



TRI MET

Climate Action Plan

April 2022

Contents

Executive Summary.....	3
1. Introduction.....	7
2. Agency Overview	9
3. Emissions Inventory	10
TriMet Operational Emissions.....	10
The Effort to Transition to Biogenic Emissions.....	11
Other Sources of Scope 3 Indirect Emissions.....	12
4. Policies and Initiatives	14
International Agreements	14
Federal Policy	14
State, Regional, and Local Policies – Summary.....	14
TriMet’s Current Related Policies	19
A Summary of Recent Environmental Sustainability Efforts at TriMet	19
5. Emission Reduction Goals and Targets.....	22
6. Related Sustainability Goals and Targets	25
7. Strategies and Actions	26
8. Implementation and Monitoring	32

Executive Summary

By its nature, public transit is powerful tool for reducing greenhouse gas emissions. Transit offers people alternatives to driving or even to owning a car, which reduces transportation-related emissions of carbon as well as more local pollutants. Frequent service and/or fixed guideway transit (like TriMet’s MAX light rail system) can make an even greater impact, by supporting residential and commercial development that is transit-oriented and leads to more walkable and bikeable neighborhoods. This further reduces the need for people to drive and supports multifamily housing and multi-use commercial and office buildings, which take less energy to heat and cool than stand-alone buildings.¹

What are net zero emissions?

“Reaching net zero emissions means removing an equal amount of CO2 from the atmosphere as we release into it.”¹ While carbon dioxide emissions are still generated, an equal amount of carbon dioxide is removed from the atmosphere, resulting in zero increase in net emissions.

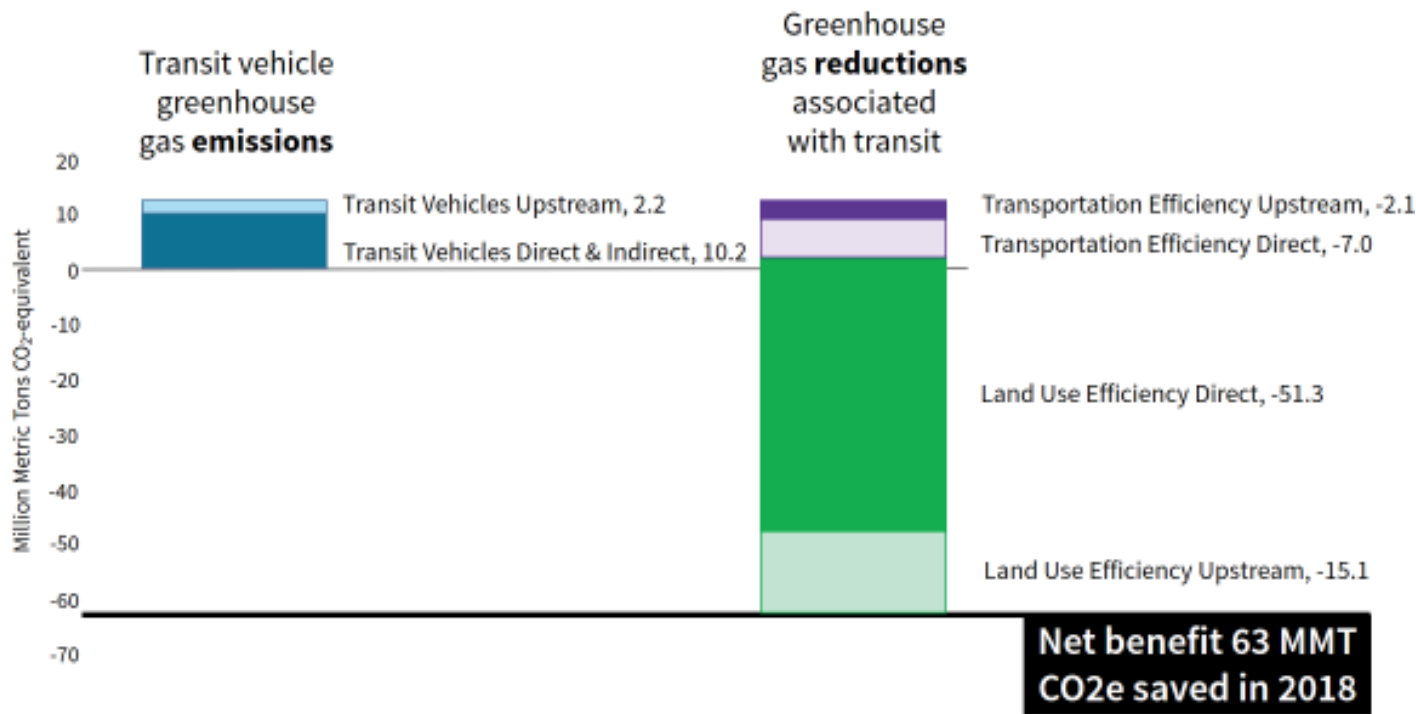


Figure 1: Estimated US national greenhouse gas emissions and reductions due to transit for 2018 (source: National Academies of Science, Transit Cooperative Research Program Report 226)

A 2021 report from the National Academy of Sciences² calculated the larger and long-term benefits of transit-oriented development. The report found a reduction in greenhouse gas emissions in the U.S. due to transit. By providing transit that supports walkable communities, TriMet provides a vital tool to help all communities in the region reduce greenhouse gases. This is why the first strategy in this Plan is to “Reduce regional traffic-related emissions by increasing ridership and supporting non-driving travel options.”

¹ Callout box text reference: www.weforum.org/agenda/2021/11/net-zero-emissions-cop26-climate-change/

² nap.nationalacademies.org/catalog/26103/an-update-on-public-transportations-impacts-on-greenhouse-gas-emissions

TriMet’s Business Plan³ includes a Strategic Priority, Goals, Objectives, and Actions aimed at increasing ridership over time. This Climate Action Plan is focused on reducing our own emissions, so that our total greenhouse gas benefit is even greater. The Plan recognizes the role TriMet plays in the increased use of transit to support state and regional transportation, greenhouse gas reduction and livability goals, and also incorporates TriMet’s broader goals with respect to sustainability, incorporating the “three Ps”. The three Ps include Planet, People, and Prosperity. Addressing climate change is critical and TriMet is committed to doing so in a way that considers all aspects of the natural world, social impacts and equity, and economics.

The need for climate action now

Our climate is changing rapidly. In 2020 and 2021, our communities got stark reminders of the negative impacts we can expect to get more frequently with climate change. In September 2020, unprecedented wildfires in Oregon caused five days of “Hazardous” air⁴ (over 300 on the air quality index scale), temporarily placing Portland “No. 1 for worst air quality among the world’s cities”⁵.

In June 2021, Portland hit all-time record high temperatures over 110 degrees three days in a row⁶, with the final, hottest day a full nine degrees hotter than the all-time record before that year. The trend of the changing climate is clear and poses significant threats to the health and safety of this region’s residents. It also threatens the reliability and consistency of transit service.⁷

Transportation is the largest source of greenhouse gas emissions in the state of Oregon. Increased transit mode share and transit fleet electrification are key strategies for Portland Metro and the State of Oregon for climate action and GHG reduction.

TriMet’s baseline greenhouse gas emissions

TriMet has collected data and has identified a baseline for comparison for Greenhouse Gas Emissions (see page 10 of this report). This is our baseline for comparison for overall reduction and our progress against this baseline will inform our future actions.

We have set our goal to be 60% below our baseline by this year, 2022. By purchasing renewable electricity and renewable diesel in the past year, we are estimated to have exceeded this goal. We have set future benchmarks at 2030—70% below baseline, 2040—90% below baseline, and net zero by 2050. These targets are covered in Section 5.

³ trimet.org/businessplan

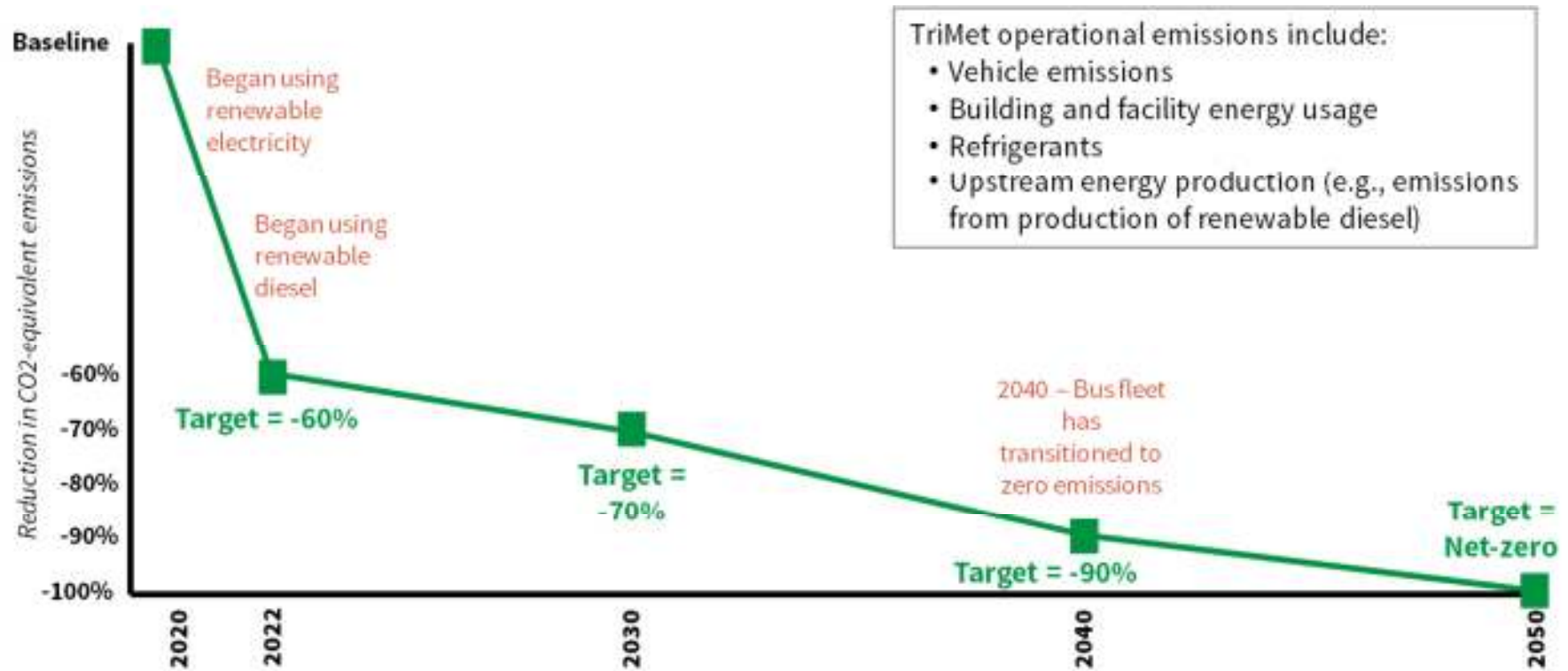
⁴ www.oregon.gov/deq/wildfires/Documents/WildfireSmokeTrendsReport.pdf

⁵ www.npr.org/2020/09/14/912701172/its-a-bit-surreal-oregon-fights-smoke-from-record-wildfires-during-a-pandemic

⁶ projects.oregonlive.com/weather/temps/

⁷ Excessive heat causes expansion of rails and overhead wires which can cause “sun kinks” (deformations in rail caused by expansion of the metal in the heat, which forces trains to slow down for safety) or sagging wires (which also force trains to slow down).

Figure 2: TriMet targets for reducing operational GHG emissions



TriMet’s history of climate leadership

TriMet has held a long-standing commitment to implementing climate solutions, extending beyond providing environmentally friendly transit service. Our early commitment to transit-oriented development and utilizing a federal policy to redirect highway funds to transit and roadway projects ultimately helped spur more walkable and bikeable cities in our region. TriMet also pioneered the development and use of NASCAR-type technology to increase bus operating efficiency, and later in 2006, TriMet became the first transit system in the nation to power buses with cleaner 5% biodiesel fuel.

We have consistently taken steps to increase efficiencies, reduce fossil fuel oil and gas consumption, and we’re now actively reducing our carbon footprint. All TriMet-owned facilities and our entire MAX light rail system are now powered by 100% renewable electricity. And, as of December 2021, our bus fleet runs on a cleaner burning, renewable diesel from plant-based materials—known as R99.

Our switch to 100% renewable electricity in June 2021 and renewable diesel in December 2021 got us to our first benchmark goal, and is predicted to cut the carbon dioxide-equivalent emissions produced by the agency by roughly 63% within a year’s time. With that, we

expect to avoid more than 149 million pounds of greenhouse gas emissions a year (*more than 53 million pounds due to renewable electricity and nearly 96 million pounds due to renewable diesel*). That's the equivalent of taking more than 14,600 cars off the road⁸.

TriMet's path to net zero: climate strategies and actions

TriMet will follow a simple four-stage approach to reducing emissions:

1. Track emissions with annual updates of the emissions inventory to understand progress.
2. Act first on largest emissions with lower-cost and higher-impact, feasible reduction actions, with a focus on actions reducing emissions of the bus fleet.
3. Plan for, and when feasible, implement actions with longer-term and/or more permanent reduction actions.
4. Revisit the data at least once a year to ensure we remain on track and can adjust actions if needed to optimize benefits.

Following this approach, TriMet has identified key strategies and developed a list of associated actions to achieve our climate goals and benchmarks (see pages 22-26). Highlights include:

- Perform annual carbon inventory updates to track progress towards emissions reduction
- Use renewable diesel (R99) for all fixed-route buses
- Pursue renewable diesel for LIFT paratransit buses, WES commuter rail, and heavy-duty non-revenue vehicles
- Purchase electric vehicles to replace non-revenue vehicles when they meet the functional need
- Stop diesel bus purchases by 2024 and transition to a Zero Emissions Fleet
- Explore longer-term commitments with PGE and Pacific Power for renewable electricity
- Implement TriMet's Equity Lens in major projects and service planning, which also factors in air quality improvements and carbon reduction.

Structure and funding

- This plan consolidates several initiatives and strategies including some already underway at TriMet into one coordinated plan to achieve our agency's commitment to reduce TriMet's climate impact and support the region's ongoing efforts to reduce greenhouse gas emissions. This plan will only be successful through coordination and collaboration with partners and local jurisdictions to support the agency's initiatives to reduce emissions.
- Several strategies and actions listed in this plan will require new funding to fully implement, and consideration of funding strategies for these initiatives is underway.

⁸ www.epa.gov/greenvehicles/greenhouse-gas-emissions-typical-passenger-vehicle

1. Introduction

TriMet provides transit service and access to mobility options in the Portland, Oregon metropolitan region. Our Business Plan⁹ defines five primary roles or outcomes that we strive to achieve from our efforts:

- (1) Support our economy and provide equitable opportunity by getting people to work, school, etc.
- (2) Ease congestion
- (3) Provide mobility for those with few options due to economic reasons or physical or cognitive reasons
- (4) Help shape the future of our region by delivering service, mobility options, transit-oriented development, and capital projects that support sustainable communities
- (5) Reduce emissions and support environmental sustainability.

All of these reflect on sustainability, often with a mix of Planet, People, and Prosperity, connecting environmental sustainability with equity.

This Climate Action Plan is intended to define strategies and actions that will dramatically reduce emissions that impact the global climate. While this action plan is focused on TriMet’s operational-related emissions – facilities, fleet transition to lower carbon fuels, vehicles and technologies - it is important to also acknowledge transit’s key role in supporting implementation of the region’s adopted 2040 Growth Concept¹⁰ (1995) and Climate Smart Strategy¹¹ (2014) both of which are also implemented through the Regional Transportation Plan (2018)¹², TriMet’s service plans and local land use and transportation plans. As described in the RTP, the Climate Smart Strategy “includes making investments to increase active transportation, increase transit” and other improvements. The Plan encompasses TriMet’s greenhouse gas emissions (GHGs), but also includes recognition of other

⁹ www.trimet.org/businessplan

¹⁰ Metro 2040 Growth Concept. oregonmetro.gov/2040-growth-concept

¹¹ Metro Climate Smart Strategy. oregonmetro.gov/climate-smart-strategy

¹² Metro Regional Transportation Plan. oregonmetro.gov/sites/default/files/2020/07/29/Adopted-2018-RTP-all-chapters.pdf

TriMet’s Sustainability Team

- Ali Al Sahaf, EC&P
- Kimberley Angove, Office of the GM
- Johnny Cabrera, Maintenance
- Miles Crumley, Office of the COO
- Carey Gibbar, Maintenance
- Nathan Jones, Public Affairs
- Michael Kiser, EC & P
- Mike Krzeminski, Safety & Security
- Alan Lehto, Office of the COO
- Kate Lyman, EC & P
- Kate MacKinnon Kiser, EC & P
- Tara O’Brien, Public Affairs
- Cora Potter, Finance
- Karen Powell, Maintenance
- Pat Powers, Maintenance
- Les Spitler, Finance

Former members who contributed

- Gerald Fields, Finance
- Carl Green, Jr, Public Affairs
- Aidan Gronauer, Public Affairs
- Bob Hastings, Legal
- Liz Higgins, EC & P
- Jeff Owen, Public Affairs
- Dylan Vaughn, Office of the COO
- Andrew Wilson, Safety & Security

Support for emissions calculations

- Aaron Toney, Good Company

emissions that may have health and environmental consequences. The Plan also considers not just Planet-focused efforts, but also People- and Prosperity-focused efforts related to emissions and climate change.

The Climate Action Plan was initially developed by TriMet's Sustainability Team, informed by feedback from partners, reviewed by the Executive Team and TriMet Board, and ultimately approved by the General Manager.

TriMet's Sustainability Team will encourage, support and champion the strategies, initiatives and actions identified in this Plan.

2. Agency Overview

The Tri-County Metropolitan Transportation District of Oregon (TriMet) was chartered by the Oregon legislature in 1969, as a municipal corporation to provide public transportation to over 1.6 million people in a 533 square-mile district covering most of the urbanized portions of Multnomah, Washington and Clackamas counties, comprising the greater Portland, Oregon metropolitan region. TriMet's unpaid Board of Directors is appointed by the Governor of Oregon for four-year terms. TriMet's General Manager is appointed by the Board of Directors. TriMet provides fixed-route bus service, MAX light rail, LIFT paratransit minibuses and vans, and WES commuter rail service.

TriMet:

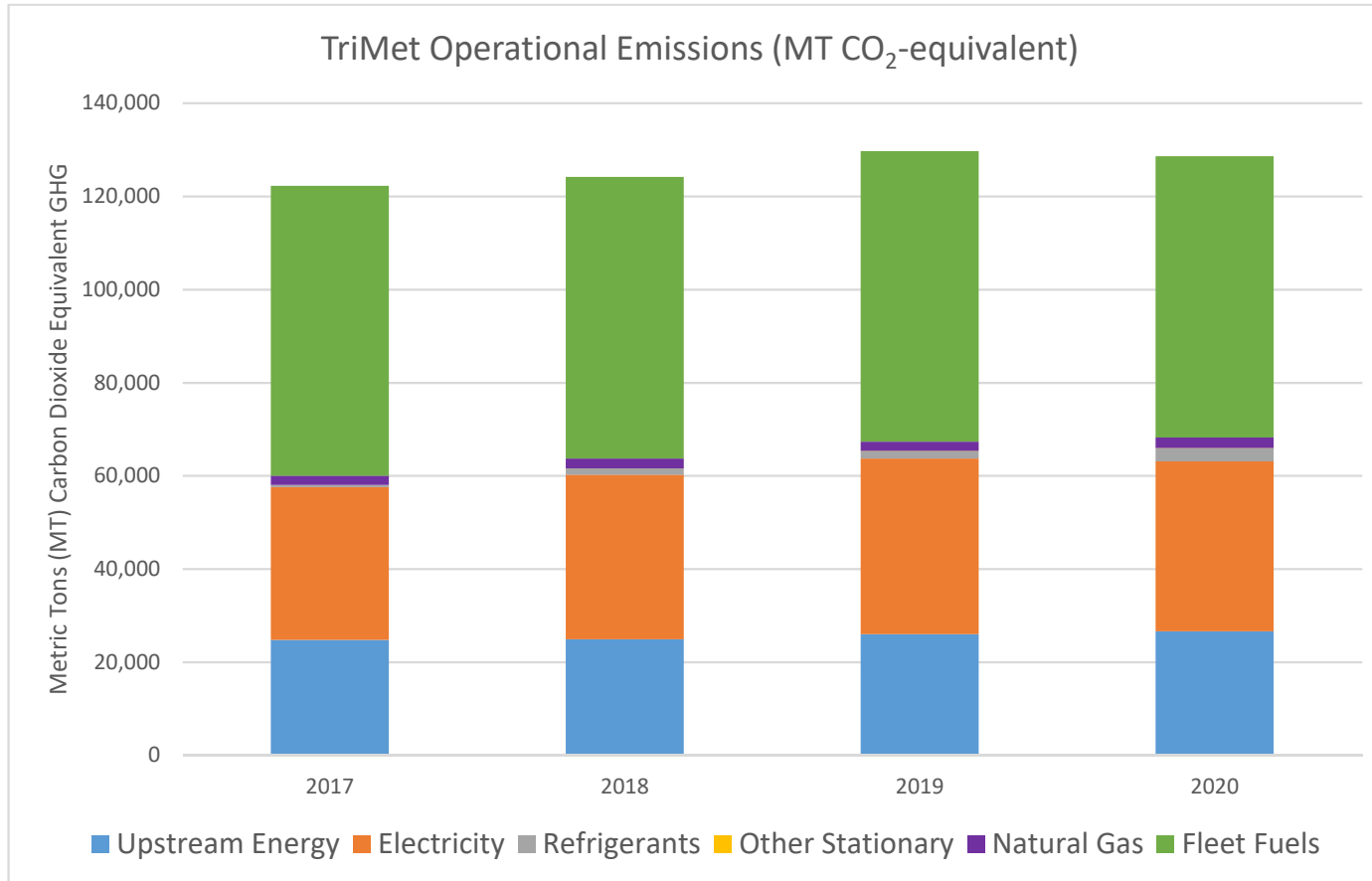
- Owns about 700 transit buses with almost 500 buses in service during peak weekday service (as of June 30, 2021). Daily service generally begins around 4:00am and last buses of the evening end their runs approximately 2:00 am. There are 15 “Frequent Service” lines, which includes bus and MAX Light Rail running every 15 minutes or less most of the day, every day.
- Operates 145 light rail vehicles on five (5) MAX lines with 94 stations on approximately 60 miles of trackway alignment.
- Operates about 262 small buses and vans to provide LIFT, an advance-reservation, shared-ride complementary paratransit service for persons who are unable to use TriMet's other services due to a disability or disabling health condition.
- Partners with the City of Portland to operate 16 miles of Streetcar service in Portland, which serves approximately 5% of regional transit system riders (14,000/day pre-COVID). TriMet contributes approximately 70% of the system operating cost and provides Streetcar vehicle operators, mechanics, and Maintenance of Way employees under an operating agreement with the City. Streetcar vehicles are owned by the City of Portland, which is also responsible for the capital replacement of Streetcar assets.
- Has 6,610 bus stops (as of end of FY21), 10 Transit Centers where buses and light rail trains meet, four that service bus only, one that serves buses and commuter rail, and one that serves buses, light rail, and commuter rail.
- Provides WES (Westside Express Service) commuter rail service operated under contract with the Portland & Western Railroad, along a 14.7-mile route connecting the cities of Wilsonville, Tualatin, Tigard, and Beaverton. The line has five stations and four Park and Ride lots with 700 spaces.
- Provides free parking at 33 TriMet-owned and operated lots (including 6 garage structures). Another 29 lots are available free to commuters, provided by community sponsors. TriMet facilities also include approximately 1,900 bike parking spaces.
- Runs 18 operations and administration facilities, among them two light rail maintenance and storage facilities, three bus maintenance and storage facilities (with a fourth under development), and three LIFT paratransit facilities.
- Employs over 3,000 direct employees and over 600 additional contracted personnel for LIFT paratransit, safety and security, and WES commuter rail (as of FY2022).
- Operates with funding through payroll tax, federal grants, state grants, passenger revenues, and other miscellaneous sources.

3. Emissions Inventory

The greenhouse gas emissions estimates below summarizes past estimated emissions for use as a baseline of comparison.

TriMet Operational Emissions

Figure 3: Operational GHG emissions estimates



Baseline Data

TriMet was able to collect sufficient data to make reasonable estimates for FY2017 through FY2020. These will be the baseline emissions to which future emissions will be compared. FY2020 ended on June 30, 2020, a little over three months into the COVID-19 pandemic’s impacts on ridership and the economy, so is partially impacted by changes related to the pandemic. For cases where a single year comparison is necessary, we will use FY2019 unless otherwise specified.

NOTE: Substantial reductions in emissions due to renewable diesel and renewable electricity which began in calendar 2021 will not be reflected in this inventory until future updates based on when they went into use.

Figure 1, on the previous page, shows TriMet’s estimated greenhouse gas emissions in CO₂-equivalent metric tons for FY2017 through FY2020. The emissions calculated include:

- Scope 1 – Direct emissions from operating vehicles, machinery, equipment, and facilities. TriMet has the most control over these emissions and options to pursue reduction of Scope 1 emissions because they are directly emitted by our operations. These include:
 - Fleet – Emissions from operating vehicles such as TriMet’s fixed-route bus fleet, paratransit fleet, and commuter rail.
 - Natural gas (owned) – Emissions from using natural gas such as for heating TriMet owned and operated facilities.
 - Stationary fuels – A small category of emissions from non-mobile fuel use such as propane heaters or diesel emergency generators.
 - Refrigerants – Any use of refrigerants is counted as emissions because refrigerants can be potent greenhouse gases if emitted into the atmosphere.
- Scope 2 – Emissions from energy generated off-site but used by TriMet. TriMet has some control over these emissions in terms of amount of consumption and efficiency, but largely only has control to the extent that the energy provider offers alternatives to fossil-fueled energy generation (see Sections 4 and 7 for more on energy alternatives available that TriMet has used to substantially reduce emissions and will continue to pursue). The figure includes energy-generation emissions including:
 - Electricity – Emissions from generation of electricity used for MAX light rail, electric buses, lighting, buildings, and other uses.
- Scope 3 – Emissions from other indirect sources related to operating. TriMet has much less control over these emissions:
 - Upstream energy production – Emissions from generation of electricity used (e.g., natural gas-fueled electrical plants) and production of other fuel sources (e.g., biodiesel).

It is common for organizations to focus on Scope 1 and Scope 2 for setting emissions targets. TriMet has chosen to include the upstream energy production values from Scope 3 in addition. Although this increases our reported baseline emissions, it more clearly illustrates the tradeoff between direct and upstream emissions, especially with renewable diesel. Thus, TriMet’s operational emissions reported in Figure 1 include all of Scopes 1 and 2, plus upstream energy production from Scope 3.

For the other categories in Scope 3, see “Other Sources of Scope 3 Indirect Emissions” on the next page.

The Effort to Transition to Biogenic Emissions

Biogenic emissions are those greenhouse gas emissions that come from recent, natural sources. Plant-sourced fuels, for instance, result in biogenic emissions. During growth, plants remove carbon dioxide from the atmosphere and incorporate that carbon into the plant matter. When the plant-sourced fuel is burned, that carbon is released back into the atmosphere as carbon dioxide. However, over the course of a short period of months or a few years, the fuel itself can be net-zero, because the carbon emitted was only recently removed from the atmosphere in making the fuel. This process is called the carbon cycle and can be thought of as the earth breathing over the seasons. Because these biogenic emissions are net-neutral, they are not included in the graph above, but are reported below.

TriMet has had biogenic emissions (due to some plant-based fuel emissions replacing some fossil-fuel-based emissions) for more than a decade due to its long-term use of 5% biodiesel in fixed-route buses and LIFT paratransit buses and vans. Using 5% biodiesel reduced direct operational emissions which would have been counted as “fleet fuels” in Figure 1. That use generated biogenic emissions. Biogenic emissions are expected to grow significantly in future analyses, reflecting TriMet’s switch to renewable diesel in late calendar year 2021. At that point, the biogenic net-neutral emissions increased so the net carbon dioxide emissions dropped significantly, which will be evident in emissions estimates for 2021 and 2022 when available.

Figure 4: Biogenic Emissions in MT CO₂e

Year	2017	2018	2019	2020
Biogenic Emissions	2,994	2,920	3,011	2,890

TriMet intends to update the calculation for each year when actual usage numbers become available following the end of the previous fiscal year.

Other Sources of Scope 3 Indirect Emissions

The additional emissions in Scope 3 are indirect, though related to our operations and purchases for equipment and other needs. These are more complex and data-intensive to estimate. TriMet has the least ability to change these emissions because they don’t come from our direct activities. These other Scope 3 emissions include:

- Natural gas (leased) – Natural gas, generally used for heating, from leased properties. Based on standardized usage from other industries, this category is likely in the range of 10-30 MT CO₂e for TriMet.
- Supply chain – Emissions caused by the manufacture, sales, marketing, and shipping of purchased goods and services. TriMet is not able to calculate a reliable emissions estimate at this time. For context, the City of Portland supply chain sustainability review¹³ resulted in an emissions factor of 701 tCO₂e per million dollars spent for the FY14-15 period. The intensity changes each year and can vary significantly, depending on the volume and type of purchases made. If TriMet’s emissions factor is somewhere in this range, supply chain related emissions could be similar or even larger than direct fleet emissions before the switch to renewable diesel. This is an issue to track and explore opportunities to reduce through procurement practices. It also expected that this category will be significantly reduced over time as the electrical grid and the transportation industry become more renewable.
- Commute – TriMet employees commuting behaviors generate emissions. We do not currently have complete data to make an estimate, but if TriMet employees’ patterns are similar to the region as a whole, commute-related emissions may be somewhere around 3,000 – 5,000 MT CO₂e. Full implementation of TriMet’s telework policy to allow eligible employees to continue to work remotely will likely lead to further reductions in the future.

¹³ www.portlandoregon.gov/brfs/article/627973

- Solid waste – Disposing of solid waste in a landfill can generate methane, which is a potent greenhouse gas, estimated from rough approximations of volume of solid waste. TriMet does not currently have data sufficient to make an accurate estimate. Using very rough solid waste generation rates from other industries, the emissions may be somewhere around 2,000 - 4,000 MT CO₂e.
- Business travel – Driving to meetings, conferences, or regional coordination as well as any other travel (such as flying to the factory to inspect new buses before they are shipped) can all result in emissions. TriMet does not have complete data to estimate these emissions at this time, but using very rough ranges, the results may be around 100 – 1,000 MT CO₂e.

In time, as the electrical grid and transportation sectors reduce emissions, these indirect emissions will be reduced. Although TriMet has much less control over these emissions, there are actions we can take to try to reduce emissions in the Scope 3 category as well. So, there are actions included in Chapter 7 that can help to reduce these emissions.

4. Policies and Initiatives

International Agreements

The 2015 Paris Agreement¹⁴ requires all countries to set emissions-reductions pledges with the goal of preventing global average temperatures rising 2 °C (3.6 °F) above preindustrial temperatures and pursuing actions to stay below 1.5 °C (2.7 °F). In the long run it calls for global greenhouse gas emissions to reach global net-zero. Although the US temporarily withdrew from the Agreement, our country again committed to these goals by re-entering the Agreement in January, 2021. As part of the ongoing implementation of this Agreement, more-developed countries such as the US are being asked to be net-zero by 2050. The majority of countries have made net-zero pledges, with varying implementation dates.¹⁵

Federal Policy

US federal policy¹⁶ has defined the following emissions goals:

- Achieve net-zero emissions by 2050
- Achieve a 50-52% reduction in GHG emissions from 2005 levels by 2030

State, Regional, and Local Policies – Summary

State Level Policies

Transportation is the largest source of greenhouse gas emissions in the state of Oregon (40% of emissions in 2018). Increased transit mode share and transit fleet electrification are key strategies within the State of Oregon’s *Statewide Transportation Strategy, Oregon Public Transportation Plan* goals for climate action and GHG reduction.

The Oregon Climate Agenda¹⁷, published November 28, 2018, summarized Oregon’s goals and status, at the time:

“In 2007, HB 3543 established the Oregon Climate Change Research Institute (OCCRI) to advance regional understanding of climate change science, impacts, adaptation, and mitigation. HB 3543 also set specific, science-based climate emissions reduction goals for Oregon:

- *Arrest the growth of emissions by 2010 (achieved)*
- *Achieve climate emissions levels that are 10% below 1990 levels by 2020 (not on track)*

¹⁴ sustainabledevelopment.un.org/frameworks/parisagreement

¹⁵ www.un.org/en/climatechange/net-zero-coalition

¹⁶ www.whitehouse.gov/briefing-room/statements-releases/2021/04/22/fact-sheet-president-biden-sets-2030-greenhouse-gas-pollution-reduction-target-aimed-at-creating-good-paying-union-jobs-and-securing-u-s-leadership-on-clean-energy-technologies/

¹⁷ www.oregon.gov/gov/policy/Documents/Governor%20Kate%20Brown%20Climate%20Agenda.pdf

- *Achieve climate emissions levels that are at least 75% below 1990 levels by 2050 (not on track)*¹⁸

In March 2020, Governor Brown signed Executive Order 20-04, directing State of Oregon agencies to take action to reduce and regulate greenhouse gas emissions toward meeting reduction goals of at least 45% below 1990 emissions levels by 2035 and at least 80% below 1990 levels by 2050.¹⁸

Oregon House Bill (HB) 2021 was signed into law September 25, 2021. It:

*“Requires retail electricity providers to reduce greenhouse gas emissions associated with electricity sold to Oregon consumers to 80 percent below baseline emissions levels by 2030, 90 percent below baseline emissions levels by 2035 and 100 percent below baseline emissions levels by 2040.”*¹⁹

These targets aggressive, representing “a nearer deadline than nearly every other state that has adopted a clean power plan, including Washington and California.”²⁰ TriMet, as a municipal corporation created by the State of Oregon and with a Board of Directors appointed by the governor, and as the largest transit agency in the state of Oregon, bears a responsibility to do what we can to support reaching the state goals. In addition, HB2021 indicates electrification should prove be a robust strategy to dramatically reduce emissions. Oregon’s Climate Protection Program²¹ and Clean Fuels Program²² also point toward greater sustainability and lower carbon emissions.

Regional Level Policies

The elected regional government, Metro, has many responsibilities including serving as the region’s federally mandated Metropolitan Planning Organization (MPO) for federal transportation planning and funding purposes.

Metro Sustainability Program – Internal Operations Goals

Metro set internal operations goals regarding greenhouse gas emissions on October 7, 2010 as follows “*reduce direct and indirect greenhouse gas emissions to 80% below 2008 levels by 2050.*”²³ Metro’s Sustainability Program conducts periodic inventories of GHG emissions associated with internal operations to track progress over time toward the agency’s climate goals and to understand trends and manage emissions from specific sources and activities.

Metro Climate Smart Strategy and Regional Transportation Plan

In addition to goals to reduce emissions from the agency’s internal operations, Metro has adopted regional goals and related policies for reducing greenhouse gas emissions from land use and transportation to advance state and regional climate goals. Building on previous

¹⁸ www.oregon.gov/energy/energy-oregon/Pages/Greenhouse-Gases.aspx

¹⁹ olis.oregonlegislature.gov/liz/2021R1/Measures/Overview/HB2021

²⁰ www.opb.org/article/2021/05/26/big-oregon-climate-bill-of-2021-generates-little-friction/

²¹ www.oregon.gov/deq/ghgp/Pages/Climate-Protection.aspx

²² www.oregon.gov/deq/ghgp/cfp/Pages/default.aspx

²³ www.oregonmetro.gov/how-metro-works/green-metro

plans and policies, the Metro Council and the Joint Policy Advisory Committee (JPACT) adopted the Climate Smart Strategy in 2014. Approved by the Land Conservation and Development Commission in 2015, the Climate Smart Strategy is a set of policies, strategies and actions to reduce per capita greenhouse gas emissions²⁴. The Climate Smart Strategy fulfills a state legislative mandate requiring Metro to develop and implement a strategy to reduce per capita emissions from cars and light trucks from 2005 emissions levels²⁵ by at least 20% by 2035, 25% by 2040, 30% by 2045 and 35% by 2050. These emissions reductions are in addition to reductions the State anticipated would result from improved vehicle technologies and fuels. The Climate Smart Strategy and state-mandated greenhouse gas emissions reduction targets were incorporated in the Regional Transportation Plan in 2018. Metro monitors and reports on implementation of the Climate Smart Strategy through periodic updates to the RTP. The next update is due in 2023. Increasing the number of alternative-fuel vehicles in public sector fleets, and specifically transit vehicles, and expanding transit service to reduce regional emissions are key strategies supported by both state and regional policies.

Local Policies

TriMet operates in three counties, spanning over 20 local governments. The following is an overview of several local greenhouse gas targets or policies of some of the largest jurisdictions where TriMet operates:

- In 2017, both the City of Portland and Multnomah County adopted a 100% renewable energy resolution that calls for collaboration between Portland, Multnomah County, Metro and TriMet to expand service, reduce fares for those with a low income and complete a rapid transition to an electric fleet. The City of Portland’s Electric Vehicle (EV) Strategy, also adopted 2017, prioritizes bus electrification as well as the integration of shared EV mobility options with transit as key strategies to reduce the need for personal vehicle ownership.
- City of Portland: The Climate Emergency Declaration²⁶, adopted June 30, 2020, includes the following targets:
 - At least 50% reduction in carbon emissions by 2030 and net-zero carbon emissions before 2050
 - Expectation that the two electric utilities, PGE and PacifiCorp, deliver 100% renewable electricity to all Portland residents and businesses by 2030, and calls on NW Natural to fully decarbonize its gas pipeline by 2050
 - 100% renewable transportation sector by 2050 (100% Renewable Energy Resolution.)
- City of Beaverton: The Beaverton 2019 Climate Action Plan²⁷ includes the following targets:
 - “100% reduction of greenhouse gas emissions by 2050 (from 2013 baseline year)”
 - “50% fossil fuel reduction from 2009 baseline, and carbon neutral by 2030”

²⁴ www.oregonmetro.gov/climate-smart-strategy

²⁵ 2005 was specified by state agencies as a reference year for the region’s greenhouse gas reduction targets because more detailed data on emissions and light vehicle travel in metropolitan areas is available for this date than for 1990, the base year set by statute, and because it corresponds better with adopted land use and transportation plans. While the targets are specified as reductions from 2005 emissions levels, the targets are set at a level that corresponds to the required reduction from 1990 levels to be achieved by 2035 and subsequent years.

²⁶ www.portland.gov/bps/climate-action/climate-emergency/news/2020/7/1/city-council-adopts-climate-emergency

²⁷ www.beavertonoregon.gov/DocumentCenter/View/27980/Beaverton-Climate-Action-Plan---2019

- City of Milwaukie: In 2020, the City of Milwaukie declared a climate emergency²⁸, including the following targets:
 - “By 2030, Milwaukie will have no net carbon emissions from its electricity use;
 - by 2035, Milwaukie' s buildings will have no net carbon emissions, and
 - by 2045, Milwaukie will be a fully carbon-neutral city”
- Multnomah County: 2015 Climate Action Plan²⁹ includes the following targets:
 - 40% below 1990 levels by 2030 and 80% below 1990 levels by 2050
- Clackamas County: The County is currently in the process of developing a Climate Action Plan with recommendations to reach the goal of being carbon neutral by 2050.

TriMet’s commitments and strategies outlined within this plan will help to improve air quality and reduce greenhouse gas emissions throughout the region, also helping local jurisdictions across our service area meet their own per capita emission reduction goals.

²⁸ www.milwaukieoregon.gov/sites/default/files/fileattachments/sustainability/page/111121/r7-2020.pdf

²⁹ multco-web7-psh-files-usw2.s3-us-west-2.amazonaws.com/s3fs-public/CAP2015_june2015_web.pdf

Summary of State, Regional, and Local Targets

Jurisdiction	2030	2035	2040	2045	2050
Paris Agreement and further implementations for more-developed countries					Net-zero
United States Federal	50% below 2005 baseline emissions				Net-zero emissions
State of Oregon - overall		45% below 1990 emissions			80% below 1990 climate emissions
State of Oregon - retail electricity only	80% below baseline emissions	90% below baseline emissions	100% below baseline emissions		
Metro (MPO Boundary)		Reduce per capita emissions from cars and light trucks 20% below 1990 emissions	Reduce per capita emissions from cars and light trucks 25% below 2005 emissions	Reduce per capita emissions from cars and light trucks 30% below 2005 emissions	Reduce per capita emissions from cars and light trucks 30% below 2005 emissions 80% below 2008 emissions (direct and indirect) – internal Metro operations
City of Portland	At least 50% below 1990 baseline emissions				Net-zero emissions
City of Portland - retail electricity and natural gas only	Electricity 100% emission free				100% decarbonized gas pipeline
City of Beaverton	50% fossil fuel reduction from 2009 baseline and carbon neutral				100% below 2013 baseline emissions
City of Milwaukie	Net-zero from electricity use	Net-zero for buildings		"Fully carbon neutral city"	
Multnomah County	40% below 1990 baseline emissions				80% below 1990 baseline emissions

TriMet's Current Related Policies

- TriMet's FY2023-FY2027 Business Plan³⁰ includes Objective 2A “Improve environmental sustainability and stewardship and reduce TriMet's carbon footprint” and multiple key strategic actions aimed at helping achieve that Objective.
- In September 2018, the TriMet Board approved Resolution 18-09-68 adopting the 2018 TriMet Non-Diesel Bus Plan³¹.
- TriMet has signed on to the Federal Transit Administrations Sustainable Transit for a Healthy Planet Challenge³².
- TriMet's internal Sustainability Team meets regularly to identify, support, and advance sustainability efforts across the agency, to evaluate progress toward sustainability metrics, and to report to Executive Leadership.

A Summary of Recent Environmental Sustainability Efforts at TriMet

Here in the Portland area, we drive our cars less than other metro areas our size, and we have shorter commute times and lower congestion costs to show for it. As calculated in the mid-2010s, choosing transit over driving eliminates over 200,000 daily car trips and reduces carbon emissions by over 60% compared to driving alone³³.

- 45% of downtown rush-hour commuters take transit
- MAX carries nearly 1 in 3 Sunset (US 26) /Banfield (I-84) rush hour commuters
- People drive 22% fewer miles a day here compared to the rest of the nation

Renewable electricity

Starting in June 2021, TriMet now uses renewable energy for all light rail operations and at all TriMet-owned and -operated facilities. This change reduced TriMet's CO₂-equivalent greenhouse gas emissions from direct operations and energy use by approximately one-quarter³⁴.

Additionally, The Portland Streetcar system (operated in partnership with TriMet) runs on 100% renewable energy. This includes the purchase of solar energy to advance City and regional climate goals and complement the purchase of RECs to maintain 100% renewable status. Portland Streetcar also catalyzes mixed-use development that reduces reliance on single occupancy vehicle travel; 76% of all housing under construction in Portland today is within ¼ mile of a streetcar line.

³⁰ www.trimet.org/businessplan

³¹ trimet.org/electricbuses/pdf/TriMet-Non-Diesel-Bus-Plan-September-2018.pdf

³² www.transit.dot.gov/regulations-and-programs/environmental-programs/challenge-participants

³³ *TCRP Report 226* <https://www.nap.edu/catalog/26103/an-update-on-public-transportations-impacts-on-greenhouse-gas-emissions>

³⁴ news.trimet.org/2021/06/trimet-reduces-carbon-emissions-by-more-than-25-with-move-to-all-renewable-electricity/

Renewable diesel

Beginning in December 2021, TriMet began using renewable diesel (R99, which is a blend of 99% renewable and 1% petroleum diesel due to engine and logistics requirements) in our fixed-route buses. This change significantly reduced TriMet's CO₂-equivalent greenhouse gas emissions from direct operations and energy use. The change in fuels will reduce the carbon dioxide equivalent emissions coming from an individual bus by nearly 99%, but increased biogenic emissions. When factoring in the upstream emissions of making and delivering the R99 to TriMet's facilities and also the usage of renewable electricity, TriMet's operational emissions fell by more than half, a total reduction in GHG emissions of about 63%³⁵.

Buses

- Biodiesel: TriMet operates just under 500 buses during peak hours on weekdays. In 2021, prior to the switch to renewable diesel, the diesel buses used a B5 biodiesel blend to reduce emissions. TriMet began using B5 biodiesel in 2006, the first transit agency in the US to do so.
- Renewable diesel: In December 2021, TriMet began using renewable diesel for all fixed-route buses. See "renewable diesel" section above for more details.
- Zero emission buses: TriMet has committed to a zero-emissions fleet by 2040³⁶. At the time this was written, TriMet owned eleven 100% battery-electric buses with more on order or under production. Larger purchases are planned in future years when more of our existing diesel fleet will reach retirement age. In addition to the all-battery electric buses, TriMet operates eight hybrid electric buses.
- NASCAR-inspired cooling system in current diesel buses: TriMet was the first transit agency in the nation to use NASCAR technology to electronically cool bus engines and increase fuel efficiency. TriMet received a Clean Air Excellence Award from the U.S. Environmental Protection Agency³⁷. The innovative electronic cooling system reduces engine drag, maximizes horsepower and improves fuel economy by up to 10%. Now a standard in new buses, this technology was developed in partnership with TriMet and first tested on TriMet buses.
- The development of the Columbia Bus Garage, purchased in 2018, will also lead to a more efficient distribution and deployment of vehicles that will reduce the vehicle miles travelled by the TriMet fleet.

Green Infrastructure

TriMet has designed and constructed hundreds of bioswales into the stormwater systems at our facilities, park and rides, and right of ways. This green infrastructure helps to recharge local groundwater aquifers, improving water quality by filtering out sediments and pollutants, and reducing peak stormwater discharges to sewer systems which helps eliminate sewer overflows, further protecting local water resources. Bioswales also provide a habitat for greenhouse gas reducing vegetation.

³⁵ news.trimet.org/2021/12/the-future-of-cleaner-air-is-now-as-trimet-buses-run-on-cleaner-burning-renewable-diesel

³⁶ trimet.org/electricbuses/pdf/TriMet-Non-Diesel-Bus-Plan-September-2018.pdf

³⁷ www.epa.gov/sites/default/files/2015-06/documents/clean_air_excellence_award_recipients_year_2008.pdf

During construction of the most recent light rail project, the MAX Orange Line, a number of sustainable elements were incorporated into the project³⁸. The project included the Tilikum Crossing, *Bridge of the People*, a bridge built for light rail, streetcar, buses, bicycles, and pedestrians, but no private vehicles. Structures on the bridge capture rain and channels it to bioswales instead of going straight into the river as all the auto bridges across the Willamette River do. The Orange Line also incorporated urban creek restoration and multiple bicycle and pedestrian improvements to make mobility without a car easier. TriMet also installed solar panels on Orange Line shelters and systems buildings, leading to carbon reduction. Earlier, in 2012, a solar panel array TriMet built near Portland State University went into operations. It was the largest in Downtown Portland when it was constructed and was estimated to generate 64,000 kilowatt hours of electricity annually, saving tons of CO₂ every year. As one of the final elements of the MAX Orange Line, TriMet installed six vertical axis wind turbines (VAWTs) at each end of the bridge³⁹. The turbines are designed to generate power even in low wind conditions, as little as two miles per hour. The project is a partnership with Portland State University's Mechanical Engineering School, which is tracking the performance of turbines. What we learn from this pilot project may be used in future transit projects.

Other electricity saving efforts⁴⁰

- LED lighting modernizations – During the past two years, TriMet has been modernizing lighting systems in four maintenance facilities, a light rail tunnel, and a structured park and ride to improve visibility and safety while substantially reducing electricity use.
- Solar powered bus shelters: TriMet has close to 500 bus shelters with lighting that is powered by solar panels, leading to energy efficiency, cost savings and carbon reduction.
- Regenerative braking: Our hybrid buses, select MAX trains and new electric buses have regenerative braking. When the vehicle slows, kinetic energy is captured and can be used immediately or stored in the battery for later use. The MAX Orange Line brought with it the first supercapacitor in the U.S. that harnesses regenerative energy from light rail trains and feeds it back to other trains for acceleration or uphill climbs. This reduces energy use.

Maintenance facility sustainability efficiencies

- In late 2020, TriMet contracted to launder mop heads that are used in daily servicing of the District's Fleet. Once cleaned they are returned back to the shops at a fraction of the cost of replacing mop heads. The benefits of this program significantly cuts cost and provides employees clean equipment that is ready for use daily.
- TriMet's bus and light rail vehicle wash racks recirculate wash water, substantially reducing water use.
- Partnered with Energy Trust of Oregon, TriMet upgraded boiler system controls at the Ruby Junction light rail maintenance facility to improve heating efficiency.

³⁸ trimet.org/bettertransit/pdf/sustainability-report.pdf

³⁹ news.trimet.org/2019/03/new-sustainability-feature-coming-to-trimets-tilikum-crossing/

⁴⁰ Also see trimet.org/bettertransit/pdf/sustainability-report.pdf

5. Emission Reduction Goals and Targets

The Paris Agreement⁴¹ set a goal in terms of temperature change rather than emissions. And, in our region, we recently learned first-hand how even relatively small average changes in temperature can lead to devastating changes when a “heat dome” hit the region in June 2021. The high temperature hit all-time records on three successive days, ending with a high of 116 ° F, nine degrees higher than the previous all-time record. The International Panel on Climate Change (IPCC), in a 2018 report⁴² identified that, in order to limit warming to 1.5 ° C, “Global net human-caused emissions of carbon dioxide (CO₂) would need to fall by about 45 percent from 2010 levels by 2030, reaching ‘net zero’ around 2050.”

With this Climate Action Plan, TriMet has set the following targets for carbon and other climate emissions:

- 70% reduction in TriMet operational emissions by 2030
- Net-zero by 2050

The detailed targets are as follows:

Jurisdiction	2022	2030	2040	2050
TriMet	60% below 2019 baseline for operational emissions*	70% below 2019 baseline for operational emissions*	90% below 2019 baseline for in operational emissions*	Net-zero in operational emissions*

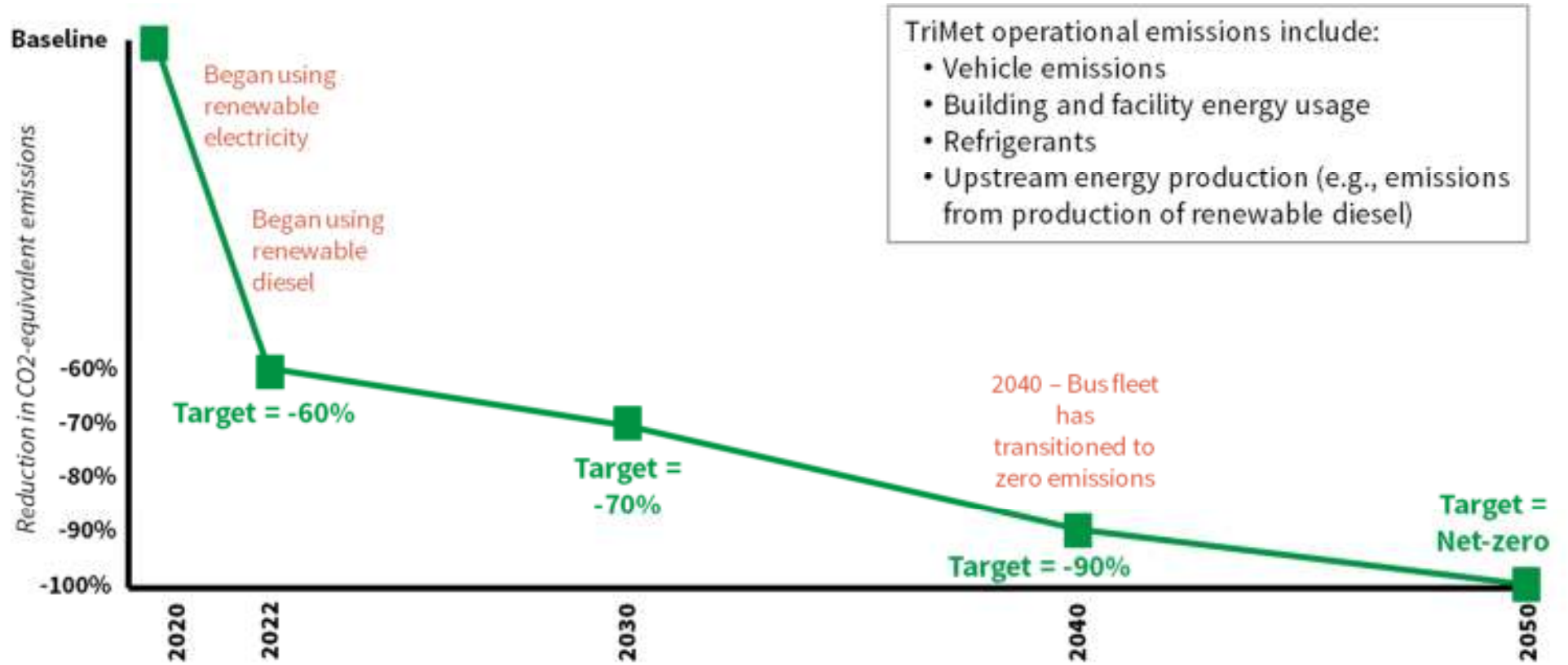
These targets meet the federal targets, as well as the targets for the largest communities that we serve. Those federal and regional/local targets are best defined for 2030 and 2050. By 2030, given technologies expected to be available, and sufficient resources, TriMet expects to be able to achieve a 70% or greater reductions in emissions. By 2040, with additional efforts and resources, including a fleet of buses that will be entirely zero-emission, TriMet aims for 90% reduction or better. The 2050 target is to be net-zero. It is still uncertain whether the technologies will be available for all TriMet operational emissions to be zero emission by then, so this may require some portion of the remaining 10% of emissions by 2050 to be offset by other projects or investments.

⁴¹ unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement

⁴² www.ipcc.ch/2018/10/08/summary-for-policymakers-of-ipcc-special-report-on-global-warming-of-1-5c-approved-by-governments/

* TriMet operational emissions calculated include Scope 1, Scope 2, and upstream energy production emissions (see Section 3 for details)

Figure 5: TriMet Targets for reducing operational GHG emissions



Accomplishments during the development of this Plan

TriMet took major steps in calendar year 2021 to reduce greenhouse gas emissions. We began by purchasing renewable electricity for MAX light rail and all TriMet-owned and operated facilities (June 2021) and began using renewable diesel in all fixed-route buses (December 2021). These two actions combined are estimated to have reduced CO₂-equivalent operational emissions by about 63%. However, fewer opportunities for relatively lower-cost and higher-impact actions remain. This is why the speed of reduction slows in later years and why offsets may be explored as potential tools to meet the target of being net-zero by 2050.

Cutting Emissions Now

TriMet dramatically reduced operational greenhouse gas emissions during the development of this Plan:

- ✓ Now using renewable electricity for MAX light rail, battery electric bus charging, and all TriMet-owned and operated facilities
- ✓ Now operating all fixed-route buses on renewable diesel

Together, these changes reduced TriMet operational GHG emissions by approximately **63** percent.



6. Related Sustainability Goals and Targets

TriMet considers the three aspects of sustainability (the “three Ps”) to support a complete picture of sustainability. The three Ps—Planet, People, and Prosperity—encompass a triple bottom line lens that considers the natural world, social impacts and equity, and economics. As part of TriMet’s Title VI Program the agency developed an Equity Lens Framework that reinforces the three P’s while articulating a set of actions that support this Climate Action Plan. Goal 2 of the Equity Lens Framework is to Reduce Air Pollution and GHG reduction is considered as one of the metrics in the Equity Lens. Although the focus of this Plan is climate action, there are related elements of sustainability that TriMet is addressing in parallel. Some of the efforts underway in the People and Prosperity categories to address triple bottom line sustainability are summarized below.

- Developed an Equity Lens tool that is working to support increased access to mobility, support our efforts to reduce air pollution, and ensure that our investments enhance economic opportunity. Implementation of the Equity Lens framework will consider TriMet’s 10-factor Equity Analysis in all service planning and project decisions. This will not only reinforce the need to reduce GHG emissions connected to equity but reinforce the importance of a variety of equity needs in service and budget decision making.
- Analyze the current state of accessibility for bus stops, identify key investments on a tiered cost/benefit approach, and lay the groundwork for jurisdictional partnerships focused on bus stop/ MAX station accessibility.
- Continue to promote and grow the fare subsidy initiatives and grant programs. Our reduced fare program alone supports over 40,000 riders based on income, age, and income-level and helps riders save up to 72% off the cost of fares. This effort and others encourages ridership and support equity, and community needs.
- Continue efforts to expand opportunities for DBE contractors for TriMet projects and services and implement the contracting Economic Equity Framework. TriMet is a national leader in minority contracting, having created a national model for DBE involvement, and greatly expanding apprentice-ship opportunities and workforce diversity.

7. Strategies and Actions

TriMet will follow a simple four-stage approach to reducing emissions:

1. Track emissions with annual updates of the emissions inventory to understand progress.
2. Act first on largest emissions with lower-cost and higher-impact, feasible reduction actions, with a focus on actions reducing emissions of the bus fleet.
3. Plan for, and when feasible, implement actions with longer-term and more permanent reduction actions.
4. Revisit the data at least once a year to ensure we remain on track and can adjust actions if needed to optimize benefits.

The specific strategies and actions for TriMet’s Climate Action Plan are as follows:

Strategy	Actions	Metric to track progress	Timeframe	Responsible Division or Dept.
1. Reduce regional transportation-related emissions by increasing ridership and supporting non-driving travel options	1a. Use survey feedback to enhance customer experience to build ridership	Boardings	Continuous	General Manager (GM), Chief Operating Officer (COO), Transportation, Maintenance, Public Affairs
	1b. Enhance customer information about transit trips and other non-driving travel options	Number of trip planning requests on multi-modal trip planner	Launched new website and trip planner 2022	Public Affairs, Information Technology (IT)
	1c. Implement ridership recovery strategies and coordinate collaboration across divisions to attract previous and new riders	Boardings	Continuous	Public Affairs; Engineering, Construction, and Planning (EC &P)
	1d. Complete assessment of transit-oriented development opportunities and prioritize TriMet owned/controlled sites for future projects	New TriMet-led TOD sites	2022-2023	Legal, Public Affairs

Strategy	Actions	Metric to track progress	Timeframe	Responsible Division or Dept.
	1e. Develop and deliver enhanced transit priority projects with regional and local partners	Bus travel time and Boardings	2022-2027	EC&P, Public Affairs
2. Include equity considerations in projects and climate actions	2a. Implement draft equity lens and ensure TriMet's 10 factor Equity Analysis is part of all major projects and service planning decisions	Number of projects or decisions for which Equity Lens was applied	Continuous	Public Affairs, EC & P
	2b. Complete analysis and develop plans for prioritizing deployment of zero-emission buses informed by air quality and equity index measures	Completion of analysis and plans	Target completion within FY23	EC & P
3. Reduce operational emissions with lower-cost and higher-impact actions in the near-term	3a. Purchase renewable electricity from electricity providers	Percentage of electricity purchased from renewable sources; reductions in annual GHG emissions	Started mid-2021	Finance & Administrative Services
	3b. Purchase renewable diesel for fixed-route buses	Percentage of diesel used that is renewable; reductions in annual GHG emissions	Started December 2021	Finance & Administrative Services
	3c. Purchase renewable diesel for LIFT paratransit buses using temporary fueling solution, then pursue more permanent fueling logistics to continue use of renewable diesel	Percentage of diesel used that is renewable; reductions in annual GHG emissions	Implement in 2022 with temporary logistics; seek more permanent options 2022-2024	Finance & Administrative Services
	3d. Pursue renewable diesel sources for WES	Percentage of WES fuel that is renewable; reductions in annual GHG emissions	Seek potential vendors in 2022 and 2023.	Operations/ WES
	3e. Fuel heavy duty NRVs with renewable diesel	Percentage of NRVs fueled with renewable diesel	2024-2026	Operations/ Non-Revenue Vehicles (NRV)

Strategy	Actions	Metric to track progress	Timeframe	Responsible Division or Dept.
	3f. Determine whether carbon offsets may be a feasible component of net emissions reduction	Progress toward decision on whether to pursue carbon offsets	2022-2027	Finance & Administrative Services
4. Make direct operational emissions reductions more permanent and stable	4a. Analyze and determine whether to enter long-term contract for renewable electricity generated within Oregon with multi-year certainty for pricing with PGE	Completion of analysis; execution of agreement if appropriate	Analyze options and pursue if feasible 2022-2023	Finance & Administrative Services
	4b. Analyze and determine whether to enter long-term contract for renewable electricity generated within Oregon with multi-year certainty for pricing with Pacific Power	Completion of analysis; execution of agreement if appropriate	Analyze options and pursue if feasible 2022-2023	Finance & Administrative Services
	4c. Determine whether it may be necessary to include hydrogen fuel-celled electric buses as a portion of a zero-emissions revenue fleet in the future	Status of decision regarding future zero-emissions fleet mix	Decision on which fuels to purchase needs to be defined by 2025	Maintenance, EC&P, Transportation
5. Gather data and evaluate other emissions related to TriMet activities	5a. Improve data and estimation of emissions for the following Scope 3 categories: solid waste, business travel, and natural gas use at leased locations	Number of new categories added to GHG estimated emissions in Scope 3 and their emission impact	Begin reporting by FY2023 report year (developed during calendar 2024)	Operations Planning & Development
	5b. Improve data and estimation of emissions for further Scope 3 categories: employee commutes, supply chain emissions	Number of new categories added to GHG estimated emissions in Scope 3 and their emission impact	Begin reporting by FY2025 report (developed during calendar year 2026)	Operations Planning & Development
6. Reduce electricity use where feasible	6a. Modernize lighting for efficiency and safety using Energy Trust of Oregon incentives at TriMet facilities: Merlo garage and yard; Center St bus maintenance garage and yard;	Percentage of facilities and locations complete	2020-2022	Facilities Management

Strategy	Actions	Metric to track progress	Timeframe	Responsible Division or Dept.
	Clackamas TC and P&R; Gresham Central TC and P&R; 122 nd and Menlo P&R; Robertson tunnel; and Gateway TC and parking lots			
	6b. Modernize lighting at additional TriMet facilities using Energy Trust of Oregon incentives: Ruby Junction parking lots and buildings; Elmonica parking lot and buildings	Percentage of facilities and locations complete	2022-2023	Facilities Management
	6c. Pursue additional Energy Trust of Oregon grants for more modernization of lighting and other electrical usage	Number and value of grants secured	2022-2030	Facilities Management
7. Reduce emissions in revenue and non-revenue fleet and other equipment use	7a. Deliver on Non-Diesel Bus Plan to operate 100% fixed-route fleet of non-diesel, zero-emission vehicles by 2040	Percentage of buses that are zero-emission	2021 - 2040	Maintenance with support from Finance and EC&P
	7b. Complete Zero-Emissions Transition Plan	Progress of Plan development	2022-2023	Maintenance
	7c. Purchase battery electric vehicles (EV) and chargers for NRV fleet	Percentage of NRV fleet that is battery electric; total miles driven with EVs	2022-2030	Non-revenue vehicle group
	7d. Build and retrofit infrastructure to support zero emissions bus fleet	Number of buses supported by garage infrastructure	2022-2035	Maintenance with support from EC&P
	7e. Use 60'-long articulated buses to provide additional capacity and potentially reduce total bus trips	Number of 60'-long buses in service	2022 and beyond	Mobility Planning & Policy, Maintenance
	7f. Explore opportunities for emissions reduction in small equipment (e.g., leaf blowers) and implement where feasible	Number of small equipment units purchased and in use using lower-emission technologies	2023-2035	Maintenance, Operations (for WES and LIFT)

Strategy	Actions	Metric to track progress	Timeframe	Responsible Division or Dept.
8. Work toward reductions in other Scope 3 greenhouse gas emission sources	8a. Explore options to reduce use and/or switch to lower-emitting sources of: <ul style="list-style-type: none"> • Refrigerants • Natural gas • Stationary fuels 	Annual GHG emissions from these sources	2022-2030	Maintenance with support from Sustainability Team
	8b. Reduce square footage of office space for administrative headquarters offices (from 120,000 to 96,000 sq ft)	Signed lease	2022	Fin & Admin Svcs
	8c. Lease LEED certified space for administrative headquarters office	Signed lease	2022	Fin & Admin Svcs
	8d. Implement telework policy to reduce emissions related to employee commutes	Percentage of reduction in annual commute days for eligible employees	Fully implement during 2022	LR/HR
9. Continually reinvest in energy efficiency and reduction of emissions	9a. Consider dedicating funds to reinvestment in efficiency and emission reduction initiatives	Progress toward decision on whether to create new fund or mechanism for reinvestment	FY2023 and beyond	Budget and Grants
	9b. Implement additional efficiency and emissions reductions at TriMet facilities	Reductions in energy usage	FY2023 and beyond	Facilities Management
10. Broader sustainability governance	10a. Complete development of the Carbon Lens as an evaluation tool	Number of projects or decisions for which Carbon Lens was applied	2022-2023	EC&P, Finance, with support from Sustainability Team
	10b. Formalize Sustainability Team role and representation with representatives from each Division	Percentage of divisions represented on Sustainability Team	2022	GM
	10c. Participate in regional and state policy coordination efforts on strategies to reduce greenhouse gas emissions	TriMet actions accounted for in state and regional plans	Continuous	Public Affairs, EC&P

Strategy	Actions	Metric to track progress	Timeframe	Responsible Division or Dept.
11. Reduce emissions by contractors	11a. Actively participate in Clean Air Construction Partnership ⁴³	Reductions in GHG identified through Clean Air Construction Partnership actions	2022-2030	Finance/ Procurement
	11b. Explore inclusion of emissions reduction strategies and incentives in contracts, especially those for ongoing operating and maintenance	Status of inclusion of any strategies or incentives	2022-2024	Finance/ Procurement
12. Enhance climate resilience	12a. Incorporate climate resilience planning, design and implementation into new projects, state of good repair, operations and maintenance.	Inclusion of climate and disaster resilience evaluation in TriMet plans and projects	Continuous	EC& P, Safety and Security, Facilities Mgt, Operations
13. Support related People and Prosperity aspects of Sustainability	13a. Plan for improved accessibility for TriMet stations and stops	Status of accessibility plan and improvements	Continuous	EC & P
	13b. Partner with local jurisdictions to pursue grants, and other sources of funding for accessibility improvements to TriMet stations and stops	Successful projects or amount of funding leveraged	2024-2030	Finance, EC&P
	13c. Continue to promote Low Income Fare to encourage ridership and support equity, individual educational and economic opportunities, and support community needs	Number of boardings paid for via Low Income Fare program	Ongoing	Public Affairs
	13d. Continue to grow opportunities for DBE contractors to provide for TriMet projects and services	Number or value of contracts awarded	Ongoing	Finance/ Procurement, EC&P, Maint, Operations

⁴³ www.portland.gov/omf/brfs/procurement/clean-air-construction

8. Implementation and Monitoring

This plan consolidates initiatives and strategies at TriMet into one coordinated plan to achieve our agency's commitment to greenhouse gas reduction. Though the strategies and actions outlined above are those that TriMet is responsible for implementing, this plan will only be successful through coordination and collaboration with partners and local jurisdictions to support the agency's initiatives to reduce emissions. We understand that many jurisdictions rely on TriMet's ability to reduce emissions to help support their own climate goals. Several strategies and actions listed above will require new funding to fully implement, and consideration of funding strategies for these initiatives is underway. Implementation and monitoring responsibilities for this plan are described below.

Implementation

- Responsible divisions and/or departments are identified for each action in the Strategies and Actions matrix in Section 7. To support accountability and clear roles, an individual responsible employee or group will be identified for each action to take action and periodically report on progress.
- TriMet's Sustainability Team is responsible for tracking the implementation, including updates on actions in annual reporting, and assisting in implementation as necessary and as resources are available.

Monitoring

- Update progress on active actions quarterly
- Collect annual emissions estimates and progress on action for a consolidated update at least once a year
- Regular reviews of progress on strategies and metrics at Sustainability Team
- Periodic reports to GM, Executive Team, and annual reports on progress to Board

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