U.S. Department of Transportation, Climate Change Center Climate Strategies that Work

FREE AND REDUCED TRANSIT FARES

Free or reduced transit fares provide communities with accessible, affordable public transit options, fostering transportation equity and building inclusive communities.



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OVERVIEW

Best Suited for:

Long Term & Short Term Urban, Suburban, Rural & Tribal

Transit agencies nationwide are exploring the expansion of free- and reduced-fare programs to bolster ridership and public transit affordability, with an eye toward reducing vehicle miles traveled (VMT).

Fare-free policies and programs represent a proactive approach to transit accessibility. Benefits of this strategy include improved operational efficiency by streamlining boarding processes, and mitigated emissions as transportation system users opt for easy-to-use public transit over high-emitting transportation modes like driving. These initiatives make public transportation more financially accessible to all residents and contribute to more inclusive and connected communities.

Did you know?

A 2021 study found 17 of the 50 largest transit agencies have low-income reduced-fare programs (<u>Darling et al., 2021</u>).

Partial fare-free transit provides a targeted and more limited approach to bolstering public transit access and affordability. These programs still promote accessibility, ridership growth, and operational efficiency, while maintaining some farebox revenue. At least 39 public transit agencies in the United States offer totally fare-free transit, while many more offer service that is free to certain segments of the population or in a subsection of their service area. Fare reductions are standard practice for seniors and individuals with disabilities.

The success of fare reduction strategies is **further amplified** when integrated with transitoriented development (TOD) and public transit investments,

fostering more sustainable and interconnected communities while reducing reliance on single-occupancy vehicles.

Agencies can utilize various fare plans to meet diverse community needs and optimize ridership. **Key considerations may include:**

Targeted Demographics

- <u>Low-Income Riders:</u> Programs offering discounted fares or free passes ensure affordable access for those who need it most.
- <u>Children, Students, and</u>
 <u>Seniors</u>: Reduced fares for these groups encourage ridership and promote a culture of public transportation use.
- Veterans and People with
 <u>Disabilities</u>: Fare reductions
 can ease financial burdens
 and create a more inclusive
 transportation system.

Time-Based Fares

 Non-Peak Periods: Lower fares during off-peak hours can incentivize ridership during less crowded times, spreading demand throughout the day.

Mode-Based Fares

 Low Emission Modes: Reduced fares for more sustainable transportation modes can encourage travelers to select lower emission options.

Unique Settings

- <u>Low-Ridership Areas</u>: In areas where fares contribute minimally to revenue, fare reductions can stimulate ridership and revitalize service.
- <u>University Towns:</u> Discounted fares for students can enhance student mobility and promote sustainable travel choices.
- Resort Towns: Free or reduced fares can improve visitor experience, alleviate traffic congestion, reduce parking demand, improve safety on roads, and remove the need to navigate unfamiliar transit payment systems.
- <u>Event Management:</u> In the context of events like concerts and sporting events, free or reduced-fare public transit can incentivize non-traditional riders to utilize public transportation, reducing traffic congestion and parking concerns around event venues.
- <u>Temporary Service Disruptions:</u> In instances where regular transit service is disrupted due to planned maintenance, unexpected breakdowns, or other operational issues, transit agencies may implement fare-free shuttle or bus replacement services to mitigate inconvenience for passengers.
- Emergency and Disaster Response: During emergencies such as natural disasters, severe weather events, or public safety incidents, fare-free or reduced fare transit programs play a critical role in ensuring continuity of mobility and access for affected communities.

GREENHOUSE GAS REDUCTION POTENTIAL

This section provides an overview of greenhouse gas (GHG) emission reductions associated with the strategy. It highlights key findings and relevant metrics from GHG modeling resources, peer-reviewed studies, and real-world applications.

PUBLIC TRANSIT IS MORE EFFICIENT THAN OTHER MODES OF TRAVEL

A National Academies study found that passengers contributed 55% fewer GHGs per mile by riding U.S. transit in 2018 than those driving or ride hailing alone (NASEM, 2021).

Public transportation emissions averaged 0.23 kg CO_2e per passenger mile across all transit modes in 2018 including direct, indirect, and upstream GHG emissions. Meanwhile, the average Light-Duty Personal Vehicle Emissions—a weighted average of passenger cars, pickup trucks, vans, and sport utility vehicles—was 0.51 kg CO_2e per mile of direct, indirect, and upstream GHG emissions at 22.5 mpg (NASEM, 2021).

Did you know?

Even with less than 30% of its seats full, a typical bus emits a third less greenhouse gas emissions per passenger mile than the average single-occupancy U.S. vehicle (Federal Transit Administration, 2010).

DEMONSTRATED BENEFITS ACROSS THE U.S. BY TRANSIT AGENCY

Breckenridge, CO: Breckenridge, Colorado Free Ride Transit Agency, in a Livability Grant to the federal government, cited having a reduction of 202,336 pounds of CO₂ emissions in a year from choice riders using the system (NASEM, 2012).

Boston, MA: An evaluation of a Fare Free Bus Pilot in Boston estimates a total emissions reductions from a three-route pilot to reduce 1,730 annual metric tons CO_2e , cutting .03% of the city's total carbon emissions. If expanded to the rest of the Massachusetts Bay Transportation Authority (MBTA) buses, Boston would eliminate almost 2% of its total emissions (Boyle et al., 2021).

Kansas City, MO: Mid-America Regional Council's travel demand model suggests that increased ridership due to zero fare in Kansas City could result in an annual reduction of approximately 7,000 tons of carbon dioxide emissions, or 0.2% of regional transportation sector emissions (<u>Mid-America Regional Council, 2022</u>).

California: A study by the California Air Pollution Control Officers Association (CAPCOA) estimates that reduced transit fare programs can reduce GHG emissions by 1.2% (<u>CAPCOA</u>, 2021).

How was this calculated? The quantification looks at the San Jose-Sunnyvale-Santa Clara area, where transit and vehicle mode shares are 6.69% and 91.32%, respectively. Assuming the maximum decrease in transit fares is 50% and implementation is across all transit routes (100%) in the plan/community, the user would reduce plan/community GHG emissions from vehicles miles traveled (VMT) by 0.6% (<u>CAPCOA, 2021</u>).

FREE AND REDUCED TRANSIT FARES LEADS TO VMT REDUCTION

Studies conducted in Montgomery County, MD, explored the impact of various fare-reduction policies on VMT, including free fares and 50% fare reduction. The analysis revealed that free fares for all riders resulted in the most significant reduction in VMT. Free fares led to an estimated decrease of around 7 vehicle miles per resident annually – roughly equivalent to a single local shopping or personal errand trip.

Interestingly, the study also found that means-tested discounts, while beneficial, had a smaller impact on VMT reduction compared to broader fare reductions. This suggests that fare reductions can incentivize not only low-income riders, who may already rely on public transit, but also higher-income residents who might be considering alternative transportation options for shorter trips (Montgomery County DOT, 2021).

Colorado's Regional Air Quality Council (RAQC) estimates that the Zero Fare for Better Air (ZFBA) campaign for the Denver transit system led to a 12% increase in ridership. This increase in transit use translates to daily reductions of nearly 150,000 VMT, 42 pounds of volatile organic compounds, 38 pounds of nitrogen oxides, and approximately 100,000 pounds of GHGs (<u>Regional Transportation District Denver,</u> 2023).

The Sacramento Council of Governments modeled the impacts of a Free Transit Fare Policy on travel patterns and found that free transit fares would lead to decreases in daily VMT of 0.2% and vehicle hours of delay of 0.4%, and an increase transit ridership of 30.6% (Fehr & Peers, n.d.).

CO-BENEFITS

This section outlines the multiple co-benefits associated with the strategy, including safety benefits, local air quality improvements, and improved accessibility. Each cobenefit presents examples that demonstrate how the strategy enhances regional or community well-being while addressing emissions.

SAFETY

There is evidence that zero fare programs, particularly those implemented during the COVID-19 pandemic, improved security on transit systems. On RideKC in Kansas City, MO, security incidents dropped by more than 39% from 2019 to 2020 and incidents per 100,000 riders declined by about 17% (Mid-America Regional Council, 2022).

Free and reduced fares encourage more travelers to choose public transit over cars. Passenger transportation by transit is significantly safer than transportation on highways. In 2021, there were 197 fatalities reported on transit in the country, compared to nearly 42,939 highway deaths (BTS, 2021).

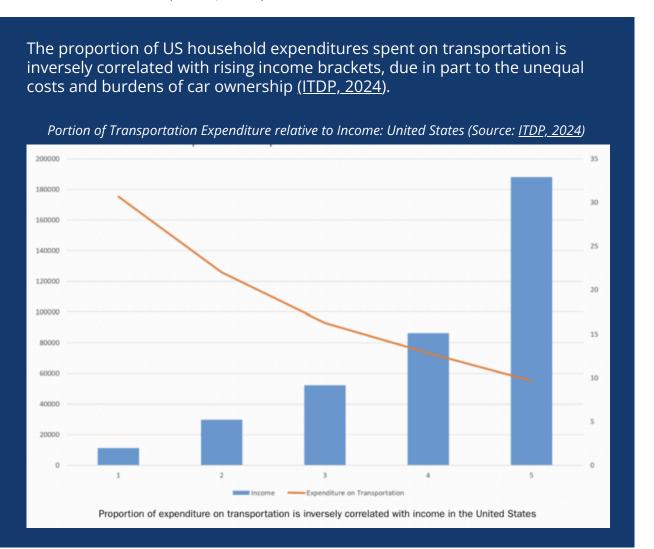
Eliminating fares can reduce fare disputes between operators and passengers, allowing them to focus on safe and efficient travel (SUMC, 2022).

ACCESSIBILITY AND EQUITY

Persistent barriers to opportunity have disproportionately impacted communities of color, limiting their access to essential services, employment opportunities, and cultural amenities. Fares represent a significant financial barrier for lowincome riders, further exacerbating disparities in mobility access. By minimizing this financial burden through reduced or zero fares, transit agencies can help alleviate the transportation-related hardships faced by marginalized communities. This not only enhances their ability to access critical resources and employment opportunities but also fosters greater equity across the transportation network (Darling et al., 2021).

Free and reduced transit fares increase access to essential services. A study conducted as part of the Urban League of Greater Kansas City's annual "State of Black Kansas City" report in 2022 asked 1,686 riders for their feedback on what Zero Fare has enabled them to do.

About 92% said it allowed them to shop for food more often; 88% said they could see their healthcare providers more easily or more often; 82% said it allowed them to get or keep a job; and 86% said it made them feel like city leadership is concerned about their needs (Smith, 2022).



ECONOMIC GROWTH

Transit use supports economic development by shifting consumer spending. The money saved by low-income transit riders through fare-free or reduced fare programs can circulate through the economy, stimulating local businesses and services (<u>Litman, 2024</u>).

Although removing or reducing fares reduces revenue from fare collection, it may also attract new ridership and stimulate economic activity along transit corridors, potentially offsetting revenue losses through increased sales tax revenue and other economic benefits.

For example, the annual economic impact of continuing a zero fare program in Kansas City was estimated in terms of employment and economic output – the program would raise regional employment two-fold, increase economic output by \$4.2 million, and increase personal income in surrounding communities by \$1.3 million (Mid-America Regional Council, 2022).

AIR QUALITY AND HEALTH

Reduced fare encourages transit ridership, potentially reducing dependence on single occupancy vehicles. Reducing the number of emissions-emitting vehicles on the road

(especially in densely-populated areas) will decrease air pollutants that are harmful to human health (<u>Litman</u>, 2024).

Reduced or free transit facilitates better access to health care. Interviews conducted throughout a MIT evaluation of low-income transit riders in Boston suggests when transit cost is an issue, individuals are more likely to forgo healthcare trips for chronic conditions compared to acute illnesses or emergencies (Rosenblum et al., 2019).

Reduced or free transit facilitates better access to healthy food. In surveys conducted by U.S. Hunger, 42.6% of individuals reported that they do not have access to transportation to go to grocery stores that provide fresh and healthy food options (U.S. Hunger, 2022).

With funding from the National Institutes of Health (NIH) and Environmental Protection Agency (EPA), the University of Missouri-Kansas and Children's Mercy Hospital, are researching if free-fare buses help people get more physical activity, better access to health care, and sources of healthy food.

Read more, here.

COST CONSIDERATIONS

COST EFFECTIVENESS

Administrative Cost Savings: By removing fare collection processes, such as ticketing and fare enforcement, smaller transit systems can reduce overhead costs and allocate resources more efficiently to other areas of service provision and maintenance.

There may be a more viable argument for removing fares in cities where fares make up smaller percentages of transit operating budgets. In the case of Kansas City, before introducing free transit, fares in 2011 to 2014 made up only 7 to 12% of the buses' operating budget, or an average of \$12 million annually. Meanwhile, fare collection was costing the city \$2 to \$3 million annually (<u>Picciotto, 2023</u>). In New York City, fares make up a much larger 23% of the transit agency's operating budget (<u>Metropolitan Transit Agency, n.d.</u>).

Operating Efficiency: Eliminating fares streamlines boarding processes and therefore reduces dwell times at stops. This efficiency leads to timelier departures, which can improve service punctuality and frequency.

A study by the National Association of City Transportation Officials (NACTO), found that on busy routes the time spent waiting for passengers to board and depart the bus, known as "dwell time", can be as much as one-third of bus travel time (NACTO, 2017).

Results from a fare free pilot in 2023 in the City of Lawarence, Kansas demonstrate that on-time performance increased by 8% overall across 12 City and Coordinated routes (<u>Lawrence Transit</u>, 2023).

FUNDING OPPORTUNITIES

Federal Highway Administration (FHWA) Flexible Funds: In addition to FTA grant programs, certain funding programs administered by FHWA, including the Surface Transportation Block Grant (STBG) Program and the Congestion Mitigation and Air Quality Improvement (CMAQ) Program, may be used for public transportation purposes. These "flexible" funds are transferred from FHWA and administered as FTA funding, taking on the requirements and eligibility of the FTA program to which they are transferred. See 49 USC 5334(i) and FRA's Join Development Circular for more detail.

FTA's <u>Accelerating Innovative</u>
<u>Mobility Grants</u> provide funding to support the development, testing, and implementation of innovative technologies, practices, and service models that improve public transportation.

FHWA's **Congestion Mitigation and Air Quality Improvement (CMAQ)**

Program funds may be used with conditions to support innovative fare policies and financial incentive strategies designed to encourage transit use and reduce exceedances of air quality standards. CMAQ funds may be used to offer reduced fares or free transit or vanpool services when these subsidies are part of an area-wide strategy for reducing emissions during peak periods of ozone pollution.

USDOT's **Reconnecting Communities** and Neighborhoods (RCN) Program

provides grants to improve multimodal transportation access, to foster equitable development, and to remove, retrofit, or mitigate highways or other transportation facilities that create barriers to community connectivity. Projects that improve walkability, safety, and affordable transportation access are eligible for funding.

usdot's <u>Flexible Funding for Transit</u> and Transit Access program reduces emissions through transit investment. Transferring, or flexing, funds from Federal Highway programs to the Federal Transit program facilitates federal investments at the local level for measures that improve access, particularly for underserved groups.

COMPLEMENTARY STRATEGIES



Free and reduced transit fare strategies further incentivize people to use public transportation, increasing ridership and supporting the viability of TOD. Free and reduced transit fare strategies can also help mitigate transportation costs, making it more attractive to live in TOD areas and reduce barriers to accessing employment, education, and essential services. TOD and free and reduced transit fare strategies work together to promote equitable access to transportation while reducing GHG emissions.



Integrated transit networks can help maximize the impact of free or reduced fare programs by ensuring that subsidized transit services are well-connected and easily accessible to the communities they serve. Conversely, offering free or reduced fare transit passes can encourage more people to use public transportation, thereby increasing demand for integrated transit services and further justifying investments in transit integration initiatives.



Free or reduced fare transit programs incentivize transit use, thereby reducing demand for parking. Parking reform initiatives incentivize commuters to explore other transportation options, including utilizing free or reduced fare transit services.

View All Strategies

CASE STUDIES

SAN MATEO SAMTRANS' MEANS-BASED FARE PILOT

SamTrans joined the Regional Means-Based Fare Pilot Program (Clipper START Pilot Program), administered by the Metropolitan Transportation Commission, in January 2021 and will continue through June 2023. This initiative targets adults aged 19 through 64, residing in any of the



Source: SamTrans

nine San Francisco Bay Area counties, with an annual household income at or below 200% of the Federal Poverty Level. Participants, upon acceptance and enrollment, enjoy a 50% fare discount on adult single rides. Additionally, the program introduces the SamTrans Youth Unlimited Pass, offering free rides for six months to eligible students. The student program targets users that previously didn't use public transportation; There are existing unlimited bus fares for Socioeconomically Disadvantaged (SED) students.



Source: Federal Transit Administration

UTAH TRANSIT AUTHORITY (UTA) FARE FREE FEBRUARY

UTA's Fare Free February initiative in 2022, offering fare waivers throughout the month, led to substantial increases in ridership, particularly among the 47% identified as "choice" riders with access to private vehicles. Weekday ridership saw a commendable uptick of 16.2%,

while weekends witnessed more pronounced spikes at 58.1% and 32.5%. Intriguingly, over one-fifth of participants were new riders. The program's emphasis on equity benefits aligns strategically with broader goals of improving cost efficiency, enhancing quality of life, and fostering accessibility. Post-program, UTA implemented the Reduce Fare FAREPAY Card, providing a 50% discount off the public fare to all qualifying seniors, youth, persons with disabilities, and individuals who qualify based on income. This initiative further contributes to the promotion of inclusive and accessible public transportation.

RIDE ON MONTGOMERY COUNTY, REDUCED OR FREE FARE STUDY

In response to the pandemic and public health concerns, Ride On in Montgomery County implemented a back-door policy, effectively discontinuing fare collection. A back-door policy allows passengers to enter and exit the bus through the rear doors, bypassing the fare collection point typically located at the front doors. As of this writing, the program has since remained in effect. Ride On serves individuals with an estimated median customer income around \$35,000, notably lower than the county's \$108,000 median income. About two-thirds of Ride On customers lack access to an automobile, and most riders come from households struggling to cover basic needs.



Source: Montgomery County



Source: Autoridad de Transporte Integrado

PUERTO RICO

Hurricane Irma and María significantly impacted public transit ridership in Puerto Rico. While in 2016, the system boasted nearly 7.9 million users, 2023 ridership hovered below 3, with 2.7 million users. To reactivate ridership, the Puerto Rico Integrated Transportation Authority (ATI) implemented a free fare program during the rollout of a new ticketing and access systems. The initiative began in March 2024 and was slated for six months. The free fares applied across the entire island, encompassing all routes serviced by:

- The <u>Urban Train</u> (Tren Urbano or TU)
- The Metropolitan Bus Authority (Autoridad Metropolitana de Autobuses, or AMA) buses
- Metro Urbano (bus rapid transit operating between the municipalities of Toa Baja and Bayamón and from Caguas to Cupey)
- Metrobús (fixed route linking San Juan with Río Piedras)
- 'Your Connection", or 'Tu Conexión' (bus service connecting suburban residents to centers in San Juan and Old San Juan)

During the <u>first week of free service</u>, ridership grew by 26%, exceeding 53,200 passengers.

IMPLEMENTING FREE AND REDUCED TRANSIT: WHAT TO READ NEXT

Tailored Approach

There is no single, optimal approach to free or reduced fares. The most effective program design will depend on a specific region's unique needs and desired outcomes.

Ealuating existing programs in other cities offers valuable insights.

Consider: Ride On Zero & Reduced Fare Study, Montogomery County DOT

The Implications of a Fare-Free WRTA, Worster Regional Research Bureau, Inc

The Road To Transit Equity: The Case for Universal Fareless Transit in Los

Angeles

Scaling Up Effectively

High ridership stemming from fare reductions is a positive outcome, but it necessitates proactive planning. Transit agencies must strategically allocate resources to accommodate increased demand. This may involve:

- Optimizing Service: Analyzing ridership patterns to adjust routes and schedules as needed.
- Enhancing Capacity: Investing in additional vehicles and infrastructure to manage ridership growth.
- Strengthening Maintenance: Ensuring existing and new vehicles are properly maintained to ensure service reliability.

Funding Strategies

Implementing fare-free systems may necessitate exploring alternative revenue models, such as increased local and state government support, public-private partnerships, or innovative funding mechanisms.

Davis County, Utah, leverages local businesses to fund its free trolley bus. Read more here.

In Philadelphia, nearly two dozen institutions have partnered with the Southeastern Pennsylvania Transportation Authority (SEPTA) to provide free transit to their employees. Among the institutions, include the City of Philadelphia, Penn Medicine, Drexel University and Wawa convenience stores. Read more <u>here</u>.

Phased Implementation

Often, a pilot program with a limited scope is a prudent first step. Piloting fare reductions on specific routes or for targeted demographics allows for:

- Data Collection: Gathering data on ridership changes, cost impacts, and social equity benefits.
- Program Evaluation: Assessing the program's effectiveness and identifying areas for improvement before full-scale implementation.



Partnerships for a Seamless Experience, Success Story

Kansas City Area Transportation Authority (KCATA) has leveraged partnerships with local shelters and advocacy organizations to proactively address onboard disruptions. In combination with requiring individuals to get off the bus after each route cycle, case management teams are put on the agency's vehicles to offer resources and ensure unhoused individuals are effectively supported (<u>Shared-Use Mobility Center, 2022</u>).

Read more here.

RESOURCES

GENERAL RESOURCES

with Disabilities, and Medicare
Cardholders Policy: Under 49 U.S.C.
Section 5307, federally subsidized
transit providers may not charge more
than half of the peak fare for fixed route
transit during off-peak hours for
seniors, people with disabilities, and
Medicare cardholders. This policy
increases access to transit for these
major swaths of the population, while
also assisting some of the people who
are most likely to benefit from reduced
financial burden to use transit.

Shared-Use Mobility Center MLC, Zero-Fare Transit: This resource compiles key takeaways from the Mobility Innovation Collaborative on the benefits and considerations of zero-fare transit programs.

FRAMEWORKS

<u>—An Evaluation Framework</u>: This Transportation Research Board webinar offers a framework for evaluating the effectiveness of fare-free transit policies and programs.

Transit Center, A Fare Framework: How Transit Agencies Can Set Fare Policy
Based on Strategic Goals: this report details three different cities fair policies and the strategic goals considered,

including factors like revenue generation, ridership, ease of payment, and fare discounts for low-income riders.

Comparison of Reduced-Fare
Programs for Low-Income Transit
Riders: This journal article analyzes
existing low-income fare programs
in major transit agencies,
comparing them to identify
common practices and develop a
method to assess the "fare burden"
for program participants.

LOCAL STUDIES AND EVALUATIONS

Ride On Zero & Reduced Fare
Study, Montogomery County DOT
(2021): This study by the
Montgomery County Department
of Transportation analyzes the
potential equity impacts of zero
and reduced fare options for its
transit system, with lessons
learned, case studies, and
resources applicable to similar
contexts.

The Implications of a Fare-Free WRTA, Worster Regional Research Bureau, Inc. (2019): This research by the Worcester Regional Research Bureau investigates the potential social, economic, and operational consequences of implementing a fare-free system

on the Worcester Regional Transit Authority.

The Road To Transit Equity: The Case for Universal Fareless Transit in Los

Angeles: This report by Strategic Actions for a Just Economy (SAJE) examines the case for universal fare-free transit in Los Angeles, exploring potential benefits like ridership increases, reduced emissions, and improved access for low-income residents.

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