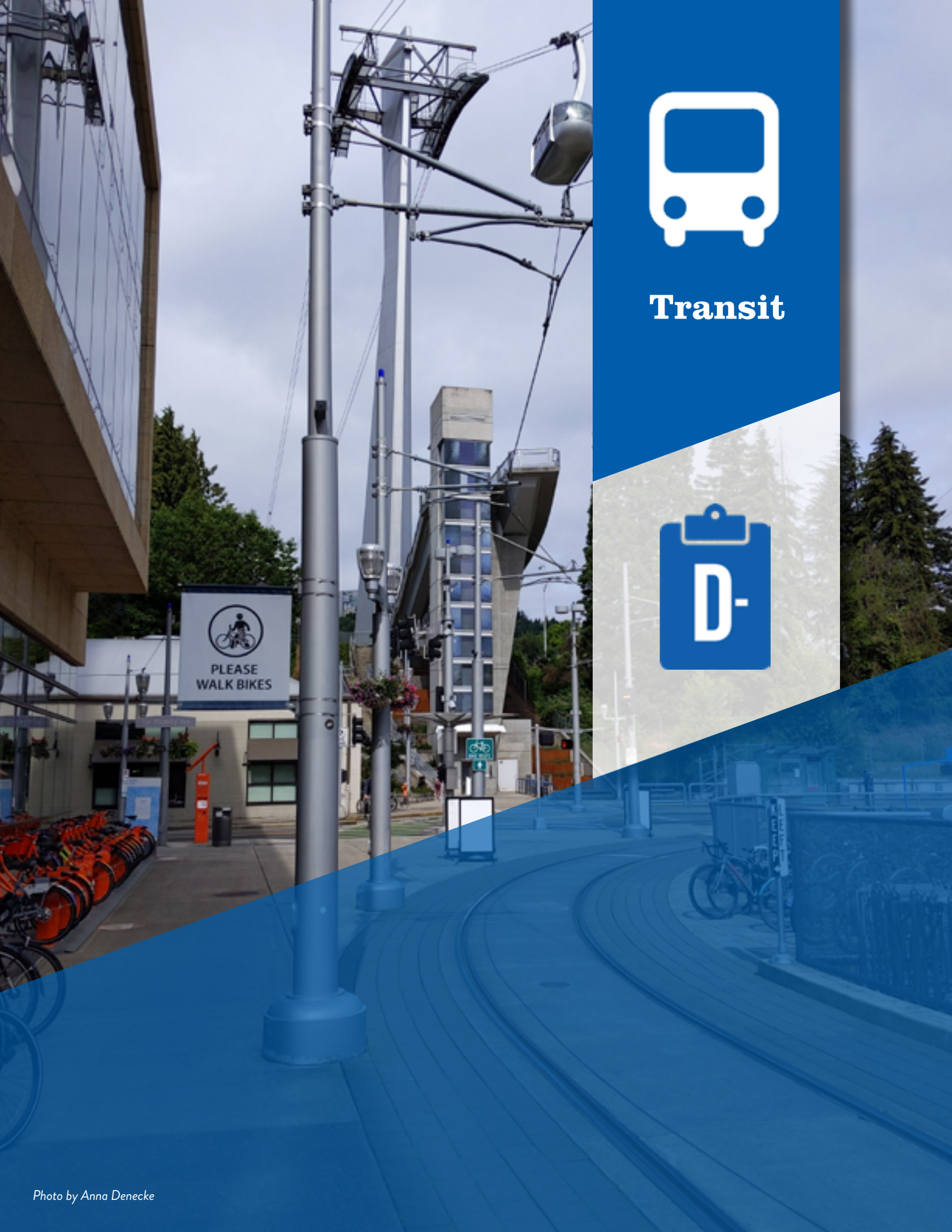

Transit

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Photo by Anna Denecke

EXECUTIVE SUMMARY

Public transit is essential to everyday living in communities across the country, providing access to jobs, schools, shopping, healthcare, and other services, while enabling equitable access and sustainable mobility options. Unfortunately, 45% of Americans have no access to transit. Meanwhile, much of the existing system is aging, and transit agencies often lack sufficient funds to keep their existing systems in good working order. Over a 10-year period across the country, 19% of transit vehicles, and 6% of fixed guideway elements like tracks and tunnels were rated in "poor" condition. Currently, there is a $176 billion transit backlog, a deficit that is expected to grow to more than $250 billion through 2029. Meanwhile, transit ridership is declining, a trend compounded by the COVID-19 pandemic. Failure to address the transit revenue shortfall will only exacerbate ridership declines as service cuts mean that trip delays and reliability issues become more frequent. This stands to increase congestion, hamper the economy, and worsen air quality in the coming years.

CAPACITY & CONDITION

Transit has a presence in every state and community across the nation, whether it's heavy rail systems in New York, Atlanta, San Francisco, or Washington D.C.; light rail transit in Boston, Denver, or Minneapolis; bus rapid transit lines in Los Angeles, Cleveland, and Albuquerque; or bus networks and paratransit services that connect urban and rural communities across the country.

In total, there are about 6,800 organizations in the U.S. that provide transit services. In 2018, the Federal Transit Administration reported 2,207 transit systems received federal grant money, 928 of which were in urbanized areas and 1,279 in rural areas. Since the 1970s, transit has shown long-term growth in ridership, especially as networks have expanded beyond their traditional footholds. While the overall number of transit passenger trips has increased by 37% over the past 50 years, the total number of trips has decreased by 8% since its peak in 2014. The COVID-19 pandemic has only sharpened this decline, with the

BUS STOP IN HUNTINGTON BEACH, CALIFORNIA

American Public Transportation Association (APTA) reporting at the beginning of the pandemic that stay-at-home orders caused some agencies to experience a 70% passenger decline.[1][2][3][4]

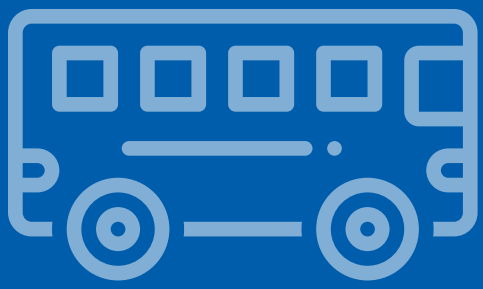
Between 2017 and 2019, there was a slight decline in total ridership from 10.1 to 9.9 billion passenger trips. Over this period, bus ridership continues to be the most used form of public transit, averaging 4.7 billion passenger trips annually, followed by heavy rail at 3.8 billion, light rail at 524 million, commuter rail at 503 million, demand response at 207 million, and trolley bus at 81 million passenger trips annually.[5]

Many transit systems have invested in expansion to improve access and service levels. Over the last two decades, 52 new systems and 124 extensions have opened, resulting in a total of 1,393 additional segment miles. In 2019, this expansion resulted in the nation's transit system comprising over 240,000 route miles. Additionally, buses operate on over 226,000 miles of streets and roads. While most bus services operate in mixed traffic, service is also provided on 4,864 miles of exclusive and controlled right-of-way, of which 1,105 miles are exclusive fixed guideway, where only transit can operate, allowing for greater travel time reliability. Furthermore, commuter and hybrid railroads operate over a combined 9,227 miles, a 12% growth in miles over a 10-year period, while light rail/street cars operate on 1,811 miles, a dramatic 30% increase over that same 10-year period.[6]

It has been reported that 41.7% of U.S. households have only one vehicle or less and could benefit from transit options, and 45% of Americans have no access to transit. System growth has the potential to increase capacity, but it must be coupled with routine maintenance for the older parts of the system. Unfortunately, capital investments for a growing number of state-of-good-repair needs has not taken place. As a result, transit users face increased delays due to service interruptions, and agencies are grappling with growing maintenance and vehicle procurement costs. Under the most recent 10-year projections, spare vehicle costs are expected to grow to $770 million, while vehicle maintenance costs are likely to grow to $7.3 billion. These delays will cost passengers nearly $1.2 billion over the next 10 years.[7][8][9]

Unfortunately, the COVID-19 pandemic has caused major disruptions across all transit agencies. Nationally, transit ridership and fare revenues were down in April 2020 from April 2019 by 73% and 86%, respectively. As the pandemic drags on and continues to negatively impact ridership, this trend will continue to create difficult financial situations as agencies look to improve their transit infrastructure.

Transit vehicles and physical infrastructure must both be in good condition for the system to perform to expected levels. Yet, in 2017 the Department of Transportation reported that over a 10-year period, 36.4% of facilities (bus and rail maintenance buildings and equipment/storage yards), 21.4% of systems (train control, electrification, communications, and revenue collection), 18.5% of vehicles, 6.4% of fixed guideway elements (tracks, tunnels, and bus guideways), and 5.5% of stations rated in "poor" condition.[10] As a result, reliability challenges

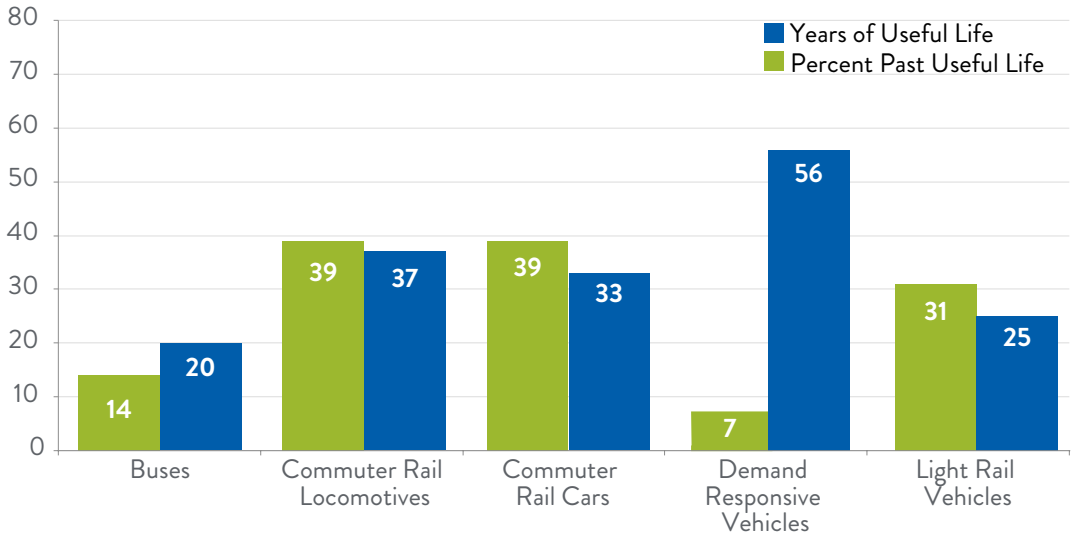


Transit users face increased delays due to service interruptions, and agencies are grappling with growing maintenance and vehicle procurement costs.

frequently plague our nation's transit systems. Failure to address these systemic problems will likely cause more trip delays and travel time uncertainty, perpetuating ridership declines that result in reduced funding available for operation and maintenance.

Aging assets mean that state and local governments must increasingly fund transit system operations and maintenance work. The American Association of State Highway and Transportation Officials (AASHTO) recently reported that more than $19 billion was spent by state DOTs on transit systems, $11.5 billion was spent on operating costs, $4.4 billion on capital, $3.1 billion on unrestricted, and $6.5 million was spent on planning.[11]

Transit Vehicles Past Useful Life



FUNDING & FUTURE NEED

Transit system operating budgets traditionally rely on fare revenue and state and local funding. In 2018, total transit funding increased by 1.8% to $74.2 billion from the previous year total of $71.1 billion. The Federal Transit Administration (FTA) also reported in 2019 that directly generated revenues funded 35.7% of transit operating expenses, state sources covered 23%, local resources covered 34.2%, and federal funding covered the remaining 7.1%. Under these conditions, a backlog of $176 billion for transit investments has emerged and is expected to grow to more than $250 billion through 2029.[14] [15]

As part of transit's federal funding, the Fixing America's Surface Transportation (FAST) Act provided roughly $60 billion to the FTA, both through general fund authorizations and Highway Trust Fund (HTF) contract authority through the Mass Transit Account. Of this $60 billion, $12 billion is authorized under general fund appropriations to be directed to numerous FTA programs, including the Capital Investment Grant (CIG) program. CIG serves as the primary federal discretionary source of funds for transit expansion. While it is currently authorized at $2.3 billion, recent efforts in both fiscal year (FY) 2018 and 2019 have seen an increase to $2.6 and $2.5 billion, respectively. The remaining $48 billion is directed out of the Highway Trust Fund (HTF) to support transit infrastructure, including a combined $12.9 billion for state-of-good-repair needs. In October 2020, Congress passed a one-year extension of the FAST Act, which extended the law's FY 2020 authorization levels to FY 2021. This includes a total of $12.5 billion for FTA and $2.3 billion for CIG.

The COVID-19 pandemic has at least temporarily increased the federal government's funding role for transit. While much is yet to be determined for stabilizing this system, $25 billion in emergency relief funding for operating expenses went to transit agencies as part of the CARES Act to mitigate lost tax and passenger revenue during the pandemic. Under the Consolidated Appropriations for FY 2021, Congress provided an additional $14 billion in relief.

Federal funding is critical to supporting robust transit systems. However, the state and local role is similarly essential to ensuring populations have access to transit and these systems are kept in good working order. There has been a slight increase in state transit funding, from $18.1 billion in 2016 to $19.2 billion in 2018. Additionally, local support for transit investment has also continued to grow. Since 2017, APTA reported that over 70% of all transit-related ballot initiatives in the U.S. were approved. Recent success has provided additional funds and demonstrated a public interest in further investment in our transit systems, as seen in Table 1.[16 17 18 19]

Ballot Measure Results for Transit, 2018-2020

	2018	2019	2020
Public Transit Measures on the Ballot	38	20	52
Wins for Transit	31	16	47
Losses for Transit	7	4	5
Revenue Total (Billion $)	$2.28	$7.23	$1.88

BART TRAVELS ABOVE GROUND IN THE BAY AREA.

PUBLIC SAFETY

In 2018, there were 255 transit-related fatalities across the nation. Over a three-year period, total transit-related fatalities have remained relatively stable with a slight uptick in incidents. Comparatively, motor vehicle fatalities have remained high, exceeding 35,000 deaths a year since 2017.[20 21 22]

Recent studies have found that areas with strong public transportation networks have significantly lower overall traffic fatality rates. Metro areas with high transit ridership have half the traffic fatality rates as metro areas with less transit ridership. Specifically, metro areas with over 40 annual transit trips per capita have about half the traffic fatality rate of metro areas with fewer than 20 transit trips per capita. Robust investment in transit systems develops life-saving benefits because this mode provides an alternative for high-risk and vulnerable road users as well as compact development that encourages safer traffic speeds.[23]

CONSTRUCTION FOR THE LOS ANGELES REGIONAL CONNECTOR

RESILIENCE

Transit systems' resilience has been strained in recent years due to a variety of hazards, such as sea level rise, extreme winter weather, and the global health pandemic.

Transit resilience must accommodate the needs of individual communities, including system availability and accessibility, to promote healthy, economically viable, and environmentally friendly communities. Recent studies have shown that improved transit access has the potential to increase employment opportunities and broaden overall economic activity. Seen over a 20-year period at current wage rates, for every $1 billion invested in public transportation, roughly 49,000 jobs are created.

In recent years, transit agencies have taken strides to minimize their environmental impact, moving fleets toward less reliance on fossil fuels, which accounted for a reduction in fuel consumption by 4.16 billion gallons in 2017, and a decrease of another 1% the following year. Twenty-five years ago, 95% of the nation's bus fleet was diesel powered, but that number has dramatically decreased now to only 42%. Furthermore, hybrid electric buses saw an increase from just 1% in 2005 to 18% in 2019. Meanwhile, natural-gas–powered buses saw an increase from 18% in 2009 to 29% in 2019. [24] [25]

New resilience challenges have also emerged amid the COVID-19 pandemic. While transit has played a key role in safely moving essential workers, an emerging task from the pandemic will be to establish and maintain new passenger safety measures amid large revenue declines. Additionally, transit agencies will need to build consumer confidence in the public health and safety of riding on transit systems.[26] [27]

INNOVATION

In recent years, many transit agencies have entered partnerships with mobility providers, as these services complement public transit by providing service during irregular hours, making first/last-mile connections, or providing transportation service in underserved areas. Emerging Mobility on Demand (MOD) and micromobility services, such as transportation network companies and bike or scooter share, have played a critical role in expanding the definition of public transit. Though MOD is still evolving, these services can provide solutions to equitable transportation access, payment options, travel updates, multimodal connections, and enhanced communication between the user and MOD systems.[28] [29]

Nearly overnight, micromobility began to have a presence in communities of all sizes across the country. Over a near 10-year period, we have seen annual micromobility trips rise from roughly 320,000 to nearly 1 billion. In 2018, there was a total of 84 million shared micromobility trips; this included 38.5 million scooter trips, 36.5 million station-based bikeshare trips, and 9 million dockless bikeshare trips, of which 6.5 million were on e-bikes.[30]

Connected and autonomous vehicles (CAVs) are also changing the way our transit agencies are operating. Across the U.S., several transit agencies have begun to offer service on autonomous buses, and many low-speed automated pilots have begun. Additionally, dozens of pilot programs have identified funding and are in various stages of planning and implementation. While this technology currently operates on a small scale, the FTA continues to implement the Strategic Transit Automation Research (STAR) Plan, which studies the opportunities and associated automation risks and suggests that this technology will continue to be incorporated into the system.[31]

Transit

RECOMMENDATIONS TO RAISE THE GRADE

- Transit is essential to creating more surface transportation system capacity and should be at the forefront in how communities develop multimodal connectivity. This includes integrating transit and micromobility options with equitable access for all.
- Congress and the Administration should fix the Highway Trust Fund (HTF) by adding 25 cents to the current motor fuels user fee over the next five years and then index future increases against inflation using a multi-year rolling average of key indicators, such as the Producer Price Index or Consumer Price Index. As part of the solution to fix the HTF's funding shortfall, there should be an effort to explore future long-term revenue solutions.
- Increase investment from state and local governments as well as the private sector to reduce the backlog of rehabilitation needs and increase transit mode share. Continue increased investment in federal grant programs that improve and support capital development.
- Encourage the continued implementation of new technology into our transit system to leverage innovation and mobility options. Together, these will continue to expand and enhance the transit ecosystem to provide better access for all communities.
- Apply asset management best practices to minimize long-term lifecycle costs and improve the system's overall condition.

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