Climate Action Plan
Framework for a Sustainable Future

Regional Transportation District
April 15, 2022
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Regional Transportation District
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INTRODUCTION
The RTD Climate Action Plan (CAP) has been prepared in response to FTA’s Sustainable Transit for a Healthy Planet Challenge to further prior agency sustainability efforts. Previous efforts began in 2007 with the establishment of inter- and intra-departmental sustainability committees. Initially, committee efforts focused on evolving renewable and clean energy technologies and green practices such as recycling. Over time, the focus evolved to consideration of alternative fuels and conservation. A greater discussion of the committees’ work is included in Past and Current Initiatives section of this Plan.

Previous work regarding RTD’s impact on the environment has been accomplished through preparation of the FasTracks Quality of Life (QoL) Reports, which measure indicators and report the effect of the FasTracks Program (RTD major transit expansion) on the Denver Metro Region. The baseline report was prepared in 2006 and subsequent reports have been prepared annually through 2020. In 2020, RTD published the most recent QoL Report, and also prepared a complementary report, the QoL Sustainability Report.¹ This complementary QoL report included, for the first time, data on the positive impact of transit on greenhouse gas emissions (GHG); the negative impact of single-occupancy vehicle travel (SOV) on air quality; and the effect of poor air quality on health and the environment. The data presented in the 2020 QoL Sustainability Report provide the basis for this CAP.

This report is intended to provide measurable goals, both qualitative and quantitative, as well as aspirational goals for GHG reduction and the institution and expansion of sustainable practices. As presented, it is intended to serve as a framework for comprehensive agency-wide efforts that will grow and evolve over time as practices become institutionalized; technologies advance; and knowledge increases.

The goals and concepts included in this CAP also align with the RTD Strategic Plan goals in that they provide value to the community through environmental stewardship, including addressing energy impacts, air quality concerns, and sustainable practices.

¹ RTD, Quality of Life Study, Sustainability Report, 2020
The CAP is a continuation of past efforts, but also the beginning of future efforts. It is intended to flexible, rather than rigid, to provide the agency room to respond to changing needs and technology.

AGENCY OVERVIEW

The Regional Transportation District (RTD) was created in 1969 by the Colorado General Assembly to develop, operate, and maintain a mass transit system for the Denver Metro Region. Efforts in these early years focused on regional transportation planning and providing bus service to the Denver Metro Region.

RTD serves a population of 3.08 million covering 2,342 square miles that includes service to 40 municipalities and all or parts of eight counties including Denver, Broomfield, the counties of Boulder and Jefferson, western Adams and Arapahoe counties, northern Douglas County, and small portions of Weld County annexed by the municipalities of Brighton, Longmont and Erie.

RTD is governed by a 15-member, publicly elected Board of Directors. Each member represents the voters, residents, and transit customers of a specific area within the eight-county RTD service area. Board members actively support and advocate for constituents’ concerns, while providing governance and establishing policies for the agency.

In 1973, voters approved a 0.5% sales tax initiative to finance a $1.56 billion multi-modal transit system. At this time, RTD acquired privately owned bus companies, improved service frequencies, and expanded routes in numerous counties throughout the metro area. By 1976, ridership grew to 35.2 million boardings annually.

In October 1994, RTD opened its first light rail line, the Central Corridor light rail line, which is 5.3 miles in length and extends from I-25 and Broadway to the Denver downtown area. The Central Corridor was connected to the Southwest Corridor light rail line in July 2000, which extended rail service to the Southwest Denver area. This was followed in 2006 by the Southeast Light Rail Line which provides service to the South and Southeast Denver area.
A significant transit expansion was initiated in November 2004, when voters approved the FasTracks transit tax for region-wide expansion of transit service. The .04% sales tax (four cents on a $10 purchase) provides funds to build RTD’s FasTracks program - 122 miles of new commuter rail and light rail, 18 miles of bus rapid transit, and 21,000 new parking spaces at rail and bus stations. The program consists of six new rapid transit corridors and three existing corridor extensions and to expand and enhance service for easy, convenient bus/rail connections across the eight-county district. Of these projects, only Phase 2 of two commuter rail corridors, and two light rail extensions have not been completed.

RTD Services Overview (2021)
A summary of current RTD fixed-route service is below. In addition to fixed-route, RTD also offers on demand services including FlexRide for select areas not served by fixed-route and ADA-accessible service (Access-a-Ride) region-wide, as well as providing miscellaneous specialized services.

- Annual regular fixed-route service miles (bus and rail): 35,550,924
- Weekday regular fixed-route scheduled miles*: 135,495
- Number of regular fixed routes (bus and rail): 143
  - Local: 86
  - Limited: 14
  - Regional: 23
  - SkyRide: 3
  - Light rail: 8
  - Commuter rail: 4
  - Misc.**: 5
- Park-n-Rides: 89 with 36,021 spaces

*Includes bus, rail, Free MallRide/MetroRide
**Includes Free MallRide/MetroRide, Englewood Trolley, Boulder’s HOP, Senior Shopper Riders

Ridership Summary (2020)
- Annual system boardings: 52,616,640
- Bus boardings: 32,932,508 (excluding Access-a-Cab or vanpools)
  - Access-a-Ride: 332,758
- Rail boardings:
  - Light rail: 10,464,678
  - Commuter rail: 4,954,167

2020 Revenue Sources (2020)
- Sales and use tax: 55.2%
- Passenger fares: 6.7%†

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2 RTD 2021 Agency Profile and Facts; https://www.rtd-denver.comf
3 Ibid.
- Grant operating assistance†: 27.6%
- Capital grants and local contributions: 8.4%
- Other income: 0.9%
- Investment income: 0.7%
- Advertising and other: 0.5%

†Fare revenue was adversely impacted by the COVID-19 Pandemic including a suspension of fare collections from April-June 2020.
‡Grant operating assistance includes $232.4 million in federal operating assistance from the Coronavirus Aid, Relief, and Economic Security (CARES) Act which provided additional federal funding to support transit operations.

2022 Adopted Budget
Base system*, interest & depreciation excluded: $560.7 million
Base system + FasTracks operating budget**: $771.0 million
*Revenue and operating costs associated with the RTD system, exclusive of FasTracks
**Interest & depreciation excluded. Includes University of Colorado A Line, B Line, G Line, W Line, Union Station Bus Concourse, Free MetroRide for FasTracks portion

EMISSIONS INVENTORY
Introduction
RTD has a history of environmental stewardship and a focus on sustainability. Much of the data used to establish a baseline for this Climate Action Plan was compiled from the 2020 QoL Sustainability Report. Additional data used is from earlier Sustainability Reports (2007 – 2015) and from the National Transit Database (NTD).

This emissions inventory serves as a baseline for future tracking of several key indicators that demonstrate RTD’s contributions to GHG emissions and carbon footprint. All indicators are measurable, though more are qualitative than quantitative. Over time, it is anticipated that methodologies that produce more quantitative results will evolve.

The baseline inventory of key indicators includes Transit Operations and Use, Facilities, and Transit-Oriented Communities. These are discussed below.
Transit Operations
Due to transit’s role of moving multiple people, rather than a single occupant, it plays a positive role in the reduction of GHG (CO₂) emissions associated single-occupancy vehicle (SOV) travel. However, accompanying the positive effects of SOV trip reduction is the contribution of fleet and fuel use to CO₂ emissions. Below is baseline information for Transit Use (ridership) and transit operations (fleet and fuel). Later in this report, goals to increase ridership (reduce SOV use) and decrease CO₂ emissions from fuel are addressed.

Transit Use
As presented in the Quality of Life Sustainability Report (2020), in 2017, the transportation sector was the largest contributor GHG at 64%. Of this total, only 0.4% was contributed by transit bus.¹ This demonstrates that regarding transit, the greatest contribution to GHG reduction is mode shift to increased transit use and decreased SOV use across the region. This information, coupled with baseline ridership data, was used to establish a starting point.

¹ RTD, Quality of Life Study, Sustainability Report, 2020
Ridership
Average weekday ridership from the January 2020 service change was selected as representative of baseline data. Early 2020 was chosen because it preceded the COVID-19 pandemic and the reduction in transit use that occurred across the country and within the RTD service area. (Add numbers) While 2021 data is available, the change between 2021 and future points of measurement could indicate an overly positive mode shift and ridership increase, since transit use decreased to unprecedented lows during the pandemic. In short, 2021 baseline ridership data is an outlier since it is artificially low.
Fleet, Facilities, and Fuel Use

RTD fleet, facilities, and fuel use are documented in the National Transit Database and these data, together with an accounting of sustainable RTD facilities and practices serve as the source for the information presented this section of the emissions inventory. Table 1 presents data compiled in 2019 for the RTD 2020 Quality of Life Sustainability Report. Though 2020 data are available, 2019 is presented here since it represents fuel usage in the last full year where vehicle miles were not curtailed due to the COVID-19 pandemic.

Noted in a recent evaluation of energy sources, there has been an observable reduction trend in energy use over the past decade when all energy sources are considered. Between 2010 and 2015, RTD reduced energy consumption by about 8 percent. Efforts to reduce the agency’s carbon footprint will assist in maintaining this trend.

Table 1. RTD 2019 Fuel Use and CO2 Emissions by Source

<table>
<thead>
<tr>
<th>Source</th>
<th># Vehicles</th>
<th>Fuel Use</th>
<th>Fuel Type</th>
<th>CO2 Emissions (tons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diesel Bus Fleet</td>
<td>1,015</td>
<td>8,988,040</td>
<td>Diesel (gal)</td>
<td>91,768</td>
</tr>
<tr>
<td>Demand Response Vehicles</td>
<td>406</td>
<td>1,678,627</td>
<td>Gasoline (gal)</td>
<td>14,738</td>
</tr>
<tr>
<td>Support Fleet (Gasoline)</td>
<td>317</td>
<td>223,166</td>
<td>Gasoline (gal)</td>
<td>1,959</td>
</tr>
<tr>
<td>Support Fleet (Diesel)</td>
<td>57</td>
<td>51,252</td>
<td>Diesel (gal)</td>
<td>523</td>
</tr>
<tr>
<td>Light Rail Vehicles</td>
<td>191</td>
<td>76,829,593</td>
<td>Electricity (kWh)</td>
<td>38,927</td>
</tr>
<tr>
<td>Commuter Rail Vehicles</td>
<td>66</td>
<td>40,059,292</td>
<td>Electricity (kWh)</td>
<td>20,297</td>
</tr>
<tr>
<td>Electric Bus Fleet</td>
<td>37</td>
<td>1,498,578</td>
<td>Electricity (kWh)</td>
<td>759</td>
</tr>
<tr>
<td>Buildings &amp; Facilities</td>
<td>37</td>
<td>30,820,592</td>
<td>Electricity (kWh)</td>
<td>15,616</td>
</tr>
<tr>
<td><strong>TOTAL:</strong></td>
<td>**</td>
<td>**</td>
<td>**</td>
<td><strong>184,587</strong></td>
</tr>
</tbody>
</table>

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5 Ibid.
Technology
RTD has implemented new technologies that reduce the agency’s carbon footprint and monitors current changes to assess and implement new technologies as they become available and feasible. Below are several examples that are currently in place.

Electrification
In 2016, RTD deployed 36 low-floor electric buses (max capacity 90 passengers each) for the FreeMall Ride that operates on the 16th Street Mall in Downtown Denver. Prior to the COVID-19 pandemic, the buses accounted for approximately 40,000 boardings on an average weekday. In addition to electric buses, RTD also operates 191 electric light rail vehicles and 8 electric commuter rail vehicles. These services constitute zero tailpipe emissions and in 2019, electric transit accounted for 43% of all boardings and 26% of revenue miles for fixed route service. In addition to electric fleet vehicles, RTD also provides electric vehicle chargers at the Central Park Station and there are publicly available chargers at several facilities adjacent to RTD stations.6

Solar Use
Solar panels are in use at the RTD East Metro Maintenance Facility. Panels were originally placed on the roof of the building in 1978. These were replaced in 2012 using grant funding from FTA to install a new photovoltaic (PV) system on the building’s roof. Solar power produced since 2014 has displaced over 2,800 tons of CO2.

Sustainable Practices
RTD established a Sustainability Program in 2007 that currently remains in place. This is discussed further in the Past and Current Initiatives section later in this report. As noted in the 2014-2015 Biennial Sustainability Report, “The Sustainability Program seeks to balance the delivery of effective public services (external activities) with the implementation of efficient business activities (internal management practices).” This results in an increased quality of life, a smaller environmental footprint and cost-effective management of resources and materials. This program includes the efforts and measures noted in this report, as well as recycling efforts at all facilities.

Transit Oriented Communities (TOC)
RTD’s core mission is to provide transit services; however, coordinating land use with transit opportunities, particularly within a ½ mile radius of transit stations, will result in higher-quality sustainable communities that provide both housing and environmental benefits. The RTD TOC Division, within the Systems Planning Department, is charged with facilitating and participating in collaborative efforts with local governments, the development community, and stakeholders to achieve the objectives of all parties and benefit the region.

6 Ibid.
The TOC Division is guided by the vision to “encourage compact, mixed-use, pedestrian-oriented, high-quality development at and around transit stations.” This vision is focused on “sustainable growth—in partnership with stakeholders while operating an attractive, comfortable, and convenient transit system for the residents of the district.” Transit oriented development (TOD) design criteria have been established to help local jurisdictions guide development at transit stations.

The opportunities for TOC development became focused with the initiation of the planned transit expansion program, the FasTracks Plan, which is described above in the Agency Overview. With a plan for 122 new miles of rail and – miles of Bus Rapid Transit, many of the new station areas presented the opportunity for transit-oriented development.

**Development Status 2020**

Coordination with local governments, developers, and stakeholders have been underway for approximately 15 years at this point. Below is a summary of the development status in station areas in 2020. These data serve as a baseline going forward. Shown are existing and planned units associated with each transit line. For example, the overall total (existing and planned) residential units is 50,389. Of these, 37,359 are existing and 13,030 are planned.

**Table 2. TOD Development Existing and Planned**

<table>
<thead>
<tr>
<th>Lines</th>
<th>TOD Status</th>
<th>Resi Units</th>
<th>Office S.F.</th>
<th>Retail S.F.</th>
<th>Hotel Keys</th>
</tr>
</thead>
<tbody>
<tr>
<td>B Line</td>
<td>Existing</td>
<td>504</td>
<td>-</td>
<td>8,486</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Planned</td>
<td>147</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Central</td>
<td>Existing</td>
<td>3,119</td>
<td>253,000</td>
<td>23,000</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Planned</td>
<td>1,215</td>
<td>170,000</td>
<td>46,000</td>
<td>-</td>
</tr>
<tr>
<td>Central Platte Valley</td>
<td>Planned</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>150</td>
</tr>
<tr>
<td>CU A Line</td>
<td>Existing</td>
<td>1,187</td>
<td>1,087,000</td>
<td>151,500</td>
<td>225</td>
</tr>
<tr>
<td></td>
<td>Planned</td>
<td>2,530</td>
<td>1,596,200</td>
<td>222,400</td>
<td>680</td>
</tr>
<tr>
<td>Denver Union Station</td>
<td>Existing</td>
<td>2,792</td>
<td>1,885,994</td>
<td>257,593</td>
<td>748</td>
</tr>
<tr>
<td></td>
<td>Planned</td>
<td>222</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Flatiron Flyer</td>
<td>Existing</td>
<td>3,542</td>
<td>470,000</td>
<td>118,200</td>
<td>289</td>
</tr>
<tr>
<td></td>
<td>Planned</td>
<td>1,274</td>
<td>320,000</td>
<td>94,500</td>
<td>125</td>
</tr>
<tr>
<td>G Line</td>
<td>Existing</td>
<td>1,506</td>
<td>-</td>
<td>4,000</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Planned</td>
<td>809</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>L Line</td>
<td>Existing</td>
<td>6,437</td>
<td>166,192</td>
<td>107,300</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Planned</td>
<td>1,407</td>
<td>80,000</td>
<td>12,581</td>
<td>41</td>
</tr>
<tr>
<td>N Line</td>
<td>Existing</td>
<td>3,443</td>
<td>-</td>
<td>7,000</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Planned</td>
<td>363</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>R Line</td>
<td>Existing</td>
<td>3,243</td>
<td>151,700</td>
<td>73,500</td>
<td>837</td>
</tr>
<tr>
<td></td>
<td>Planned</td>
<td>1,384</td>
<td>-</td>
<td>27,500</td>
<td>139</td>
</tr>
<tr>
<td>Southeast</td>
<td>Existing</td>
<td>6,947</td>
<td>3,216,579</td>
<td>302,858</td>
<td>559</td>
</tr>
<tr>
<td></td>
<td>Planned</td>
<td>1,600</td>
<td>518,000</td>
<td>10,380</td>
<td>190</td>
</tr>
<tr>
<td>Southwest</td>
<td>Existing</td>
<td>1,599</td>
<td>150,000</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Planned</td>
<td>783</td>
<td>5,000</td>
<td>5,000</td>
<td>-</td>
</tr>
<tr>
<td>W Line</td>
<td>Existing</td>
<td>3,681</td>
<td>175,000</td>
<td>6,300</td>
<td>128</td>
</tr>
<tr>
<td></td>
<td>Planned</td>
<td>1,166</td>
<td>-</td>
<td>1,000</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>Overall Total</strong></td>
<td><strong>50,389</strong></td>
<td><strong>11,006,563</strong></td>
<td><strong>1,479,598</strong></td>
<td><strong>4,247</strong></td>
</tr>
<tr>
<td></td>
<td>Existing</td>
<td>36,720</td>
<td>8,335,465</td>
<td>1,048,737</td>
<td>3,072</td>
</tr>
<tr>
<td></td>
<td>Planned</td>
<td>13,030</td>
<td>2,671,098</td>
<td>430,861</td>
<td>1,175</td>
</tr>
</tbody>
</table>

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7 RTD Strategic Plan for Transit Oriented Development; September 2010
8 RTD Transit Oriented Development Design Criteria, December 2012
9 RTD 2020 TOD Status Report
10 Ibid.
RTD TOC Programs and Tools
The ultimate build out of developable parcels, including station areas, is dependent upon a wide range of variables that include market forces, the economy, local government policies and regulation, and more. As a result, assigning a quantitative goal carries considerable uncertainty. Note that the current policies and procedures described below are in place to facilitate development and reach linked transit and land use goals that will encourage compact development; foster reliance on transit, rather than SOV travel for mobility; and result in a positive impact on GHG emissions. The measurable goals, which are conservative due to the array of variables involved follow.

Unsolicited Proposal Procedures
In December 2015, the RTD Board of Directors approved procedures to guide the evaluation of unsolicited proposals received from a private or public developer for the purpose of obtaining a contract for joint development with RTD. The eight-step process is in place to ensure that development proposals moving forward have merit and warrant entering into a Joint Development Agreement.

Equitable TOD
The RTD Board approved an Equitable TOD (eTOD) policy in February 2021 with the goal of encouraging affordable residential development for low-income households at and along high-frequency transit stations and corridors. Lower-cost housing is needed in Metro Denver and research indicates that affordable housing residents use transit more than market-rate residents. An objective and the intent of eTOD is to increase ridership and promote affordable housing as a transit-supportive land use. Ultimately, the policy will reduce the administrative, acquisition, and construction costs, which will reduce overall development costs and further incentivize transit-supportive, affordable housing.

PAST AND CURRENT INITIATIVES
RTD Efforts
RTD’s history of environmental stewardship is well-known and documented. In 2007, RTD formed the Inter- and Intra-departmental Sustainability Committees. This combination of committees was selected to ensure a coordinated sustainability effort agency-wide. Sustainability reports were prepared on an annual basis in 2007-2011, and on a biennial basis through 2015. Each of these efforts listed below included reference points that detailed implementation of sustainability measures throughout the agency.

- RTD Sustainability Report 2007
- RTD 2008-2009 Sustainability Report
- RTD Sustainability Program 2010
- RTD Sustainability Program 2011
- RTD Sustainability Program 2012-13 Biennial Report
- RTD Sustainability Program 2014-15 Biennial Report
Further monitoring and reporting efforts also included the Quality of Life (QoL) Study, which was created to study and measure the effects of the FasTracks transit expansion program discussed in the Agency Overview section of this report, on the region. It was initiated to identify, track and measure how the FasTracks Plan is achieving the adopted goals. The areas of focus include that that are most affected by transit improvements: Mobility, Environment, Economic Activity, and Land Use.

Quality of Life reports have been prepared annually beginning with a baseline report in 2006, continuing through 2020. The 2020 Quality of Life Report includes a Sustainability Report, which provides most of the baseline data for this CAP and sets the stage for continuing and future environmental stewardship and sustainability efforts.

In 2020, RTD was awarded grant funding through the VW Settlement Program and the FTA Low or No Emission Grant Program to purchase 17 battery electric buses and associated and equipment and chargers including 17 chargers. These buses and supporting infrastructure will be located at the RTD Platte and East Metro maintenance facilities. When vehicle acquisition and infrastructure construction is complete, this will bring the RTD battery electric bus fleet to 53 vehicles.

Most recently, on August 10, 2021, the RTD Board of Directors adopted the RTD Strategic Plan 2021-2026. The Strategic Plan outlines four priorities: Community Value, Customer Excellence, Employee Ownership, and Financial Success and describes tactics and success outcomes for each department. There are tactics and outcomes, most often within the priority of Community Value, though not always, that constitute environmental stewardship and will implement goals of this CAP.

State Level Policies and Plans

Greenhouse gas emissions (GHG), a key driver in climate change, are a primary focus of the current State Administration, led by Governor Jared Polis. GHG is the subject of State of Colorado legislation that was passed in 2019 (HB19-1261) that requires meeting prescribed goals and time frames for the reduction of GHG statewide (reduction of 26% by 2025; 50% by 2030; and 90% by 2050). A plan to meet these requirements, the Greenhouse Gas Roadmap, was prepared by the Colorado Energy Office, with assistance from the Colorado Department of Transportation and the Colorado Department of Public Health and Environment. The Roadmap includes near-term actions (next 1 to 2 years) and considers the potential for additional policies to meet the 2030 and 2050 goals. Further noted are overall transitions in policy needed to meet GHG reduction targets. These include:

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11 RTD Strategic Plan 2021-2026
12 Colorado General Assembly, HB19-1261
• Transitioning to close to 100% electric cars on the road by 2050 and 100% market share for new vehicle sales of zero emission trucks and buses by 2050

• Adopting lower carbon fuels including advanced biofuels, renewable natural gas and hydrogen for hard to electrify sectors such as aviation and some heavy trucks

• Expanding efforts in public transit, transportation demand management (TDM), and wise land use planning to reduce vehicle miles traveled (VMT)\textsuperscript{13}

To implement the GHG Roadmap, the State of Colorado Legislature passed SB21-260, which is a $5.4 billion transportation-funding bill signed into law earlier this year. The legislation created sources of dedicated funding and new state enterprises to plan, fund, construct and maintain a sustainable transportation system. Included in this legislation are, among others a provision for vehicle and fleet electrification that establishes a clean fleet enterprise within the Colorado Department of Public Health and Environment (CDPHE) and a clean transit enterprise within CDOT and requires annual reporting on progress made toward electrification goals established in the GHG Roadmap. It also makes GHG mitigation projects eligible for funding from a multimodal transportation and mitigation options fund. Further, it requires CDOT and MPOs to conduct enhanced planning, analysis, community engagement, and air quality monitoring with respect to transportation projects.\textsuperscript{14}

To further address air quality, the Governor’s budget, which was issued in November, includes $28 million to fund free bus and train rides. This is part of a proposed $424 million for air quality projects, of a total $40 billion request for the 2022-2023 fiscal year.\textsuperscript{15}

Again, reinforcing the need and intent to address air quality issues and reduce GHG emissions, on December 16, 2021, the Colorado Transportation Commission approved new rules that are the product of a year-long rule-making effort aimed at meeting GHG reduction goals established by the earlier efforts cited above. The new rules will continue to emphasize electric vehicles and will shift the transportation funding focus from highway and roadway expansion to multi-modal options including transit, bike, and pedestrian\textsuperscript{16}. Section 8 of the Rules establishes GHG reduction planning levels, or GHG limits, and provide multi-modal options, including transit. It will “require CDOT and MPOs to establish plans that meet GHG reduction levels through a mix of projects that limit and mitigate air pollution and improve quality of life and Multimodal options.” There will be options for RTD to apply for established funding

\textsuperscript{13} State of Colorado, GHG Roadmap, 2020.
\textsuperscript{14} Colorado General Assembly, SB21-260
\textsuperscript{15} CPR News, Nathaniel Minor, November 1, 2021
\textsuperscript{16} CPR News, Nathaniel Minor, December 16, 2021
to implement promulgated rules. Next steps for RTD include gaining full understanding of available funding and opportunities for RTD.

This series of actions moving from policy to funding indicate that the connection between transportation and air quality is recognized, as is transit’s role as part of the solution. Additional actions and funding opportunities may become available as further implementation measures are instituted.

EMISSION REDUCTION GOALS AND TARGETS

Goal 1 - Increase Transit Use/Reduce SOV Trips

- Goal 1A: Strive to meet, and potentially exceed, projected ridership in 2050 through the following actions:
  - Implement a System Optimization Plan and a Mobility Plan for the Future (Reimagine RTD)
  - Meet or exceed 2050 ridership forecasts of an average weekday ridership of 580,000 (an increase of 68% over 2020 ridership). This would result in displacement of 1,256.7 Metric Tons CO₂ on an average weekday due to transit use rather than SOV travel.

- Goal 1B: Support development of Transit-Oriented Communities
  - Encourage and facilitate additional TOC development within ½-mile of transit stations to support compact development; foster reliance on transit, rather than SOV travel for mobility; and result in a positive impact on GHG emissions.
  - Collaborate with local governments and the development community to encourage transit-supportive land use and increased transit use

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January 2050 (forecast)
Average Weekday Ridership = 580,000
GHG emissions displaced*= 1,256.7 Metric Tons**
*GHG displaced = Average Weekday Ridership (trips) X Average Trip Length (5.9 miles)/Average miles per gallon (24.2 mpg) X EPA CO₂ Emissions per gallon of gas (8887 grams CO₂/gallon)/1e-6 = Metric Tons
**Metric Tons CO₂ displaced on average weekday due to transit use rather than SOV travel
• Goal 1C: Support and establish, as funding permits, a Fare Free Program to incentivize transit usage with the intent of gaining new customers while addressing air quality issues
  o Coordinate with State, local governments, and the MPO (DRCOG) to implement fare free transit days to incentivize transit usage

Goal 2 – Decrease CO₂ emissions resulting from fleet, fuel, and facilities
• Goal 2A: Deploy 17 electric buses and 17 chargers currently planned for purchase
• Goal 2B: Monitor future funding (grant) opportunities for fleet, infrastructure, fuel, and sustainable practices to lower CO₂ emissions and decrease carbon footprint, paying particular attention to new innovations and technologies such a fuel cell and others
• Goal 2C: Maintain downward trend for fuel usage and utilize renewable technologies such as solar where feasible
• Goal 2D: Maintain recycling programs at all RTD facilities and be open to all potential measures to decrease the agency carbon footprint

Goal 3 – Use an Agency-wide approach to reduce GHG emissions and increase sustainability as an Implementation of the 2021-26 RTD Strategic Plan
• Goal 3A: Engage and Empower Departmental and Agency-wide Sustainability Committees to implement the RTD Climate Action Plan using resources available with the flexibility to amend and augment as needed
• Goal 3B: Engage all employees in the effort to meet Climate Action Plan and Strategic Plan Goals

### Measurable Goals

1. Increase ridership and decrease GHG emissions through elimination of SOV trips by 68% by 2050.

2. Achieve, and if possible, exceed construction of planned residential units and office/commercial space as described in the 2020 TOD Status Report.

3. Facilitate establishment of a Fare Free Program to incentivize and increase transit use.

4. Deploy 17 electric buses and 17 chargers planned for purchase.

5. Reduce GHG emissions and increase sustainability as an implementation of the 2021-26 RTD Strategic Plan.
References

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- RTD (2020) TOD Status Report. RTD.
- RTD (2021) Agency Profile and Facts. RTD.
- RTD (2021) RTD Strategic Plan 2021-2026. RTD.
- State of Colorado (2020) GHG Roadmap. CDOT.