ACKNOWLEDGEMENTS

Thank you to all the contributors for this year’s Quality of Life (QoL) Study. Every year this project is a collaborative effort. However, this year was a larger effort due to the addition of the QoL Sustainability Report, the COVID-19 metrics, and the redesign of the QoL webpage.

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QUALITY OF LIFE PROGRAM

The Quality of Life (QoL) Study is RTD’s data-driven evaluation of progress toward meeting the FasTracks Program goals.

**GOAL 1**
Balance Transit Needs with Regional Growth

**GOAL 2**
Increase Transit Mode Share

**GOAL 3**
Improve Transportation Options and Choices

**GOAL 4**
Improve Environmental Sustainability and Public Health

Visit the Quality of Life Website for more information [http://www.rtd-denver.com/QofL.shtml](http://www.rtd-denver.com/QofL.shtml)
The **Quality of Life Study** typically tracks annual data in order to compare metrics over time.

However, in 2020, the **COVID-19 pandemic has had a major impact** on how people travel and how RTD operates transit service in the Denver Metro Region.

Therefore, daily, weekly, and monthly data has been incorporated into the report in order to show recent **changes in trends due to the pandemic**.
GOAL ONE
Balance Transit Needs with Regional Growth
Rapid transit network has grown by 100 miles since 2012

179,000 homes built in Metro Denver since 2009

WHY IS THIS IMPORTANT?

1.83 million jobs in Metro Denver in 2019

3,277,500 people lived in Metro Denver in 2018
Since 2010, Metro Denver grew by 412,000 people, an average of 140 people daily. There was a 14% increase in population between 2010 and 2018.

Population Growth (2010-2018)
- 14% Metro Denver
- 13% Colorado
- 7% US Metro Areas

Source: Denver Regional Council of Governments (DRCOG), US Census Bureau
Between 2010 and 2019, the Metro Denver Region grew by over 388,000 jobs. In 2019, unemployment was 2.6% compared to 3.7% nationwide.

Since the Great Recession, the number of jobs has increased by 27%.

The unemployment rate in Colorado has been much higher during COVID than in previous recessions. During COVID, the peak unemployment rate was 10% in mid-May. Since the peak, claims have declined by about 16% (as of July 2020).

In Metro Denver, housing starts grew by almost 180,000 units between 2009 and 2019. However, from 2018 to 2019, there was a 15% decrease in the annual number of homes built. On the other hand, 2019 had the most transit-oriented development units ever delivered.
During COVID, single family housing starts declined in April and May, then recovered in June. However, multi-family housing starts have shown less of a clear trend, with declines in March and May and increases in April and June.
How are we doing?

34,300 multifamily housing units are within half a mile of a rail or BRT station.

Bus service accounts for the majority of service hours (71% in 2019).

RTD’s annual sales & use tax revenue was $659 million in 2019.

89% of the regional population live within the RTD Service Area.
The rapid transit network (rail & bus rapid transit) has grown by 100 miles since 2012. In 2020, 13 miles were added to the network with the opening of the N Line.
Average weekday revenue service hours increased by 13% between 2006 and 2019. From 2018 to 2019, there was a 23% increase in rail service hours mainly due to the opening of the G line and the Southeast Rail Extension.

Source: National Transit Database (NTD)
Note: All bars may not add to 100% due to rounding.
On April 19, 2020, RTD reduced service hours across all service types in response to a significant decline in ridership due to Stay-at-Home orders. Overall service hours were reduced by about 40%.

Source: RTD Transit Information Exchange System (TIES)
The RTD Service Area includes all of the region’s major population centers. Approximately 89% of the regional population lives within the RTD Service Area.

Source: RTD, Denver Regional Council of Governments (DRCOG), National Transit Database (NTD)
In 2019, the average operating cost per boarding for all bus services was $6.07.

In 2019, the average operating cost per boarding was $8.23 for bus and rail service. If on-demand services are included, the overall cost per boarding was $8.66. The services with the lowest percent subsidy per boarding were Regional Bus and the Flatiron Flyer.

Source: RTD Service Performance Report
$41.4 million less fare revenue was collected from March to July 2020 in comparison to 2019. This was a result of declines in ridership and the suspension of fare collection from April 5th to July 1st. Passenger fares provided 14% of RTD’s revenue in 2019.
In 2019, RTD’s annual sales & use tax revenue was $659 million. Between 2009 and 2019, annual revenue grew 49% ($216 million, adjusted for inflation). Sales & use tax is RTD’s primary revenue source.
Due to Stay-at-Home orders and store closures caused by COVID, sales tax revenue has declined. From March to July 2020, there was $24.6 million less sales tax revenue collected compared to 2019. Sales tax provided 61% of RTD’s revenue in 2019.
From 2000 to 2019, about 34,300 multi-family residential units and 7 million square feet of office space have been built within a half-mile of rail and bus rapid transit (BRT) stations. 2019 had the most TOD retail deliveries since 2009 and the most TOD residential units ever delivered.
GOAL TWO
Increase Transit Mode Share
Metro Denver vehicles traveled 84.3 million miles on average each day in 2018. Daily Vehicles Miles Traveled has increased by 18% since 2006. Residents of Metro Denver owned 2.43 million vehicles in 2018, a 5.6% increase in vehicles per capita since 2006. Congestion caused 77 million hours of travel delay in 2018 (40 hours per registered vehicle).
In the Metro Denver Region, there were 84.3 million daily vehicle miles traveled (VMT) in 2018. Daily VMT increased by 18% between 2006 and 2018.

In 2019, 1.3 million daily miles were not driven due to transit.
Daily VMT per capita has increased from 24.3 in 2012 to 25.7 in 2018. However, there was a slight decrease from 2017 to 2018.
Due to Stay-at-Home orders, VMT began declining in March 2020. In the RTD service area, VMT reached its lowest point in April (48% lower than 2019). As of July, VMT has started to increase to pre-COVID levels.
In 2018, 21% of lane miles on major roadways in the Metro Denver region (1,489 miles) were congested for 3 or more hours on an average weekday. A typical vehicle spent 16% of its travel time in delayed conditions.

In 2019, there was over 77 million vehicle hours of delay.

Severely Congested Corridors
Rapid Transit Lines

Rapid transit runs parallel to 5 severely congested corridors.

Source: DRCOG Annual Report on Roadway Traffic Congestion in the Denver Region
Since mid-March 2020, there has been much less traffic congestion compared to 2019. Even in early September, congestion was about 60% lower than the same week in 2019.

Source: TomTom Traffic Index
In 2018, there were 2.4 million vehicles in Metro Denver. Since 2011, the number of vehicles has increased by almost 19% while population has increased by 12%. However, there was a slight decline in vehicle ownership from 2017 to 2018.

Only 5% of households in Metro Denver do not own a vehicle.

Source: US Census Bureau
New vehicle purchases in Colorado declined 18% (22,286 vehicles) during the first half of 2020 compared to a year earlier. For total sales from January to June, Trucks/SUVs/Vans fell 13%, while passenger cars were down by 36%.

Source: Colorado Auto Outlook Report
1 out of 5 people
Commuting along the SE and SW corridors take transit in the morning

Since 2011, boardings at Union Station increased by 64%.

In 2019 there were 105.2 million boardings, a 21% increase since 2006.

74% of regional commuters in the Metro Denver region drive to work alone.
Most people in the Metro Denver Region drive to work alone. Since 2006, driving alone has accounted for about 75% of commute trips.

Source: US Census Bureau
Work from home has increased the most from 2006 (5.6%) to 2018 (9.0%).

From 2017 to 2018, transit decreased from 4.4% to 3.9%, while walking increased from 2.2% to 2.6%.

Most other modes have remained steady.
Vehicle miles traveled (VMT) and RTD boardings declined in mid-March due to increased work from home and other closures caused by the pandemic. However, VMT has recovered more quickly than transit ridership in the Denver Metro Region.
Since Stay-at-Home orders were enacted in mid-March, work trips have dramatically declined, while time spent at home has increased in the Denver Metro Region. This is likely due to more people working from home as well as people being furloughed or laid off.

Source: Google COVID-19 Community Mobility Reports (7-County)
Note: The “Home” category shows change in hours spent at home, while the “Work” category measures the change in number of work trips.
CORRIDOR COMMUTE MODE SHARE

2019 AM Peak Period & Peak Direction Auto & Transit Corridor Mode Share

<table>
<thead>
<tr>
<th>Corridor</th>
<th>Transit Route/Roadway</th>
<th>Commuters</th>
<th>Mode Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Southwest (NB)</td>
<td>C, D Lines</td>
<td>3,290</td>
<td>22%</td>
</tr>
<tr>
<td></td>
<td>Santa Fe Drive Vehicle Traffic</td>
<td>11,390</td>
<td>78%</td>
</tr>
<tr>
<td>Southeast (NB)</td>
<td>E, F, H Lines, P</td>
<td>6,270</td>
<td>21%</td>
</tr>
<tr>
<td></td>
<td>I-25 Vehicle Traffic</td>
<td>23,510</td>
<td>79%</td>
</tr>
<tr>
<td>Northwest (EB)</td>
<td>B Line, Flatiron Flyer</td>
<td>3,150</td>
<td>19%</td>
</tr>
<tr>
<td></td>
<td>US 36 Vehicle Traffic</td>
<td>13,530</td>
<td>81%</td>
</tr>
<tr>
<td>East (WB)</td>
<td>A Line</td>
<td>2,250</td>
<td>17%</td>
</tr>
<tr>
<td></td>
<td>I-70 Vehicle Traffic</td>
<td>11,370</td>
<td>83%</td>
</tr>
<tr>
<td>US 36 (EB)</td>
<td>Flatiron Flyer</td>
<td>1,090</td>
<td>16%</td>
</tr>
<tr>
<td></td>
<td>US 36 Vehicle Traffic</td>
<td>5,650</td>
<td>84%</td>
</tr>
<tr>
<td>West (EB)</td>
<td>W Line, 9/16/16L/EV/CV/116X/87L</td>
<td>2,460</td>
<td>8%</td>
</tr>
<tr>
<td></td>
<td>US 6, W Colfax Ave Vehicle Traffic</td>
<td>27,140</td>
<td>92%</td>
</tr>
<tr>
<td>I-225 (SB)</td>
<td>R Line, AT</td>
<td>280</td>
<td>1%</td>
</tr>
<tr>
<td></td>
<td>I-225 Vehicle Traffic</td>
<td>17,100</td>
<td>99%</td>
</tr>
<tr>
<td>Gold (EB)</td>
<td>G Line</td>
<td>1,190</td>
<td>7%</td>
</tr>
<tr>
<td></td>
<td>I-70 Vehicle Traffic</td>
<td>15,270</td>
<td>93%</td>
</tr>
</tbody>
</table>

Source: RTD, Colorado Department of Transportation (CDOT), October 2019 Traffic Counts
Note: The AM peak period is defined as 6:00 AM to 8:59 AM on weekdays.
### CORRIDOR COMMUTE MODE SHARE

#### 2019 AM Peak Period & Peak Direction Auto & Transit Corridor Mode Share

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<thead>
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<th>Transit Route/Roadway</th>
<th>Commuters</th>
<th>Mode Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>E Colfax Ave (WB)</td>
<td>Routes 15/15L</td>
<td>1,120</td>
<td>40%</td>
</tr>
<tr>
<td></td>
<td>E Colfax Ave Vehicle Traffic</td>
<td>1,714</td>
<td>60%</td>
</tr>
<tr>
<td>S Federal Blvd (NB)</td>
<td>Routes 30/30L/31</td>
<td>342</td>
<td>17%</td>
</tr>
<tr>
<td></td>
<td>S Federal Blvd Vehicle Traffic</td>
<td>1,638</td>
<td>83%</td>
</tr>
<tr>
<td>N Sheridan Blvd (NB)</td>
<td>Route 51</td>
<td>197</td>
<td>13%</td>
</tr>
<tr>
<td></td>
<td>N Sheridan Blvd Vehicle Traffic</td>
<td>1,314</td>
<td>87%</td>
</tr>
<tr>
<td>S Havana St (SB)</td>
<td>Route 105</td>
<td>183</td>
<td>12%</td>
</tr>
<tr>
<td></td>
<td>A Havana St Vehicle Traffic</td>
<td>1,404</td>
<td>88%</td>
</tr>
<tr>
<td>N Colorado Blvd (SB)</td>
<td>Route 40</td>
<td>176</td>
<td>9%</td>
</tr>
<tr>
<td></td>
<td>N Colorado Blvd Vehicle Traffic</td>
<td>1,770</td>
<td>91%</td>
</tr>
<tr>
<td>N Federal Blvd (NB)</td>
<td>Route 31</td>
<td>104</td>
<td>9%</td>
</tr>
<tr>
<td></td>
<td>N Federal Blvd Vehicle Traffic</td>
<td>1,080</td>
<td>91%</td>
</tr>
</tbody>
</table>

Source: RTD, Colorado Department of Transportation (CDOT), October 2019 Traffic Counts

Note: The AM peak period is defined as 6:00 AM to 8:59 AM on weekdays.
Annual transit boardings increased by 21.5% between 2006 and 2019. From 2018 to 2019, boardings increased by about 500,000.
Annual transit boardings per capita decreased by 6.7% (2 boardings per person) between 2008 and 2019. However, boardings per capita increased slightly (0.5%) from 2018 to 2019.
RTD ridership reached its lowest point in April 2020 with 2.9 million monthly boardings. This was a 68% decrease compared to April 2019. As of July, boardings were still well below typical levels.
In 2019, RTD had 356,000 average weekday boardings. Although the majority (56%) of boardings are on bus services, bus boardings have decreased from 2011 to 2019. This is partially due to passengers switching from bus service to new rail lines.

**Source:** RTD RideCheck Plus
RTD ridership started declining in March when Stay-at-Home orders were issued. The **Free MallRide** and **Free MetroRide** services were suspended on April 19th. The **MallRide** service resumed on June 21st, while the **MetroRide** service was still suspended as of July.

Source: RTD Monthly Financial Report
Between 2016 and 2019, boardings on the C/D Lines decreased by 20%. The University of Colorado A Line experienced a **39% increase in boardings** since it opened in 2016.

Source: RTD RideCheck Plus
During COVID (March to July) rapid transit boardings were 65% lower on average compared to the same period in 2019. Since April 19th, the D Line, F Line, and several Flatiron Flyer routes are no longer operating throughout the day.
From 2018 to 2019 average weekday boardings at stations increased slightly overall. Union Station had almost 32,000 boardings in 2019, more than double the boardings at both Union and Market Street Stations in 2011.

While Lincoln Station boardings decreased in 2019, there was a net increase of almost 1,000 boardings since 2018 with the opening of the Southeast Rail Extension.

50% increase in boardings at the Pepsi Center / Elitch Gardens Station since 2018

6% increase in boardings at Flatiron Flyer stations since opening in 2016

Source: RTD RideCheck Plus
GOAL THREE

Improve Transportation Options and Choices
In 2018, the majority of users drove less than ten miles to access a Park-n-Ride.

Annual Cost of Congestion in 2018: $1.6 Billion

Time Spent in Congestion per day in 2018: 229,000 vehicle hours

The High Frequency Transit service area has Doubled in size since 2006.

WHY IS THIS IMPORTANT?
In 2019, transit travel times were similar or faster than auto travel times in 4 of the rapid transit corridors. Transit travel times were less variable than driving along I-25 and I-70.

![Travel Time & Variability Chart]

**Source:** RTD Transit Information Exchange System (TIES), INRIX, Google Maps

**Note 1:** Variability is the amount of time that must be budgeted in order to ensure that you will arrive at your destination on-time.

**Note 2:** The AM peak period is defined as 6:00 AM to 8:59 AM on weekdays.
All of the bus routes that were measured had lower transit travel times and less variability during COVID (Pan-20 Schedule) in comparison to Fall 2019 (Aug-19 Schedule) during the AM peak period.

Notes:
- The AM peak period is defined as 6:00 AM to 8:59 AM on weekdays.
In the Metro Denver Region, the average cost of fuel peaked at $3.87 per gallon in 2012. After reaching a low of $2.15 in 2016, it increased to $2.65 per gallon in 2018. In 2019, there was a slight decrease (-5.6%).
COVID Stay-at-Home orders led to a decline in gas prices by discouraging travel. In the Metro Denver region, gas prices reached their lowest point ($1.60/gal) in early May. As of mid-August, prices are returning to 2019 levels.

Source: US Energy Information Administration
In 2018, the annual cost of traffic congestion was $1.6 billion in the Denver Metro Region. The total cost of congestion decreased by $45 million, ($17 per person) compared to 2017.

Annual Travel Delay in 2018
107 million hours

Annual Cost in 2018
$1.6 billion

Annual Cost Per Capita in 2018
$487

Source: DRCOG Annual Report on Roadway Traffic Congestion in the Denver Region
RTD’s transit service was on-time **89%** of the time in 2019.

**HOW ARE WE DOING?**

- **Access-a-Ride productivity** (boardings per hour) increased by almost **4%** from 2018 to 2019.

- **43 boardings per hour** on bus and rail service in 2019.

- In 2019, **23 FlexRide service areas** covered **211 square miles**.
The High Frequency Transit (HFT) service area has doubled in size since 2006 (from 50 to almost 100 square miles). In 2019, the HFT service area grew 17 square miles with the addition of the G Line and Southeast Rail Extension.

17% of regional population lives within the HFT area (508,008 people)

40% of regional employment is within the HFT area (653,453 jobs)

Source: RTD, US Census Bureau, Quarterly Census of Employment and Wages
Note: The HFT includes rail stations (within ½-mile) and bus stops (within ¼-mile) served by a transit route providing four or more trips per hour from 6 a.m. to 6:30 p.m.
RTD’s transit service was on-time 89% of the time in 2019. Light Rail and Commuter Rail were the most reliable service types.

Source: RTD Performance Report, RTD Performance Measures
In 2019, there were an average of 43 boardings per hour on bus and rail fixed route service. The Free MallRide had the highest utilization with an average of 182 boardings per hour.
In 2019, 63% of the 33,000 parking spaces were used on an average weekday. RTD has added over 11,000 parking spaces since 2006. When the G Line opened in April 2019, 2,300 new parking spaces were available at Park-n-Rides in this corridor.
In 2019, Park-n-Rides along the central and southwest corridors were close to full capacity on an average weekday. Key locations with high use:

- I-25 & Broadway (97%)
- Littleton/Mineral (92%)
- Wagon Road (90%)
- Wheat Ridge & Ward (88%)

Source: RTD Park-n-Ride Utilization Report
In July 2020, the number of vehicles, cyclists, and pedestrians accessing RTD Park-n-Rides was much lower than July 2019. Flatiron Flyer Park-n-Ride usage was lower than other services, likely due to the suspension of the FF2, FF4, and FF6 services.

<table>
<thead>
<tr>
<th>Mode</th>
<th>Percent Change from July 2019 to July 2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Driving</td>
<td>-43%</td>
</tr>
<tr>
<td>Biking</td>
<td>-15%</td>
</tr>
<tr>
<td>Walking</td>
<td>-39%</td>
</tr>
<tr>
<td>Rail</td>
<td>-70%</td>
</tr>
<tr>
<td>Bus</td>
<td>-52%</td>
</tr>
<tr>
<td>Flatiron Flyer</td>
<td>-73%</td>
</tr>
</tbody>
</table>

Source: Streetlight Data
In 2018, the majority of users drove less than ten miles to access a Park-n-Ride. Of trips less than ten miles, the **average distance driven was 4.2 miles.** About 20% of the trips were less than 2 miles and could potentially have been walked or biked.

Source: RTD License Plate Survey

Note: Origins are derived from geocoded addresses associated with license plates. Origins further than ten miles from destinations have large margins of error and are not reported in this metric.
From 2018 to 2019, Access-a-Ride boardings fell by 3.2%. However, during the same period, productivity (boardings per hour) increased by 3.9%.

The highest number of Access-a-Ride boardings were in downtown Denver.

### Access-A-Ride Service Summary

- **Total Boardings**: 725,960
- **Total Revenue Service Hours**: 589,330
- **Average Boardings per Service Hour**: 1.23
- **Average Subsidy per Boarding**: $54.55

Source: RTD Service Performance Reports, RTD database for Access-a-Ride boardings
Access-a-Ride ridership reached its lowest point in April 2020 with 12,000 monthly boardings. This was an 84% decrease compared to April 2019. As of July, boardings have been slow to recover.

Source: RTD Monthly Financial Status Report
In 2019, 23 FlexRide service areas covered 211 square miles and had a total of 454,200 boardings, or 3.5 boardings per service hour. The average subsidy per boarding was $22.60.
Boardings on FlexRide & Special Services reached their lowest point (11,000 boardings) in May 2020. This was an 80% decrease compared to May 2019. As of July, boardings have been slow to recover.

Source: RTD Monthly Financial Status Report
GOAL FOUR

Improve Environmental Sustainability and Public Health
In the Metro Denver Region, the majority of GHG emissions are from the transportation sector.

**WHY IS THIS IMPORTANT?**

- Higher rates of asthma hospitalization in Metro Denver than statewide average.
- The EPA has classified the Denver Metro Region as a Serious Ozone Non-attainment Area.
- 50% of GHG emissions are from passenger cars.
Air quality in the Denver Metro Region has significantly improved over the last 40 years with the number of poor air quality days decreasing by almost 90% from 1980 to 2019. However, the region is not currently meeting EPA Ozone standards.

1980: 152 days of poor air quality
2019: 17 days of poor air quality

Source: Environmental Protection Agency (EPA) Air Quality Data
Ozone is a harmful air pollutant because of its effects on people and the environment. Ozone is formed when nitrogen oxides (NOx) and volatile organic compounds (VOC) react in the presence of sunlight. The EPA has classified the Denver Metro Region as a serious ozone non-attainment area.

In 2017, the transportation sector was responsible for 49% of NOx and 21% of VOC emissions in the Denver Metro Region.

Source: EPA 2017 National Emissions Inventory (7-County)
Note: The EPA National Emissions Inventory is updated every three years. The most recent data available is from 2017.
In the Metro Denver Region, the majority of GHG Emissions (64%) are from the transportation sector. Emissions from transit buses account for 0.4% of GHG emissions, while passenger cars account for 50% of GHG emissions.

Source: EPA 2017 National Emissions Inventory (7-County)
Note: The EPA National Emissions Inventory is updated every three years. The most recent data available is from 2017.
Since 2004, asthma hospitalization rates have declined, but the Metro Denver Region still has higher rates of asthma hospitalization than the statewide average.

Source: Colorado Department of Public Health and Environment (CDPHE)
240,000 tons of carbon emissions were displaced due to transit

Electric transit accounted for 43% of boardings on bus & rail services on an average weekday

3,300 affordable housing units within a half-mile of a rail or BRT station
In 2019, RTD vehicles and facilities produced about 185,000 tons of CO2 emissions. Most of RTD’s CO2 emissions (59%) are directly emitted from diesel and gasoline vehicle tailpipes, while the rest (41%) are indirect emissions from electricity generation.

Xcel Energy plans to offer 100% carbon-free electricity by 2050 and to reduce carbon emissions 80% by 2030.

Source: National Transit Database (NTD), RTD Internal Data, EPA, Xcel Energy
EMISSIONS DISPLACED DUE TO TRANSIT

RTD helps reduce CO2 emissions in the Denver Metro Region by providing transit service. If every transit user drove alone to their destination instead of using transit, this would result in an additional 240,000 tons of CO2 emissions per year (equivalent to 27 million gallons of gas).

Over the last ten years, 2.38 million tons of CO2 have been displaced by transit.

Source: National Transit Database (NTD), Federal Highway Administration (FHWA), EPA
Almost 75,000 crashes occurred in the Denver Metro Region in 2018, 0.08% of which involved RTD vehicles. RTD helped avoid almost 1,200 crashes in 2018 (3 crashes per day) by offering an alternative to driving.

Source: Denver Regional Council of Governments (DRCOG), National Transit Database (NTD)
RTD provides high frequency transit (HFT) service to about one third of all health facilities in the District, including 16 hospitals, 34 nursing homes, and 87 assisted living facilities.

29% of health services (578 facilities) within the RTD Service Area are accessible by High Frequency Transit.

16 hospitals (32%) within the RTD Service Area are accessible by High Frequency Transit.

Source: RTD, US Census Bureau, Quarterly Census of Employment and Wages, CDPHE Health Facilities
Note: The HFT includes rail stations (within ½ mile) and bus stops (within ¼ mile) served by a transit route providing four or more trips per hour from 6 a.m. to 6:30 p.m.
There are about 3,300 affordable housing units within a half-mile of a rail or BRT station. This represents nearly 10% of all transit-oriented development (TOD) residential units.

25th & Welton Station
Highest number of affordable units (687) 41% of all residential units

10th & Osage Station
Highest share of affordable units (75%)

Source: RTD TOD Database
RTD operates transit service that is powered by electricity (rail and electric MallRide buses) and therefore have no tailpipe emissions. As the rail network has been expanded through FasTracks, electric transit has grown to represent a larger share of RTD service.

In 2019, electric transit accounted for 43% of boardings and 26% of revenue miles for RTD’s fixed route services.

Source: National Transit Database (NTD)
The Metro Denver region is defined four ways depending on the data source:

- **RTD Service Area**
- **7-County Region** is made up of Adams, Arapahoe, Boulder, Broomfield, Denver, Douglas, and Jefferson Counties
- **DRCOG Region** is defined by the Denver Regional Council of Governments (DRCOG)
- **Denver & Boulder MSA** is the combination of the Denver-Aurora-Lakewood and Boulder Metropolitan Statistical Areas (MSA)
Goal One: Balance Transit Needs with Regional Growth

Regional Population

- **Definition:** Number of people living in the Metro Denver region (DRCOG).
- **Source:** Metro Denver Region: DRCOG Population | US Census Bureau

Regional Employment

- **Definition:** Number of people employed and unemployed in the Metro Denver region (MSA).
- **Source:** Colorado LMI Gateway, Denver and Boulder MSA | US Department of Labor, Bureau of Labor Statistics
Goal One: Balance Transit Needs with Regional Growth

COVID State Unemployment

- **Definition:** Unemployment rate in Colorado and the number of continued unemployment claims in the Metro Denver region (7-County).

- **Source:** Colorado LMI Gateway | US Department of Labor

Housing Starts

- **Definition:** Annual number of new single and multi-family housing starts in the Metro Denver region (MSA).

- **Source:** US Census Bureau | Permits by Metropolitan Area | Denver and Boulder MSA
Goal One: Balance Transit Needs with Regional Growth

COVID Housing Starts
- **Definition:** Monthly number of new single and multi-family housing starts in the Metro Denver region (MSA).
- **Source:** US Census Bureau | Permits by Metropolitan Area | Denver and Boulder MSA

Miles of Rapid Transit
- **Definition:** The total miles of exclusive and controlled-access transit facilities in the RTD Service Area.
- **Source:** RTD FasTracks website
Goal One: Balance Transit Needs with Regional Growth

Transit Service

- **Definition:** Total hours operated by in-service transit vehicles on an average weekday. Hours include the sum of total vehicle service hours and train service hours. All data can be found on NTD's website except for 2019 data, which was collected from RTD's most recent report to NTD.

- **Source:** National Transit Database (NTD)

COVID Transit Service

- **Definition:** Total hours operated by in-service transit vehicles by service type and schedule (May 2020, Pandemic) for an average weekday.

- **Source:** RTD Transit Information Exchange System (TIES)
Goal One: Balance Transit Needs with Regional Growth

Service Area

- **Definition:** Total square miles and population within the RTD Service Area and the DRCOG boundary.

- **Source:** RTD Service Area Boundary GIS Shapefile | NTD Service Area Population | DRCOG Population | DRCOG Boundary GIS Shapefile

Operating Cost

- **Definition:** Average operating cost per boarding by service type. Operating cost includes all operating, maintenance, and administrative costs for providing current service, plus depreciation on all RTD assets. Subsidy per boarding is the difference between total operating cost and fare revenue per boarding.

- **Source:** RTD Service Performance Report
METRICS METHODOLOGY

Goal One: Balance Transit Needs with Regional Growth

COVID Fare Revenue

- **Definition**: Monthly revenue from passenger fares.
- **Source**: RTD Monthly Financial Status Report

Sales Tax Revenue

- **Definition**: Annual sales & use tax revenue generated within the RTD Service Area adjusted for inflation to allow for meaningful comparison and growth trends between years.
- **Source**: RTD Annual Financial Report | Sales & Use Tax Revenues
METRICS METHODOLOGY

Goal One: Balance Transit Needs with Regional Growth

COVID Sales Tax Revenue
- **Definition:** Monthly sales tax revenue generated within the RTD Service Area.
- **Source:** RTD Monthly Financial Status Report

Transit-Oriented Development
- **Definition:** Total multifamily residential units within a half-mile of a rail or BRT station.
- **Source:** RTD TOD Status Report
Goal Two: Increase Transit Mode Share

Vehicle Miles Traveled

- **Definition:** Number of vehicle miles traveled on all roads in the Metro Denver region (DRCOG). DRCOG consolidates data from Federal Highway Administration annual reports, automated traffic recorders, CDOT’s Highway Performance Monitoring System and local agency and toll highway traffic counts.

Number of miles not driven due to transit (additional vehicle miles that would be driven on the road system each weekday without the presence of transit) is calculated by dividing the average weekday transit passenger miles by the average vehicle occupancy for the Metro Denver region.

- **Source:** DRCOG Annual Report on Roadway Traffic Congestion in the Denver Region
Goal Two: Increase Transit Mode Share

Vehicle Miles Traveled Per Capita

- **Definition:** Annual number of vehicle miles traveled per person on all roads in the Metro Denver region (DRCOG).
- **Source:** DRCOG Annual Report on Roadway Traffic Congestion in the Denver Region

COVID Vehicle Miles Traveled

- **Definition:** Monthly number of vehicle miles traveled on all roads in the Metro Denver region (RTD Boundary).
- **Source:** StreetLight Data
Goal Two: Increase Transit Mode Share

Extent of Congestion
- **Definition:** The percent of the 2,400-mile Regional Roadway System (major streets, highways, freeways, tollways) roadway lane miles in the DRCOG boundary that are congested for 3 or more hours on an average weekday.
- **Source:** DRCOG Annual Report on Roadway Traffic Congestion in the Denver Region

COVID Traffic Congestion
- **Definition:** The annual change in congestion for the Denver Metro region (boundary defined by TomTom). The level of congestion is calculated by analyzing free-flow travel times of all vehicles on the entire road network. The data comes from more than 600 million drivers who use TomTom in navigation devices, in-dash systems, and smartphones.
- **Source:** TomTom Traffic Index
Goal Two: Increase Transit Mode Share

Vehicle Ownership

- **Definition:** The average number of vehicles per capita in the Metro Denver region (MSA).
- **Source:** US Census Bureau

COVID Vehicle Purchases

- **Definition:** Monthly new passenger vehicle purchases (cars, light-duty trucks, SUVs, vans) in Colorado.
- **Source:** Colorado Auto Outlook Report
Goal Two: Increase Transit Mode Share

**Commute Mode Share**
- **Definition:** The percent of commute trips by transportation mode in the Metro Denver region (MSA).
- **Source:** US Census Bureau

**COVID Driving vs Transit Trends**
- **Definition:** Percent change in weekly vehicle miles traveled in the Denver Metro region (7-County) compared to weekly RTD boardings.
- **Source:** StreetLight Data | RTD Internal Ridership Data
Goal Two: Increase Transit Mode Share

COVID Home & Work Trips

- **Definition:** The “Home” category shows change in time (hours) spent at home on weekdays, while the “Work” category measures the change in trips to work on weekdays.

- **Source:** Google COVID-19 Community Mobility Reports (7-County)

Corridor Commute Mode Share

- **Definition:** Average peak period and peak direction traffic volumes converted to persons (using the Metro Denver average vehicle occupancy) on the freeways and major arterial routes paralleling select rail and bus corridors and average peak period and peak direction transit boardings during the August Runboard (August to December). The AM peak period is defined as 6:00 AM to 8:59 AM on weekdays.

- **Source:** RTD RideCheck Plus Data | CDOT | October 2019 Traffic Counts
Goal Two: Increase Transit Mode Share

Annual Transit Boardings

**Definition:** Number of total system-wide annual boardings. RTD’s methodology for estimating boardings changed between 2016 and 2017. All data can be found on NTD’s website except for 2019 data, which was collected from RTD's most recent report to NTD.

**Source:** National Transit Database (NTD)

Annual Transit Boardings Per Capita

**Definition:** Number of annual boardings divided by the transit service area population. All data can be found on NTD’s website except for 2019 data, which was collected from RTD’s most recent report to NTD.

**Source:** National Transit Database (NTD)
Goal Two: Increase Transit Mode Share

COVID Monthly Transit Boardings
- **Definition:** Monthly transit passenger boardings.
- **Source:** RTD Monthly Financial Status Report

Transit Boardings by Service Type
- **Definition:** Number of passenger boardings for fixed-route transit service (excludes demand response services) on an average weekday.
- **Source:** RTD RideCheck Plus Data
Goal Two: Increase Transit Mode Share

COVID Boardings by Service Type

- **Definition:** Number of monthly passenger boardings for fixed-route transit service (excludes demand response services).
- **Source:** RTD Monthly Financial Status Report

Transit Boardings by Line

- **Definition:** Number of passenger boardings by line (rail and BRT) on an average weekday.
- **Source:** RTD RideCheck Plus Data
Goal Two: Increase Transit Mode Share

COVID Transit Boardings by Line

- **Definition:** Number of passenger boardings by line (rail and BRT) from March to July for 2019 and 2020.
- **Source:** RTD Monthly Financial Status Report

Transit Boardings at Stations

- **Definition:** Number of bus and rail boardings on an average weekday at stations in existing and future rapid transit corridors.
- **Source:** RTD RideCheck Plus Data
Goal Three: Improve Transportation Options and Choices

Travel Time & Variability

- **Definition: Driving** - The average auto travel time during October on roadways parallel to rapid transit corridors to Downtown Denver during the weekday morning peak period and the additional time a traveler would need to budget to be certain of arriving on-time when traveling by automobile. **Transit** - The average transit travel time during the August Runboard (August to December) on rapid transit corridors to Downtown Denver during the weekday morning peak period and the additional time a traveler would need to budget to be certain of arriving on-time when traveling by transit. The morning peak period is defined as 6:00 AM to 8:59 AM on weekdays.

- **Source:** RTD Transit Information Exchange System (TIES) | INRIX | Google Maps
Goal Three: Improve Transportation Options and Choices

**COVID Travel Time & Variability**

- **Definition:** The average transit travel time during the August 2019 Runboard and the Pandemic Runboard for major bus corridors during the weekday morning peak period and the additional time a traveler would need to budget to be certain of arriving on-time when traveling by transit. The morning peak period is defined as 6:00 AM to 8:59 AM on weekdays.

- **Source:** RTD Transit Information Exchange System (TIES)

**Fuel Cost**

- **Definition:** Average annual price of regular unleaded gasoline in the Denver region. See Transit Boardings per Capita definition.

- **Source:** US Energy Information Administration | National Transit Database (NTD)
Goal Three: Improve Transportation Options and Choices

COVID Fuel Cost

- **Definition:** Average weekly price of regular unleaded gasoline (cost per gallon) in the Denver region.
- **Source:** US Energy Information Administration

Cost of Congestion

- **Definition:** The amount of travel delay per registered vehicle caused by congestion and the cost of the added delay due to congestion.
- **Source:** DRCOG Annual Report on Roadway Traffic Congestion in the Denver Region
Goal Three: Improve Transportation Options and Choices

High Frequency Transit

- **Definition:** The percent of people and jobs in the Metro Denver region (RTD Service Area) captured within the high-frequency transit service area. The high-frequency transit area includes rail stations (within ½-mile) and bus stops (within ¼-mile) that are served by a transit route providing four or more trips per hour from 6 a.m. to 6:30 p.m.

- **Source:** RTD | US Census Bureau | Quarterly Census of Employment and Wages

On-Time Performance

- **Definition:** The average weekday on-time performance by service type.

- **Source:** RTD Quarterly Performance Report | RTD Performance Measures
Goal Three: Improve Transportation Options and Choices

**Boardings Per Service Hour**
- **Definition:** The average number boardings per hour by service type.
- **Source:** RTD Service Performance Report

**Park-n-Ride Use**
- **Definition:** The number of Park-n-Ride spaces provided within the region and by corridor. The percentage of those occupied on an average weekday.
- **Source:** RTD Park-n-Ride Utilization Report
Goal Three: Improve Transportation Options and Choices

COVID Park-n-Ride Use
• **Definition:** Percent change in the number of vehicles, cyclists, and pedestrians accessing rail, bus, and Flatiron Flyer Park-n-Rides.
  • **Source:** StreetLight Data

Travel to Park-n-Rides
• **Definition:** Origins of Park-n-Ride users based on license plate registration.
  • **Source:** RTD License Plate Survey
Goal Three: Improve Transportation Options and Choices

Access-a-Ride Service

- **Definition:** Annual number of hours, boardings, cost, and trip origins of Access-a-Ride service.
- **Source:** RTD Service Performance Report | RTD database for Access-a-Ride boardings

COVID Access-a-Ride Service

- **Definition:** Monthly Access-a-Ride Boardings
- **Source:** RTD Monthly Financial Status Report
Goal Three: Improve Transportation Options and Choices

FlexRide Service

- **Definition:** Annual number of service hours, boardings, cost, and locations of FlexRide service areas.
- **Source:** RTD Service Performance Report

COVID FlexRide Service

- **Definition:** Monthly FlexRide & Special Service boardings.
- **Source:** RTD Monthly Financial Status Report
Goal Four: Improve Environmental Sustainability and Public Health

**Regional Air Quality**

- **Definition:** Number of days designated as unhealthy by the EPA.
- **Source:** EPA Air Quality Data

**Ozone Non-Attainment**

- **Definition:** Percentage of emissions for nitrogen oxides and volatile organic compounds in the Denver Metro region (7-County) that are attributable to the transportation sector.
- **Source:** EPA National Emissions Inventory (2017)
Goal Four: Improve Environmental Sustainability and Public Health

Transportation Section Emissions

**Definition:** Percentage of greenhouse gas emissions in the Denver Metro region (7-County) that are attributable to different segments of the transportation sector.

**Source:** EPA National Emissions Inventory (2017)

Asthma Hospitalization Rates

**Definition:** The annual rate of hospitalization per 10,000 residents in the Denver Metro region (7-County) compared to the statewide rate. Geographic location is determined using the geocoded billing address of discharged individuals.

**Source:** CDPHE
Goal Four: Improve Environmental Sustainability and Public Health

RTD Annual Emissions

- **Definition:** RTD annual carbon dioxide (CO2) emissions by type. In the Denver Metro Region, 99.97% of greenhouse gas emissions (GHG) are from CO2.

- **Source:** National Transit Database (NTD) | RTD Internal Data | EPA | Xcel Energy

Emissions Displaced Due to Transit

- **Definition:** The total amount of carbon dioxide emissions displaced due to transit travel theoretically replacing private passenger vehicle travel (i.e. if every transit user drove alone to their destination instead of using transit).

- **Source:** National Transit Database (NTD) | FHWA | EPA
Goal Four: Improve Environmental Sustainability and Public Health

Crashes Avoided Due to Transit

**Definition:** The estimated total number of vehicle collisions that did not occur due to trips taken by transit instead of private vehicles.

**Source:** DRCOG Regional Data Catalog - Crashes | National Transit Database (NTD)

Access to Health Facilities

**Definition:** The total number of health facilities (hospitals, clinics, nursing homes, rehab centers, etc.) within the High Frequency Transit (HFT) Service Area, as a percentage of all health facilities in the RTD Service Area. The HFT Service Area includes rail stations (within \( \frac{1}{2} \) mile) and bus stops (within \( \frac{1}{4} \) mile) served by a transit route providing four or more trips per hour from 6 a.m. to 6:30 p.m.

**Source:** RTD | US Census Bureau | Quarterly Census of Employment and Wages | CDPHE Health Facilities
Goal Four: Improve Environmental Sustainability and Public Health

**Affordable Transit-Oriented Development**
- **Definition:** Affordable (income restricted) housing units within a half-mile of a rail or bus rapid transit (BRT) station.
- **Source:** RTD TOD Database

**Zero Tailpipe Emission Transit**
- **Definition:** The annual number of passenger miles for transit service that is powered by electricity (rail and electric buses).
- **Source:** National Transit Database (NTD)