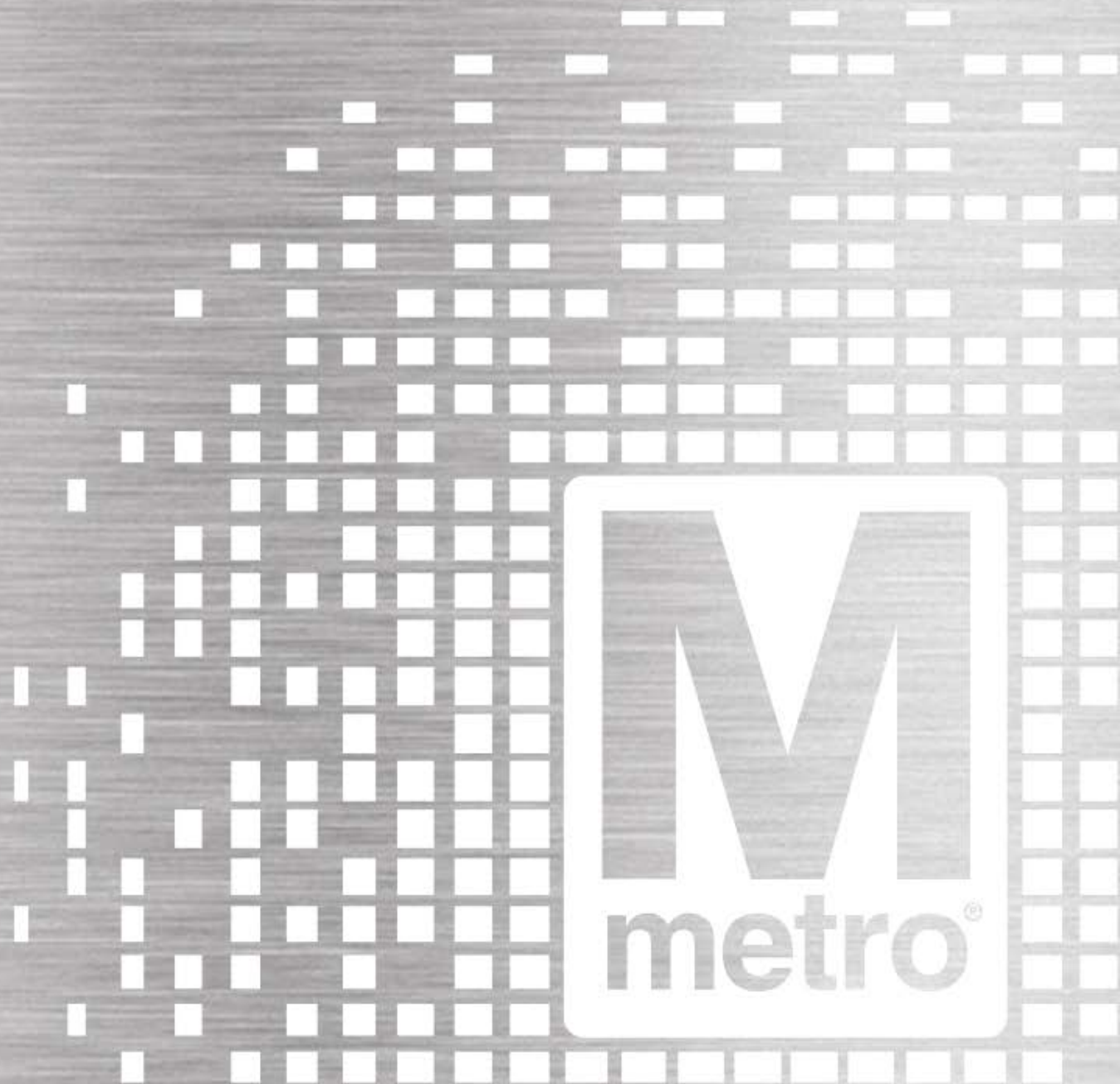
<b>Previous Actions</b>	July 2020 – Sustainability Initiative Update July 2020 – Transit Equity Framework
<b>Anticipated actions after presentation</b>	FY2021 – Quarter 3 - Present sustainability vision and principles for Board adoption FY2021 – Quarter 4 - Present draft sustainability indicators and targets

**RECOMMENDATION:**

No recommendation is made as part of this information item.

# Framework for Transit Equity: Sustainability Principles

Executive Committee  
November 19, 2020





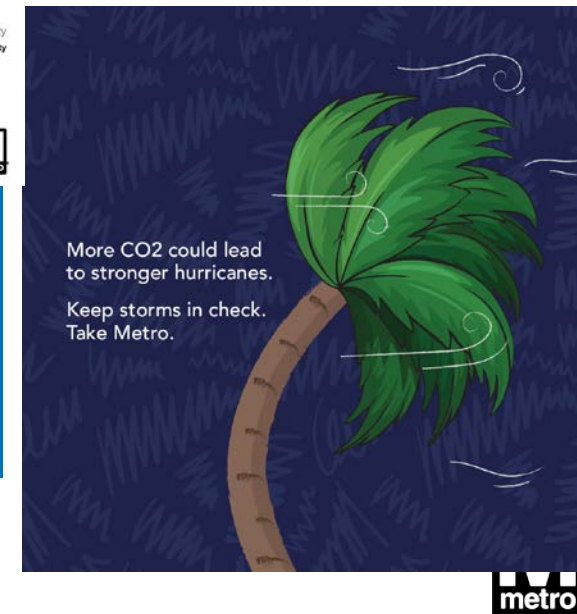
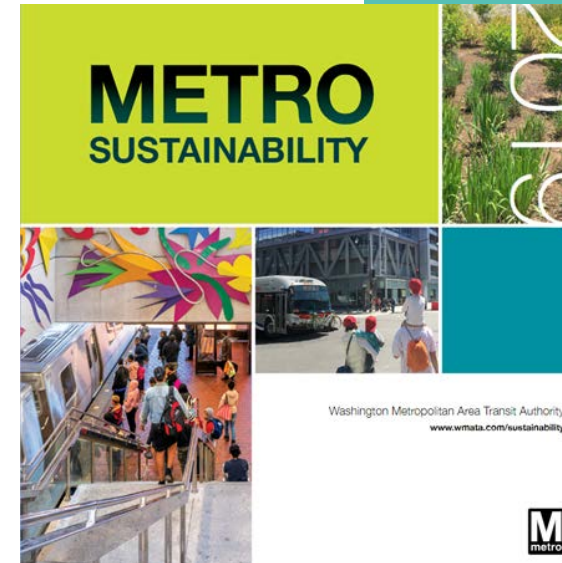
## Purpose

- Update on sustainability initiatives and Zero-Emission Bus Program (ZEB)
- Plan strategically to support regional sustainability
- Review draft sustainability vision and principles and consider policy guidance



# Active Sustainability Initiatives

- Annual Sustainability Report
- Energy Action Plan
- Zero-Emission Bus Program
- Station and Facilities Lighting Program
- Sustainable construction LEED certified facilities
- Solar lease program
- Sustainability Lab
- Stormwater reduction program





# Zero-Emission Bus: Transformational Investment Opportunity for Sustainability and Equity

## BENEFITS



Cleaner air, reduced greenhouse gas and tailpipe emissions



Quieter vehicles, less vibration, increased comfort



Decreased use of fossil fuels, reduced fuel costs



Reduced operation and maintenance costs

## CHALLENGES



Additional capital investment in grid infrastructure, facilities, and vehicles



Major fleet and facility investments with rapidly maturing technology



Fleet lifecycle/replacement timing



Coordination/partnership

# Zero-Emission Bus – Steps to Full Implementation

## Test and Evaluation Program

- Maturity of technology
- Operational trials
- Review interoperability

## Energy Infrastructure Investments

- Identify, fund and build utility infrastructure required to operate service

## Policies & Rate Structures

- Establish regional policies and energy rate structures

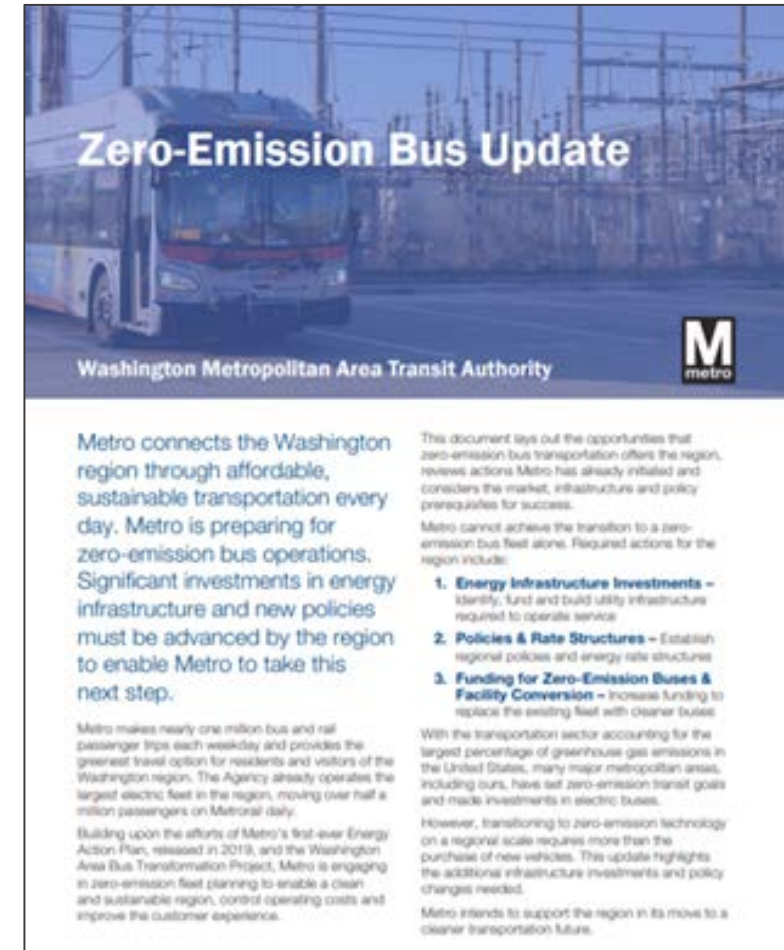
## Funding for Buses & Facility Conversion

- Increase investment to replace fleet and upgrade facilities
- Additional capital investment ~\$500M over six years; \$2B over 25

For additional information see Metro's [Zero-Emission Bus Update](#)

# Zero-Emission Bus – Progress To Date

- Awarded Federal Low-No Grant
- Acquiring ~12 electric buses
- Engaging utilities
- Consulting peers and experts
- Updating Metrobus Fleet Plan
- Electric bus ready design - Northern and Bladensburg bus facilities
- Total of ~\$25M included in capital program for test and evaluation



# Regional Framework

- Governmental and business policies advance sustainability
  - Climate plans
  - Procurement requirements
  - Building regulations
  - Electric bus programs
- Goals include
  - Reduce carbon emissions
  - Increase efficiency
  - Racial and social equity
  - Fiscal responsibility



# Regional Sustainability Policies and Legislation

## Maryland

### State of Maryland

- Clean Energy Jobs Act
- Renewable Portfolio Standards
- Climate change adaptation plans
- Electric Vehicle Infrastructure Council

### Montgomery and Prince George's Counties:

- Local climate adaptation and mitigation plans
- Electric bus FTA pilot grantees
- Montgomery County Carbon Neutral by 2035

## Virginia

### Commonwealth of Virginia

- Clean Economy Act
- Carbon neutral grid by 2050
- Permanent Council on Environmental Justice
- Electric School Bus Statewide Partnership

**Arlington County:** Carbon neutrality 2050, Renewable energy purchase

**Fairfax County:** Climate Action Plan and Environmental strategy,

**Loudoun County:** Energy and conservation strategy

**City of Alexandria:** ECO-City strategic program, Environmental Action Plan 2040, Electric Bus Pilot

## District of Columbia

### District of Columbia

- Carbon neutrality by 2050
- Sustainable DC and Clean Energy DC plans
- Clean Energy Act: 100% of the public buses to be zero-emission by 2045
- Transportation Benefits Equity Act

**DDOT:** Sustainability and Resiliency Plans. Environmental policy and equity program. Circulator operates electric buses

# Sustainability Outcomes

## ■ Customers

- Sustainable and equitable transportation
- Improved travel experience
- Positive relationship with Metro

## ■ Region and Stakeholders

- Improve accessibility, affordability, equity and resilience
- Environmental and economic benefits
- Innovation and collaboration

## ■ Jurisdictions

- Expand return on investment
- Achieve sustainability goals

## ■ Metro

- Vision and principles help guide planning and decision-making
- Innovation and modernization
- Clear goals and metrics



# Draft Sustainability Vision for Board Consideration

Metro provides a sustainable transportation system - a system that meets the needs of people, communities, and businesses in the region, and fosters social wellbeing, equity, economic prosperity, and environmental stewardship.



# Draft Sustainability Principles

Develop and implement an **Action Plan** with specific priorities, strategies and targets to advance sustainability at Metro and in the region

Recognize that our investments and operational decisions change lives. Make those decisions intentionally to **address historical, social, environmental, and economic disparities and, racial and social injustice**

Build, operate and maintain a resilient transportation system to **improve livability, the environment, equity, and access to opportunity**

Leverage the special nature of Metro's service and our unique market position to **advance regional goals**

## Draft Sustainability Principles (Continued)

Make **cost-effective** and **data-driven business decisions** that provide Metro and its partners with the best return on its investment

Advance the region's sustainability efforts through leading **transparent and authentic collaboration** with stakeholders and community partners

Foster a **culture of** continual improvement through growing staff capacity and leveraging regional expertise and **innovation**

Establish measurable **performance indicators** to track implementation and successes of Metro's strategies and actions



## Next Steps

- FY2021 – Quarter 3
  - Present sustainability vision and principles for Board adoption
- FY2021 – Quarter 4
  - Present draft sustainability indicators and targets
- FY2022 – Quarter 1
  - Update on sustainability initiatives including zero emission bus update

