



## Board Report

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EXECUTIVE MANAGEMENT COMMITTEE  
JULY 18, 2019**SUBJECT: METRO CLIMATE ACTION AND ADAPTATION PLAN****ACTION: ADOPT PLAN****RECOMMENDATION**

ADOPT the Metro Climate Action and Adaptation Plan.

**ISSUE**

In 2012, the Los Angeles County Metropolitan Transportation Authority (Metro) released the Climate Action and Adaptation Plan (CAAP), establishing a framework for reducing greenhouse gas emissions and building the agency's resilience to the effects of climate change. The 2012 CAAP needs to be updated to reflect the current state of science and policy regulations and to conform to LA Metro's commitments under Measure R, Measure M and acceleration of the completion of 28 projects by 2028.

**BACKGROUND**

Metro's 2012 CAAP established a framework for reducing our greenhouse gas emissions and building resilience to minimize the impacts of climate change. Metro has worked to embed climate action into systems, assets and operations to create a resilient and forward-thinking Agency prepared for a changing future since 2012.

Metro is at the forefront of implementing visionary climate impact reducing strategies. Our projects and activities have been cited in recommended practice and best practice reports produced by the American Public Transportation Association, the Transportation Research Board, and most recently by the State of California in the report *Paying It Forward: The Path Toward Climate-Safe Infrastructure In California*

[<http://resources.ca.gov/climate/climate-safe-infrastructure-working-group/>](http://resources.ca.gov/climate/climate-safe-infrastructure-working-group/)). Metro staff has been actively involved in all of these activities. ***But these are not enough.***

Metro has accomplished much in climate impact reducing programs and infrastructure since the 2012 CAAP was released. Staff believes that more ambitious goals for the near and long term developed through this 2012 CAAP update process will ensure that the assets we currently have and that we are building through the Measure R and Measure M capital programs are able to withstand more frequent and extreme weather events. More importantly, the strategies in this update will ensure that our agency can continually provide essential services to all our customers despite the changing

baseline environmental conditions related to climate change. The 2019 CAAP will build upon the plans, initiatives, and programs created since the 2012 CAAP, while creating a visionary path for minimizing our greenhouse gas emission impacts to the environment and building resilience in our infrastructure and communities.

The 2019 CAAP:

- Provides an update on what Metro has accomplished and how approaches to climate action have changed since the 2012 CAAP;
- Summarizes current and projected greenhouse gas emissions from Metro operations;
- Describes how climate change could affect Metro's system and operations; and
- Identifies steps to reduce emissions and increase resilience to climate change.

The 2019 CAAP was developed by our Environmental Compliance and Sustainability Division (ECSD) staff in partnership with Enterprise Transit Asset Management, Emergency Management, Safety, Communications, Operations, Engineering, and Countywide Planning and Development.

## **DISCUSSION**

The 2019 CAAP identifies the actions Metro will be undertaking to reduce our climate change impacts through two broad strategies:

- Reducing Metro's greenhouse gas emissions, which contribute to climate change, and
- Increasing the resiliency of the Metro system and service to the effects of extreme weather events and long-term climate changes.

The 2019 CAAP provides a summary of the greenhouse gas mitigation and climate resilience goals, strategies and actions as well as a discussion of our stakeholder engagement and the results of that engagement. Emerging issues associated with implementation, including ***prioritization of opportunities for feasible acceleration***, are also discussed.

As outlined in the CAAP, these strategies and actions will be implemented in a variety of ways. Many strategies and actions are tied to procurement decisions. A related Board action for staff to implement a Metro Sustainable Acquisition Plan (SAP) was presented for approval in the June 2019 Board Meeting. Our ability to reduce greenhouse gas emissions and promote sustainability and environmental stewardship directly through our agency's procurement actions are addressed in the SAP.

A summary of the greenhouse gas mitigation and climate resilience goals is provided below:

- **GHG Mitigation Goals**
  - Reduce GHG emissions by 79% below 2017 levels by 2030
  - Achieve zero emissions by 2050
- **Climate Resilience Goal**
  - Create a climate resilient organization and transit system: prepared, ready and able to

provide consistent services to the people of LA County

### Greenhouse Gas Mitigation

Metro has implemented a significant number of greenhouse gas emissions reduction strategies since 2012 and is on track to reduce agency operational emissions in support of the State's targets for greenhouse gas emissions reductions. Since the 2012 CAAP 2012, Metro has transitioned its bus fleet fuel from fossil natural gas to renewable natural gas, implemented numerous energy-efficient lighting, and expanded on-site renewable energy installations in the form of solar and flywheel technologies. These changes, plus the impact of state and federal policies to reduce emissions from a variety of sectors, drove Metro's greenhouse gas emissions **down by nearly 12%** from 2010 to 2017- *despite approximately 4% increase in service*.

Through Metro's ongoing business as usual efforts to adopt new transportation technologies and the continued impact of California's aggressive climate policies, staff projects that Metro's greenhouse gas emissions will continue to decline to 57% below 2017 levels by 2030 and 81% by 2050. While this trajectory is substantial, it is not enough. More ambitious targets for greenhouse gas reduction are necessary to minimize the impacts of climate change. Through the strategies identified in the 2019 CAAP, Metro commits to reduce direct agency greenhouse gas emissions to 79% relative to 2017 levels by 2030 and 100% (i.e., zero emissions) by 2050.

Thirteen measures have been identified to reduce emissions from every aspect of Metro's operations by 2050:

1. Switch directly operated buses to battery-powered technologies
2. Deploy battery-powered buses in the contracted fleet
3. Switch vanpool vehicles to battery-powered vehicles
4. Replace non-revenue vehicles with battery-powered vehicles
5. Install systems to store energy captured from trains
6. Buy 100% renewable energy
7. Install photovoltaic systems
8. Install water-saving fixtures
9. Install non-potable recycled water systems
10. Install LED lights at facilities
11. Install electric heating systems
12. Replace facility appliances with more efficient electric appliances
13. Install electric vehicle charging at Metro facilities and implement an employee electric vehicle outreach plan

If fully implemented, these measures are projected to avoid more than 416,000 metric tons of annual carbon dioxide emissions-the equivalent of the annual emissions of more than 88,000 passenger vehicles, while also providing net cost savings and environmental co-benefits like air quality and drought resilience.

### Building Resilience

Reducing greenhouse gas emissions can help slow the pace of climate change, but it cannot stop it. California's climate is already changing, and scientists expect the changes to intensify in the years

and decades ahead. These changes pose risks to Metro's infrastructure, services, riders and employees. More extreme climate and weather conditions could interrupt service and cause delays. They could also bring safety risks; increased operation, maintenance and repair costs; and reduce Metro's ability to provide emergency services to other partners in the region.

***Building climate resilience is a risk-reduction strategy.*** Taking actions today can avoid future major costs, disruptions to service and safety risks. Metro's goal is to create a climate-resilient organization and transit system prepared, ready and able to continue to provide services to the people of LA County no matter what the future brings.

Resilience thinking is already part of Metro's daily business culture. Most planning and building decisions already include climate-resilience strategies, but there is more to be done. Metro will ensure climate-resilience is considered more thoroughly when making decisions related to planning, designing, construction, procurement, internal protocols and more, while also developing solutions that can be implemented gradually and modified as new information becomes available, minimizing costs and disruptions to service.

A climate-resilient Metro will plan proactively to reduce impacts due to climate change while ensuring climate resilience is pursued equitably across user groups and communities by:

1. Making climate resilience an organizational priority and integrating it throughout planning and daily operations.
2. Establishing a flexible approach to adaptation that can be monitored and adjusted over time as scientists improve their understanding of climate change and its impacts.

### Stakeholder Engagement

Input from staff, riders, and other key external stakeholders was a critical and valuable component of developing and evaluating the goals of the 2019 CAAP. The 2019 CAAP incorporated input through the following engagement opportunities:

- Staff interviews
  - Since March 2018, ECSD staff interviewed Metro staff throughout the agency. These interviews were primarily conducted during scheduled Environmental Management System (EMS) Core Team meetings at the operating divisions. Four Bus Divisions (Divisions 9, 10, 13, and 15), five Rail Divisions (Divisions 11, 20, 21, 22, and 24), and the Central Maintenance Facility (Division 30) were interviewed. The EMS Administration group, which includes executives from Corporate Safety, Quality Assurance, Operations and Maintenance, was also interviewed. Metro staff were also engaged as part of Metro's quarterly "Growing a Greener Workforce" (GGW) meetings, which includes Metro employees who are interested in incorporating sustainability into their respective departments and have an environmental certification or credential. Employees who participated in the CAAP from the GGW included Contract Management, ITS, Public Relations, Community Relations, Systemwide Design, Government Relations, and Emergency Management. Other Metro groups interviewed included Construction Management, Facilities Engineering, Emergency Management, Enterprise Transit Asset Management, Systems Engineering, Countywide Planning and

Development, and Wayside Systems.

- Metro Sustainability Council
  - The Metro Sustainability Council has provided an objective forum for external collaboration for the 2019 CAAP. Staff presented to the Sustainability Council monthly from October 2018 to April 2019, including two workshops with councilmembers. The engagement strategy for the CAAP was developed with guidance and concurrence from the Sustainability Council's executive committee and consistent with the Sustainability Council Meetings Arc. As a result of meaningful feedback from the Sustainability Council, Metro augmented its engagement strategy to include additional touchpoints and add review time to the draft CAAP. Following the two workshops, staff presented to the Sustainability Council on how stakeholder input has been incorporated into the CAAP. A comprehensive comment review matrix was developed to facilitate stakeholder tracking of input received (Attachment B). The Metro Sustainability Council unanimously endorsed the CAAP during its July 12, 2019 meeting.
- Rider survey
  - In 2019, Metro conducted the first rider survey on climate change, asking for impressions and concerns related to climate risks, including information on how extreme weather events affect riders' comfort and convenience. The survey was deployed from January 8, 2019 through February 11<sup>th</sup>, 2019 and received nearly 400 responses. The survey was advertised online through emails and posts on Metro's the Source and Twitter. Additionally, staff attended 10 of the NextGen public workshops between January 8<sup>th</sup> and February 6<sup>th</sup>, 2019. At the workshops, staff provided flyers in English and Spanish that explained the survey and directed community members to the survey's link. For community members who could not access the survey via a computer or cell phone, a laptop was available to take the survey in-person with staff assistance.

### Implementing the 2019 CAAP

Meeting these goals will require bold action. To manage change effectively, Metro will need to consider several emerging issues and address potential barriers to action. Five overarching principles will guide the 2019 CAAP implementation process:

#### *Principle 1: Embrace Climate Leadership*

Implementing the 2019 CAAP requires leadership, collaboration and bold action from Metro senior leadership; participation from Metro's entire workforce to contribute to an organizational culture of climate leadership; and active engagement from Metro's vast network of stakeholders to provide critical input and advice. All of these teams will work to reduce emissions and increase resilience while also aligning with other Metro priorities, such as equity goals outlined in the Equity Platform Framework, infrastructure and operational goals set out in the Long Range Transportation Plan and Agency level goals identified in Vision 2028 Strategic Plan.

#### *Principle 2: Secure Funding and Prioritize Resources*

While many resources already designated for planning, designing, building and operating the Metro system can be leveraged in pursuit of climate action, additional resources will be required to

implement the CAAP. Climate action must be reflected across all funding strategies and identified within both department and project budgets.

Wherever feasible, partnerships should be leveraged to jointly support climate related initiatives. This can be accomplished by identifying external partners that share Metro's vision for climate action and whose decisions collectively impact the sustainability of the region, such as City and County of LA, Caltrans and other state and local agencies. There is also value in private sector partnerships to maximize financial capital to fund, operate and maintain assets that contribute to impactful climate action. By working together and pooling financial resources, mitigation potential and preparations for climate risks can be optimized.

### Principle 3: Integrate Climate Knowledge into Existing Decision Making Processes

Climate forward thinking must be seamlessly and rigorously integrated into existing decision making processes and systems. Key planning, design, construction, procurement and risk mitigation decisions require knowledge about GHG emissions and climate resilience. Integrating climate change thinking into Metro operations and processes has already begun in many Metro departments, through new sustainable acquisition practices and the use of lifecycle costing tools. Climate information and data will be incorporated as inputs when evaluating choices, alternatives and project priorities.

### Principle 4: Monitor and Evaluate Progress

To maintain transparency and accountability to the goals set in this CAAP and to communicate any new goals and measures, the Energy & Resources Report and future Sustainability Reports will provide an annual update to stakeholders on Agency progress and the status of implementation timeframes.

Annual CAAP reporting will track the status of pilots, technology assessments, financial analyses, decision making outcomes and other major planning efforts underway. Reports will not only highlight key successes, but also identify where challenges or barriers persist. Additionally, these reports provide an opportunity to reevaluate technology choices, specific mitigation measures and actions, and implementation timelines. ***Opportunities for feasible acceleration will be prioritized, subject to emerging issues and constraints and considering responsible stewardship of taxpayer dollars.***

### Principle 5: Engage with Community Stakeholders

Input and expertise from staff, riders and other key stakeholders will be a key component of implementing and evaluating the goals in this CAAP. Increased collaboration through existing partnerships will support implementation of CAAP goals while also helping to identify co benefits or redundancies among partners.

Metro will leverage existing engagement mechanisms with new ones for strategic exchange of information. Existing mechanisms include: ridership surveys, Service Councils, the Sustainability Council, general councils (e.g., Transportation Business Advisory Council), website content, email, social media, local committees, customized trainings and conference presentations. Internal communication channels include MyMetro Headlines section of the Metro intranet portal, department

newsletters, employee visual messaging boards at division facilities and employee trainings. New engagement opportunities and innovative ideas that further the agency's climate action and resilience goals can also be captured through the Unsolicited Proposal Process and Public Private Partnerships programs.

#### CEQA Considerations

The 2019 CAAP is not a project for the purposes of the California Environmental Quality Act (CEQA), and any projects, mitigation or other measures described in the CAAP will be developed and adopted through a public review process which includes CEQA compliance, if required. Evaluation of future project-level impacts is too speculative to include in an environmental document at this time as the CAAP is a policy document and does not include the approval of any specific project (see CEQA Guidelines Section 15145).

### **DETERMINATION OF SAFETY IMPACT**

The CAAP affirms and reinforces a strong safety and preparedness culture throughout our operations and practices. A key element of the CAAP will be to promote a transportation system that improves safety for travelers by preparing the system for a variety of hazards.

### **FINANCIAL IMPACT**

We will leverage funding and staff resources to accelerate the achievement of goals and initiatives prioritized in this CAAP. This includes aligning the agency's business processes, resources, plans, and tools with the CAAP's vision, goals, and initiatives and ensuring that financial decisions, annual budgets, programs, services support the Metro 2019 CAAP. It also means aligning human capital and financial resource decisions to reflect the CAAP's vision and priorities. This realignment will occur in a phased approach over the next several years to allow for the completion of initiatives that are already in progress. Assessments of planning, capital, or operating costs associated with specific initiatives in the CAAP may also be brought before the Board for action individually, or as part of a program or associated actions, as appropriate.

#### Impact to Budget

There is no change to the FY20 approved budget. Individual projects or initiatives outlined in the CAAP will be developed with individual project budgets and resource allocations.

### **IMPLEMENTATION OF STRATEGIC PLAN GOALS**

As outlined in the report, the 2019 CAAP was developed to harmonize GHG and resilience goals with broader Agency goals and priorities set forth by other Metro documents, including the Vision 2028 Strategic Plan. Specifically, the risk assessment methodology included indicators that directly aligned with one or more of the Strategic Plan goals (see Table B-10 on page 80 of Attachment A).

### **ALTERNATIVES CONSIDERED**

The Board could decide to delay or forgo the adoption of the 2019 CAAP. This alternative is not

recommended. The strategies in this 2019 CAAP are essential to maintain the momentum to reach our ambitious near and long-term climate reducing goals. This climate action and adaptation plan is critical to ensure Metro can continue to provide vital mobility services to LA County as the climate changes. Over the coming decades, the Los Angeles County region will undertake one of the largest transportation infrastructure investments in the western hemisphere. As LA Metro works with public, community, and private sector partners to build out this infrastructure for the future, we are also seizing opportunities to create a visionary path for minimizing contributions to climate change while building resilience to a changing climate for the over 1.2 million people who rely directly on our bus and train service today and more than 10 million people whose quality of life is affected by our ability to implement transportation solutions that successfully meet their mobility needs in the next ten years. The Board's adoption of the CAAP will provide support and direction for a comprehensive climate action plan from our agency and spur the collective actions necessary to advance our vision for a world-class transportation system that will efficiently, effectively, and equitably serve the mobility needs of people who live, work, and play within LA County.

### **NEXT STEPS**

Upon Board approval, ECSD will act as the lead department facilitating the implementation of 2019 CAAP goals and will oversee implementation of the strategies while working with and supporting key internal stakeholders. ECSD will provide these key departments with technical analysis, project development, lifecycle costing, funding identification, education and training support.

The CAAP is a policy level document that requires additional steps to determine project-level impacts, including any acceleration and costs. Staff will determine these impacts concurrent with the environmental impact analysis, when necessary, prior to executing on projects and initiatives consistent with identified CAAP strategies.

Implementation best practices already exist within Metro. For example, the Environmental Management System to monitor, track, and evaluate progress and outcomes of climate related initiatives across the Agency. The SAP is another mechanism to ensure CAAP goals are incorporated into our procurement of goods and services.

Consistent with the implementation principles laid out above, staff will report back on CAAP implementation on an annual basis through existing sustainability reporting mechanisms.

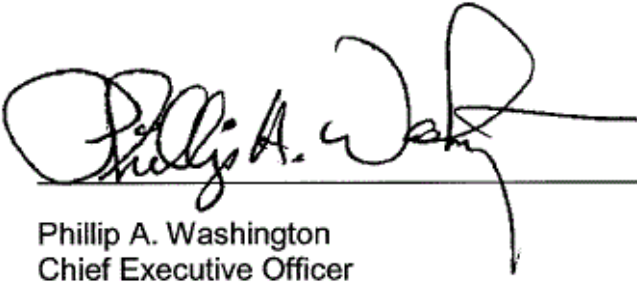
### **ATTACHMENTS**

Attachment A - 2019 Metro Climate Action and Adaptation Plan  
Attachment B - Sustainability Council Comments and Response Log

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