



ZERO FARE *for* Better Air

2023 Evaluation Report



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Executive Summary

In July and August 2023, RTD provided zero-fare service on all of the agency's transit modes (fixed-route bus, light rail, commuter rail, FlexRide and paratransit) as part of the Zero Fare for Better Air (ZFBA) initiative. This initiative was part of a statewide effort resulting from the passage of Colorado Senate Bill 22-180 (SB22-180), which created the Ozone Season Free Transit Grant Program in the Colorado Energy Office designed to reduce ground-level ozone by increasing the use of public transit across the state. Thanks to the passage of Colorado House Bill 23-1101 (HB23-1101), in 2023, the grant program provides funding to RTD to recover up to 100% of the lost fare revenue and other costs incurred by the agency if fares are offered at no cost to customers for at least 30 days during ozone season (June-August). The total cost to RTD associated with the 2023 ZFBA initiative was approximately \$15,598,272, of which \$13,894,734 was reimbursed by the Colorado Energy Office, hence RTD incurred \$1,703,538. Costs to RTD for implementing the program would be significant without legislatively appropriated financial assistance made available through the Colorado Energy Office.

This report forms the evaluation to be provided to the Colorado Energy Office by December 1, 2023, and will address the following items, as required by SB22-180 and HB23-1101:

- » Information on how the grant money was spent
- » The zero-fare services that were offered using the grant money
- » Estimates of the change in ridership during the period that zero-fare services were offered compared to previous months, the same month in previous years, and the months after the program concluded
- » Estimates on reductions in greenhouse gas emissions based on ridership changes
- » A summary of lessons learned including any unanticipated benefits and challenges
- » A discussion of overall lessons learned (over the course of the two-year program) and how this relates to future transit offerings
- » Additional information, including a narrative analysis, to provide context on the ridership data included in the report

Overall, RTD's experience with the ZFBA initiative was positive, as most customers appreciated the zero-fare period and there were minimal disruptions to day-to-day operations. From June 2023 to July/August 2023 ZFBA period, average monthly ridership increased by 22%; however, RTD estimates that the ZFBA initiative contributed to a 12% increase in ridership over what would have been expected without zero fares due to normal seasonal variations in ridership. This increase in ridership had a marginal, but positive, impact on greenhouse gas emissions.

It must be noted that the ZBFA initiative provides a snapshot of data, and drawing conclusions on the success of the two-month pilot is difficult, as transit trends and data are influenced by a wide range of external factors. Factors include changing travel trends as impacts of the pandemic subside, special event schedules, normal seasonal variation in ridership, and the beginning of the school year.

Ridership Impacts

RTD is the primary public transportation provider in the Denver metro region. The agency operates over 100 bus routes, four commuter rail lines, six light rail lines, within 24 FlexRide zones, as well as complementary paratransit service in accordance with the Americans with Disabilities Act of 1990. In July and August 2023, all of RTD's services were provided at no cost to the customer. RTD operated under its normal schedule (effective May 2023) during the entire ZFBA period.

Figure 1. RTD Weekday Scheduled Service

	Bus		Rail		System	
	Revenue Hours	Vehicle Miles	Platform Hours	Vehicle Miles	Platform Hours	Vehicle Miles
July/August 2023	5,138	77,169	588	14,006	5,726	91,175

Note: These figures represent weekday averages according to RTD's May 2023 runboard. Weekday revenue hours equal the total average hours that RTD vehicles are in revenue service (when a passenger can board the vehicle) and vehicle miles represent the total average number of miles vehicles travel in revenue service.

Overall Impacts

From June to July/August 2023, ridership increased by 22%. July/August 2023 ridership was also 10% higher than July/August 2022. Ridership dropped by 8% in September 2023 when fares were reinstated.

Bus services saw the largest increase, with a 28% increase over June and a 16% increase

over July/August 2022. Commuter rail ridership increases were more modest from June 2023 to July/August 2023, at 17%, and 14% above July/August 2022 monthly ridership. Light rail ridership was up 8% from June 2023; however, it declined 13% compared to the same time period in 2022.

Figure 2. Total Ridership by Mode

Mode	June 2023	July 2023*	August 2023*	ZFBA Monthly Average**	September 2023
Bus	3,290,918	3,935,371	4,472,626	4,203,999	3,885,227
Light Rail	1,060,602	1,153,929	1,134,846	1,144,388	1,081,404
Commuter Rail	757,466	882,657	894,360	888,509	780,229
Paratransit	78,836	82,450	98,445	90,448	84,925
Total	5,187,822	6,054,407	6,600,277	6,327,342	5,831,785

Note: *indicates months with zero-fare, **indicates average of July and August 2023

Figure 3. Percent Change, 2023 ZFBA average ridership to previous periods

Mode	June 2023	July/August 2022 Average	July/August 2021 Average
Bus	28%	16%	45%
Light Rail	17%	-13%	19%
Commuter Rail	8%	14%	35%
Paratransit	15%	50%	85%
Total	22%	10%	38%

Note: RTD services were zero fare in August 2022

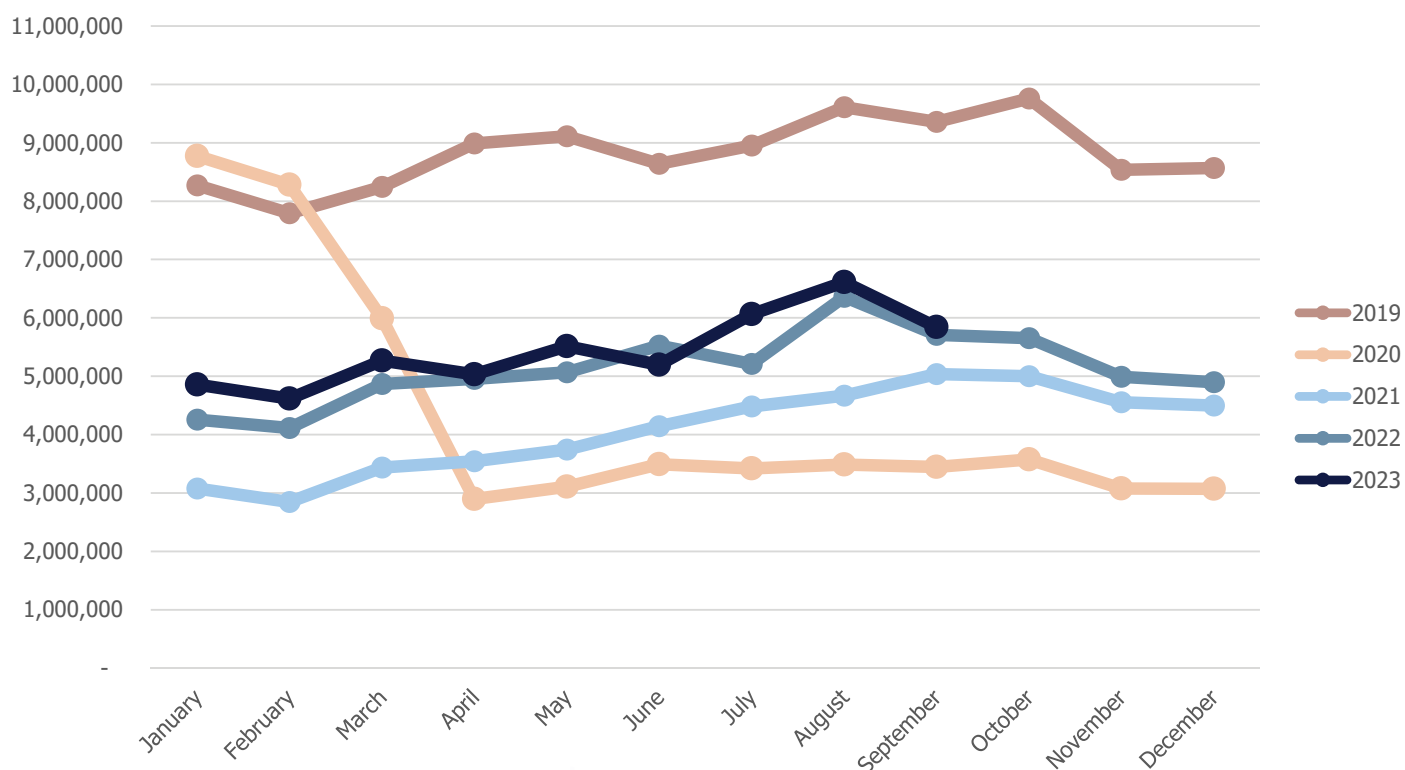
Impact of Zero Fares

Assessing the specific impact that ZFBA had on RTD's ridership is difficult for a variety of reasons, including normal seasonal variations, special events, and other zero fare initiatives the agency has initiated.

The most significant factor impacting RTD's ridership, other than ZFBA, was the normal seasonal variations that ridership experienced in July and August. In 2021, RTD's ridership in July and August was 10% higher than in June of that year, on average. To assess the specific

impact that the ZFBA period had on ridership in 2023, RTD used this figure from 2021, and assumed that there would have been 10% more boardings during the months of July and August on average, than June. Ridership from 2022 was not used for this due to the 2022 ZFBA initiative, which offered zero fare in August 2022. When accounting for this normal seasonal variation, RTD estimates that the ZFBA initiative contributed to a 12% increase in ridership over that which could have been expected without zero fares.

Figure 4. Total ridership (boardings) by month, 2019-2023



RTD ridership continues to slowly rebound from pandemic-era lows as commuters return to their traditional work locations. Special events, such as concerts and sporting events, impact ridership when compared to historical data. RTD also implemented a new program in September 2023, Zero Fare for Youth, which allows youth 19 years of age or younger to utilize

RTD services for zero fare through August 31, 2024; this offering likely impacted September 2023 ridership numbers. While assessing the exact impact that ZFBA had on ridership is difficult, August 2023 represented RTD's highest ridership month since before the pandemic, a positive sign for the agency.

Light Rail

In contrast to the other modes of service, RTD's light rail ridership actually declined by 13% during the 2023 ZFBA period, compared to 2022. During the 2023 ZFBA period, RTD operated lower service levels on multiple light rail lines along the Southeast Corridor due to a state of good repair initiative known as the coping panels project. To complete the coping panels project, a contractor is performing maintenance and repairs to the caps on top of the retaining walls, called coping panels, that run along the Southeast rail line south of Broadway to Lincoln Station adjacent to I-25. Because of this project, weekday revenue hours were 26% and 27% lower for the E and H Lines, respectively, as compared to the same period in 2022. The drop in revenue hours on these

lines aligns very closely with the decrease in ridership, which dropped by 28% on the E Line and 26% on the H Line.

This pattern aligns with historical research¹ and industry knowledge that customers are more sensitive to levels of service (e.g., how frequent a bus or train runs) than fares when choosing a mode of transportation. The pattern also aligns with more recent research² on customer preference, which showed that public transit users care more about frequency and service reliability than the cost of the service. These results from the ZFBA period can guide RTD as well as state and regional stakeholders when making decisions on how future transit funding could be allocated.

1 Cervero, R. (1990). Transit pricing research: A review and synthesis. *Transportation*, 17, 117-139.

2 Transit Center (2019). Who's on Board 2019: How to Win Back America's Transit Riders.

Figure 5. Total Ridership by Mode

Rail Line	July 2023	August 2023	ZFBA Monthly Average	July/August 2022 Average	% Change
D Line	242,028	253,521	247,775	248,964	0%
E Line	307,679	259,339	283,509	396,087	-28%
H Line	168,525	162,760	165,643	224,022	-26%
L Line	25,331	25,032	25,182	32,916	-23%
R Line	103,421	119,668	111,545	113,061	-1%
W Line	306,945	314,526	310,736	293,171	6%
Total	1,153,929	1,134,846	1,144,388	1,308,220	-13%

Figure 6. Light Rail Revenue Hours by Line

Rail Line	July/August 2022	July/August 2023	% Change
D Line	79.2	72.7	-8%
E Line	120.0	88.8	-26%
H Line	106.9	77.7	-27%
L Line	81.6	81.7	0%
R Line	64.6	77.0	19%
W Line	20.8	20.8	0%
Total	473.1	418.6	-12%

Paratransit

Ridership increased during the ZFBA period on both of RTD's paratransit services, including a 7% increase in Access-a-Ride ridership and a 25% increase in Access-on-Demand ridership. Overall, RTD's paratransit services saw a 15% increase in ridership during the ZFBA period. RTD's Access-on-Demand service, which subsidizes customer trips on taxi and ridehailing vendors rather than dispatching a cutaway bus to eligible customers, saw more growth during the ZFBA period than Access-a-Ride. During the ZFBA period, paratransit customers continued to receive up to 60 Access-on-Demand trips per month, and additionally were able to travel anywhere in RTD's service area at zero-fare

with no out-of-pocket cost, as the subsidy cap of \$25 per trip was removed. The removal of the subsidy cap and convenience of same-day booking for Access-on-Demand likely contributed to higher usage of the service during the ZFBA period. In September 2023, paratransit services experienced a ridership drop of 19% for Access-a-Ride and 8% for Access-on-Demand.

Access-a-Ride cancellations or no-shows did not change significantly during ZFBA or see an impact after the resumption of fare collection. As shown in Figure 7 below, the Access-a-Ride cancel rate remained near 3% throughout June, July, August, and September 2023.

Figure 7. RTD Paratransit Ridership

Mode	June 2023	July 2023*	August 2023*	ZFBA Monthly Average**	% Change, June to July/August	September 2023
Access-a-Ride	45,169	44,180	52,564	48,372	7%	42,624
Access-on-Demand	33,667	38,270	45,881	42,076	25%	42,313
Total	78,836	82,450	98,445	90,448	15%	84,937

Note: *indicates months with zero-fare, **indicates average of July and August 2023

Figure 8. Monthly Paratransit Ridership (January - September 2023)

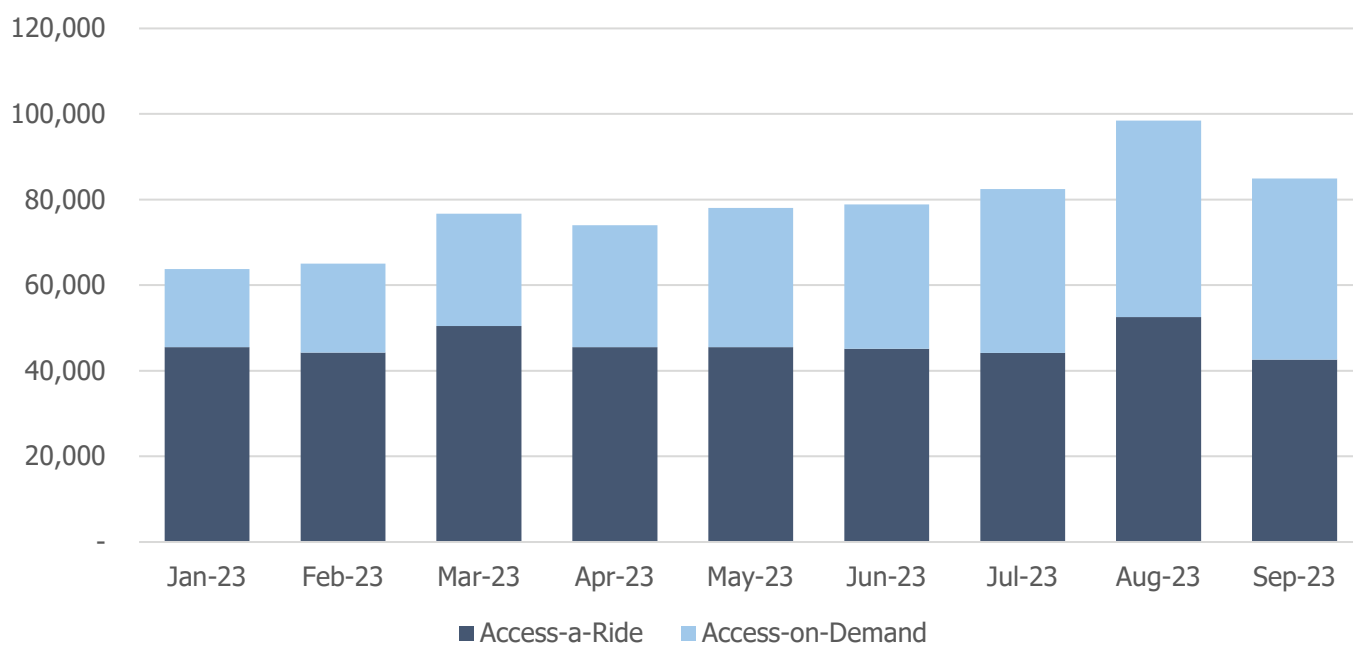


Figure 9. RTD Access-a-Ride Data

Month	Access-a-Ride Trips	Cancellations	No-Shows*	Cancel Rate
June	45,169	702	664	2.94%
July	44,180	687	712	3.07%
August	52,564	741	762	2.78%
September	42,624	645	705	3.07%

Note: *No-Shows includes late cancellations

Revenue and Cost Impacts

In 2023, RTD was eligible to draw down up to \$13,894,734 in grant funding from the Colorado Energy Office in support of the ZFBA initiative. A change in the governing legislation in 2023 removed the requirement, established in SB22-180, for RTD to provide a 20% local match. RTD incurred both reimbursable and non-reimbursable expenses related to the 2023 ZFBA initiative. Because there was less grant funding available than the total cost of providing zero fare transit service for two months, RTD incurred some costs that will not be reimbursed by the state.

Figure 10 presents the anticipated state grant amounts along with the incurred expenses by expense type, including non-reimbursable expenses incurred in conjunction with ZFBA.

Figure 10. ZFBA Expenses

ZFBA Funding and How it was Used	
Reimbursable Expenses	
July 2023 Foregone Fare Revenue	\$7,258,016
August 2023 Foregone Fare Revenue	\$6,636,718
Subtotal	\$13,894,734
Non-Reimbursable Expenses	
August 2023 Remaining Foregone Fare Revenue	\$1,312,538
Marketing	\$325,000
Customer Survey	\$61,000
Employee Survey	\$5,000
Subtotal	\$1,703,538
Grand Total	\$15,598,272

Foregone Fare Revenue and Additional Costs Incurred by RTD

The single largest financial impact associated with ZFBA was forgone fare revenue in the amount of \$15,207,272.³ While this amount is based upon revenue forecasts and historical ridership data, an assessment of the true amount of forgone fare revenue is made more complicated by the addition of bus service capacity, the return to school for many primary and secondary school students, and changes in historical ridership trends from previous years. Additionally, RTD cannot discern the fare each customer utilizing RTD services during the ZFBA period would have paid. RTD offers many different pass and fare products, and the revenue for each of these products differs based on the individual and the amount of use of the product. For example, a customer buying a local day pass riding RTD six times in one day and a customer buying a local day pass riding twice

³ Source: RTD Adopted Budget, anticipated fare revenue for July and August 2023 based on forecasting of historical trends.

in one day would generate the same amount of revenue for the agency. Because fares were not collected, it is not feasible to calculate exactly the lost revenue of these trips. Due to the amount of available funding, RTD will only be reimbursed for \$13,894,734.

Cost Savings Achieved by RTD

Cost savings achieved during the ZFBA initiative were limited given the relatively short amount of time between when the ZFBA grant agreement was executed, and when the agency began offering zero-fares. Certain non-service-related costs for the months had largely been incurred and, due to the fixed-price structure of some of RTD's vendor contracts, no significant savings were realized.

RTD sells fare media through various sales channels. For paper fare products sold through retail sales channels such as Safeway and King Soopers grocery stores, a small commission is paid to those vendors. Staff estimated that savings from reduced sales commissions amounted to approximately \$9,000 for July and August 2023. While the printing of paper fare media for July and August may have been avoided altogether with sufficient lead time, the ZFBA grant agreement was executed after most paper fare media had already been printed resulting in limited cost savings (approximately \$7,000 in total).

Management of cash payments including those collected via bus fareboxes and ticket vending machines is undertaken internally by agency

Additional costs incurred by RTD include paid marketing to ensure the public was aware of the ZFBA campaign (\$325,000), development and distribution of a customer survey (\$61,000), and development and distribution of an employee survey (\$5,000).

staff. While there was less need to manage cash payments in July and August, Treasury Division employees embraced the opportunity ZFBA presented by engaging in additional maintenance activities, asset management and restocking of ticket vending machines. Further, RTD employs an armored car service for transporting cash fares. While the number of armored vehicle trips were reduced, the contractor receives contract payment via a fixed monthly fee, so no cost reductions were possible. Similarly, RTD's electronic fare collection vendor also receives monthly payments at a fixed rate, and no cost reductions were realized with the suspension of the sales of mobile ticket and stored value, nor of the usage of pass program smart cards.

In some cases, fare collection-related labor costs increased, offsetting labor savings elsewhere. Team members responsible for fare collection systems, such as ticket vending machines and electronic fare collection, were required to spend additional time ensuring that systems were inoperable in early July 2023 and then tested and placed back into service in early September 2023.

Additionally, RTD is providing partial credits to employers, neighborhoods, and institutions of higher education toward future EcoPass, Neighborhood EcoPass, and CollegePass payments, respectively, as a way for these entities to recoup the costs they would not have otherwise incurred due to the zero-fare period.

Operational Impacts

Overcrowding

Based on experience gained from the 2022 ZFBA period, RTD expected increased ridership levels during the ZFBA period; however, the agency did not anticipate vehicles exceeding capacity. The 2023 ZFBA period met the agency's expectations; while onboard passenger loads did increase, RTD did not need to deploy

additional vehicles to meet the increase in load. As detailed later in the report, RTD did receive a nominal increase in the number of customer complaints related to overcrowding during the ZFBA period; however, the increase was relatively minor.

Crime and Security Incidents

Crime data shows both increases and decreases in reports, depending on the crime. RTD saw a 64% decrease in the number of arrests made during the ZFBA period compared to the average for 2023; however, there were increases in criminal mischief/damage to property reports (+66%), assaults (+20%), and trespassing (+33%). Reports of narcotics use

decreased 27% and general disturbances decreased 6%. In September 2023, crime report data remained roughly in line with the ZFBA monthly average.

Security incidents, which include interactions with ill, impaired, or disorderly customers, or assaults on customers or operators, increased

Figure 11. RTD Incident Reports

Month	Security Incidents	Vandalism Incidents	Biohazard Incidents	Total
June 2023	601	42	88	731
July 2023*	750	66	109	925
August 2023*	914	84	140	1138
September 2023	737	44	89	870

Note: Security incidents include the following categories: Drunk or disorderly customer, incident with customer, operator verbally or physically assaulted, customer physically assaulted, customer-initiated emergency, RTD security action, or sick customer. *Indicates months with zero fare.

nearly 40% during the ZFBA period from June 2023.

Vandalism incidents increased more than 75%, and biohazard incidents increased more than 40% during the ZFBA period as compared to June 2023. All incident types dropped to more normal levels after the ZFBA period concluded in September 2023.

It should be noted that RTD has undergone significant changes with incident reporting over the last year, which would make any year-to-year comparisons difficult. Additionally, in July, RTD changed a policy related to its contracted security force, with an emphasis on issuing more suspensions for encounters with individuals who were breaking the newly adopted Code of Conduct. This led to increases in incidents reported which are reflected in the data below.

Figure 12. Crime Data

Monthly Crime Data	Jan-Jun 2023 Monthly Average	Jul 2023*	Aug 2023*	ZFBA Monthly Average**	Jan-Jun vs ZFBA Difference	Sep 2023
Arrests	36	10	16	13	-64%	15
Assaults	60	66	78	72	+20%	71
Criminal Mischief / Damage to Property	58	95	97	96	+66%	89
Disturbances	486	430	481	456	-6%	476
Narcotics	1,206	800	950	875	-27%	938
Trespassing	389	497	540	519	+33%	510

Note: *indicates months with zero-fare, **indicates average of July and August 2023

Customer Feedback on Cleanliness, Operations, and Security

RTD's Customer Care team tracks customer comments, which include commendations and complaints. During the ZFBA period, customer complaints related to cleanliness at stops/stations and on vehicles increased. There were an average of 44 monthly complaints related to stops and stations being dirty during the ZFBA period, nearly double the 23 complaints received in June 2023. The level of complaints remained elevated in September 2023.

RTD also experienced an increase in complaints related to the cleanliness of its vehicles – from six complaints in June 2023 to a monthly average of 10 complaints in the ZFBA period.

This figure dropped to nine complaints in September 2023. Customer complaints related to cleanliness align with feedback from RTD's Service and Cleaning staff, who noted that more vehicles required cleaning and more time was needed to service vehicles during the ZFBA period.

The number of complaints about vehicles being full increased during the ZFBA period, from a monthly average of three in June 2023 to a ZFBA period average of six. This figure dropped to zero in September 2023. Security-related complaints held relatively steady across the four months, ranging from 79 to 92 complaints.

Figure 13. RTD Customer Complaints

	Jun 2023	Jul 2023*	Aug 2023*	ZFBA Monthly Average**	Sep 2023
Bus Dirty	3	8	7	7.5	9
Train Dirty	3	4	1	2.5	0
Total Vehicle Dirty	6	12	8	10	9
Bus Stop/Shelter Dirty	14	32	24	28	35
Train Station/Park-n-Ride Dirty	9	17	15	16	20
Total Stop/Station/Shelter Dirty	23	49	39	44	55
Security Concern	92	81	79	80	83
Bus/Train Full	3	5	9	7	0

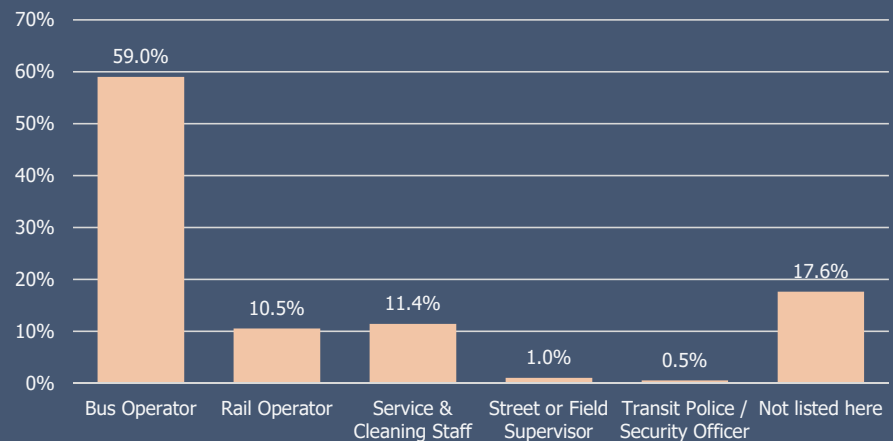
Employee Opinion

On September 4, 2023, RTD launched a survey of its frontline employees to gather their perspective and opinions on the Zero Fare for Better Air initiative in 2023. This survey was administered both online and on paper, and was available to frontline employees through September 18, 2023. In total, 218 surveys were completed and the results are as follows:

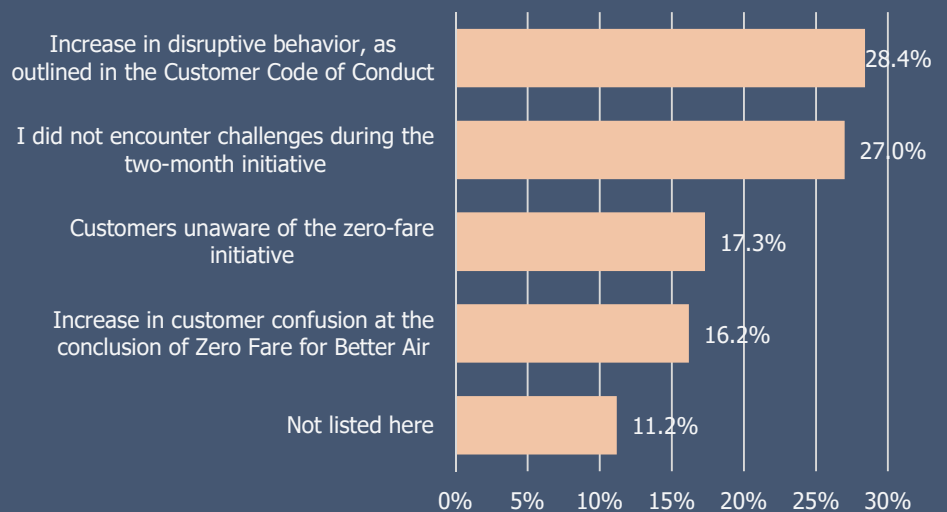
The majority of respondents reported that they are currently employed as bus operators with RTD (59%). While the second highest percentages of responses were “Not listed here,” most of the open-ended follow-up responses saw respondents identifying themselves as mechanics or other positions that fell into one of the other listed categories.

Next, respondents were asked the challenges they encountered during the ZFBA period. Employees were able to select multiple responses to this question, and the most commonly selected response

Q1. Which of the following best describes your current employment at RTD?



Q2. What challenges, if any, did you encounter during the two-month Zero Fare for Better Air initiative? Please select all that apply:

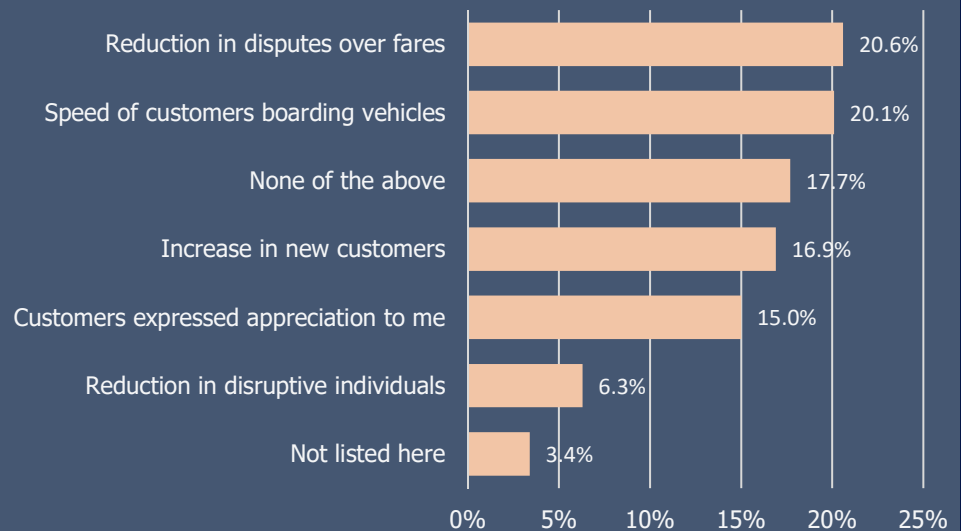


was an increase in disruptive behavior by customers at approximately 28%. It should be noted that a large portion of the “Not listed here” responses indicated issues that would be categorized as disruptive behavior by customers.

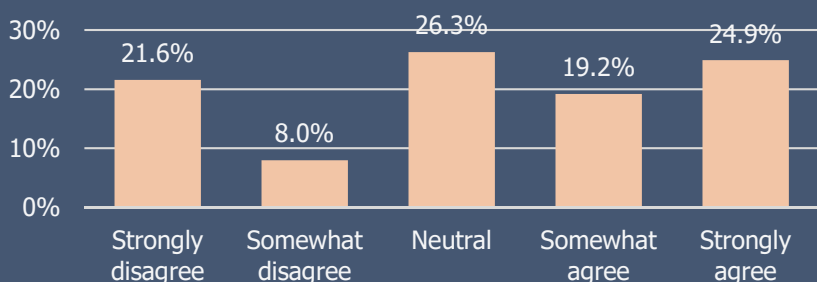
Survey respondents were also asked to identify any benefits for RTD customers that they observed during the ZFBA period. The two most commonly identified benefits were a reduction in disputes over fares (approximately 21%) and an increase in the speed of customers boarding vehicles (approximately 20%).

Approximately 44% of employees surveyed somewhat or strongly agreed that the ZFBA initiative fostered a welcoming environment for customers. Approximately 26% of respondents expressed a neutral perspective to this question, and nearly 30% somewhat or strongly disagreed with that statement.

Q3. What benefits, if any, did you observe with this year’s Zero Fare for Better Air initiative? Please select all that apply:



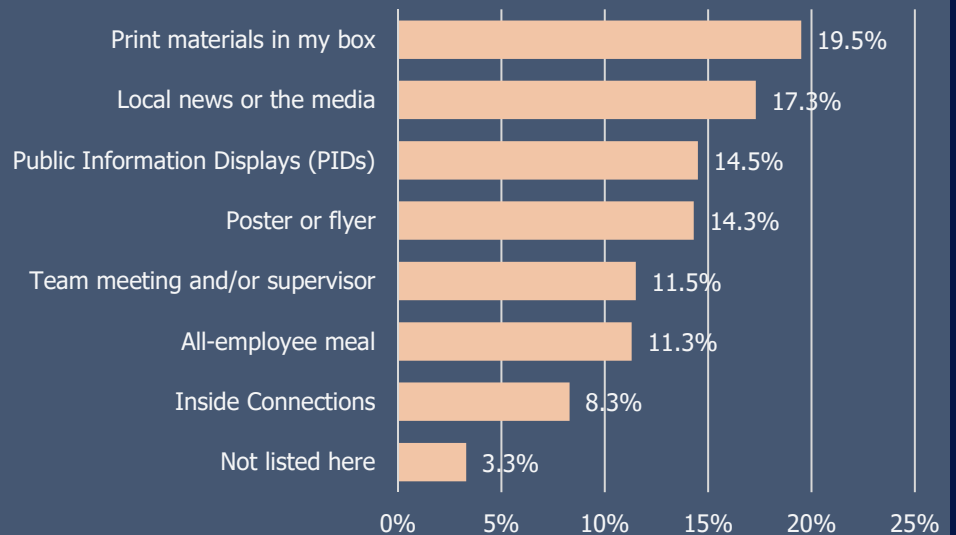
Q4. How much do you agree with the following statement: This year’s Zero Fare for Better Air initiative fostered a welcoming transit environment for customers.



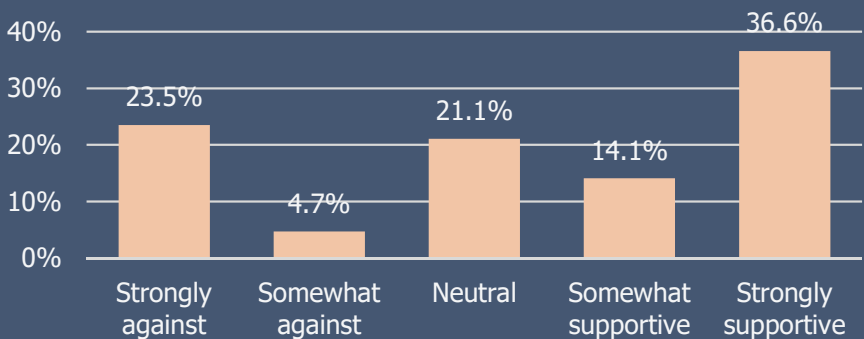
Frontline employees were also asked how they learned information about the ZFBA initiative. Most employees indicated that they received printed information about the initiative in their mailboxes at work (approximately 20%).

Finally, employees were asked how supportive they would be with the agency taking a part in a similar, state-wide initiative in 2024. Slightly more than half of the employees surveyed (approximately 51%) indicated that they would be somewhat or strongly supportive.

Q5. As an RTD employee, how did you learn information about the Zero Fare for Better Air initiative? Please select all that apply:



Q6. How supportive are you of RTD participating in a similar statewide initiative next year?



Environmental Impacts

As mentioned previously in this report, RTD received grant funding through the Colorado Energy Office's Ozone Season Free Transit Grant Program. The Colorado Energy Office describes this program as follows:

The program Ozone Season Free Transit Grant Program is designed to support the state's transit agencies to rebuild transit ridership and reduce driving during ozone season. Ground level ozone poses health risks to all Coloradans, particularly to vulnerable populations including the elderly, young children, and people with asthma or other respiratory diseases. Reducing vehicle traffic by encouraging the use of public transit is one key strategy to help reduce ozone-forming emissions and ground level ozone during the summer months. Transit ridership during the COVID-19 pandemic fell nationwide, and while vehicle traffic has returned as COVID cases have declined, transit ridership has yet to return to its pre-pandemic levels. Encouraging more people to ride transit is one essential strategy to achieve reductions in greenhouse gas emissions and air pollution.

To assess the environmental impact of the 2023 ZFBA initiative, RTD partnered with the Regional Air Quality Council (RAQC). The RAQC is the lead air quality planning agency for the nine-county Denver Metro/North Front Range Ozone Nonattainment Area. To estimate impacts to air quality, the RAQC utilized the GREET model, which stands for Greenhouse Gases, Regulated Emissions and Energy use in Transportation.

The model is from US Department of Energy Argonne National Laboratory and the National Office of Efficiency and Renewable Energy and is updated yearly. It is based on a combination of operational data, lab work and Motor Vehicle Emission Simulator modeling. The model is a plug-and-play tool that provides emissions factors for various model years for most types of vehicles and fuels in the transportation field and can provide full life cycle data as well as only operational emissions information.

Certain assumptions regarding RTD's ridership as well as regional travel patterns were made in order to develop inputs for the model. To determine environmental impacts from the ZFBA initiative, RTD needed to assess how many customers used RTD services during the ZFBA period solely because of the zero-fare offering, as well as how many people would have taken a vehicle had they not utilized transit. To determine this, RTD first assessed the percentage of the ridership increase that was due to normal seasonal variation (10%), the factor contributing most toward ridership changes after the zero-fare offering. Second, the agency used customer survey responses to determine how many customers would have traveled by personal vehicle had they not utilized transit (Question 9 from the customer survey).

The RAQC then assumed an average on-road age for vehicles based on state vehicle registration data and an average trip length (12.5 miles) based on Colorado Department of Public Health and Environment research with modeling input to estimate reductions in vehicle miles traveled (VMT), volatile organic

compounds (VOC), Nitrous Oxide (NOx), and greenhouse gases (GHG). VOC and NOx are both ozone precursors, and reductions of these in the atmosphere can help reduce ground-level ozone.

Based on these assumptions as inputs into the GREET model, the RAQC estimates that RTD’s ZFBA campaign led to a total reduction of 9,014,370 VMT, 2,583 pounds of VOC, 2,385 pounds of NOx, and 6,161,772 pounds of GHGs. This equates to a daily reduction of 145,393 VMT, 42 pounds of VOC, 38 pounds of NOx, and 99,383 pounds of GHGs. For context, the Denver Regional Council of Governments estimated that daily VMT in the Denver metro region was approximately 83 million in 2022.

Figure 14. Estimated Environmental Impacts

	Daily Reduction	Total Program Reduction
VMT	145,393 miles	9,014,370 miles
VOC	42 pounds	2,583 pounds
NOx	38 pounds	2,385 pounds
GHGs	99,383 pounds	6,161,772 pounds

Customer Survey Findings

RTD contracted with ETC, a survey consulting firm, to administer a survey to customers regarding the ZFBA initiative. The goal was to collect a minimum of 1,000 completed surveys. The goal was met with 1,117 completed surveys collected. The main purpose of the survey was to better understand customer behavior and characteristics during the two-month ZFBA period.

Methodology

The survey was carried out both aboard buses and trains and at key stops along bus routes and rail lines. Respondents were offered the choice of completing either a printed survey or accessing it through a QR code provided by surveyors. Route-level sampling distribution goals were based on average ridership numbers from the May 2023 runboard to ensure adequate coverage of the transit system. More than 100 additional customers were sampled to properly account for route-level distribution.

Random sampling was conducted by surveyors when distributing surveys amongst customers to avoid unintentional biases. Each survey conducted via the traditional intercept method was followed up with a short customer debrief to confirm full survey comprehension and completion. Surveyors were equipped with RTD badges and high visibility vests to be easily identified by customers and RTD employees. The reverse side of the surveyor badge contained a QR code for the Self-Administered Survey (SAS).

Major Findings

Respondent Overview

- » Regarding the length and frequency of their service use, more than half of respondents, 55.6%, said they have been using RTD services for more than three years
- » The second largest group of respondents, 18.1% overall, were those who have been using RTD services between one and three years
- » 46.4% said they use RTD services daily. Twenty-eight percent (27.6%) of respondents use RTD services frequently/several times each week
- » 32.6% said that the primary purpose of their trip was work related; the second highest percentage related to traveling home (16.3%); and the third highest percentage related to personal business (14.3%)

ZBFA's Effect on Mode Choice

- » 73.5% of respondents said that the ZFBA offering influenced their decision to use RTD services on the day that they were surveyed
- » 83.7% said that cost-savings from ZFBA were important regarding their decision to use RTD services for their trip
- » 84.7% said that environmental benefits of ZFBA were important regarding their decision to use RTD services for their trip
- » 71.5% planned to increase their usage of RTD services during the ZFBA period
- » When respondents were asked what transportation mode they would have taken had they not taken RTD for that specific trip:
 - › 24% would have driven themselves
 - › 21% would have gotten a ride with a friend or family member
 - › 20% would have walked
 - › 19% would have used a ride-share service (Lyft/Uber/etc.)
 - › 11% would have ridden a bike, skateboard, e-scooter, etc.
 - › 6% would have used a taxi service

Transportation Options

- » 79.3% of respondents rode local, limited, or regional buses during the ZFBA period
- » 71.1% used light rail or commuter rail
- » 25.7% rode the 16th Street Mall Shuttle
- » When asked about the modes of transportation they typically utilize aside from RTD services, almost half of respondents, 47%, said they can walk where they need to go

Customer Profile

- » The highest percentage of respondents, 23.1%, were between 25 and 34 years old
- » 54.2% were male
- » 72.3% described their ethnicity as non-Hispanic, and
- » 59.0% self-identified as white or Caucasian

Marketing and Communication Efforts

Marketing the program to ensure as many people as possible in the region were aware of the campaign was a critical effort. RTD's program promoted transit benefits and environmental impacts through an integrated, bilingual marketing campaign from June 15 through August 31, 2023. RTD embraced the opportunity to once again collaborate with regional partners to promote the ZFBA initiative as part of SB 22-180 and HB 23-1101, the ozone season transit program with the Colorado Energy Office.

RTD used system and on-vehicle assets to publicize the campaign including on transfluges (posters inside RTD buses and trains), bus kings and queens (large signage on street and curb sides), ticket vending machine decals, A-frame signage at stations, public information displays (internal and external), emails to RTD subscriber lists, on-vehicle and station announcements, and internal communications to RTD employees across the agency.

RTD placed an array of paid digital media to reach customers and community members across the service district, serving ads and videos on various sites to reach a bilingual (English/Spanish) audience, including YouTube, EyeQ Local, Hulu, Tremor, Pulpo, Unidos, Spotify, Pandora, Katz Media, 9News, Denver Life, and 5280. The agency also ran paid 30-second advertisements on local radio stations as well as news and traffic sponsorships.

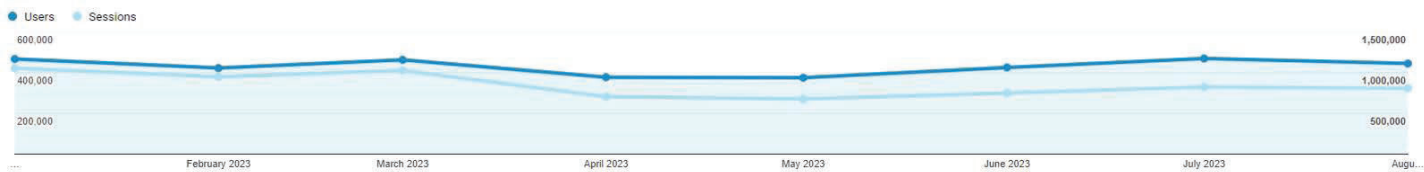
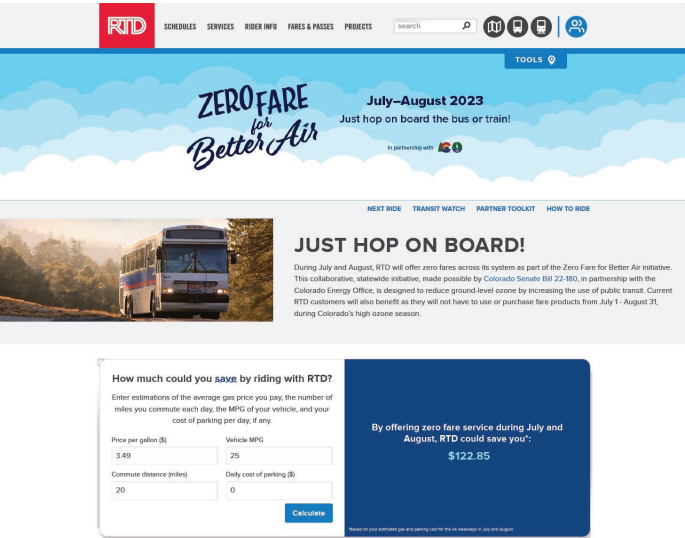
A series of print ads reinforced the message of ZFBA in publications including 5280 Magazine, Denver Life Magazine, La Voz, and Westword. Traditional out-of-home (static billboards) and digital out-of-home (digital coverage) assets were utilized across the service area to raise



visibility throughout the campaign duration. Including the social media efforts cited herein, the ZFBA initiative generated more than 97 million ad impressions, resulting in tremendous awareness of the effort across all channels.

Sitewide Engagement

RTD created a dedicated webpage, rtd-denver.com/zerofare, with a partner toolkit available to download to help support and promote the ZFBA initiative. The agency received a total of 189,640 page views from June 15 through August 31, 2023, with an average time spent on page of nearly three full minutes. The length of the engagement sessions, totaling more than 2 million, increased 49% across the website during this the ZFBA period when compared to the prior two months. Every channel generated an increase, which is notable based on the volume of paid media and marketing efforts in the market during this time period. Overall, RTD experienced the highest number of website users in July 2023, with the highest total sessions for 2023 year to date.



Social Media Efforts and Performance

RTD's social media outreach for the ZFBA initiative began on June 17, 2023, and ran through August 31, 2023. Outreach and promotion were conducted on Twitter, Facebook, Instagram, and LinkedIn. A series of social media carousels, i.e., a form of advertising that combines multiple videos or images into a single advertisement, kept awareness high, with fresh creative executions and messaging.

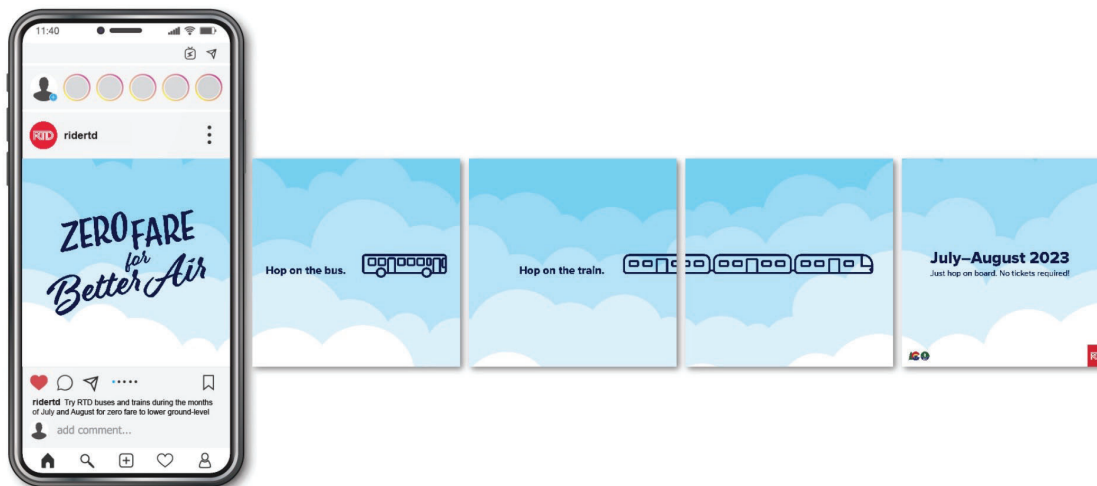
In total across all networks, RTD made 56 tagged published posts regarding ZFBA. RTD received 226 messages across all networks in response to the ZFBA published posts. Across all networks, RTD posts about ZFBA amassed 178,275 impressions, meaning the number of

times these posts were displayed to users. Over 126,000 impressions came from Twitter/X alone. ZFBA also saw 6,447 user engagements (likes, comments, shares, etc.) across all networks.

These engagements are summarized as follows:

- » Reactions: 2,625
- » Comments: 237
- » Shares: 445
- » Saves: 57
- » Post link clicks: 349
- » Other post clicks: 2,734

Posted videos accumulated 39,481 individual views across all networks.



Public Relations

RTD's Public Relations team introduced the 2023 ZFBA campaign with a partner orientation held in collaboration with the Marketing team the week of June 5, 2023. On June 8, 2023, RTD released its campaign webpage, rtd-denver.com/zerofare, complete with a partner toolkit of assets to extend the campaign reach. Starting on June 15, 2023, a rolling suite of multimedia assets was released across the service area. On June 22, 2023, RTD hosted a media kickoff event at Denver Union Station with regional partners, and approximately 50 people attended. The event also served as an outreach opportunity for the media and community to learn more about this effort, RTD in general, and regional partners.

The Public Relations team included stories about the campaign in the Read-n-Ride newsletter during July and August which was distributed to approximately 1,000 readers. Seven News Stop stories were published and news releases were sent relating specifically to the ZFBA initiative. During the two-month campaign period RTD was mentioned 93 times in the news and 40 times on broadcast.



Conclusions

Lessons Learned

Regular transit ridership increased, but ZFBA was likely not the only factor. The additional ridership observed during ZFBA, while a successful indicator overall, cannot all be attributed solely to ZFBA. Ridership gains may also be in part attributable to general post-COVID rebounding ridership, the start of the new academic year, as well as seasonal trends seen within the transit industry. While ridership increased 22% overall during the ZFBA period, RTD estimates that only 12% of this increase is attributable to ZFBA.

RTD absorbed the increased ridership without increases in service. While RTD was prepared for increased demand, the capacity increases were not necessary to support the increased ridership, and the agency was able to support the increased ridership without incurring significant costs related to increased service demand.

Changes in quality of life/crime incidents were mixed. As detailed in the report, some incidents, such as arrests, were down considerably during the ZFBA period. However, other incidents, such as vandalism, increased significantly compared to months before and after the initiative. Changes in reporting methods and points of emphasis over the course of the year make drawing conclusions from this data difficult.

Extensive use of paratransit services may have significant cost implications. Paratransit ridership increased significantly, again, year over year. ZFBA demonstrated the pent-up demand for paratransit services if those services are offered either at no cost to eligible customers or are deeply discounted. The subsidy per boarding for paratransit trips is among the highest of all modes; without a fare in place to manage demand, providing these trips may prove to be a significant financial burden for RTD. While third-party provided trips (such as Access-on-Demand) are typically less costly for the agency to provide, RTD must weigh the cost savings against the drawbacks of outsourcing a large number of trips.

The program helped improve air quality. RTD partnered with the RAQC to determine the impact of the program on air quality. Vehicle miles traveled in the region were reduced, which led to a reduction in greenhouse gas emissions and ozone precursors.

Systemwide Fare Study and Equity Analysis

As part of a separate effort, RTD concluded the Systemwide Fare Study and Equity Analysis in July 2023 with the adoption of a new fare structure by the RTD Board of Directors. The results of this effort dovetail with the lessons learned from the ZFBA initiative. The Systemwide Fare Study and Equity Analysis, which began in 2021, allowed the agency to reexamine its fares holistically, taking into consideration the three study goals of equity, affordability, and simplicity. The approved fare structure design was informed by financial, operational, technical and Title VI fare equity considerations, in addition to feedback provided by thousands of customers and community members through virtual and in-person

meetings, community events, surveys, focus groups and public comments. One major result of this planning was the implementation of a Zero Fare for Youth pilot program. This pilot program began on September 1, 2023, and will conclude on August 31, 2024. State legislators have developed a draft bill, to be considered during the 2024 legislative session, to provide funding beyond the first year. There has been overwhelming enthusiasm for the Zero Fare for Youth program because it will support youth accessing school and work, meet climate goals by encouraging additional ridership, provide youth with independence, and foster lifelong transit use.

Recommendations for Future Zero Fare Initiatives

While successful, ZFBA provides only a short time period for individuals to try public transportation and change travel habits. RTD's ZFBA initiative was a success, as it increased ridership, improved air quality, and was popular with customers, without major impacts to RTD's operations overall. Despite these successes, however, the cost of eliminating fares must be weighed against the modest increase in ridership and small reduction in VMT for the

Denver region. Without state funding to replace RTD's fares, eliminating revenue sources that can support RTD operations could have negative implications on RTD's long-term financial health. Less costly programs to entice ridership and grow regular transit customers should be considered in the future, and RTD will continue to work with the state to explore innovative options going forward.

