



# CLIMATE ACTION PLAN

The Link to a Zero Emissions Future

**ADOPTED**  
March 26, 2021

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# BOARD CHAIR MESSAGE

The Metrolink Board of Directors enthusiastically champions the agency's first Climate Action Plan that will chart a course for how we can address the ongoing effects of climate change and contribute to a greener, more sustainable future for the Southern California mega-region.

The Board understands the urgency in protecting our precious resources. We support the Presidential Administration's ambitious plan to address climate change and move the nation to a net zero emissions future—and we're eager to work in harmony with the State of California, where our Governor has already issued bold executive orders to usher in the next chapter of environmental sustainability from transportation sources.

Metrolink truly is the smartest, cleanest and greenest way to travel across our great mega-region. More than 70% of our fleet is fueled by Tier 4 locomotives – the cleanest available today— and retired our last remaining dirtiest Tier 0 locomotive last year. With this Climate Action Plan, we are taking a bold stance on how we preserve our natural environment and create a clear path forward to accelerate our overarching goal of a zero-emission future for Metrolink - the greatest potential benefit to our region and to our neighbors near our facilities.

Through 2028, our region will host some of the world's biggest events—The Super Bowl, FIFA World Cup, and The Olympic and Paralympic Games—each will bring millions of people to our region. The impact of these events will be significant, with the potential to create massive car congestion on our freeways and increased carbon emissions to our environment. Metrolink is in a unique position to contribute to the emissions reduction of these events and help mitigate the adverse environmental effects on our community. Advancing initiatives like our \$10 billion capital improvement program, Southern California Optimized Rail Expansion (SCORE), can provide much needed connectivity for attendees. SCORE will not only reduce congestion and air pollution but allow Metrolink to

be the pride of the mega region as it steps onto the world stage. Can you imagine how we could magnify the benefits of SCORE if we could get to zero emissions by 2028?

Reflecting on what we've accomplished so far, I am proud of the way we were able to respond quickly in crisis and provide an essential service for essential workers to safely connect them to their jobs on the frontlines of COVID-19. This only strengthens my conviction that Metrolink plays a tremendous role in the health and safety of our region and we have an immense responsibility to help protect it as best we can for future generations.

The Board of Directors is committed to providing our passengers with a transportation experience that is safe, clean, on time and protects the environment today and for generations to come.

*The time is now.*



Sincerely,

*Ara Najarian*

Ara Najarian  
Metrolink Board Chair  
and Glendale Councilmember

## CEO MESSAGE

It is often during the most challenging times that we stretch to focus on what's most important. And I agree with the saying that the most important things in life aren't things. To me, people are most important.

When I joined Metrolink in January of 2019, I unveiled a vision that centered on people. After living through 2020 and seeing how COVID-19 impacted people across the world – physically, economically, socially – especially the most vulnerable among us, I am more convinced than ever that we, as companies and leaders, have to approach our operations with humanity, empathy and genuine concern for our planet and its global citizens.

Metrolink is committed to protecting the environment, embracing social responsibility and creating economic vitality. This Climate Action Plan is about improving the quality of life for the people in the communities we serve – the families, the employers, the essential workers, the students and everyone in between - and for our own employees. This plan is a time-sensitive, landmark achievement that builds on all the foundational sustainable accomplishments to date. It sets forth a comprehensive framework that raises the bar and establishes as a North Star the primary goal of becoming a zero emissions railroad. At the same time, it provides a structure for goal-setting and performance measurement in several areas.

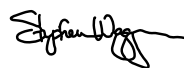
I am grateful to the Metrolink employees who stepped forward to form the newly launched Green Team and dedicated their time to developing this Plan and who will champion efforts to integrate these strategies into our business and culture.

With Metrolink's ridership down by over 85% due to the pandemic and with our regional economy in fragile shape, as business owners are struggling to stay afloat, the time is now to think and act differently. As such, this plan continues to advance the Board-adopted Recovery Plan Framework that recognizes the need to shift our value proposition to focus on the triple bottom line of the environment, economy, and equity. It also supports the President's Build Back Better approach that focuses on bold steps to tackle the climate crisis as well as the State's aggressive climate goals as articulated by the Governor's executive orders over the past two years.

Metrolink is advancing a healthier Southern California.



Sincerely,



Stephanie N. Wiggins  
CEO



# EXECUTIVE SUMMARY

The Link to a Zero Emissions Future

# EXECUTIVE SUMMARY

Climate change is the biggest social, economic and environmental threat facing our planet. Southern California is annually at or near the top of the list for regions with the worst air quality contributing to adverse health impacts. Additionally, climate change impacts like sea level rise and an increase in the number of extreme heat events and wildfires affect Southern California and require a new level of attention. Metrolink already reduces vehicle miles traveled (VMT) and resultant greenhouse gas (GHG) emissions, nitrogen oxides and particulate matter from our air basin. And by setting the target of a zero emissions future as our North Star, Metrolink will be positioned as one of the most beneficial transportation entities in the nation. The benefits are not merely esoteric and cumulative for the region but are also local to the communities we serve and our neighbors who live close to where we maintain our trains. We advance the well-being of our riders, our communities, and our planet, one ride at a time.

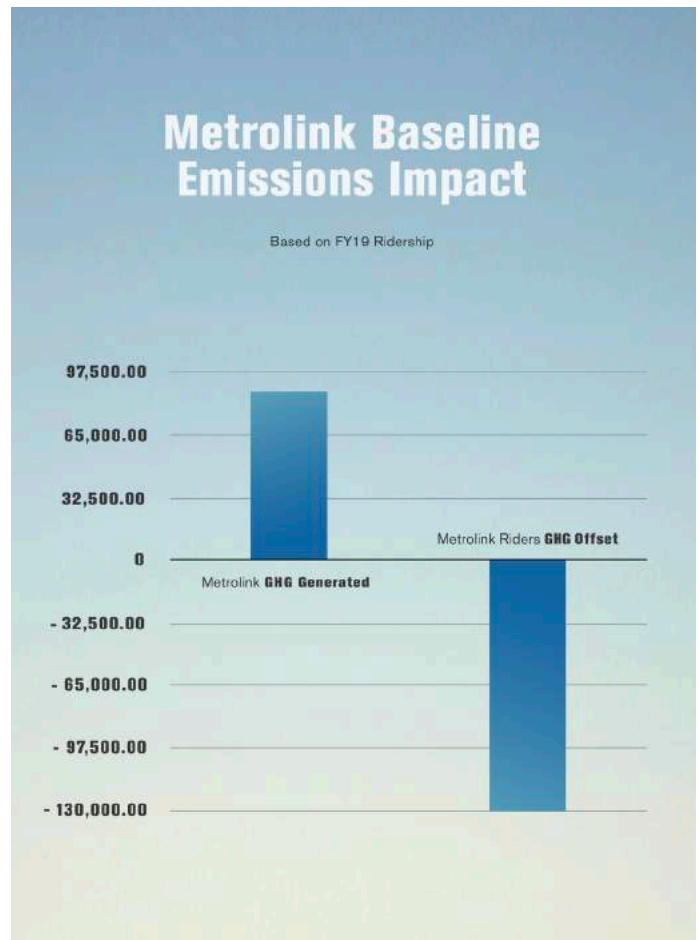
The road to zero will be paved with many obstacles and will be extremely difficult to accomplish as many of the required advanced technologies don't readily exist today. And this Plan identifies all of the initiatives that must be in place to support our bold ambitions.

The goals set forth in this Climate Action Plan help to further augment environmental plans at the state and federal levels. The Biden Administration has established a bold climate agenda that focuses on three main sources of emissions in the sectors of energy, transportation, and oil and gas. These goals are also in line with state climate goals, including the Governor's Executive Orders N-19-19 and N-79-20 to aggressively phase out fossil-fuel powered vehicles and reduce our impact on the environment.

While transportation remains the state's largest source of greenhouse gas emissions, passenger rail plays a crucial role in helping to reduce emissions by getting people out of their vehicles. Prior to the COVID-19 pandemic, Metrolink

reached a record 11.9 million annual boardings. With more than 85% of riders having access to a car, by choosing Metrolink, these riders collectively removed the equivalent of one lane of parallel freeway traffic, or the equivalent of 9.3 million weekday automobile trips. This annual VMT reduction also resulted in 130,000 fewer Metric tons of carbon dioxide (MTCO<sub>2</sub>) or the equivalent of planting a 170,000-acre forest. Moreover, Metrolink's annual total operational greenhouse gas emissions footprint of 87,000 MTCO<sub>2</sub> measured far below this, resulting in Metrolink displacing more emissions than we produce and contributing a net emissions reduction for the region of 43,000 MTCO<sub>2</sub> (33 percent).

However, we know Metrolink can do more. Given that locomotive diesel emissions account for 95% of our total emissions, our stretch goal is to be a fully zero emissions railroad. Our moon shot is to do it by 2028!

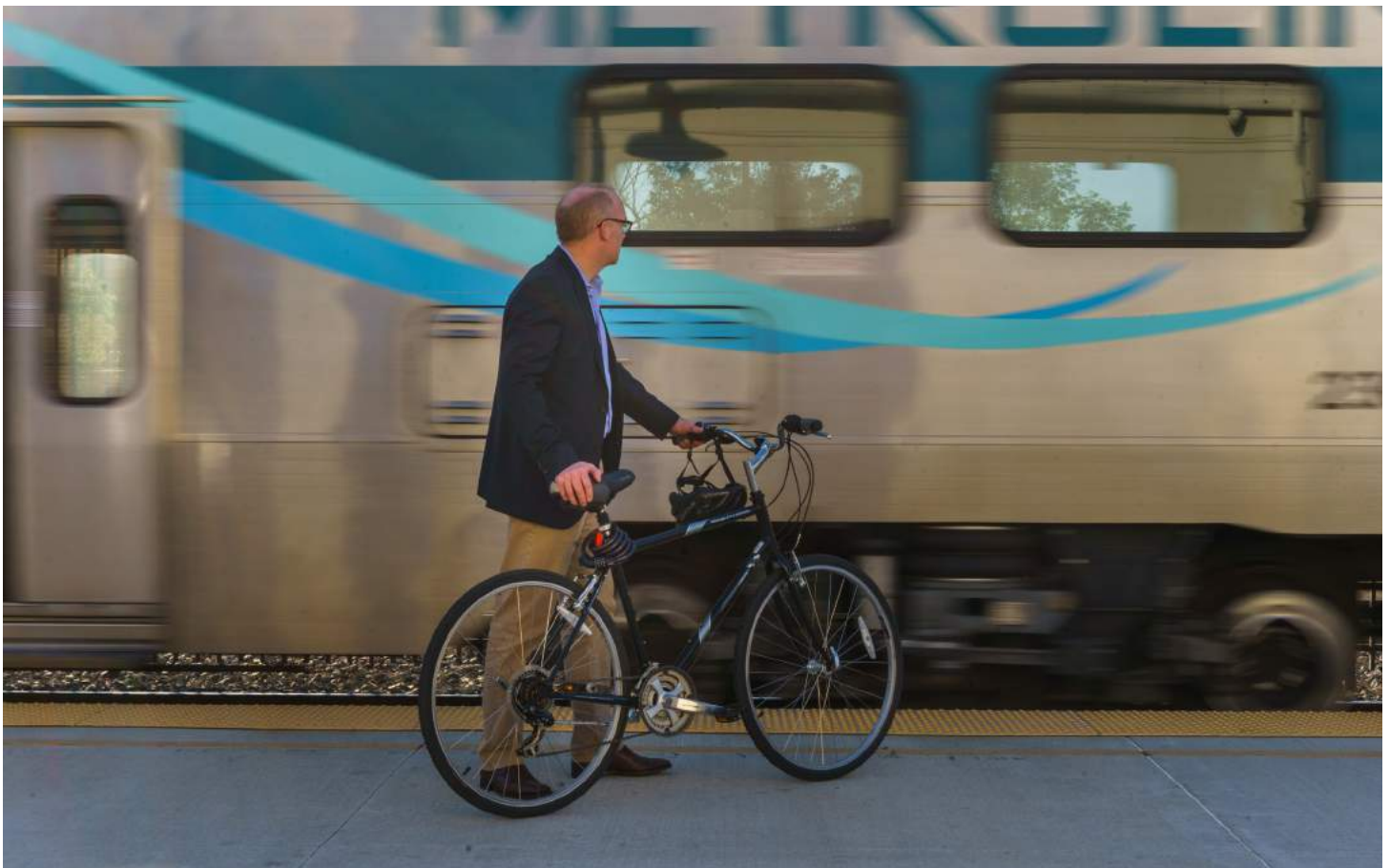


This Climate Action Plan is the first, formal environmentally focused plan for Metrolink and anchors to the commitments set forth in the Board-approved Strategic Business Plan. The time horizon for the Climate Action Plan spans over the next 10 years through 2030 and establishes a framework for reducing greenhouse gas emissions and criteria pollutants including nitrogen oxides and particulate matter as well as integrating resilience to the effects of climate change along the way. This will serve as the foundation to develop a broad, comprehensive Sustainability Plan that encompasses both environmental and social responsibility initiatives.

The goals in the Plan were designed to be comprehensive, ambitious and include bold stretch targets. We intend to take a wide range of actions from exploring emerging and innovative technologies to implementing practical, operational efficiency solutions.

The tenets of the Plan will be integrated into customer experience, business processes and operations. A review and assessment will be completed, comparing actual performance to targeted goals on an annual basis and results highlighted in a published report each year. It is intended that this Plan will be a dynamic document. As technologies advance, regulations change, funding is secured, or goals are achieved during the timeframe, we will reassess and update Plan goals and targets to continually lead progress toward mitigating climate impacts for the region.

We are thoughtfully and strategically moving forward to drastically reduce climate change impacts and improve the quality of life for the communities we serve. The ambitious targets of the Climate Action Plan chart a course toward building a safe, resilient and environmentally beneficial rail network that is accelerating a zero emissions future.



# TOP MEASURES TOWARD ACCELERATING A ZERO EMISSIONS FUTURE

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1. **Transition** locomotive fleet to 100% petroleum-free fuel
2. **Reduce** idling and improve efficiencies of locomotive operations
3. **Upgrade** Tier 2 locomotives to more fuel-efficient Tier 4 locomotives
4. **Implement** zero emissions multiple unit (ZEMU) service with a hydrogen fuel cell-powered train on the Redlands extension and San Bernardino Line
5. **Conduct** a zero-emissions pilot on the Antelope Valley Line
6. **Pilot** electrification via dual mode locomotive or conversion to a Tier 4 locomotive
7. **Transition** 100% of non-revenue fleet light duty vehicles to zero emission models
8. **Install** zero emission vehicle charging and/or fueling infrastructure at facilities
9. **Implement** recommended energy saving measures and capital project upgrades identified in the facility modernization studies
10. **Install** solar panels and battery storage equipment at facilities where operationally feasible
11. **Install** water-saving fixtures and upgrade train wash recycling systems
12. **Implement** additional recycling and waste reduction practices
13. **Improve** e-waste recycling efforts
14. **Improve** construction waste recycling efforts
15. **Incorporate** climate adaptation strategies to increase resiliency of the rail network
16. **Implement** a sustainable procurement management program



# CLIMATE ACTION PLAN

## PURPOSE

The Intergovernmental Panel on Climate Change has made it clear that achieving net-zero greenhouse gas (GHG) emissions globally by 2050 is essential to stabilizing global temperatures at 1.5 degrees Celsius above preindustrial levels and reducing the devastating health and economic impacts of the climate crisis. Transportation is now the highest source of GHG emissions in the United States, accounting for 29 percent of U.S. emissions. In California, the air quality for the South Coast basin has improved over the years. However, it is still far below federal public health standards with some of the worst air pollution in the nation. As a result, the Southern California region is already experiencing climate impacts such as sea level rise, an increase in the number of extreme heat weather events and risk of wildfires. In 2020 alone, a total of 8,500 fires burned over 4.2 million acres across the state, more than 4% of the state's roughly 100 million acres of land, making it the largest wildfire season recorded in California's modern history and more than double the previous record set in 2019.

Metrolink has long been prepared to handle periodic flooding, wildfires and go-slow heat orders. However, the increasing size, scale and frequency of these extreme weather events that Metrolink is now experiencing requires a new level of attention.

The climate change impacts of sea level rise has caused coastal erosion to occur along the Orange County Line which requires increased maintenance to rail infrastructure drainage systems.

Additionally, extreme heat events have caused thermal misalignments or "sun kinks" to rail infrastructure resulting in additional repairs and service delays on the Antelope Valley Line.

Metrolink's passenger rail service is a critical component of our region's transportation system as it connects affordable housing to key economic centers. Public transportation transforms

communities and the lives of the people living in them by spurring economic development, promoting sustainable lifestyles and providing a higher quality of life.

Every segment of society – individuals, families, communities, and businesses benefit from public transportation and every \$1 – invested has the potential to generate \$4 in economic returns.

Prioritizing the movement of people using sustainable transport modes, rather than individual cars, delivers vast benefits for the health of citizens and the prosperity of cities such as:

- Reduced congestion boosts productivity. Traffic congestion has widespread impacts on urban quality of life, consumption of fossil fuels, air pollution and lost time and productivity.
- More walking and cycling leads to increased retail traffic. More walkable areas can boost local employment, economic growth and prosperity.
- Active travel leads to less depression, anxiety, stress, obesity and chronic disease. Shifting people out of cars and into active travel – particularly walking, cycling and public transport – typically leads to more physical activity and can significantly lower these risks. Twenty-seven percent of riders choose Metrolink over other travel options because it's more relaxing and less stressful. Research from the American Heart Association (a Metrolink Cares partner) found that people who take public transportation are 44 percent less likely to be overweight, 27 percent less likely to have high blood pressure, and 34 percent less likely to have diabetes, when compared to people who drive.

## ABOUT METROLINK

Metrolink is Southern California's regional passenger rail service, connecting the people from the six-county Southern California mega-region from their homes to their jobs, and to all the opportunities available across the region. Metrolink is the third largest passenger rail provider in the

nation and includes seven rail lines servicing 62 stations and covering 538 route miles in six Southern California counties. The region is home to more than half of California's total population, of which approximately 16 million people live within a five-mile radius of a Metrolink station.

Our riders help achieve environmental sustainability when they place their trust in us to provide them with a safe and reliable commute that takes cars off the road and helps reduce air pollution. Prior to the COVID-19 pandemic, Metrolink reached a record 11.9 million annual boardings. By choosing Metrolink, these riders collectively removed the equivalent of one lane of parallel freeway traffic, or the equivalent of 9.3 million weekday automobile trips. This annual VMT reduction also resulted in 130,000 fewer Metric tons of carbon dioxide (CO<sub>2</sub>) or the equivalent of planting a 170,000-acre forest.

Southern California Regional Rail Authority (Metrolink) is a five-county Joint Powers Authority (JPA) formed by the Los Angeles County Metro Transportation Authority (LA Metro), San Bernardino County Transportation Authority (SBCTA), Orange County Transportation Authority (OCTA), Riverside County Transportation Commission (RCTC), and Ventura, Transportation Commission (VCTC) - collectively the member agencies. Metrolink began operations in 1992 and strives to be a leader in the passenger rail industry by providing safe, efficient, quality service to its customers.

## OUR MISSION

To provide safe, efficient, dependable and on-time transportation service that offers outstanding customer experience and enhances quality of life.

## OUR VISION

To be Southern California's preferred transportation system built upon safety, reliability, customer service, leading-edge technology and seamless connectivity.

## OUR COMMITMENTS

- **SAFETY is FOUNDATIONAL:** We will stay on the leading edge by deploying new technologies and processes to enhance the safety and security of our riders, employees and the communities we serve.
- **CUSTOMERS are OUR BUSINESS:** We respect and value our customers, putting them at the heart of all we do, and work hard to attract and retain new customers by understanding their needs and finding new and innovative ways to delight them.
- **CONNECTING and LEVERAGING PARTNERSHIPS:** We will forge new and enhanced relationships with our public and private partners to integrate and coordinate connecting services, providing residents throughout Southern California with better, seamless, sustainable alternatives to driving.
- **MODERNIZING BUSINESS PRACTICES:** We will improve our operational efficiency, through transparency, objective metrics and streamlined governance, reducing reliance on subsidy while bringing our system into a state of good repair and investing in the development of our employees.
- **ADVANCING KEY REGIONAL GOALS:** We will grow the role of regional rail in addressing climate change, air quality, and other pressing sustainability and economic issues by advancing toward zero emissions, making rail a compelling alternative to single-occupant automobiles and advancing equity-focused opportunities for all communities in Southern California.

## ALIGNMENT WITH OUR COMMITMENTS

The Climate Action Plan sets a framework and goal setting direction that are in alignment with the Metrolink Board approved Strategic Business Plan Commitments and include:

- **Safety is Foundational:** We will improve the resiliency of our infrastructure and mitigate the

impacts of climate change to ensure a safe, reliable regional rail system.

- **Customers are Our Business:** We will engage with customers and stakeholders to effectively communicate our progress on environmental actions and strive to make a positive impact on the communities we serve.
- **Connecting and Leveraging Partnerships:** We will engage with many different stakeholders to complete the required actions necessary to achieve the Climate Action Plan targets in the advancement toward zero emissions for the region.
- **Modernizing Business Practices:** The Climate Action Plan establishes a wide range of goals, targets and performance metrics focused on reducing environmental impacts and improving operational efficiencies.
- **Advancing Key Regional Goals:** We will ensure the healthiest, safest and most fiscally responsible working environment possible by focusing on improving Metrolink's sustainability and resiliency.

### KEY CLIMATE ACTION CONTRIBUTIONS

Even prior to the development of a Climate Action Plan, Metrolink has taken steps to reduce our carbon footprint and improve air quality throughout Southern California. Those contributions are summarized below.

Implemented Cleanest Locomotive Technology: Metrolink is continuing its tradition as a transportation leader by upgrading its fleet of locomotives and was the first passenger railroad in the nation to use locomotives with Tier 4 clean technology. Tier 4 locomotives are compliant with the latest U.S. Environmental Protection Agency (EPA) emissions standards and reduce emissions between 65% and 85%, including particulate matter and nitrogen oxide emissions, compared to the legacy Tier 2 and Tier 0 locomotives, respectively.

As of Fall 2017, the first of 40 Tier 4 locomotives began phasing into service with the final deployment expected Spring 2021. The state-of-the-art Tier 4 locomotives are the cleanest diesel locomotives available in the nation, providing wide-ranging environmental benefits for the entire Southern California region. Additionally, the California Air Resources Board (CARB) issued a Verification Certificate for Metrolink's Tier 4 locomotives after Emissions Verification testing was successfully completed in September 2020. The testing and certification confirm that the Tier 4 locomotives continue to operate to the most stringent levels set by the (EPA) even after the units have been in service for an extended period logging in more than 100,000 miles.



Retired Legacy Fleet: Tier 0 locomotives went into service in Metrolink's early days, beginning in 1992. In March 2020, Metrolink achieved a major milestone and victory for the environment with the retirement of the final Tier 0 locomotive, the oldest and highest emitting locomotive in the fleet. This marked the last of Metrolink's original 38 Tier 0 locomotives and the first time in history that all service is provided by Tier 2 locomotive technology or better.



Improved Energy Efficiency: The Central Maintenance Facility lighting system was retrofitted and upgraded to LED technology, resulting in a 32.45 percent reduction in annual energy consumption. In recognition of this achievement, Metrolink was awarded a 2020 Sustainability Impact Award in Energy Management by the Los Angeles Department of Water and Power (LADWP). This program was created in 2016 to celebrate customers' sustainability efforts and recognizes its most impactful customers in energy efficiency, water conservation, demand response, renewables and electrification of transportation.

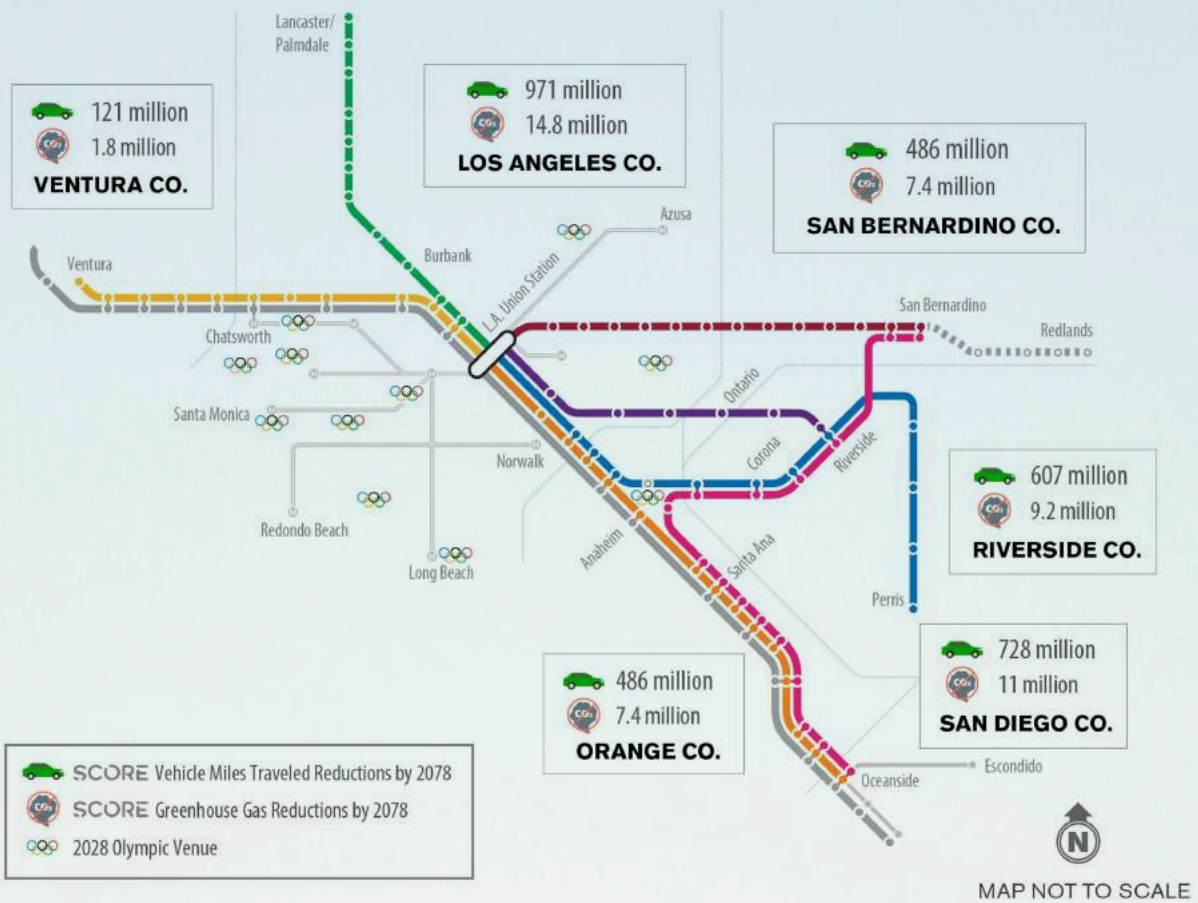
Upgraded Storm Water System: As a good steward of the community, last year Metrolink completed an upgrade to the 30-year-old drainage system at CMF facility to ensure the reliability of the stormwater and sewage system and redirect the flow to prevent any incidental discharges to our ecosystem. The project replaced aged pumps, control panels and oil water separator, and cleaned the main storm water runoff from oil, prohibiting future discharge to

the surrounding waterway. These upgrades were a part of our commitment to the nearby neighborhood to protect the environment we share with them. Today, our CMF employees and neighbors benefit from a reliable, automated operation for increased environmental safety of both the sewer and storm water systems for years to come.

Achieved Green Building Certification: The Dispatch & Operations Center (DOC) in Pomona obtained US Green Building Council (USGBC) LEED Silver certification in 2016, conserving resources, promoting clean, renewable energy and recycling 75% of construction waste. It was built with 20% recycled material and uses 16% less energy with features like LED lighting. Building water use was reduced by 40%, and site water use by 50%, by using low flow devices and landscape treatments which allow for natural filtration.

Improved Fuel Efficiency: Metrolink implemented a Fuel Conservation Program, in 2010 resulting in the conservation of 860,000 gallons of fuel per year. Through this program, Train and Engine (T&E) Crews shut down the Head End Power (HEP) engines when not in service and connect the train sets to Wayside/Ground Power. This program has further been extended to the CMF where all trains that enter the CMF for servicing and maintenance have their engines shut down with ground power supplying the HEP. This has resulted in the annual 50% reduction of train idling at CMF, as well as a reduction in locomotive emissions.

**Southern California Optimized Rail Expansion (SCORE):** Metrolink developed a \$10 billion capital improvement program called SCORE, to be completed in time for the 2028 Olympic and Paralympic Games. SCORE advances progress towards Metrolink’s goal of accelerating a zero-emissions future and sets forth a series of projects on and improvements to the 538-mile Metrolink system. SCORE will achieve major regional advancements in mobility, air quality, and economic vitality by increasing and improving regional rail service. The Program consists of 75 projects such as crossing improvements and track additions that will be completed over the next seven years, allowing our system to be safer, faster and more reliable transportation in time for the Games. Thus far, Metrolink has secured \$1.5 billion in funding and is actively working to implement the funded projects.



## PLAN STRUCTURE

The Plan is focused on the following key environmental categories where Metrolink can have the greatest impact and enhance the quality of life for the communities we serve.

- Emissions
- Energy
- Water
- Waste
- Resiliency
- Sustainable Procurement

The Plan is structured to include goals, measurable targets where applicable and a description of the specific actions that are necessary to achieve the goals as further defined.



**GOAL:** Intentional objective to accomplish

**TARGET:** Measurable, quantitative, time-bounded outcomes

**ACTION:** Specific, actionable initiatives, projects or tasks to achieve progress toward a goal

**STRETCH TARGET:** Target that is aspirational in nature and beyond reach of what appears possible today

**MOON SHOT:** A ground-breaking, giant-leap target that requires all stars to align at just the right time to make it possible

The emission calculations for Metrolink activities that occurred during calendar year 2019 will serve as the baseline against which emissions-related goals and targets described in this Plan will be measured. While the baseline emissions systemwide from operations measured 87,361 MTCO<sub>2e</sub>, that amount is far below the emissions avoided due to the reduction of our passenger vehicle miles traveled (VMT) for 2019, measuring an estimated 130,000 MTCO<sub>2e</sub>.




The emission targets outlined in the Plan are developed on an absolute basis and in line with Science Based Target Initiative (SBTI) guidance, which limits global temperature rise at 1.5 degrees Celsius above preindustrial levels.

Intentional action will require significant funding and ongoing support from Metrolink's federal, state and local elected delegations and its Member Agencies. As a result, many of the identified actions will require engagement consistent with the goals outlined in the annual Board-adopted Legislative Program.



# SUMMARY TARGET CHART

The following table provides a summary framework of the plan goals and targeted completion time frames for each category segmented into: Short Term: 1-3 years; Medium Term: 4-6 years; and Long Term: 7-10 years.

CLIMATE ACTION PLAN TARGETS			
TARGET	SHORT (1-3 YEARS)	MEDIUM (4-6 YEARS)	LONG (7-10 YEARS)
<b>REVENUE FLEET EMISSIONS</b> 	<b>REDUCE TOTAL GHG EMISSIONS</b> 50% BY 2030   <b>REDUCE TOTAL NOX EMISSIONS</b> 44% ANNUALLY BY 2030 <b>REDUCE TOTAL PM EMISSIONS</b> 64% ANNUALLY BY 2030   <b>DISPLACE 55% MTCO<sub>2e</sub> RIDERSHIP VMT</b> BY 2030 <b>100% PETROLEUM FUEL FREE</b> BY 2022 <b>MOON SHOT: 100% ZERO EMISSIONS</b> BY 2028		
<b>NON-REVENUE FLEET LIGHT-DUTY</b>	<b>TRANSITION 7% TO ELECTRIC VEHICLES</b> <b>TRANSITION 14% TO ELECTRIC VEHICLES</b> <b>TRANSITION 27.5% TO ELECTRIC VEHICLES</b> <b>STRETCH TARGET: 100% PETROLEUM FUEL FREE LIGHT DUTY VEHICLE FLEET</b> BY 2030		
<b>NON-REVENUE FLEET HEAVY -DUTY</b>	<b>STRETCH TARGET: 50% PETROLEUM FUEL FREE HEAVY DUTY VEHICLE FLEET</b> BY 2030		
<b>ENERGY</b> 	<b>BENCHMARK UTILITIES IN ENERGY STAR</b> <b>PERFORM ENERGY AUDITS</b> <b>DEVELOP ENERGY SAVING PROJECT IMPLEMENTATION AND FUNDING PLAN</b>		 <b>REDUCE ENERGY USE</b> IN FACILITIES 10% BY 2030 <b>STRETCH TARGET: REDUCE ENERGY USE</b> IN FACILITIES 75% BY 2030 <b>IMPLEMENT ENERGY SAVING FUNDED PROJECTS</b>
<b>WATER</b>	<b>REDUCE POTABLE WATER USE</b> 35% (3 MILLION GALLONS) BY 2030 <b>STRETCH TARGET: REDUCE POTABLE WATER USE</b> 50% (4.2 MILLION GALLONS) BY 2030		
<b>WASTE</b>	<b>INITIATE CARDBOARD/PALLET RECYCLING</b> <b>COORDINATE WITH CONTRACTORS TO REDUCE CONSTRUCTION WASTE</b>	<b>REDUCE CARDBOARD/PALLET RECYCLING</b> 100% <b>CONTINUE TO IDENTIFY AND IMPLEMENT WASTE REDUCTION SOLUTIONS</b>	
<b>RESILIENCY</b>	<b>INCORPORATE CLIMATE VULNERABILITY ASSESSMENT FINDINGS INTO PLANNING, PROCUREMENT, ASSET MANAGEMENT, CONSTRUCTION AND OPERATIONS</b>		
<b>SUSTAINABLE PROCUREMENT</b>	<b>IMPLEMENT PROGRAM</b> 10% OF SUPPLIER CONTRACTS BY BUDGET VOLUME <b>AWARD 25% TO DBE/SBE</b> FY20-22	<b>EXPAND PROGRAM TO 50%</b> <b>AWARD 28% TO DBE/SBE</b> FY23-26	<b>EXPAND PROGRAM TO 75%</b> <b>AWARD 30% TO DBE/SBE</b> FY27-30
<b>APTA SUSTAINABILITY PROGRAM</b>	<b>ACHIEVE PLATINUM LEVEL</b> BY 2025		

## PROTECTING OUR ENVIRONMENT

Throughout Metrolink's history, the environment has always played an important part in our goal to reduce traffic congestion and improve air quality which is why we are committed to a zero emissions future. For Metrolink, a healthy environment means a place where people can safely live, work, and thrive that's free of congestion, free of air pollution, and free of stress. Our path to zero is focused on reducing emissions in three key areas:

- Our locomotive fleet
- Our facilities
- Our light and heavy-duty non-revenue vehicle fleet

We have set bold energy and carbon reduction targets in this Plan that will help solve the climate change issues of our region, improve air quality and improve health and wellbeing for the communities we serve.

In order to be more sustainable and efficient, we must go beyond and continuously look at how we can reduce our impact to the environment and seek new ways to improve our practices. Through a continuous process of analyzing our energy, water, waste, emissions, and procurement practices we can be good stewards of the environment, increase our resiliency and take the lead in adopting new and innovative technologies where possible.

## EMISSIONS

**Revenue Fleet Locomotives:** Metrolink's in service fleet contains 62 locomotives and 258 passenger railcars, a mix of trailer and cab cars. A major investment commitment to transition the fleet to the cleanest diesel technology with Tier 4 engines was made with support and approval of the Board of Directors in 2012. The total project cost of \$280 million was largely funded by the South Coast Air Quality Management District (SCAQMD) through the Carl Moyer Memorial Air Quality Standards Attainment Program, which granted funding of \$110 million.

Additional funds were provided by state, federal and local sources. Since 2017, this new fleet has been integrated into service operations, displacing older, higher emitting Tier 0 models. To date, 39 Tier 4 locomotives are in service with the final unit 40 projected for delivery in Spring 2021. Tier 4 locomotives represent 73% of the total fleet, which is then supplemented with 15 Tier 2 locomotives.

The calendar year 2019 baseline GHG emissions from fleet operations measured: 83,464 MTCO<sub>2e</sub>.

## GOALS

- Accelerate the transition of the Metrolink fleet toward zero emissions
- Increase operational efficiencies for maximum fuel conservation

## TARGETS

- **Reduce total GHG cumulatively 50% by 2030 from the 2019 baseline**

Results of reduced idling and improving efficiencies of locomotive operations each year

- **Reduce total NO<sub>x</sub> an average of 44% annually by 2030 from the 2023 baseline**

- **Reduce total PM an average of 64% annually by 2030 from the 2023 baseline**

Results of transitioning 15 Tier 2 locomotives to more fuel-efficient Tier 4 locomotives during the period of 2024 through 2026 estimating 5 upgrades completed each year

- **Displace 55% MTCO<sub>2e</sub> (ridership VMT) from the 2020 baseline**

Results of estimated increased ridership

- **100% petroleum fuel free by 2022**

Results of transitioning locomotive fleet fuel from petroleum diesel to renewable diesel



## MOON SHOT

### • 100% Zero Emissions by 2028

Results of transitioning locomotive fleet to alternative propulsion technologies



## ACTIONS

- The locomotive fleet comprises 95% of the total emissions footprint. In the short term, Metrolink will implement operational efficiencies and transition strategies such as fuel conservation, reduced idling and explore alternative fuels.

- Metrolink is working to develop a path to zero emissions through two planning studies currently underway:

1. Metrolink's Locomotive Fleet Modernization Study as well as the Metrolink Fleet Management Plan Update. The Locomotive Fleet Modernization Study has two primary focus areas. First, explore overhaul solutions for the Tier 2 MP36 locomotives that are coming due to mid-life overhaul, which also includes an analysis for potential upgrade from Tier 2 to more fuel-efficient Tier 4 locomotives.

2. Secondly, exploring zero emissions and near zero emissions applications that could be applied to Metrolink's locomotive fleet. This includes exploring hybrid and dual mode options, such as installing short segments of overhead contact systems (OCS) and operating a diesel engine. Staff are exploring if the F125 can be modified to accept power from

OCS. The Locomotive Fleet Modernization Study recommendations are expected to be available in Spring 2021. The Metrolink Fleet Management Plan Update will chart the course for rolling stock investment through 2040 and will also consider zero emissions technologies to plan for the transition. The target completion date for the Metrolink Fleet Management Plan Update is Spring 2021.

- As part of the study efforts, renewable diesel has been identified as a potential solution that could provide a complete transition from petroleum fossil-based fuels. Renewable diesel is derived from renewable raw materials such as waste vegetable oils and animal fats and is refined in a similar manner to petroleum diesel. However, the key difference is that it is biogenic, originating from a plant source that absorbed atmospheric carbon and therefore no new carbon is produced in the burning of renewable diesel.

A six-month pilot test demonstration of renewable diesel fuel on one Tier 2 MP36 locomotive is planned to commence March 2021. Should the initial phase of the pilot test prove successful, the testing would be expanded to assess performance on one Tier 4 F125 locomotive. Providing both phases of the pilot test prove successful and the entire fleet could be transitioned to renewable diesel fuel, the stretch target of 100% petroleum fuel free by 2022 would be achieved. Additionally, this could result in added reductions up to 80% of CO<sub>2</sub> as well as a potential annual decrease of 5% in HC, 10% in NO<sub>x</sub>, 30% in PM and 35% in CO. Metrolink will concurrently develop the next diesel fuel procurement to provide for the potential to use all or a preponderance of renewable diesel in its locomotives.

- SBCTA was successful in securing a \$30 million Transit and Intercity Rail Capital Program (TIRCP) grant to conduct the Research and Development (R&D) efforts necessary to purchase a zero or low emission vehicle, convert the DMU to a ZEMU

vehicle, construct the necessary infrastructure to support the alternative propulsion technology and test the vehicle on the Arrow service corridor. Accordingly, the first hydrogen fuel cell-powered train in the United States will operate on the Redlands passenger rail extension, which connects the University of Redlands with the Metrolink San Bernardino – Downtown Station on a nine-mile extension of the San Bernardino Line. The zero-emission vehicle is expected to be in service by 2024, and the potential to extend the ZEMU operations into downtown Los Angeles will be evaluated.



- Metrolink is exploring the viability of alternative propulsion technologies including battery electric, hydrogen fuel cell/battery, and hybrid systems that operate with diesel engines as well as alternative fuels. Both studies referenced above include simulation work to determine applicability on the Metrolink system. While some of these are emerging advancements in technology, the most viable options will be reviewed and demonstrations pursued depending on available funding to support these efforts. Should one or more of these pilot tests prove successful, emissions reduction achievement could exceed the anticipated targets included in this plan. Additionally, the study is exploring the conversion of decommissioned Tier 0 legacy locomotive hulks to zero emissions. Simulation of battery electric and hydrogen fuel cell locomotives is being conducted on the 91/Perris Valley, Antelope Valley and San Bernardino Lines.

- Antelope Valley Line Zero Emission Pilot: On April 21, 2020, the California State Transportation Agency (CalSTA) announced it will provide funding to the LA Metro and Metrolink for the Metrolink Antelope Valley Line (AVL) Capital and Service Improvements Project. Metrolink will collaborate with LA Metro to develop a Pilot Implementation Plan (PIP) that will identify and evaluate the

technical feasibility, potential cost savings (e.g. long-term fuel savings), and community impacts (e.g. air quality, noise, and job creation) with the deployment of ZEMUs on the AVL. The PIP will establish a framework to guide future testing of zero-emission technologies and fleet types on other Metrolink lines and provide feasibility and cost-related data for future grant applications. The PIP shall be developed in consultation with potentially affected freight railroads such as Union Pacific Railroad (UPRR) and BNSF Railway, such that any future application of alternate vehicle technologies can leverage complementary efforts.

**Non-Revenue Fleet Vehicles:** Electric vehicles (EVs) are a key technology to reduce air pollution in densely populated areas and a promising option to contribute to energy diversification and greenhouse gas emissions reduction objectives. Benefits of electric vehicles include zero tailpipe emissions and better efficiency than internal combustion engine vehicles. These objectives are major drivers behind policy support in the development and deployment of electric powertrains for transport. California has the most aggressive US deployment targets, with a goal to have 5 million EVs on the road by 2030 and pursuant to Governor Newsom's Executive Order N-79-20 requiring that all new passenger vehicle purchases must be electric by 2035.

To meet growing consumer demand, automakers have announced a diversified selection of electric vehicles, many of which are expected in 2021 and by 2022 there will be over 500 different electric vehicle models available globally with many in the popular pickup truck and sport utility vehicle market segments.

Electric vehicle sales are projected to grow worldwide over the next decade, while internal combustion engine (ICE) passenger vehicle sales have already peaked and are expected to continue to fall as the price of electric vehicles and ICE vehicles are expected to converge by the mid-2020s. This is estimated to bring annual passenger EV sales to 8.5 million in 2025 and 26 million in 2030.

Metrolink maintains a fleet of 185 vehicles with model years ranging from 1996 – 2021. This includes 33 unique heavy-duty utility and hy-rail trucks used for rail maintenance activities with the remainder of the fleet comprised of light duty gasoline powered, hybrid and electric vehicles assigned to on-call personnel and contractors (responsible for inspecting and maintaining the rail and signal system, responding to field calls), in addition to a fleet of pool vehicles. The current fleet of three light duty electric vehicles establishes a baseline of 1.5% toward goal attainment.

The calendar year 2019 baseline GHG emissions from non-revenue fleet operations measured: 1,918 MTCO<sub>2e</sub>.

## GOAL

- Reduce emissions from the non-revenue fleet and purchase zero emission vehicles. These vehicles will replace aging, gasoline and diesel-powered vehicles.

## LIGHT-DUTY VEHICLE TARGETS

- Short term: Transition 7% of fleet to Electric Vehicles
- Medium term: Transition 14% of fleet to Electric Vehicles
- Long term: Transition 27.5% of fleet to Electric Vehicles, to reach a total target of 50% of the light-duty non-revenue fleet be zero emissions by 2030.

## STRETCH TARGETS

- Transition 100% of light duty fleet vehicles to zero emission models by 2030.
- Transition 50% of 33 unique heavy duty and hy-rail utility trucks to zero emission models by 2030.

## REQUIRED ACTIONS TO MEET TARGETS

- Perform assessment of available zero emission vehicle technologies and required infrastructure necessary to transition the entire fleet of varying vehicle types to zero emissions by 2030.
- Update procurement procedures to include the purchase of zero emission models when replacing aging non-revenue fleet vehicles

- Develop a clean vehicle policy for the transition of non-revenue fleet vehicles in accordance with Board of Directors support.
- Update the Metrolink Rehabilitation Plan to include the transition of heavy duty and hy-rail vehicle fleet to zero emissions by 2030 based on assessment of zero emission technologies and infrastructure cost.
- Secure sufficient funding from multiple sources including federal, state and local to procure new zero emission vehicles as well as the required vehicle charging infrastructure.
- Install charging infrastructure at all appropriate facility locations to service zero emission vehicle fleet.
- Obtain FRA approval for use of zero emission maintenance vehicles on the railroad.
- Availability by manufacturers in the marketplace for zero emission powered models for all vehicle types comprised within the fleet.

To strengthen stakeholder engagement with our City Station partners, we're collaborating with Los Angeles Cleantech Incubator (LACI) to provide an informational workshop on the topic of electric vehicle charging infrastructure and installation best practices. These efforts can help to increase availability of electric vehicle charging amenities at Metrolink stations for our customers and further support transportation electrification and zero emission goals.



# FACILITIES

Metrolink has 10 main facilities and maintenance yards that support our operations and corporate administrative office functions comprising a footprint that totals approximately 250,000 SF. In support of our resource conservation goals, our policies will be updated to include that any future leased space or new facility purchased will meet the strict efficiency standards in compliance with the USGBC LEED certification rating system.

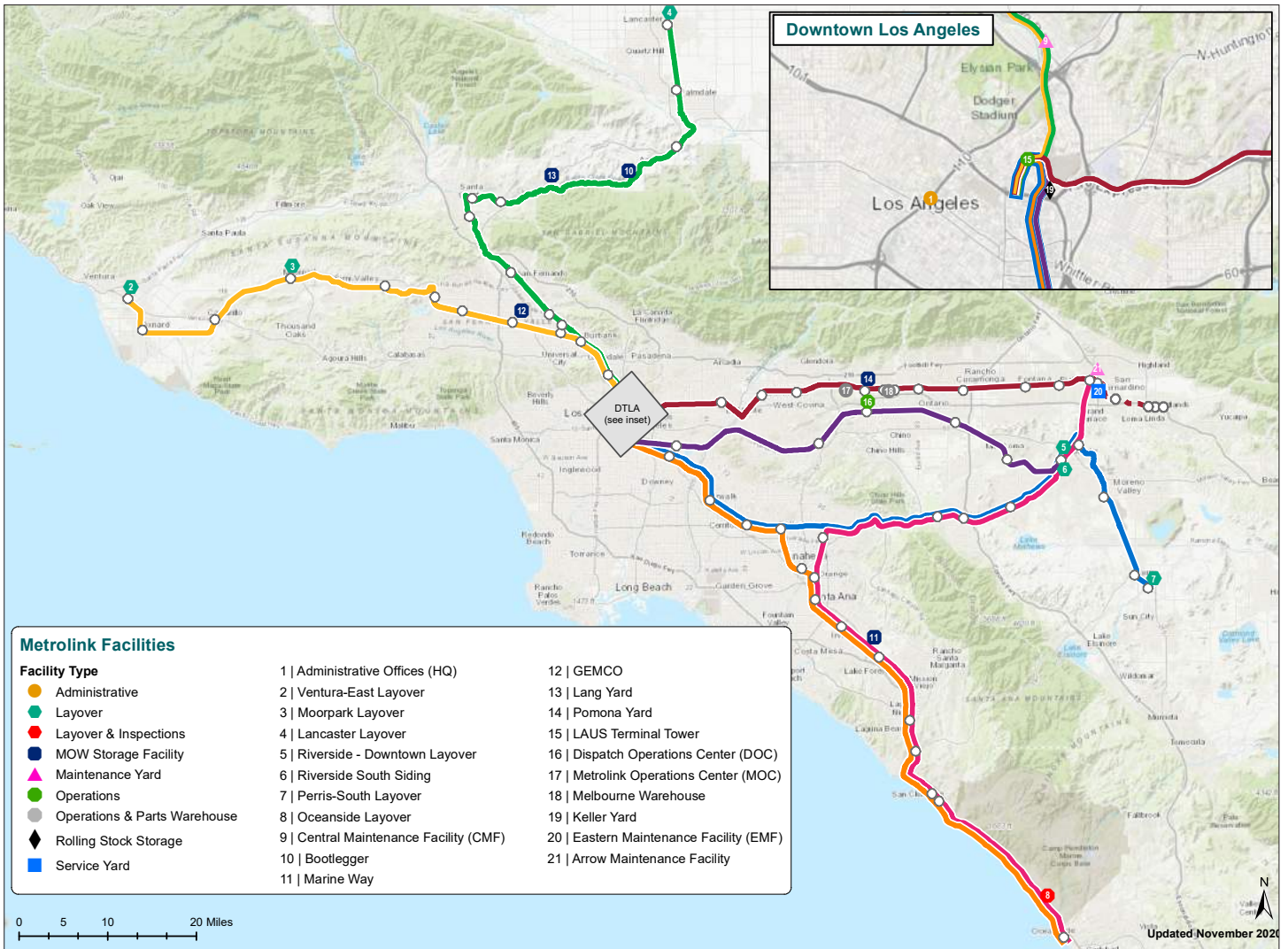


Figure 4. Metrolink Facilities

# FACILITIES

The Central Maintenance Facility (CMF) is a critical part of Metrolink operations, which take place 365 days a year. The CMF is one of two service, inspection and repair facilities in the Metrolink system and the only facility equipped to handle heavy maintenance and repair. Following early morning peak runs, nearly all Metrolink trains arrive at CMF to be inspected, tested, fueled, cleaned and serviced for afternoon departures. The property where CMF is located, previously known as Taylor Yard, has serviced locomotives and rail cars since the 1920s. Metrolink is committed to meeting the transportation needs of the region in the safest and cleanest way possible, while being a good neighbor to the surrounding communities. In the past two years, Metrolink has made various operational enhancements and modifications to be a good neighbor and proactively respond to community concerns as outlined in the CMF Community Action Plan.

The Eastern Maintenance Facility (EMF) in Colton is located on a parcel that was previously owned by the BNSF Railway Company. EMF was built as a secondary maintenance facility to the CMF and is designed to service, inspect, and store the Metrolink train fleet for the San Bernardino Line and Inland Empire-Orange County Line. EMF is equipped to perform train servicing, except for heavy-duty maintenance, which all occurs at CMF.

The Dispatch and Operations Center (DOC) is the nerve center for Metrolink operations. Opened in 2013, the DOC was built to support the rollout of Positive Train Control (PTC) across the Metrolink system. The DOC primarily houses the dispatching operations of the Metrolink system, where staff oversee the dispatching of Metrolink, Amtrak, BNSF, Union Pacific trains, and Maintenance of Way (MOW) personnel on Metrolink controlled trackage, as well as monitoring of Metrolink trains on Host Railroad owned trackage. The DOC also houses back office functions, safety and security personnel and the operating crews.

The Metrolink Operations Center (MOC) is the secondary home to the Metrolink dispatching operations and is the command center for the decision making of Metrolink capital projects, rehabilitation projects, and system expansion projects, and houses the PTC lab. The MOC building also serves as a backup facility in the event of an operational disruption and provides Metrolink with flexibility to rotate staff among the DOC and MOC during the COVID-19 pandemic to reduce the potential for transmission between staff changing shifts.

Wilshire Corporate Office Metrolink's corporate office headquarters is located in the iconic skyscraper Wilshire Grand building situated in the heart of the Los Angeles Central Business District. The building received USGBC LEED Gold certification for sustainability and is equipped with thermal energy storage, backup generator pads, and technology to optimize oxygen, light and acoustic levels. The 30,000 SF space was designed by world renowned Gensler architect firm with an open plan environment focused on wellness attributes and maximizes the health benefits by harvesting natural daylight.

**The calendar year 2019 baseline GHG emissions from facilities operations measured: 1,980 MTCO<sub>2e</sub>.**



## ENERGY

With energy serving as a critical part of our operations, exploring ways to manage it in a sustainable way is fundamental for the longevity of our operations, especially during the summer months when the energy grid is most vulnerable to blackouts.

## GOALS

- Reduce energy use in all facilities.
- Identify potential renewable energy solutions that prove to be viable opportunities with positive return on investment.
- Seek funding opportunities to perform capital projects identified through the modernization studies and specific audits.

## TARGETS

- Reduce energy use in facilities 10% by 2030 from 2019 baseline

### Short Term:

- Benchmark key facilities in Energy Star Portfolio Manager
- Perform energy audits to identify efficiency project upgrades
- Develop a plan to seek funding sources and implement upgrades to further reduce energy use

### Medium Term:

- Implement funded projects that can reduce energy use and transition to renewable energy with battery storage capabilities where feasible

## STRETCH TARGET:

- Reduce energy use in facilities 75% by 2030
- Results of transitioning to renewable energy and battery storage at CMF, EMF, DOC, MOC and Melbourne

## ACTIONS

The Energy Coalition will conduct energy audits for DOC, EMF and Melbourne facilities. Potential efficiency projects that are identified will be considered and prioritized according to maximum impact and estimated savings. Additionally, Energy Star benchmarking services will be implemented for these facilities for ongoing energy performance management.

Some energy enhancing projects could include:

1. Adopt the use of renewable energy by installing solar panels and battery storage at facilities where operationally feasible with the support of external funding sources
2. Perform a structural assessment at DOC, Melbourne and MOC to ensure roof integrity is sufficient to support additional weight of solar panel equipment
3. Ensure all facilities have most efficient lighting fixtures in place such as LED
4. Maintain efficiency practices; turn off lights, machines, and power strips at the end of each day

## Modernization Studies

In 2020, a modernization study was launched for the CMF and EMF facilities to improve the functionality, productivity and overall demand for fleet inspection, service, repair, storage and rehabilitation. The CMF Modernization and EMF Buildout Study will identify and explore improvements to ensure that the facilities can support future agency initiatives and goals for the next 30 years including improving operational efficiencies, reducing emissions and community impacts. The consultant teams will identify and document the facility modifications required to accommodate battery charging and maintenance as well as hydrogen fueling and fuel cell maintenance, in addition to accommodations to transition to clean energy with solar panels and



battery storage systems. The projects identified through the study effort will guide capital investment at Metrolink's facilities to support strategic growth, expansion and climate action goals. Once project upgrades are completed, evaluations will be performed to determine if any of the facilities could meet qualifications to achieve LEED certification status or upgrade existing LEED certification rating.

## WATER

With California droughts becoming a more frequent issue, the ability to use local water resources in a more sustainable manner is fundamental to ensuring the longevity of our operations. Water use is minimal systemwide and includes facility restrooms and common kitchen areas where most are equipped with low flow fixtures. A train wash system in place at EMF utilizes recycled water to minimize impact. As part of the facility modernization project, it is anticipated that the train wash system at CMF will be upgraded and restored. Exterior landscaped areas surrounding facility locations are minimal and mostly include drought tolerant plant material. Total water use is primarily exclusive to interior facility and operation's needs.

The calendar year 2019 baseline water consumption from operations measured: 11,442 HCF (hundred cubic feet)

## GOALS

- Implement operational efficiencies to reduce water use at all facilities.
- Identify equipment upgrades and projects that can further reduce water use.

## TARGETS

- Reduce potable water use 35% or 3 million gallons by 2030 from 2019 baseline
- Reduce exterior water use through enhanced landscape treatments

## STRETCH TARGET

- Reduce potable water use in facilities 50% or 4.2 million gallons by 2030

Results of increasing water conservation and installing water saving fixtures

## WASTE

For Metrolink to be environmentally sustainable we must look at how our current waste procedures are contributing to increasing GHG emissions and identify areas where waste reduction can be achieved. While solid municipal wastes are generated by employees and contractors at facilities and offices, the quantities are minimal for an agency of our size and scope.

In 2019, we installed recycling centers which included composting of organic waste at our maintenance locations and agency-maintained office buildings. Employees and contractors who work at those locations were provided guidance on proper disposal of waste materials into categories of organic, recyclable and landfill. Locomotive and coach car preventative maintenance and repair activities are conducted at CMF. Large parts and supplies used in these activities are delivered to CMF on pallets. Other items, ranging from windows to air filters to personal protective equipment are delivered to CMF in cardboard boxes. As items are used, these shipping materials accumulate at the facility. While some pallets are reused on site, excess pallets and cardboard containers are currently disposed of in bins and eventually deposited in landfills.

## GOALS

- Reduce the solid waste generated at our facilities and offices to minimize disposal in landfills.
- Initiate waste reduction initiatives at CMF in 2021 and implement a cardboard and pallet recycling program.
- Establish a baseline performance metric for cardboard and pallet recycling by 2022.
- Reduce construction waste from project job sites.

## TARGETS

Short Term:

- Seek assistance of CalRecycle to identify additional methods of reducing landfill waste.
- Educate employees on waste reduction and recycling practices biannually.
- Work with job contractors to reduce construction waste.

## Medium/Long Term

- Reduce cardboard and pallet waste 100% by 2024
- Continue to evaluate facilities and operations waste stream to identify additional initiatives that can further drive diversion rates and minimize landfill impacts.

## ACTIONS

### Reduce

Waste reduction efforts include reducing the amount of waste generated by default setting of all printers to two sided copies, discouraging unnecessary printing of documents, printing on 100% recycled paper where possible, repurposing items such as pallets to store material and recycling bottles, cans, paper.

### Recycle

Currently, cardboard and pallets are disposed in roll off containers and sent to landfills. We are developing procedures to ensure all clean cardboard will be bailed and recycled and pallets that will not be reused will be stored on site and removed by an authorized pallet recycler.

### Construction Waste

In order for Metrolink to be more environmentally sustainable we must also consider construction waste practices and coordinate with job contractors to identify areas where waste reduction can be achieved. We will work with job contractors and hold them accountable for the construction waste that is generated, ensure waste is disposed of in a safe and responsible manner and encourage them to include innovative methods to minimize landfill impacts.

### Electronic Hardware

Metrolink's Integrated Data and Technology Services (IDTS) team strives to limit waste that is generated by Metrolink operations. All computer hardware is primarily purchased from Dell Technologies, an eco-conscious corporation committed to improving energy efficiency of their products and reducing environmental impacts.

In 2020, Dell set a new bar by pushing laptop operating efficiencies to a net impact of only \$3 on average for electricity costs, which is far below the industry average of \$8 annually.

Similarly, Metrolink's fleet of multifunction printers are procured from Ricoh USA who supports the United Nation's Sustainable Development Goals. Ricoh USA has been recognized as a partner of the year with ENERGY STAR® multiple times. We are proud to be a customer of Dell Technologies and Ricoh USA and share their ambitious approach and vision to a better and cleaner future.

In addition to being cognizant and selective of our vendors, Metrolink explores all opportunities to reduce other technology related waste streams such as:

1. Assessing and implementing policies and procedures to reduce energy consumption with our computer and electronic equipment. This includes configuring desktops, laptops, printers, and televisions to be automatically configured to sleep mode after inactivity.
2. Powering off non-critical audio/video equipment daily.
3. Identifying non-essential virtual machines to be powered off overnight to reduce energy consumption on our server hardware.
4. Defaulting printer behavior to use duplex settings to reduce paper waste. All print jobs default to use greyscale printing (black ink only).

### Electronic Waste

While technology has benefited society as a whole, the constant need for improvement to keep up with innovations has also created other challenges, especially for the environment when it comes to an overabundance of electronic waste. Metrolink has taken steps to ensure we minimize the amount of electronic waste generated by following three simple principles:



1. Reuse/Refurbish – determine if aging computer or equipment can be upgraded for reuse or to be repurposed. As example, Metrolink was able to reuse over one hundred computers by performing simple upgrades such as replacing new hard drives or adding memory. Similarly, many of our replaced networking equipment were repurposed for test and lab environments.

2. Remarket – to run Metrolink trains safely and optimally, newer hardware will be required periodically. However, much of the aging hardware

being replaced remains in good working condition. As a result, Metrolink teamed up with Homeboy Recycling to donate computer equipment to be refurbished and offered back to local underserved communities free of charge or at a drastically reduced cost.

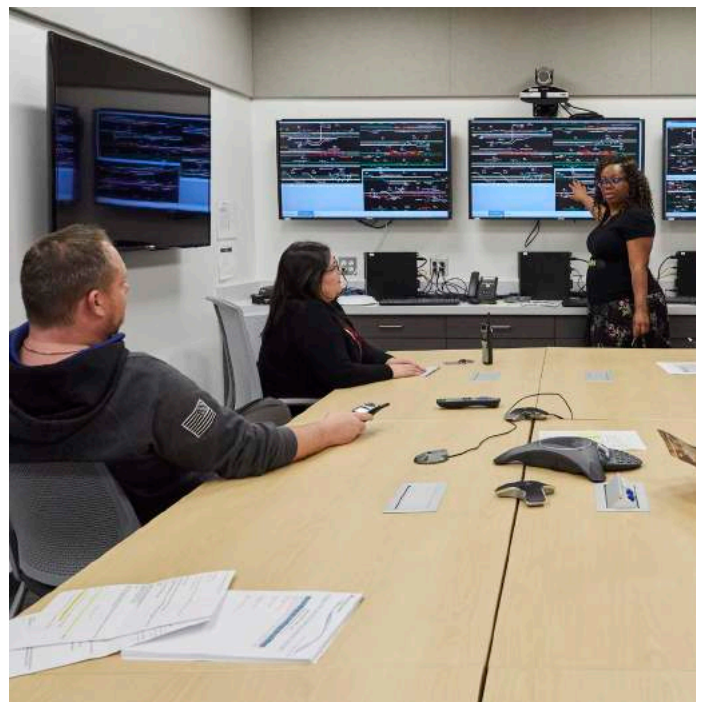
3. Recycle – if hardware cannot be reused or remarketed, Metrolink also works with Homeboy Recycling who is R2 (Responsible Recycling) certified to safely and properly dispose of electronic waste. Homeboy Electronics Recycling is an award-winning, full-service IT asset disposition and electronics recycling company designed to create sustainable and environmentally relevant employment opportunities for formerly incarcerated men and women. For every 75,000 lbs. of electronic equipment collected, one new job opportunity is created.

Since FY16, Metrolink has successfully recycled over 140 computers, refurbished over 50 computers and is actively working to remarket over 100 computers. This is the equivalent of reducing 1,242 lbs. of GHG emissions and diverting 132 lbs. of metals and toxic materials from landfill.



### Community Impact

We are proud to partner with and support Homeboy Industries which was founded in 1986 by Pastor Gregory Boyle to provide hope, training, and support to formerly gang-involved and previously incarcerated men and women allowing them to redirect their lives and become contributing members of our community. Each year over 10,000 former gang members from across Los Angeles come through Homeboy Industries' doors in an effort to make a positive change.



## RESILIENCY

The unprecedented wildfires of summer and fall 2020 that raged through the state of California and beyond are clear evidence of the climate threats that jurisdictions, businesses and residents are facing. Metrolink has long been prepared to handle periodic flooding, wildfires and go-slow heat orders. However, the increasing size, scale and frequency of these extreme weather events requires a new level of attention.

Metrolink has initiated a Climate Vulnerability Study through a grant awarded by the California Department of Transportation (Caltrans) to better understand the vulnerability of the rail system and other assets and its core ridership to existing and future changes in climate. Metrolink's passenger rail service is a critical component of our region's transportation system as it forms an accessible connection between affordable housing to key economic centers.

The timing for this study is critical, because Metrolink has initiated design for the first set of multiple projects comprising a 10-year major investment included in a comprehensive, regional multi-agency program to restructure and revolutionize regional rail in the Southern California service area, known as the Southern California Optimized Rail Expansion (SCORE) Program. To safeguard these investments over their useful life, which ranges from 20 to 100+ years, it is essential that future climate conditions are considered in their planning, design, and delivery. This investment program is also a significant opportunity to increase the overall resilience of the Metrolink system and the populations it serves.

As disadvantaged communities have fewer economic resources to cope with risks caused by climate change, the assessment will identify communities within Metrolink's service area that are particularly sensitive to climate hazards due to socioeconomic factors such as age, income, vehicle access, or race/ethnicity. Within Metrolink's home catchment areas (the areas around Metrolink

stations that include 90% of trip origins), 31.4% of people (5.4 million) live in census tracts designated as Disadvantaged Communities (DAC) by SB 535 and 46% of people (8.3 million) live in AB 1550 Low-Income census tracts.

The outcomes of the Metrolink Systemwide Climate Vulnerability Assessment will include:

- Identification of the most vulnerable parts of the network to extreme weather events such as heatwaves, riverine flooding, sea level rise, drought, wildfire, mudslides, etc.
- Development of climate adaptation strategies to enhance the resiliency of the passenger rail system in Southern California
- Creation of a roadmap on how to adapt our design criteria to address the most vulnerable parts of the system
- Update of event-response actions to address climate change, and build new (and further develop existing) strong and lasting working relationships with partners
- Integration of ongoing seismic preparations into climate adaptation efforts
- Protection of the mobility of Southern Californians, including the most vulnerable, disadvantaged and transit-dependent populations

## GOAL

- Minimize risk impacts identified in the Climate Vulnerability Assessment study and increase resiliency of the rail network.

## TARGET

- Incorporate climate adaptation into planning, procurement, asset management, construction and operations by 2023.

## SUSTAINABLE PROCUREMENT

Supply chain sustainability is the management of environmental, social and economic impacts, and the encouragement of good governance practices, throughout the lifecycles of goods and services. The objective of supply chain sustainability is to create, protect and grow long-term environmental, social and economic value for all stakeholders involved in bringing products and services to market.

Primary among them is to ensure compliance with federal, local and state laws and regulations and to adhere to and support international principles for sustainable business conduct. In addition, companies are increasingly taking actions that result in better social, economic and environmental impacts.

A company's supply chain contains on average 5.5 times as many greenhouse gas emissions as their own operations. By managing and improving environmental, social and economic performance throughout supply chains, it can conserve resources, optimize processes, uncover product innovations, save costs, increase productivity, and promote corporate values. Managing the social, environmental and economic impacts of supply chain, and combating corruption, is a socially responsible business practice.

Integrating supplier diversity improves social responsibility elements of the supply chain and is an inclusive approach to increasing procurement opportunities for disadvantaged and small business enterprises. The procurement function has the power to create and amplify positive change but to do this it will need to make sustainability a decisive factor in the evaluation of suppliers, elevating it alongside cost, quality and security. Currently, federal and state programs enhance doing business with Disadvantaged Business Enterprises (DBE) or local Small Business Enterprises (SBE). DBE includes women, Black Americans, Hispanic Americans, Native Americans, Asian-Pacific Americans, or other minorities found to be disadvantaged by the US Small Business Administration (SBA). In efforts to leverage

our supply chain to increase availability of first mile/last mile solutions for our customers, we will seek out partnership with micro-mobility service providers that utilize zero emission transportation solutions and will contribute to improving air quality for the region.

## GOALS

- Develop and implement a sustainable supply chain management program based on a purchasing budget volume threshold
- Increase and promote contracting opportunities with SBE/DBE
- Establish a baseline performance metric for SBE/DBE by 2022
- Increase and promote sustainability with our vendors and service partners

## TARGETS

### Short Term

- Phase I: Select a small group of suppliers from different amount thresholds and industries to perform a pilot test implementing a sustainable supply chain program for a 12-month period. Receive quarterly reports during the test period of supplier performance on environmental and social metrics. Analyze and review outcomes to identify best practices and refine management processes.
- Phase II: Target to implement this program with 10% of supplier contracts by budget volume by 2023
- Award 25% of contract volume cumulatively to DBE/SBE for the period of FY20-22 Mid Term
- Expand sustainable supply chain program to 50% of contracts by budget volume by 2026
- Award 28% of contract volume cumulatively to DBE/SBE for the period of FY23-26

## Long Term

- Expand sustainable supply chain program to 75% of contracts by budget volume by 2030
- Award 30% of contract volume cumulatively to DBE/SBE for the period of FY27-30

## ACTIONS

The stages of the program process could include the following:

1. Incorporate social and environmental requirements in RFP templates as part of bid and evaluation process.
2. Suppliers/Contractors to sign Supplier Code of Conduct incorporating UN 10 Principles as part of our standard contract.
3. Develop a checklist of environmental and social factors to verify compliance with Code of Conduct principles.
4. Seek to coordinate with designated contractors to improve operational efficiencies and environmental best practices in the performance of construction projects.

## IMPLEMENTATION

- **INTEGRATION** – Sustainability is a shared responsibility
- **MEASUREMENT** – You can't manage what you don't measure
- **REPORTING** – Demonstrates integrity, transparency and authenticity in performance

This plan was designed to be comprehensive, ambitious and bold to illustrate our commitment to broad regional and organizational sustainability. The tenets of the plan will be integrated into business processes, operations and customer experience and an annual review and assessment will be performed to compare actual results to targeted goals with a full comparison report produced. Periodically, progress will be assessed against

stated goals and targets. Updates or reassessment of targets will be analyzed and completed as necessary to continue to exceed expectations and increase levels of impact. Additionally, efforts will be made toward continuous improvement, while tracking toward APTA goals and striving to improve ranking. While Metrolink is currently a signatory to the APTA Sustainability program, a target has been established to reach the highest ranking of Gold in 2021 and Platinum level by 2025. By continuously evolving and expanding the appropriate sustainability impacts, we can ensure that Metrolink is advancing a healthier Southern California.

### Advancing the State's Climate Action Plan

Metrolink developed a \$10 billion capital improvement program called SCORE that advances progress towards Metrolink's goal of accelerating a zero-emissions future and sets forth a series of projects on and improvements to the 538-mile Metrolink system. SCORE will achieve major regional advancements in mobility, air quality, and economic vitality by increasing and improving regional rail service. The Program consists of 75 projects such as crossing improvements and track additions that will be completed over the next eight years, allowing our system to be safer, faster and more reliable transportation in time for the 2028 Olympic and Paralympic Games. Thus far, Metrolink has secured \$1.5 billion in funding and is actively working to implement the funded projects.

According to the Los Angeles Economic Development Corporation (LAEDC), the total impact of SCORE's construction and implementation will create over 1.3 million jobs, increase regional output by over \$1 trillion, eliminate 3.4 billion vehicle miles traveled and reduce 51.7 million metric tons of carbon dioxide equivalent (MTCO<sub>2e</sub>) over the life of the program. The environmental benefits of shovel ready priority projects that include systemwide capacity and expansion efforts as part of the SCORE program are further articulated in Appendix B.



# COMMUNICATIONS

The Link to a Zero Emissions Future

## COMMUNICATIONS & ENGAGEMENT

A comprehensive communications strategy will include compelling storytelling, messaging and content to reach key audiences, both externally and internally. An effective internal communication plan is critical to deliver across all interagency departments to ensure maximum awareness of plan objectives and integration of goals in existing business operations.

Metrolink will seek out every opportunity to engage with all stakeholder groups and the broader communities to effectively communicate the agency's progress on environmental actions and commitments utilizing a full array of communication channels and methods, including leveraging federal, state and local elected delegation members in accordance with the Metrolink 2021 Legislative Program. Additionally, we will leverage campaigns and key milestone events throughout the year to encourage and promote sustainability activities to our extended stakeholder groups with a focus on achieving progress toward climate action impact goals of the Plan.

## COMPLEMENTARY EFFORTS

In our quest to be good environmental stewards and contribute toward building a thriving Southern California community, Metrolink engages with many different groups to achieve regional goals. Below highlights specific participation and complementary programs that align with this Plan.

- **AMERICAN PUBLIC TRANSPORTATION ASSOCIATION (APTA):** Metrolink is a signatory to the APTA Sustainability pledge and their program guidelines provide a road map and foundational framework for the elements of this Plan.

- **CALIFORNIA STATE TRANSPORTATION AGENCY (Cal-STA):** Metrolink is participating in the stakeholder process for the development of a Climate Action Plan for Transportation Infrastructure (CAPTI). This plan will focus on building toward an integrated, zero emission statewide rail and transit network, centered around providing seamless, affordable, multi-modal travel options that avoid and mitigate environmental justice impacts, reduce criteria and toxic air pollutants and improve economic efficiency and competitiveness.

- **SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS (SCAG):** Metrolink worked collaboratively with SCAG and other transportation agencies to develop a Regional Transportation Plan/ Sustainable Communities Strategy called Connect SoCal. This comprehensive and transformative plan charts a path toward a more mobile, sustainable and prosperous region by making connections between transportation networks and land use strategies to improve the quality of life for Southern Californians. The plan includes policies, projects and programs at the intersection of land use, transportation and technology to close the gap and reach greenhouse gas reduction goals for the region

- **LOS ANGELES CLEANTECH INCUBATOR (LACI):** Metrolink is engaged in the multi-year Transportation Electrification Partnership (TEP) among local, regional and state stakeholders to accelerate transportation electrification and zero emissions mobility and goods movement in the Greater Los Angeles region. As a participating member of the TEP, Metrolink actively contributes toward accelerating the Partnership's progressive GHG and air pollution reduction goals with a focus on shifting over 20 percent of all trips in single occupancy vehicles to zero emissions public and active transit by 2028.



# ACKNOWLEDGEMENTS

The Link to a Zero Emissions Future



# ACKNOWLEDGEMENTS

This plan was prepared by the Director of Special Projects, Sustainability Initiatives, Lisa Colicchio.

The following founding members of the Green Team contributed content and established goals and targets for the development of this Plan:

[Tracy Berge](#) – Facilities, Fleet Maintenance

[Monica Bouldin](#) – Marketing & Partnerships

[Alex Davis](#) – Government & Community Relations

[Henning Eichler](#) – Customer Experience

[Melissa Flores](#) - Fare Collection

[Carey Fosse](#) – Human Resources

[David Huang](#) – Planning & Development

[Angelos Kastrisianakis](#) – Contracts & Procurement

[Gregg Kraal](#) – Customer Relations

[Amber Moyers](#) – Marketing & Partnerships

[Aggie Nesh](#) – Office of the CMTS

[Sylvia Novoa](#) – Government & Community Relations

[Amiya O'Bannon](#) – Customer Relations

[Eric Reese](#) – Equipment

[Michelle Stewart](#) – Office of the CMTS

[Jerri Stoyanoff](#) – Finance

[Belinda Varela](#) – Human Resources

[Rene Vega](#) – Business Operations

[Sam Wong](#) – Information Technology





# BOARD OF DIRECTORS

SCRRA's Board of Directors is comprised of 11 primary and alternate representatives of its Member Agencies. Additionally, there are three non-voting ex-officio members: Southern California Association of Governments (SCAG), the San Diego Association of Governments (SANDAG), and the State of California (Caltrans District 7). In 2021, voting Board members are as follows:



**Ara Najarian**, Chair  
Member, Los Angeles County  
Metropolitan Transportation Authority  
(Metro) Board of Directors  
Council Member, City of Glendale



**Hilda Solis**  
Member, Los Angeles County  
Metropolitan Transportation Authority  
(Metro) Board of Directors  
Supervisor, 1st District, Los Angeles  
County Board of Supervisors



**Larry McCallon**, Vice-Chair  
Member, San Bernardino County  
Transportation Authority (SBCTA)  
Board of Directors  
Mayor Pro Tem, City of Highland



**Karen Spiegel**  
Commissioner, Riverside County  
Transportation Commission (RCTC)  
Supervisor, 2nd District, Riverside  
County Board of Supervisors



**Doug Chaffee**, 2nd Vice-Chair  
Member, Orange County Transportation  
Authority (OCTA) Board of Directors  
Supervisor, 4th District, Orange County  
Board of Supervisors



**Tony Trembley**  
Commissioner, Ventura County  
Transportation Commission (VCTC)  
Council Member, City of Camarillo



**Kathryn Barger**  
Member, Los Angeles County Metro-  
politan Transportation Authority (Metro)  
Board of Directors  
Supervisor, 5th District, Los Angeles  
County Board of Supervisors



**Alan D. Wapner**  
Member, San Bernardino County  
Transportation Authority (SBCTA)  
Board of Directors  
Mayor Pro Tem, City of Ontario



**Brian Berkson**  
Commissioner, Riverside County  
Transportation Commission (RCTC)  
Council Member, City of Jurupa Valley

## ALTERNATES

Walter Allen III, Council Member, City of Covina,  
Metro Appointee

Daniel Chavez, Commissioner, VCTC

Javier "John" Dutrey, Mayor, City of Montclair,  
SBCTA

Jeff Hewitt, Supervisor, 5th District, County of Riverside,  
RCTC

Ray Marquez, Vice Mayor, City of Chino Hills,  
SBCTA

Roxana Martinez, Metro Appointee

Lisa Middleton, Mayor Pro Tem, City of Palm Springs,  
RCTC

Pam O'Connor, Metro Appointee

Paul Philips, Metro Appointee

Harry Sidhu, Mayor, City of Anaheim,  
OCTA



**Paul Krekorian**  
Member, Los Angeles County  
Metropolitan Transportation Authority  
(Metro) Board of Directors  
Council Member, 2nd District,  
City of Los Angeles



**Mark Murphy**  
Commissioner, Riverside County  
Transportation Commission (RCTC)  
Mayor, City of Orange

## APPENDIX A: GLOSSARY

TERM	DESCRIPTION
Climate Action	A plan that incorporates both climate mitigation and resilience into processes
Displaced Emissions	Emission reductions that are achieved as a result of the diversion of trips from private vehicles to transit (mode shift) and when transit enables denser land use patterns that promote shorter trips, walking and cycling and reduced car use and ownership (land use effect)
Electric Vehicle	An electric vehicle (EV) is a vehicle that uses one or more electric motors or traction motors for propulsion
E-waste	Waste consisting of discarded electronic products such as computer equipment, printers, cell phones
Fossil Fuel	A class of hydrocarbon-containing materials of biological origin occurring within Earth's crust that can be used as a source of energy which include coal, petroleum, natural gas and heavy oils.
Greenhouse Gas	A gas from human or natural source that absorbs thermal infrared radiation; examples include carbon dioxide (CO <sub>2</sub> ), particulate matter (PM) nitrogen oxides (NO <sub>x</sub> ). Also expressed as the acronym GHG
Internal Combustion Engine	A vehicle that burns fuel in an internal engine, typically gasoline, oil Engine or other fuel. Also expressed as acronym ICE
MTCO <sub>2e</sub>	Metric Ton carbon dioxide equivalent is a unit of measurement commonly used in simplifying greenhouse gas emission reporting
Resilience	The ability to provide core functions in the face of threats, and to recover quickly from major shocks or changing conditions
Science Based Targets	An emission reduction target is defined as 'science-based' if it is developed in line with the scale of reductions required to keep global warming below 2C from pre-industrial levels and pursuing efforts to limit to 1.5C
Vehicle Miles Traveled	A measure of distance in miles traveled by a vehicle or vehicle fleet. Also expressed as acronym VMT
Vulnerability	A component of risk, composed of an asset's exposure, sensitivity and adaptive capacity to climate hazards; it signifies how an asset might be affected by climate change
Zero-emission Vehicle	A vehicle with no tailpipe emissions (air pollutants or greenhouse gases) during use

## APPENDIX B: SHOVEL READY PROJECTS

The projects identified below include systemwide capacity and expansion efforts as part of the SCORE program. Upon completion of the projects, the environmental benefits contribute a reduction of 32,860 MTCO<sub>2</sub> per year.

PROJECT NAME	PROJECT COST
<b>Joint Corridor Serving Both Antelope Valley and Ventura County Lines</b>	
Burbank Junction	\$18,460,236
Signal Respacing: Burbank to LA	\$350,000
<b>Antelope Valley Line (Burbank to Lancaster)</b>	
Balboa Double Track Extension	\$46,500,000
Canyon Siding Extension	\$57,300,000
Brighton-McGinley Double Track Extension	\$57,300,000
Lancaster Terminal Improvements	\$31,400,000
<b>Ventura County Line (Metrolink Owned Tracks from Burbank to Moorpark)</b>	
Simi Valley Double Track	\$94,677,525
Chatsworth Station and Signal	\$33,841,257
<b>San Gabriel Subdivision</b>	
Lonehill to White Double Track	\$150,000,000
Rialto – CP Rancho Double Track (Part of Lilac to Rancho)	\$76,705,000
Marengo Siding Extension	\$25,498,843
El Monte Siding Extension	\$59,218,845
Rancho Cucamonga Siding Extension	\$40,375,817
Lilac to Rialto Double Track	\$24,831,000
<b>Orange County (Orange Subdivision) and Inland-Empire Orange County Lines</b>	
Signal Respacing: Atwood to Orange	\$512,993
Signal Respacing: Avery to Songs	\$5,300,000
Serra Siding Extension	\$54,153,713
OCMF Full-Build	\$168,640,579
Irvine Station Improvements Full-Build	\$184,926,773
<b>Systemwide</b>	
Electric Rail Car Movers	\$1,508,000
Electric Forklift	\$78,000
Light-Duty Fully Electric Non-Revenue Vehicles (25)	\$2,470,000
Replacement of Standby Diesel Generators to Tier 4	\$910,000
Upgrade Lighting to LED & HVAC to High Efficiency	\$520,000
Solar Panels & Electric Vehicle Charing Stations	\$6,240,000
<b>Total</b>	<b>\$1,144,068,581</b>



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The Link to a Zero Emissions Future