

RESEARCH REPORT

Surmounting the Fiscal Cliff

Identifying Stable Funding Solutions for Public Transportation Systems

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Executive Summary

The COVID-19 pandemic threatened the ability of public transportation providers throughout the United States to offer the comprehensive, effective service millions of people rely upon every day. Though the federal government provided aid that prevented massive cuts during the pandemic’s first two years, many transit agencies are now facing a fiscal cliff because that funding is coming to an end and ridership has failed to fully return to prepandemic levels in most places, limiting fare revenues. For many agencies, this cliff is only the latest challenge to emerge from decades of unstable, varying funding levels that have threatened their ability to provide reliable, effective, desirable service. In this report, we seek to understand why transit agencies—unlike many other public services—continuously face these unsteady conditions. Moreover, we identify what options policymakers at the federal, state, and local levels could pursue to ensure agencies not only achieve financial stability but also secure the ability to expand service to meet the needs of a growing population that requires access to the equitable, environmentally supportive travel option that transit provides.

En route to fiscal stability, transit operators face several obstacles, which are largely caused by policymakers not assembling an adequate set of diverse funding sources for transit. Agencies that previously raised much of their revenues from passenger fare collection face an uncertain future as ridership continues to recover slowly post-pandemic. Most agencies rely on just one major external source of local revenue—usually sales taxes, themselves notable for their instability—exposing them to varying levels of funding as local economies shift over time. These circumstances explain why agencies seem to face one funding emergency after another, the current pandemic-induced crisis being the most recent. These emergencies force agencies to cut service—leading, in turn, to steadily declining transit ridership. This cycle leads to more automobile traffic on the roads, higher greenhouse gas emissions in the air, and less freedom of mobility for people with the fewest resources.

The good news is that transit systems can come back from the pandemic with stronger financial conditions than they experienced prior to March 2020—enabling them to offer ever better service and to carry more riders while preventing future fiscal cliffs. We find that, already, several US agencies are moving more passengers than they did prepandemic, and dozens of individual routes run by other agencies are doing so as well. We show how political officials in case-study cities have identified sustainable, long-term revenue models for *other* types of services—such as libraries, fire departments,

and parks—that enable them to offer consistent service. We then look at what strategies agencies can learn from their peer public services and highlight those that they are deploying already.

Local and state leaders can support transit agencies through these actions:

- Leverage highway funding. The federal government allocates billions of dollars each year to state governments to spend on transportation. Most states concentrate this funding on roads, even though several programs allow them to use funds for transit projects. Moreover, federal rules allow many highway-only funds to be “flexed” to transit programs. States should work to convert these funds into support for transit capital investment—while shifting local and state funds to transit operations, growing the pot of accessible revenue.
- Develop a diverse and more stable set of external subsidies for transit, ensuring that agencies collect revenues from more than one major source. Though sales taxes are the most common source of transit agency revenue, other sources, such as property taxes, income taxes on high-income individuals, and charges on driving, should be considered for additional support. There is added benefit in the fact that these funding options are less regressive than sales taxes.

Transit agencies themselves can take these actions:

- Identify ways to increase transit service to encourage additional ridership. Though more ridership is unlikely to generate substantial fare revenue increases in the short term, it can help build political support for more investment in transit using *other* revenues.
- Increase operational efficiency, not by reducing workforce or service, but by investing in improvements that speed operations and reduce energy costs, such as by dedicated bus lanes.
- Create a rainy-day fund. Agencies should respond to year-by-year variations in tax revenue by creating resources they can pull from when funds come in lower than expected. This type of fund is routinely used by state governments to improve their fiscal stability—and it can help transit agencies achieve a balanced budget.

These changes will require a concerted push by transit agencies and support from local and state governments, which ultimately make the key choices about what sorts of revenues transit agencies have access to. Advocates and organizers can play a key role in building this political support, and researchers can provide evidence that speaks to this moment of great need. More stable, diversified funding, combined with thoughtful approaches to service, can indeed allow agencies to surmount this fiscal cliff while enabling them to expand service into the future and better preparing them to face—or allowing them to avoid—future emergencies.

Surmounting the Fiscal Cliff

The COVID-19 pandemic gutted transit ridership, cutting the number of users on the nation's systems by 75 percent between the fourth quarter of 2019 and the second quarter of 2020.¹ Though agencies continued to play an important—sometimes even heroic—role in ensuring adequate service for first responders throughout the United States, this ridership loss threatened the ability of many transit agencies previously dependent on fare revenues to continue providing service. This funding crisis is the latest in a string of emergencies or “doomsday” scenarios that have inhibited the provision of reliable service over decades (Bloom 2023). Fortunately, the federal government provided transit agencies with emergency operating assistance, allowing them to continue running. Unfortunately, that money is likely to run out in the coming months or years. This could seriously threaten transit service in much of the country, depriving millions of their means of accessing jobs, schools, and other essential resources.

Transit agencies have undergone major declines in revenue before. In the years following the Great Recession, when local and state revenues cratered, policymakers failed to fully fill the funding gap for transit agencies. Most cut service or raised fares—and more than half cut staff (APTA 2010). These changes had destructive consequences: in the following years, per capita ridership declined in all large US metropolitan areas—even as it increased in comparable countries.²

In response to the COVID-19 pandemic, federal elected officials took a different tack, putting transit on a steady footing even at the height of the pandemic's challenges. Now that federal funds are waning, agencies need new support. In this report, we explore the structural conditions that have made funding transit a continuous challenge, examining trends in ridership, operating efficiencies, and subsidies derived from external sources. We then point to potential opportunities to remedy the situation for the benefit of better public transportation for all.

Stable Funding for Public Agencies

At the crux of our research is the argument that providing stable service is of core importance to public agencies. As with schools, fire departments, public health initiatives, sanitation, and more, transit systems need to be able to maintain continuous service for people to rely on them (Chakrabarti and Giuliano 2015). The explanation is not complicated: people and companies make locational choices based in large part on transportation infrastructure (Vasilakos et al. 2023), and those choices influence how people choose to travel (Cervero 2002)—to say nothing of the impacts those choices have on

equity and quality of life. To be encouraged to live in communities where transit services are available, people must be confident that those services will continue to be provided into the future.

A key question is how to fund public transportation in a way that ensures stability over time. Researchers examining public service funding, largely outside of the transit realm, have explored different revenue models. The evidence makes clear, first, that revenue diversification—having multiple sources of funding, rather than just one—can be useful in ensuring stability. Revenue diversification allows local and state governments to handle changes in economic structure and adapt to alterations in the job market (Johnson, Kioko, and Stone 2005; Snyderhoud 1994). Diversification can also respond to tax avoidance; for example, relying on only one type of tax can allow high-net-worth individuals to find ways to avoid paying (Ulbrich 1991). Revenue diversity, in turn, is associated with higher government fund balances and more stable delivery of public services (Shon and Kwak 2020).

But diversification alone is likely inadequate to guarantee stable funding. Local governments have increasingly moved away from property taxes, adopting sales taxes to fund basic needs—including transit, in many cases—in part because the public often votes for sales tax increases (Alonso 2013).³ But sales and income taxes are considerably more volatile than property taxes (Carroll 2009). And using *unstable* sources of revenues is problematic. During the Great Recession, cities that had moved away from using property tax as a primary funding source were more likely to face fiscal distress than those that had not (Gorina, Maher, and Joffe 2017). These conditions make a compelling case for policymakers to act: transit agencies need revenue sources that enable them to provide stable service options.

US transit agencies, however, have a decades-long history of inadequate stability due in part to *not* benefiting from a diverse mix of stable funding sources. The growth of transit networks beginning at the end of the 19th century created a national system of accessible, frequent, and relatively high-performing services that could pay for themselves (Fogelson 2003; Reardon 2020). But automobile use, federally funded suburbanization, and few public subsidies for transit made the industry largely unprofitable by the 1950s, leading to massive cutbacks (Dodd 2002). While public agencies have taken up the mantle of running most bus, train, ferry, and even paratransit service in the years since, they have encountered repeated challenges in achieving stable funding.

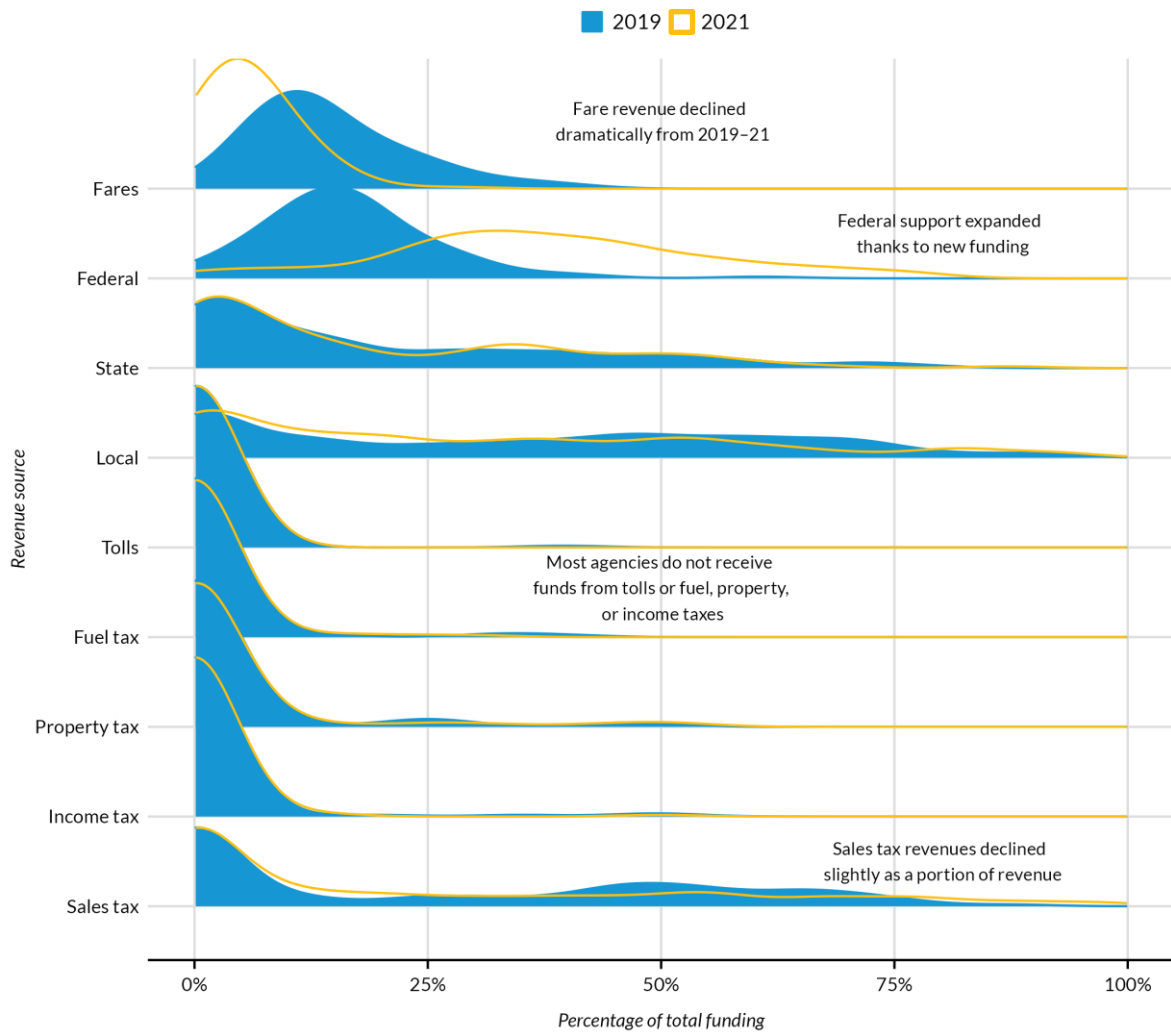
The COVID-19 pandemic and its aftermath presented a unique series of difficulties and opportunities. Between 2019 and 2021, the composition of the typical transit agency's revenue streams shifted dramatically (figure 1). Even as fare revenues and, to some degree, sales tax revenues declined, the federal government picked up the tab. But as ridership has taken a long time to recover, fare

revenues continue to underperform, and federal funds dry up, this shift may pose an obstacle to agencies being able to achieve their goals of stable funding and effective service availability.

FIGURE 1

For the Largest US Transit Agencies, the Pandemic Shifted Revenue Sources

Distribution of funding by revenue source, 100 largest US transit agencies by operating expenditures



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Source: The authors, based on a review of data from the National Transit Database (2023).

Notes: The graph shows how the typical agency is funded; it can be read as stating, for example, that most agencies receive 0 percent of their funding from tolls, whereas a large share of agencies receive 50 percent or more of their funding from sales taxes. Includes funding directed to both capital and operations needs. Does not account for full diversity of funding sources due to database accounting; e.g., New York’s Metropolitan Transportation Authority receives dedicated funding from a payroll tax implemented by the state government, but this counts only as state support, not income tax. Funding sources are not exclusive; a portion of toll, fuel tax, property tax, income tax, or sales tax revenue may be generated by local governmental entities.

Figure 1 provides evidence that US transit agencies do not benefit from a diverse stream of funding sources. According to our evaluation of 2019 data, only two of the 100 largest agencies (Alameda-Contra Costa Transit District and Niagara Frontier Transportation Authority) received more than 15 percent of nonfederal or nonstate revenue from at least three separate funding sources, which we count as sales tax, income tax, property tax, fuel tax, tolls, or fares. Of the 100 largest agencies, 57 collected a large share of their nonfederal or nonstate revenue from just one source; 25 percent of these agencies received over 50 percent of their revenues overall from unstable sales taxes. On the other hand, only one agency (Louisville’s Transit Authority of River City), received over 50 percent from any *other* single nonfederal or nonstate source—in this case, an income tax. It is within this broader context that we pursue our research.

Methodological Approach

We conducted this work using an iterative approach designed to answer three research questions:

- What are the historical drivers of fiscal instability for transit agencies?
- In the context of lower-than-prepandemic fare revenues and insufficient federal funds, how are agencies approaching the coming fiscal cliff?
- What models for new funding can help create fiscal stability to ensure reliable future service?

We begin by establishing a theoretical framework to explain the conditions that US transit agencies face. We show how revenues and costs combine to encourage a vicious cycle of poorly funded transit service and inadequate options for riders. But we also demonstrate how this cycle can be reversed into a virtuous cycle for agencies that are not only adequately funded but also able to continuously add service in support of a growing population and their evolving travel needs.

We then collect detailed data from the National Transit Database (NTD), assembled by the US Federal Transit Administration, which provides information about service revenues, costs, quality, and passengers served by almost all US transit agencies. We explore what information the database provides in terms of how transit agencies are covering their expenses, primarily examining operational costs. At the same time, we collect data from USA Spending, the federal government’s database of grants, to identify how federal COVID-19 relief funds were distributed. Using each of these datasets, we conduct a series of descriptive analyses to understand the state of transit systems.

Next, we worked with staff at TransitCenter, the project funder, to identify case-study transit agencies that we could study in additional depth. These agencies are not necessarily representative of national conditions but allow us to explore particular issues that individual communities face in the context of difficulties in maintaining stable revenues. We conclude by recommending a series of best practices to surmount the fiscal cliff, informed by agency experience.

Opportunities for Future Research

Our work has several limitations. First, we are constrained by only having access to publicly available data. The NTD may be providing incomplete information about what is occurring in any individual place that requires additional local insight that we do not explore. Additionally, there is a data lag in the NTD, meaning we do not have the latest information about revenue collection. It is possible that significant changes have occurred in the past year that we are not able to document here. From this perspective, future research would benefit from qualitative investigations such as interviews, engaging with staff at agencies to understand their challenges.

Moreover, the issues we describe are political in nature; transit agencies find themselves in the current situation because of decades of inadequate support from elected officials. Resolving that issue requires political entrepreneurship; for example, the recent agreement by the California legislature to provide a lifeline to transit required legislators to push for change.⁴ This could not be predicted based on past funding choices by that state or others like it. We caution the reader not to assume that any individual trend is immutable; more research is needed to understand how to inspire political action to reverse trends and even to seek out new options, such as climate change funds, as California has done in targeting pollution and rewarding efforts to reduce it.⁵

Finally, our research focuses on *operating* revenues and expenses, meaning the funds and costs to run transit services, such as to pay for drivers, fuel, and electricity. Even so, transit agencies also have significant *capital* costs, such as those to acquire new buses and trains and to expand lines. In some cases, those capital expenditures can have an impact on operations; for example, a new bus could be more fuel efficient. We need to understand how capital investments can translate to higher operational efficiency.

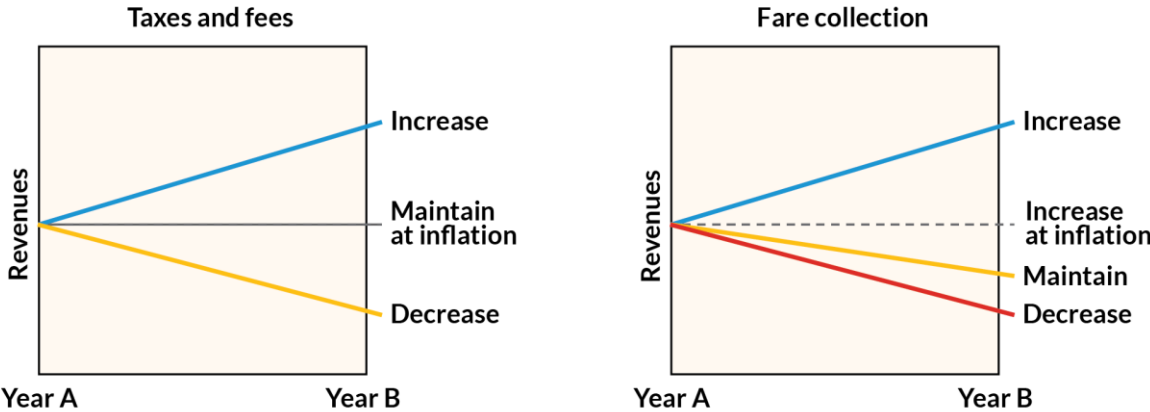
Drivers of Fiscal Instability

Before delving into the specifics of any transit agency’s financial condition, we develop a generalized framework reflecting prototypical operating revenues and operating costs for transit services. We then describe recent federal efforts to achieve stable funding for transit agencies. We show that agencies face inherent challenges in maintaining stable funding due to revenues failing to keep up with inflation and the federal government only providing occasional assistance.

A Framework for Transit Fiscal Conditions

Stable transit funding requires that revenue sources pull in funds at or above the rate of inflation. In figure 2, we show how a hypothetical agency’s revenues could change between year A and year B. On the left side of the diagram, we see that revenues from a host of taxes and fees could increase at the rate of inflation; they could increase above inflation if taxes or fees went up over time (e.g., if the sales tax rate were increased); or they could decline if political officials were to cut taxes. Reliable transit funding requires tax sources to continue pulling in funds at or above inflation rates. Given the instability in tax revenue, as we document below, that is no easy feat.

FIGURE 2
Hypothetical Impacts of Changes over Time on Transit System Operating Revenues



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Source: The authors.

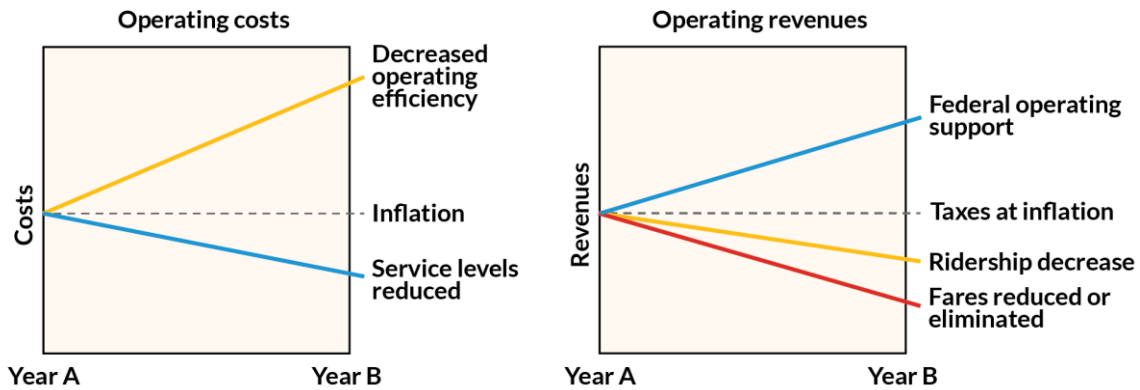
On the right side of figure 2, we illustrate the relationship between fare revenues (mostly a product of ridership) and system revenues over time. Here, again, we can identify causes of unstable finances. Assuming steady fare collection policies (e.g., a \$2 flat fare), revenues would decline compared to inflation, assuming steady ridership. Agencies could increase fares at the rate of inflation, which would result in no net increase in revenues, or they could increase fares above the rate of inflation, which could generate additional funds—but these require increasing user fees, never an easy decision.

Transit agencies must spend at increasing rates—at minimum by keeping up with inflation—to keep providing the same level of service. Baumol's cost disease theorizes that economic sectors with a high reliance on labor increase their costs faster than the economy because they are less able to substitute labor costs with capital costs; this is a key explanation for rapidly rising costs in the education, health care, and transit sectors (Morales Sarriera, Salvucci, and Zhao 2018). The fact that the public sector has historically underpaid staff compared to the private sector has required some agencies to raise salaries further to attract and retain employees. Were an agency's service or efficiency maintained at previous levels, costs would theoretically increase faster than the rate of inflation, following the premise of Baumol's cost disease. If a transit agency chooses to increase service and does so in a way that reduces operating efficiency, costs will increase even more. If, on the other hand, an agency increases operating efficiencies, it could reduce its overall costs. These trends make it more difficult for agencies to keep running services reliably without increasing costs.

These interactions between tax revenues, fare revenues, service levels, and operating efficiencies inform the ability of transit agencies to provide quality service. During the COVID-19 period, transit agencies experienced several intersecting trends with operational impacts (see figure 3, which puts in simplified graphic form the trends we document elsewhere in this report). On the one hand, transit agencies experienced decreased efficiency due to high levels of employee sickness and absenteeism; the need to offer hazard pay to many individuals working in the industry; and the addition of new service requirements, such as providing masks and more intense cleaning (Van Eyken 2022). These all increased the cost of providing service. At the same time, reduced ridership and the choice of many agencies to reduce or eliminate transit fares reduced operating revenues.

FIGURE 3

Trends in Transit Provider Costs and Revenues during the COVID-19 Period



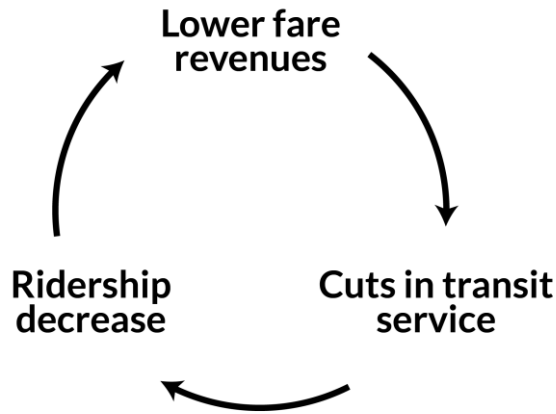
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Source: The authors.

But transit agencies continued operating because of two primary factors. First, many agencies reduced service, in part because they were carrying fewer riders, but also because of the sense, particularly at the beginning of the pandemic period, that mobility needs were reduced due to many people working from home, combined with stay-at-home advisories from local, state, and federal officials. These trends reduced operating costs. Second, US agencies benefitted from large federal expenditures that they used to fund operations and thus make up for the gaps generated elsewhere.

Yet the federal support has not been sustained. Without federal support, transit agencies face what is referred to as a fiscal cliff. Together, these trends prime transit agencies to experience a vicious cycle (figure 4). Lacking a federal backstop or some other support, lower fare revenues from inadequate ridership force agencies to cut service. Poorer service discourages people from riding. Less ridership, in turn, means lower fare revenues, restarting the cycle. Transit agencies have experienced such vicious cycles before due to instability of external sources of subsidy, such as local and state tax revenue, and the failure of political officials to make up the gap.

FIGURE 4
The Vicious Cycle for Transit Agencies



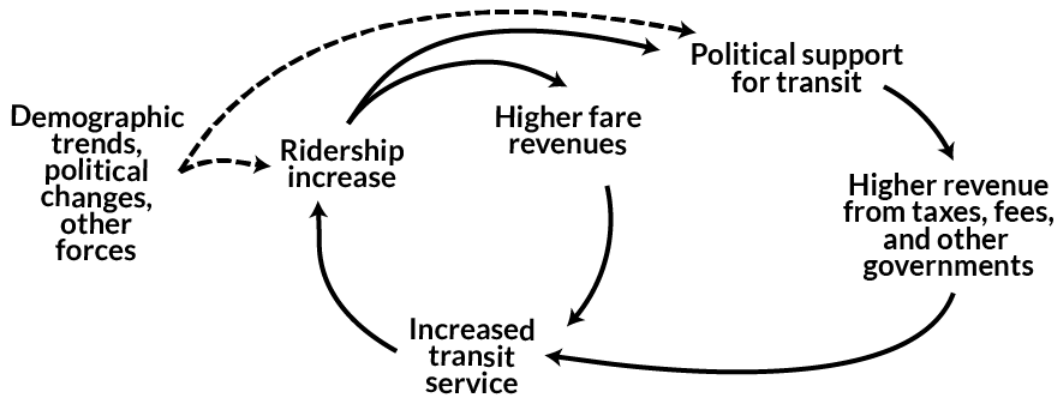
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Source: The authors.

Even so, the vicious cycle is only one potential outcome for transit agencies. The alternative virtuous cycle (figure 5) may be set off by higher revenues from a diverse set of taxes, fees, and other government support (such as through subsidies from federal or state governments). These higher revenues often require political support to be implemented; that political support may be inspired by higher ridership and/or demographic trends, political changes, or other forces. These revenues allow agencies to at least maintain and sometimes increase transit service, which, in turn, provokes higher ridership. Higher ridership can generate increased fare revenues, or political support for more revenues from outside sources, that can support better service.

FIGURE 5

The Virtuous Cycle for Transit Agencies



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Source: The authors.

To summarize, transit system fiscal stability stands at the intersection of levels of external subsidies (which typically require action by local and state political officials), fare revenues (impacted by ridership and service levels), service levels, and operating efficiencies. To achieve fiscal stability, then, agencies must leverage some combination of increased external subsidies (which generally require budgetary action on the part of state or local officials and/or a public vote), increased fare revenues (made possible by some combination of higher fares and increased ridership), increased operating efficiencies, and reduced service levels.

These factors may not coexist comfortably and may not activate the virtuous cycle illustrated in figure 5. For example, increasing fare revenues or reducing service levels may reduce ridership—though the degree to which they do so is dependent on the specific situation at play (Taylor and Fink 2013). Therefore, agencies may prioritize only certain approaches to improving their fiscal conditions. Indeed, achieving fiscal stability for a transit agency is not the same as ensuring that a transit agency best achieves the public purpose; lower fares may be important from a societal perspective to ensure higher transit ridership and more equitable use of transit. Agencies—and governments in general—face key choices about how to move their transit agencies to stability over the long term.

Federal Efforts to Achieve Stable Transit Funding

Since the 1950s, as they increasingly became publicly operated, transit agencies have struggled to achieve solid financial footing (Bloom 2023). An auto-centric society left little room for transit agencies

to make money from fares alone. And public officials have largely shirked their responsibility to maintain constant transit funding, rarely committing to ensuring the continuity that is more standard for services like libraries and fire departments (though the federal government has provided only minimal support for those types of services, too). In this section, we review the small efforts that the federal government has taken to support transit operations, demonstrating that, as in the past, pandemic-era support from Washington is likely to be short-term.

A Short History of Federal Support for Transit Operations

By the early 1960s, some elected officials began arguing for federal transit support. The US Congress passed initial funding for transit capital expenditures in 1961, expanding them into a permanent agency (the Urban Mass Transportation Administration, now the Federal Transit Administration) in 1964 (Freemark 2023). Federal leaders largely believed that private operators should cover operating costs, with the federal government stepping in to invest in improved lines, for example.⁶

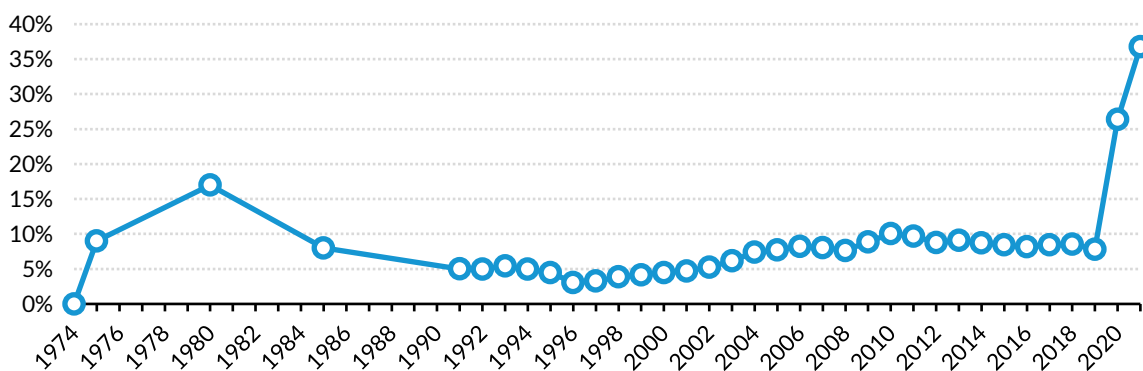
This point of view, however, lost its appeal. President Lyndon Johnson's administration emphasized expanded public support for people with low incomes, including for transportation, to improve "the basic conditions of life for the poor."⁷ A privately operated system, or a public one dependent on fares, would likely be unable to meet those goals of ensuring low-cost transportation options for all. And the financial condition of agencies worsened. Whereas transit operators nationwide were making operating profits as late as 1956, they were mostly suffering losses by 1964.⁸ Some states helped: in New York, for example, the state assembly agreed to subsidize transit costs with automobile tolls (Sparberg 2015).

Beginning in 1974, the federal government began supporting not only capital expenses but also transit operating expenses. Federal subsidies increased as a share of national transit revenue from 9 percent in 1975 to 17 percent in 1980 (Pickrell 1986; Pucher, Markstedt, and Hirschman 1983; Wachs 1989). Research suggests that federal subsidies for operations enabled increased service but also accelerated declines in transit service productivity, meaning that some agencies took in new funds and expended them relatively wastefully (Lave 1994; Pickrell 1985, 1986; Wachs 1989). This research, however, is decades old and deserves to be reexamined in the light of more recent experience (notably to determine whether productivity declines would reappear if a federal program were better designed).

Federal operating subsidies lessened in the 1980s (Cervero 1984),⁹ falling to 8 percent of national transit revenue in 1985 (Wachs 1989). During the Clinton Administration, the federal government cut operating assistance significantly, with national operating support declining from \$4.1 billion in 1980 (the high-water mark, in 2023 dollars) to \$1.4 billion in 1998 (Brown 2005; Pickrell 1986). TEA-21, the

1998 federal transportation bill, forbade the use of most federal funds for operations other than paratransit by agencies in urban areas with populations above 200,000, unless they have 100 or fewer buses. Other agencies were limited to using federal dollars only for capital expenses (Brown 2005; Mallett 2023).¹⁰ Though some regions experienced an increase in federal operating support under this policy change, urbanized areas (New York City in particular) were the most negatively impacted. Transit serving people of color (especially Black people)—who accounted for disproportionately large shares of the country’s urban population relative to their shares of the overall national population (McKinnon 2001)—was the most divested. These rules have remained in place. Even so, during the COVID-19 pandemic, Congress allowed flexibility in the use of emergency assistance funds, leading to a record share of operating expenses supported by the federal government in 2020 and 2021 (figure 6).

FIGURE 6
The Federal Government Funded About 10 Percent of Operating Costs before the Pandemic
Federal share of national transit operating expenditures



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Sources: NTD (2023); Pucher, Markstedt, and Hirschman (1983); Wachs (1989).

Notes: Data only available for years with markers. Overall national transit operating expenditures were relatively flat between 2018 and 2021.

Varying Federal Responses to Nationwide System Shocks in Recent Years

The federal government took vastly different approaches to addressing the financial shocks to transit in the years following the Great Recession and during the COVID-19 pandemic. In the former instance, the national government essentially absolved itself of responsibility, offering little to transit agencies beyond some additional funding for capital expenses. In the latter, it took major strides to protect agencies by filling their gaps in operating revenue.

FEDERAL RESPONSE TO THE GREAT RECESSION

During the Great Recession, the 2009 American Recovery and Reinvestment Act provided \$8.8 billion in funding for transit (Mallett 2023). But transit agencies were largely prohibited from using these funds to cover operations costs (only 2 percent of funds expended went to this purpose). Rather, transit agencies spent most of their federal dollars on capital investments such as transit facilities and buses, in line with the Recovery Act's overall point of view that the way to get out of the recession was to support job creation through infrastructure (GAO 2011).

The consequence of this approach was that transit agencies had nowhere to turn when other sources of operating revenue, such as local and state taxes, declined. A 2010 survey of 151 large transit agencies showed that 90 percent of them reported flat or decreased local funding, and 89 percent reported flat or decreased state funding during fiscal year 2009 (APTA 2010). As a result, agencies had to minimize budget shortfalls in other ways since they were limited in their ability to become more efficient operationally. The most widespread approaches deployed between January 2009 and March 2010 were cutting service (84 percent of surveyed agencies) and raising fares (73 percent).

Naturally, these approaches had consequences. Service cuts were associated with declining ridership: nationwide, annual ridership dropped 5 percent between 2008 and 2010. And the combination of reduced service and increased fares heightened transit's unfortunate tendency to magnify racial inequities in quality of travel experience and travel cost burden during times of crises. The recession rendered people of color—already the most likely to be reliant on transit for their transportation needs—more likely to be laid off or to have their wages frozen and presented them with fewer new employment opportunities compared with their white counterparts.¹¹

FEDERAL RESPONSE TO COVID-19

The federal government took a dramatically different tack in response to the pandemic than it did in response to the Great Recession. Congress passed a series of three laws in 2020 and 2021 that, in sum, provided \$69.5 billion for transit agencies—far more than the 2009 American Rescue Plan Act offered.¹² These funds did not require a local or state match—and, importantly, these laws allowed transit agencies to use federal funds for operations, not just for capital expenditures (Mallett 2023). This provision allowed agencies to avoid having to cut service due to lower fare revenue resulting from lower ridership, lower operating efficiencies, or declines in other sources of state or local funding.

Federal pandemic support provided an essential gap filler. In table 1, we document financial characteristics of agencies in the 12 US urban areas with at least 100 million transit riders in 2019. These accounted for 68 percent of national transit operating expenses in 2021 and 77 percent of transit

riders in 2019. Overall, these agencies received \$42.4 billion of the federal government’s pandemic support (68 percent of the total), equivalent to about 1.26 years of their collective operating expenses; funding was distributed roughly in line with urban area operating expenses. This was a much larger sum than the federal government appropriated to this set of agencies under the typical transit funding program, the Urbanized Area Formula Funding program (mostly reserved for capital expenses). Note that these sums are listed by *urban area*, not by transit agency; urban areas typically have more than one transit service within their borders—and some transit agencies span multiple urban areas.

TABLE 1

COVID-19 Pandemic Assistance Covered an Average of Three Years of Lost Fares in Major Urban Areas, Seven Years Elsewhere

Pandemic relief was equivalent to about 125 percent of the typical urban area’s operating expenses in 2021

Urban area	Pandemic Support					
	2019 fare revenues	2021 operating expenses	2020–21 pandemic support	As share of 2021 expenses	As share of 2019 fare revenues	Per 2019 rider
Atlanta, GA	\$146 m	\$589 m	\$712 m	121%	486%	\$5.70
Boston, MA–NH–RI	\$695 m	\$1.6 b	\$2.1 b	128%	302%	\$5.59
Chicago, IL–IN	\$1.0 b	\$2.7 b	\$3.5 b	130%	337%	\$6.24
Denver, CO	\$155 m	\$570 m	\$705 m	124%	454%	\$6.68
Los Angeles, CA	\$502 m	\$2.9 b	\$3.8 b	133%	761%	\$7.05
Miami, FL	\$143 m	\$949 m	\$1.2 b	124%	822%	\$9.46
New York, NY–NJ–CT	\$8.0 b	\$15.7 b	\$19.4 b	124%	243%	\$4.53
Philadelphia, PA–NJ–DE–MD	\$329 m	\$1.5 b	\$2.1 b	140%	387%	\$6.43
Portland, OR–WA	\$124 m	\$592 m	\$750 m	127%	606%	\$6.81
San Francisco, CA	\$937 m	\$2.3 b	\$2.9 b	124%	309%	\$6.45
Seattle, WA	\$478 m	\$1.6 b	\$2.0 b	119%	409%	\$8.67
Washington, DC–VA–MD	\$782 m	\$2.6 b	\$3.3 b	125%	416%	\$7.94
Total	\$13.5 b	\$33.6 b	\$42.4 b	126%	313%	\$5.54
Other urban areas	\$2.5 b	\$16.1 b	\$19.7 b	122%	774%	\$8.79

Sources: NTD (2023); Federal Transit Administration (2023).

Notes: Includes all transit agencies per urban area (using shortened name). Urban areas shown had at least 100 million transit trips in 2019. Pandemic support is the combination of funds from the 2020 Coronavirus Aid, Relief, and Economic Security Act; the 2020 Coronavirus Response and Relief Supplemental Appropriations Act; and the 2021 American Rescue Plan Act.

Table 1 makes clear the breadth of the federal government’s engagement to assist transit agencies during the pandemic. Pandemic support in large urban areas was equivalent to more than a year of *total* typical operating expenses and equivalent to two to eight years of prepandemic fare revenues, depending on the urban area. This variation is important. Federal aid was not doled out evenly in terms of covering the cost of lost fares—the primary revenue source that declined during the pandemic. Federal funding in the Los Angeles, Miami, and Portland regions was equivalent to far more of annual prepandemic fare revenues than in the Boston, Chicago, New York, and San Francisco urban areas,

which are most affected by the fiscal cliff because their previous business models were more strongly reliant on fares; federal formulas did not take that reality into account.

Contrary to the pandemic aid, the 2021 Infrastructure Investment and Jobs Act (IIJA) did not fund operations. This means there is no guarantee of a long-term federal approach to supporting agencies if their other sources of funding do not return. After pandemic relief money dries up, the absence of long-term support for operations raises the specter of the fiscal cliff, could provoke further fiscal emergencies in the future, and could perpetuate racial inequities in access, travel cost, and quality of travel experience (as seen with past crises and system shocks).¹³

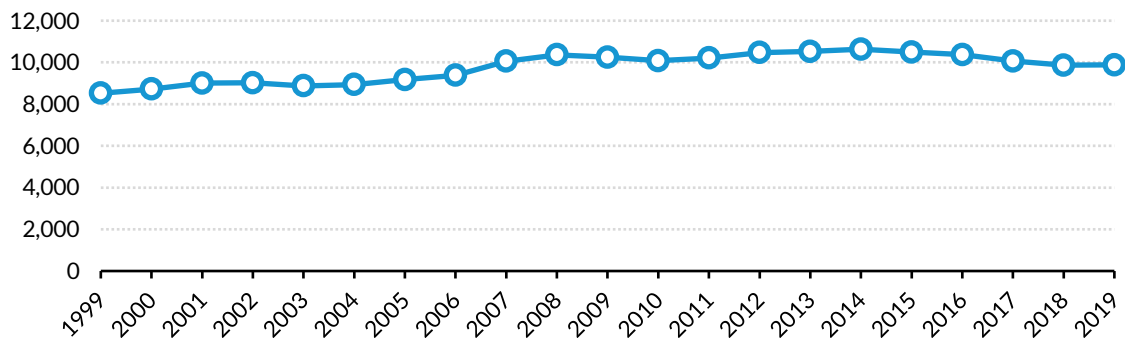
Transit's Impending Fiscal Cliff

The COVID-19 pandemic's effect on transit is the latest in a series of funding emergencies that public transportation providers have experienced over the past few decades. Experience from the Great Recession tells us that if policymakers do not identify realistic solutions to this crisis US cities will experience increased environmental degradation¹⁴ and backsliding in racial, income, and accessibility equity, undoing years of advances in those areas (Kar et al. 2022). In this section, we document how unstable conditions in the industry have led to these circumstances and how these problems will keep recurring if no long-term solutions—particularly in the form of new external funding sources—are found.

Trends: Ridership and Fare Revenues

The pandemic's effects have been felt most in transit ridership, which in turn has affected the amount of fare revenue agencies bring in. Relying on ridership recovery alone—and on associated fare revenues—will likely be inadequate to surmount this or future financial emergencies. Consider ridership trends in the lead-up to 2020 (figures 7 and 8). Despite a post-recession growth period between 2008 and 2014, ridership preceding the pandemic was on a slow decline. These trends varied by mode. Bus ridership saw particularly steep reductions, falling 16 percent from its 2008 peak. Heavy rail use (e.g., on subways and elevated lines) increased 7 percent over the same period, buoyed by strong performance in New York City. Light rail and ferry use similarly saw ridership gains over this 11-year span.

FIGURE 7
After 15 Years of Modest Growth, US Ridership Was in Slight Decline Leading Up to the Pandemic
Nationwide total annual transit trips in millions



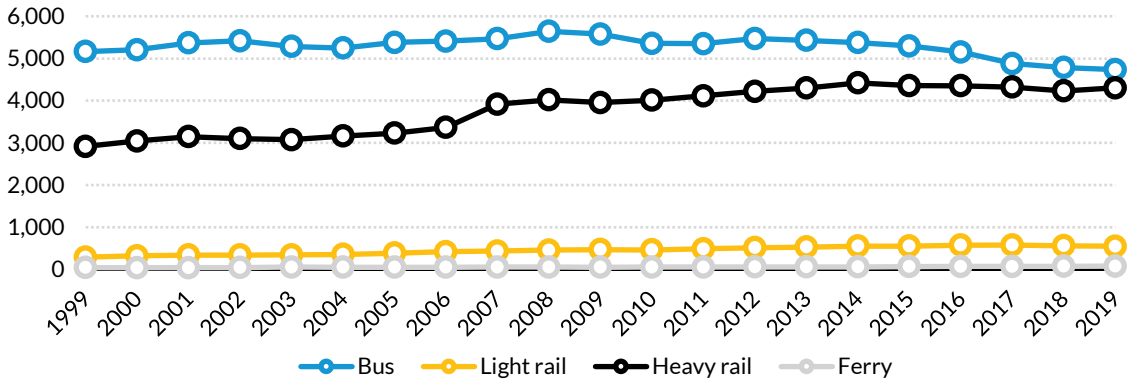
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Source: Author calculations based on NTD TS2.1 Service Data and Operating Expenses Time Series.

FIGURE 8

Bus Ridership Fell More Severely than Other Transit Modes in Prepandemic Years

Nationwide total annual transit trips by mode in millions, United States



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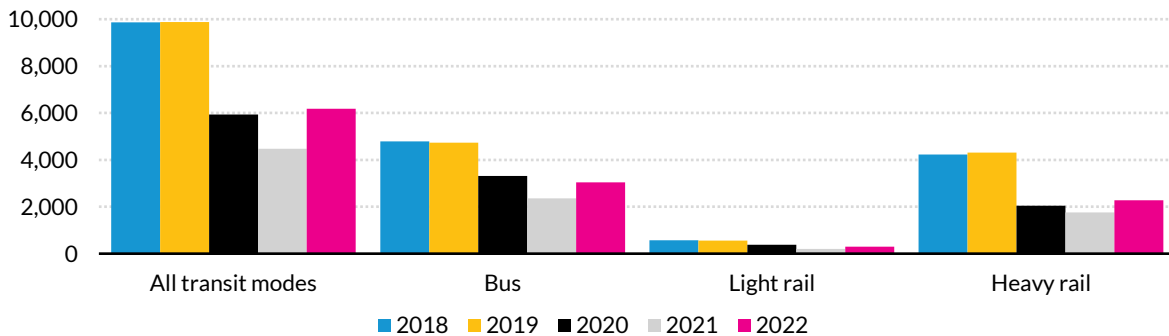
Source: Author calculations based on NTD TS2.1 Service Data and Operating Expenses Time Series.

During the first year of the pandemic, 2020, the most intensely affected agencies hosted as many as 90 percent fewer riders as in 2019 (Navarrete-Hernandez, Rennert, and Balducci 2023). Nationally, 2020 annual ridership was 60 percent that of 2019, though ridership volumes from March through the end of 2020 were about 37 percent of the preceding year’s rate (figure 9). Mild recovery took place in 2021, and 2022 hosted a substantial return to transit in many places. By October 2022, the American Public Transportation Association reported that national ridership levels had recovered to just over 70 percent of 2019 volumes.

FIGURE 9

Ridership by Mode Immediately Preceding and during the First Two Years of the Pandemic

Nationwide transit trips by mode in millions, United States



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Source: NTD TS2.1 Service Data and Operating Expenses Time Series by Mode.

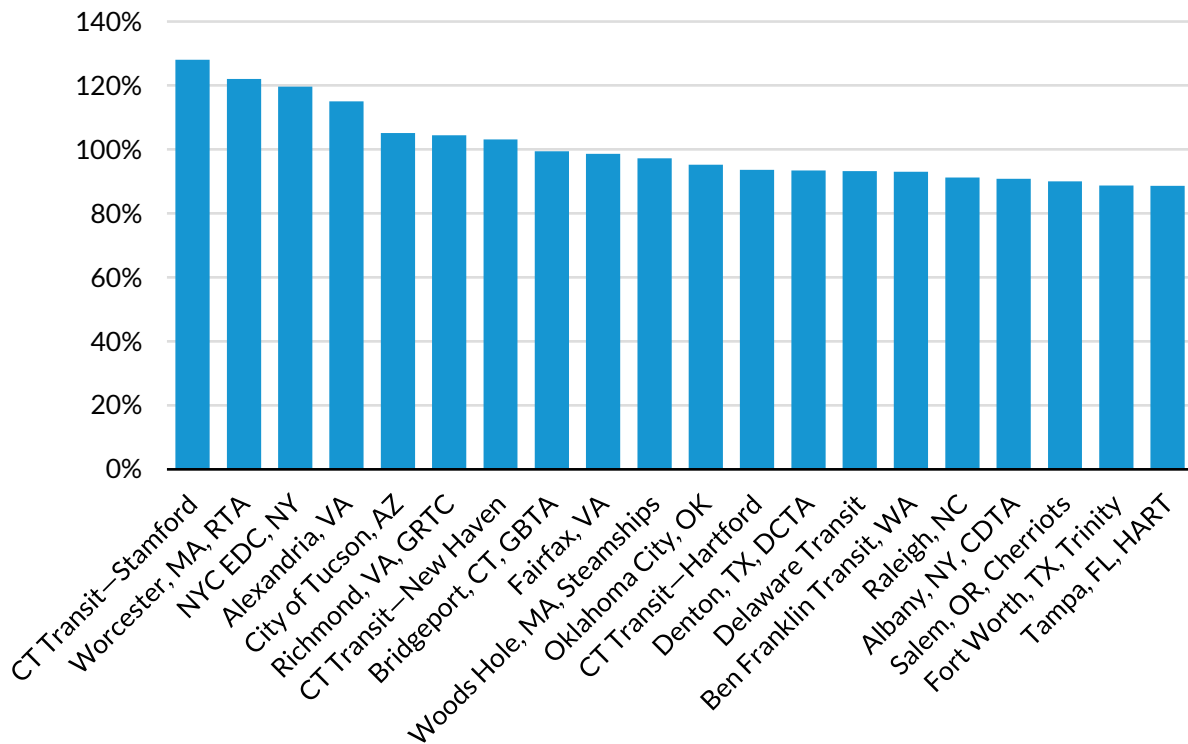
Note: NTD data by mode not available beyond 2021 at the time of writing.

Moreover, there are good reasons to believe that effectively run services offering options for a wide variety of people and needs will attract as many or more riders than in the past. In figure 10, we rank the best-performing large US transit agencies in terms of their ridership recovery from 2019. Of these, seven carried more riders in the year ending May 2023 than in the year ending May 2019—suggesting potential growth in transit ridership beyond what occurred prepandemic, no matter the dominant trends at play. These agencies shared some key characteristics. Many, such as those in Connecticut and Alexandria, maintained free fares even after the worst months of the pandemic. And several, such as in Albany or Richmond, improved service or repositioned it to serve neighborhoods most in need.

FIGURE 10

Seven Large US Transit Agencies Now Carry More Passengers than in 2019

Top performing large transit agencies in terms of ridership recovery as a share of 2019 ridership



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Source: Author calculations based on NTD, May 2023.

Notes: Only includes 200 largest agencies in 2019, based on ridership counts. Ridership data is rolling 12-month data, compared with rolling 12-month data for equivalent month in 2019. NYC EDC = New York City Economic Development Corporation (mostly ferry service); GRTC = Greater Richmond Transit Company; GBTA = Greater Bridgeport Transit Authority; DCTA = Denton County Transportation Authority; CDTA = Capital District Transportation Authority; HART = Hillsborough Area Regional Transit Authority. Some agencies (such as SORTA) report higher ridership figures than in the NTD, but we only show NTD numbers here.

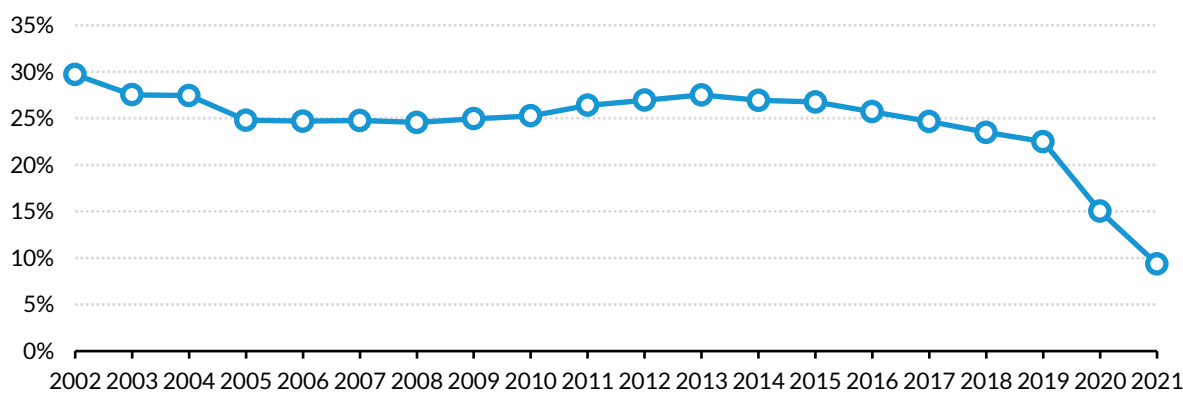
Beyond individual agency conditions, notable variations in ridership recovery include the following:

- **Commuter rail services are struggling most to regain users.** As of December 2022, nationwide ridership recovery rates (compared to 2019) were 71 percent for demand response, 70 percent for bus, 63 percent for heavy rail, 62 percent for light rail, and 58 percent for commuter rail (Kahana and Dickens 2023). Commuter rail services may need to develop new business models for the coming years, since their previous model—based on primarily serving peak-hour trips into central business districts catering to white-collar commuters, many of whom now work remotely or time-flexibly—may no longer serve a strong market.
- **Buses remain the lifeblood of transit agencies.** Bus services maintained a comparatively large share of their ridership. This is in part because buses serve greater portions of essential workers, persons of color, and low-income communities—and these people continued to travel¹⁵ throughout the pandemic more than others (Dubay et al. 2020). Because of bus service flexibility, agencies have been able to adjust service to better meet the travel demands of their most resilient riders.¹⁶
- **Disproportionate reliance on transit among Black and Latinx communities has intensified.** Areas with higher college-educated, employed, and Asian populations had larger reductions in transit ridership during both 2020 and 2021 (Qi et al. 2023). Ridership was better maintained across services operating in neighborhoods with higher shares of Black and Latinx residents.¹⁷
- **Transit services in less populous areas have recovered to a greater degree than those in larger urbanized areas.** Across cities with fewer than 500,000 residents, transit ridership as of October 2022 was 83 percent of 2019 ridership levels. Among cities of 2 million or more residents, this recovery ratio was just 66 percent.¹⁸
- **Ridership recovery varies over the course of the service day and week.** Peak-hour ridership remains far below prepandemic levels for almost all transit agencies, but the same is not uniformly true for off-peak hours. For example, in 2023 Washington’s Metrorail service carried the largest number of passengers on a Fourth of July since 2015.¹⁹ Weekend trips on the New York City Subway, similarly, have reached a much higher share of prepandemic levels than weekday trips.²⁰
- **Service improvements, such as faster and more direct routes, increase ridership.** In San Francisco, some improved bus lines carry above their prepandemic boarding levels.²¹

What do these ridership trends tell us about the fiscal cliff? Though there are reasons to be optimistic given ridership return for some major agencies, the trends suggest that, without further intervention, it will take more time for ridership to return for most agencies. This will imperil a key source of funding: fare revenues. Evidence suggests that stable transit finances may include substantial fare revenues—but that their contributions will be inadequate to address the structural conditions at play. We thus continue this investigation by evaluating trends in fare revenue in recent years.

Farebox recovery ratios (FRRs)—the share of operating expenses covered by passenger fares—vary widely across transit agencies. Among the 100 largest agencies (by 2021 total vehicle revenue miles), 2019 FRRs ranged from 9 to 72 percent; the average was 22 percent. Between 2002 and 2019, FRR trends generally tracked ridership (compare figure 11 to figure 7), though FRR was highest in 2002 and declined between 2014 and 2019 along with ridership (as fares collected did not increase as much as service costs). The single highest FRR among this set of large agencies was reported by Bay Area Rapid Transit (BART) in 2015, when it covered 80 percent of its operating expenses with passenger fares.

FIGURE 11
Share of Operating Expenses Covered by Fares Was on the Decline prior to COVID
Average farebox recovery ratio among 100 largest US transit agencies



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Source: Author calculations based on NTD TS2.2 Service Data and Operating Expenses Time Series.

Note: Largest agencies defined based on 2021 vehicle revenue miles.

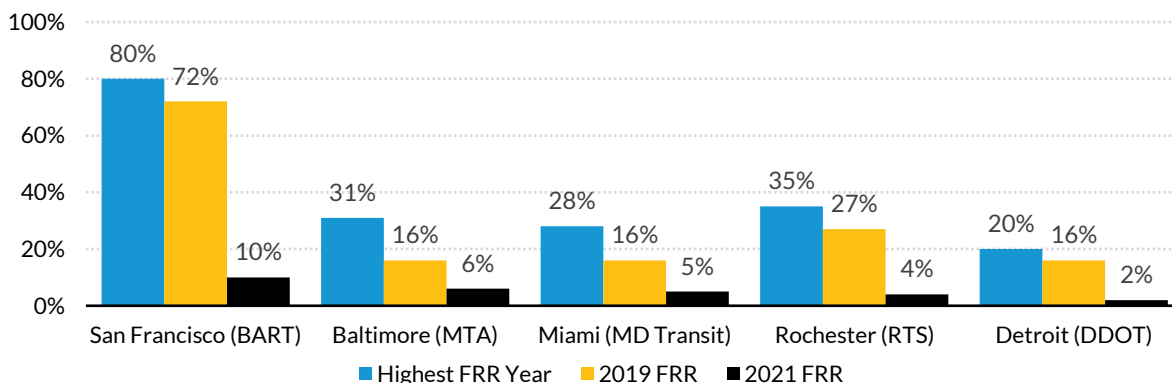
The pandemic drastically impacted agency FRRs; ridership has been slow to recover from 2020’s historic lows, as many systems expanded their fare-free travel options and their operating expenses rose. Average 2021 FRR across the 100 largest agencies was 8 percent. BART experienced the single largest change in percentage points of any agency, declining from an FRR of 72 percent in 2019 to 10 percent in 2021. The agency’s once-celebrated self-sufficiency in fare funding has been its Achilles heel

during this time of crisis.²² BART's difficult circumstances have, however, offered an important lesson: there is value in establishing financial support from a diverse array of funding sources.

We expanded this analysis to explore trends for a sample of agencies that experienced particularly low 2021 FRRs. In addition to BART, we examined data for systems serving core cities with fewer than one million residents, with a peak FRR of 20 percent or more, and no long-term fare-free policy; we thus illustrate trends for agencies in Baltimore, Detroit, Miami, and Rochester in figure 12. These agencies, especially those that once covered 30 percent or more of their operating expenses with fare revenue, are in particularly vulnerable positions and need assistance from other revenue streams to continue serving the communities that rely on them. But with fare revenue now being barely a drop in their funding bucket, these agencies need a funding reset. Policymakers in their respective locales may need to reconsider the transit systems' funding models, including by introducing new fare policies and identifying new sources of external revenues.

FIGURE 12
Big and Mid-sized Agencies Alike Suffered Major Loss in Fare Revenues

Farebox recovery ratios, by agency



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Source: Author calculations based on NTD (2023).

Note: Highest FRR year is from 2002–2022; different agencies experienced these high points in different years. FRR = farebox recovery ratio; MTA = Maryland Transit Administration; MD = Miami-Dade; RTS = Regional Transit Service; DDOT = Detroit Department of Transportation.

Both transit officials and elected leaders in some cities have promoted free fares as a potential strategy for recovering from the pandemic; they argue that transit should be seen as a public good. Going fare-free would indeed alleviate some financial strain on those most in need, providing individual and societal positive externalities, as with other public services that are rarely subject to user costs, like libraries and fire departments (Green et al. 2014; Vangeest 2020). Depending on conditions, cost

savings associated with free fares could be large—due to not having to operate a fare collection system and the dwell-time savings rendered from all-door boarding.²³ Some agency leaders stress that they are choosing to lessen cost to riders in the hopes that this contributes to ridership. Their hope, then, is that more ridership will demonstrate the need for continued (or intensified) local, state, and federal support to reduce congestion, while improving public health, local economic vitality, and the environment.²⁴

Indeed, many of the transit agencies with high ridership recovery in figure 10 offered free fares. Connecticut's transit services, for example, were free until April 2023; service in Alexandria, Richmond, Tucson, and Worcester continues to be free as of this writing. This was arguably easier to accomplish from a financial perspective in those cities compared with larger systems. Richmond's transit agency, for example, collected only \$11 million in fares in 2019; compare that with the Washington Metropolitan Area Transit Authority (WMATA), which collected \$102 million in 2021 and \$666 million in 2019, or New York City Transit, which collected \$2.3 billion and \$4.6 billion, respectively.

This suggests that, from the perspective of transit funding stability, going fare-free is an unrealistic strategy. Agencies that do so require subsidies from somewhere else to fill the gap (Richmond, for example, received support from the city, state, and a university to do so).²⁵ Moreover, there is evidence that transit reliability and frequency have greater influence over a person's likelihood to use transit than fare levels do for most riders—including those earning low incomes (Taylor and Fink 2013).

Many agencies took advantage of the pandemic to experiment with fare policy—beyond going fare-free. These innovations remain understudied but could attract riders while maintaining most fare revenues. In some cities, such as Boston and Denver, local agencies eliminated fares on certain routes. Others, as in Orange County, California, and San Francisco, provided reduced or free fares for youth and seniors. And others offered flat rate, all-you-can-ride weekend commuter rail passes. In each case, riders who can afford it have continued to pay a fare.

Trends: Service and Operating Efficiencies

Transit agency budgets are heavily influenced by how much service they provide—and how efficient they are in providing that service. In response to the pandemic, some agencies reduced service, as noted, because of difficulties keeping drivers and other staff coming to work (Van Eyken 2022). Transit service on some Chicago rail lines, for example, is substantially less frequent than it was prepandemic, in part because of a shortfall of rail operators.²⁶ Few agencies have increased service, though many have redistributed it to encourage better service to communities where ridership is stronger (Freemark et al.

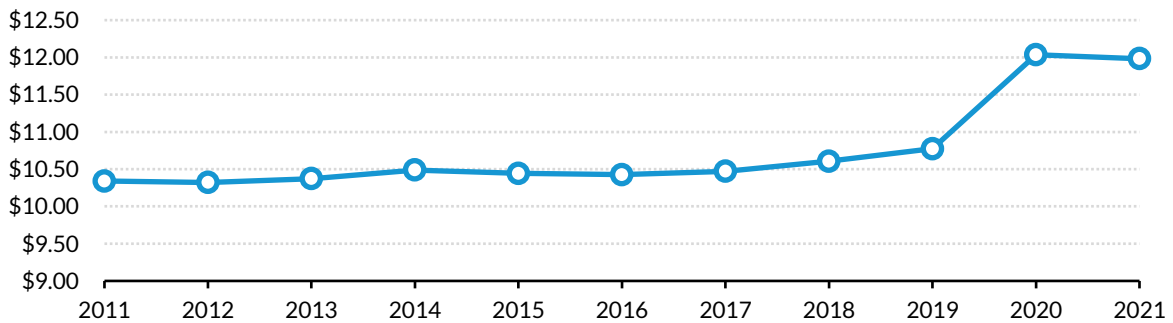
2021). To secure stable funding, agencies must ensure that their operations efficiencies improve after a major rise in costs during the pandemic, as we show in this section. This may require new approaches to addressing systemic barriers to smooth operations, like congestion.

Nationwide, average operating costs per vehicle revenue mile (VRM) and per vehicle revenue hour (VRH) were relatively flat between 2011 and 2019 (figures 13 and 14). This suggests that transit agencies had been able to avoid many of the worst effects of Baumol's cost disease: the challenge of labor-heavy industries in maintaining costs in line with inflation. But in 2020 operations costs exploded, increasing across the nation due to higher labor and materials costs; these costs tracked down only slightly in 2021. If unaddressed, these increases could pose a challenge to maintaining transit service levels.

FIGURE 13

Operating Efficiency Trends Were Largely Stable—until the Pandemic

Average operating cost in 2021 dollars per vehicle revenue mile across 100 largest US transit agencies



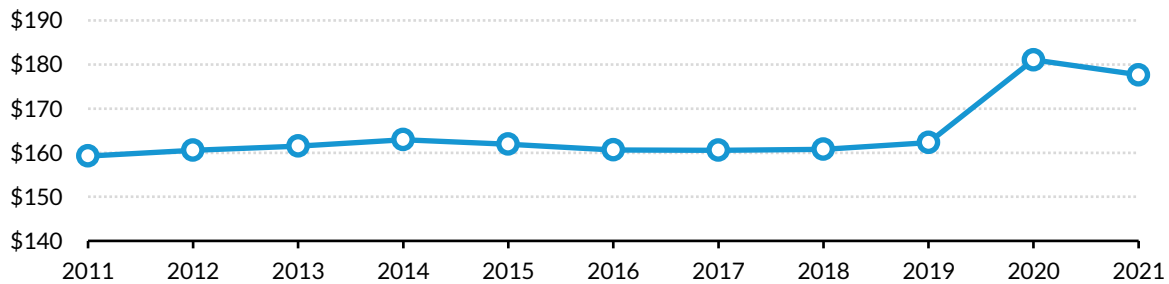
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Source: Author calculations based on the NTD (2023).

FIGURE 14

Recovery from a Pandemic-Era Spike in Operating Inefficiencies in 2020 Has Been Glacial

Average operating cost in 2021 dollars per vehicle revenue hour across 100 largest US transit agencies



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Source: Author calculations based on the NTD (2023).

There are some explanations for why efficiency is declining, even prepandemic. Figures 13 and 14 show that the rate at which operating efficiencies worsened—in other words, price per hour or price per mile of service increased—has been faster and of greater magnitude for VRM than VRH. Cost per VRM across the 100 largest transit agencies increased by 4.2 percent, adjusted for inflation, between 2011 and 2019, compared with a 1.9 percent increase for VRH over that period. These outcomes likely resulted at least in part from the worsening state of traffic congestion over that period. Buses having to compete for roadway space with a growing number for private vehicles depreciated the number of service miles achievable per operating dollar. Despite overall traffic volumes measuring lower overall than they did in 2019,²⁷ the fact that cost per VRH has recovered from 2020 troughs more successfully than cost per VRM is evidence that persistent congestion contributes to the glacial pace of recovery in transit operating efficiencies.

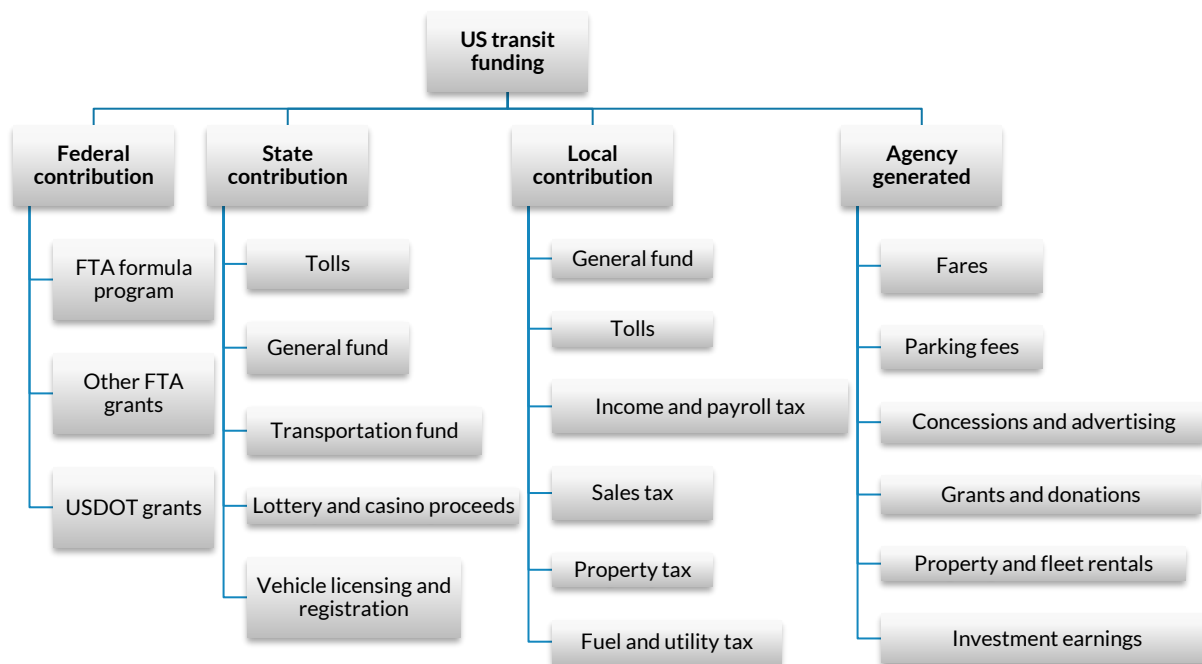
These trends suggest that transit agency finances should be on the beneficiary end of efforts that reduce congestion, such as through congestion charges or tolls. Congestion costs tens of billions of dollars annually nationwide;²⁸ there is a direct throughline from party-harmed to party-deserving in the congestion pricing puzzle. To be clear, such charges can not only provide funding to expand transit options—they can also improve transit operating efficiency by speeding along buses previously stuck in traffic. But fewer than 1 percent of US transit agencies derived more than 1 percent of their operating funds from roadway charges in 2019 or 2021 (figure 1). Political officials could direct revenues from these fees to transit, which would extend transit's virtuous cycle by expanding service and attracting more riders—but this requires action beyond most agencies' jurisdiction.

With choices about charges on cars and trucks largely in the hand of elected officials, transit agencies themselves face a dilemma: what approaches can *they* take to reduce operations costs? From this perspective, they can work with local political officials to implement bus priority projects that reduce dwell times, increase bus travel speeds, and improve reliability by lessening competition for roadway space with other vehicles. Key sources of revenue for these improvements are Federal Highway Administration funds distributed to state departments of transportation, such as through the National Highway Performance Program and the Surface Transportation Block Grant program, both of which allow investments in on-street bus facilities. Agencies can also, largely independently, implement all-door boarding and bus-stop balancing (re-spacing), which both offer some improved efficiencies through increased travel speeds and reduced dwell times. Agencies can advance these outcomes through capital investment to improve bus operations. Spending more on capital projects now could eventually foster financial resilience in operations.

Trends: External Funding

We have thus far written about the hurdles facing transit agencies in terms of fare revenues and operating efficiencies. While fare revenues will serve as a key contributor to agency budgets as ridership recovers from the pandemic, and while agencies can strive to provide adequate service through improved operations efficiency, the reality is that achieving transit’s virtuous cycle requires leveraging a diverse set of stable external funding options. We define external funding as revenue collected outside of fares, advertising, or direct agency services; in this section, we review several of the key trends affecting these sources. In some cases, these revenues are collected by the agencies directly; in other cases, they are distributed from higher levels of government and influenced by the economy. For example, political officials supportive of transit investment may choose to increase funding by initiating a dedicated tax. Or an economic downturn could produce major declines in receipts. Figure 15 lists the major funding sources transit agencies currently use to fund operations.

FIGURE 15
Contributions to Transit Operating Funding by Source Type



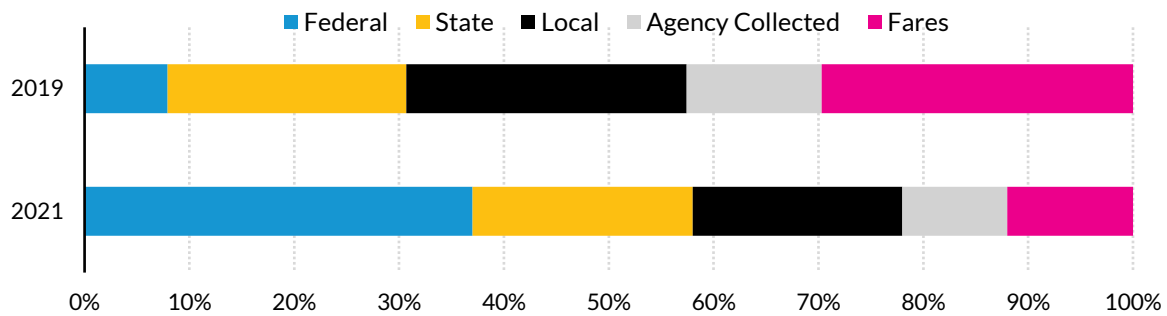
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Source: The authors, based on a review of data on transit funding.

Notes: FTA = Federal Transit Administration; USDOT = US Department of Transportation.

Even before the pandemic, very few agencies covered more than one-third of their expenses through fares. The pandemic made the financial situation challenging even for them, which shifted the overall composition of transit agency revenues, to a large degree due to federal support (figure 16). As we have noted, continued low ridership and no long-term commitment from the federal government will require policymakers to identify a wider set of other subsidies to keep transit services running.

FIGURE 16
Agency-Generated and Fare Contributions to Operating Budgets Halved between 2019 and 2021
Nationwide contributions to operating budget by funding source



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Source: NTD (2023).

State and Local Governments

State and local governments contributed an average of 40 to 50 percent of national transit operating revenues over the past several years (figure 16). These are funds essentially passed through from those levels of governments to transit agencies. The same sort of revenue (e.g., sales taxes) can be collected by state or local government and distributed to a transit agency—or directly generated by that agency. State and local governmental contributions derive from a variety of sources. For example, in 2021:

- The New York Metropolitan Transportation Authority received about 41 percent of its overall funding (including capital expenses) from state sources. These funds are sourced from the State Operating Assistance account, itself funded by the state general fund, a tax on petroleum businesses, a mortgage recording tax, a payroll tax, and other specific aid funded by the state legislature.²⁹ In 2023, the state increased the payroll tax rate and provided some additional one-time aid to fill the agency’s fiscal cliff.³⁰
- The Los Angeles County Metropolitan Transportation Authority received about 43 percent of its overall funding from local sources. These constitute revenues from four taxpayer-approved

half-cent sales taxes (Proposition A, Proposition C, Measure R, and Measure M), which pass through the county coffers to the transit agency, itself a subsidiary of the county.³¹

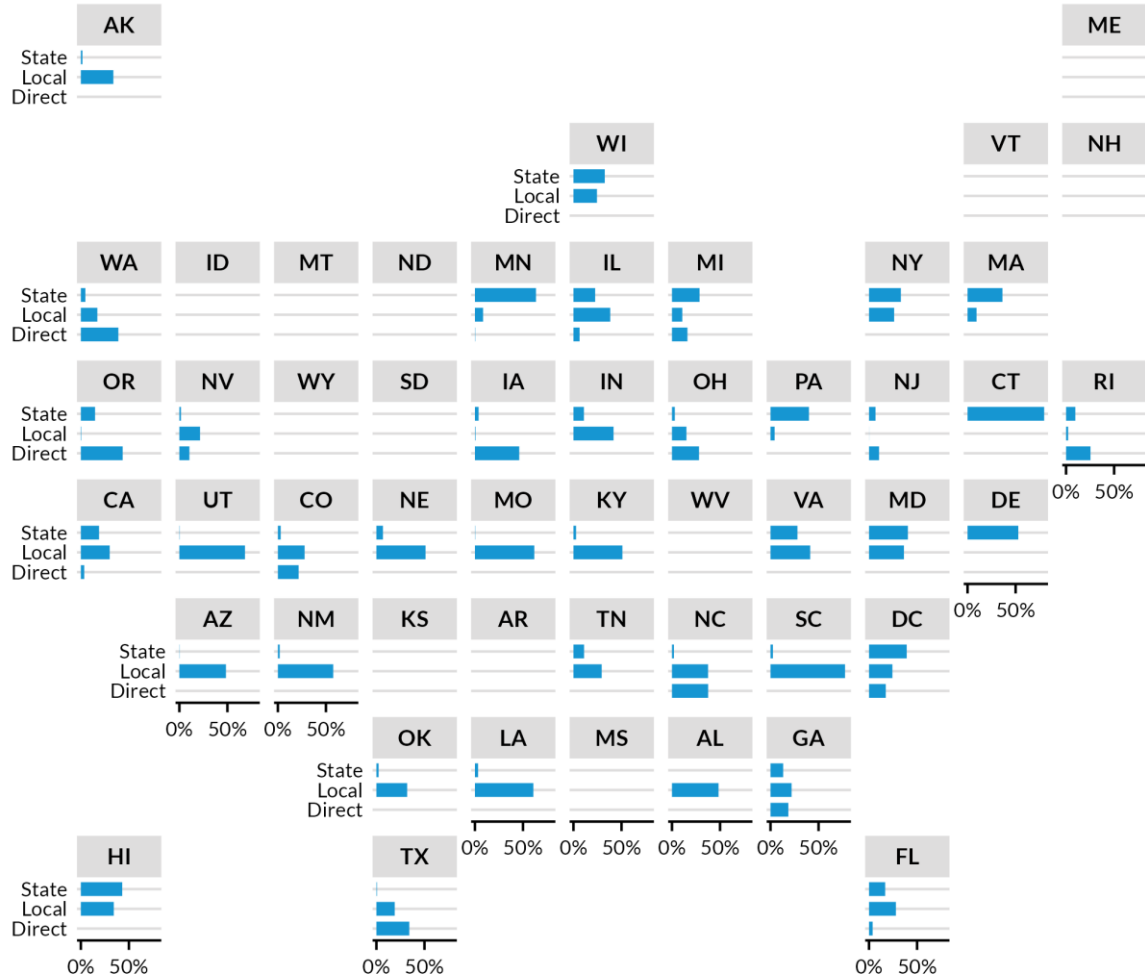
Some of these revenue sources are “automatic,” meaning they are encoded in local ordinances or state law to be distributed to transit agencies. Both Los Angeles’s sales taxes and New York’s payroll tax, for example, must be distributed for transit use and could not be revoked from the agencies without a change to the law. That said, other sources of funds, such as the support New York State offered for transit in 2023, are discretionary and will not be automatically renewed in future years—which can make long-term planning a challenge.

There are certain advantages to state revenue versus locally generated or agency-generated funds. State revenue has the advantage of typically being collected statewide (or at least within an entire metropolitan region), which enables it to reflect the population of an entire region. Local revenue, on the other hand, is almost always generated by cities or counties, whose residents may be disproportionately low-income and less capable of funding new public services. These differences often depend on the state where the transit agency is located (figure 17). In certain states, such as Connecticut and Minnesota, agencies receive most funds from state sources. In others, such as Alabama and Utah, they largely receive funds from local governments. And in states such as North Carolina and Oregon, they are more likely to take advantage of funds raised through taxes they impose themselves.

FIGURE 17

Transit Agencies Vary by State in Their Reliance on Different Sources of Revenue

Share of revenues by source for the average transit agency with at least \$30 million in expenditures in 2021



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Source: NTD (2023).

Notes: There were no transit agencies with at least \$30 million in total spending in 2021 in Arkansas, Idaho, Kansas, Maine, Mississippi, Montana, New Hampshire, North Dakota, South Dakota, West Virginia, Wyoming, or Vermont. Does not illustrate federal support, fare revenues, or other agency charges like parking revenues.

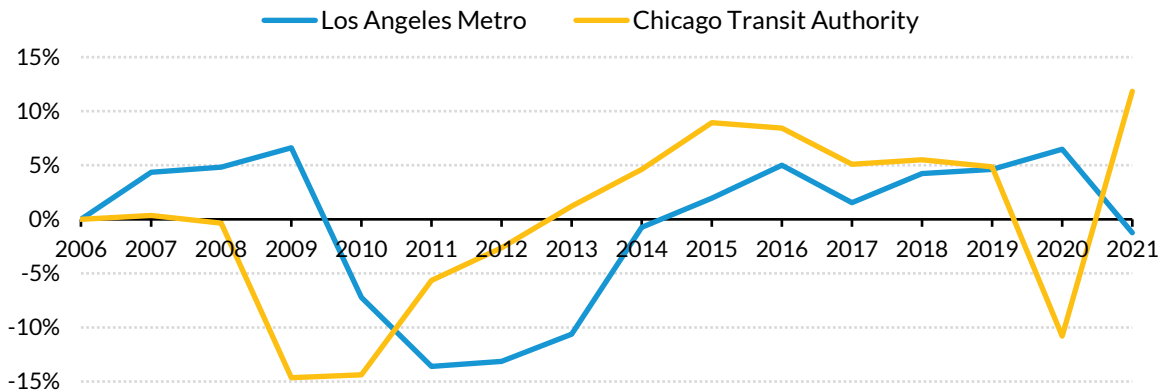
Sales Taxes

Sales taxes have become an increasingly popular mechanism to support the costs of providing transit service and expanding transit networks. Residents in cities and counties across the country have repeatedly voted in favor of sales tax increases for the explicit purpose of funding transit. This has

become more feasible because many states have specific provisions allowing the introduction of such local-option sales taxes following local referenda. Despite the enthusiastic embrace of sales tax revenues to support transit operations, these funding sources are variable and unreliable in the context of economic change, as we noted in the introduction. Moreover, they are regressive in nature, failing to charge more to people with higher incomes. Due to the way race and income are historically and presently tied in this country (Akee, Jones, and Porter 2019), this has the effect of reinforcing racially inequitable structures in the transportation industry.

In figure 18, we illustrate how sales tax revenues have shifted over time for two transit agencies, Chicago Transit Authority and Los Angeles Metro, which fund a large share of their expenditures from this source. This graph shows that sales tax collections for both agencies shifted dramatically over time once adjusted for inflation, falling in the years after the Great Recession, picking up, and then falling again in the context of the COVID-19 pandemic. In the meantime, political officials supported sales tax increases to make up the gaps in both regions. But these shifts make funding regular service difficult: up to 15 percent declines compared with the baseline in both cities could mean massive cuts in day-to-day bus or train operations if some other revenue is not introduced to fill the gap.

FIGURE 18
Sales Tax Revenues for Transit Can Swing Wildly Based on the Overall State of the Economy
Percentage change from 2006 revenue, in 2021 inflation-adjusted dollars



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Source: The authors, based on an analysis of agency budget documents.

Notes: During this study period, both Chicago and Los Angeles increased sales tax rates to fund additional transit service. The calculations above assume a steady sales tax rate.

Property Taxes

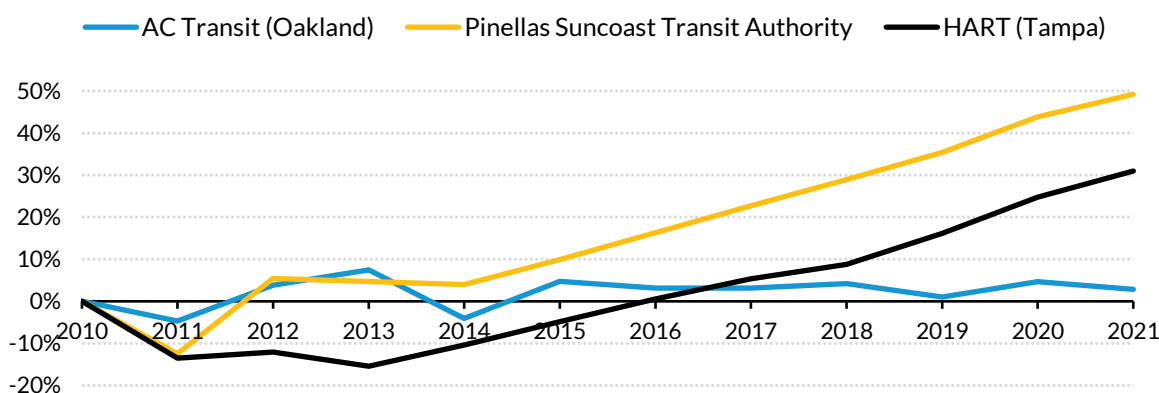
Property taxes are a common source of funding for local governments such as cities and counties, but they are far less frequently used as a source of revenue for transit. This may point to political beliefs about transit's role in society: that public transportation is not a service on par with other local needs such as fire departments, police protection, and libraries, which are more often funded by property taxes. It may also be that those who pay property taxes—property owners—fight to prevent their taxes from being raised and thus build political momentum to shift the burden of transportation costs onto the population as a whole through sales taxes and other more regressive means of collecting revenue. Whatever the case, previous research has demonstrated that this funding source is more stable than sales taxes—and when examining data for some agencies, we find some evidence that this is accurate.

We collected past-year revenue data from three transit agencies with a high level of reliance on local property tax revenues: Oakland's AC Transit, the Pinellas Suncoast Transit Authority in Florida, and Hillsborough Area Regional Transit in the Tampa region (figure 19). In Oakland, property tax revenue ensured that the transit agency could maintain constant revenue, after adjusting for inflation, over the past decade. For the two Florida agencies, the story was not as simple. Each suffered major declines in revenue generation after the Great Recession—but then experienced major increases in revenue from property taxes in the years after. This may reflect the unique experience of Florida cities, whose real-estate markets moved quickly between bust and boom. Nonetheless, the overall story from these three agencies was that property taxes were reliable sources of revenue over the medium term.

FIGURE 19

Property Tax Revenues Reflect the Region's Economy

Percentage change from 2010 revenue, in 2021 inflation-adjusted dollars



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Source: The authors, based on an analysis of agency comprehensive annual financial reports.

Note: HART = Hillsborough Area Regional Transit.

Tolls and Other Revenues

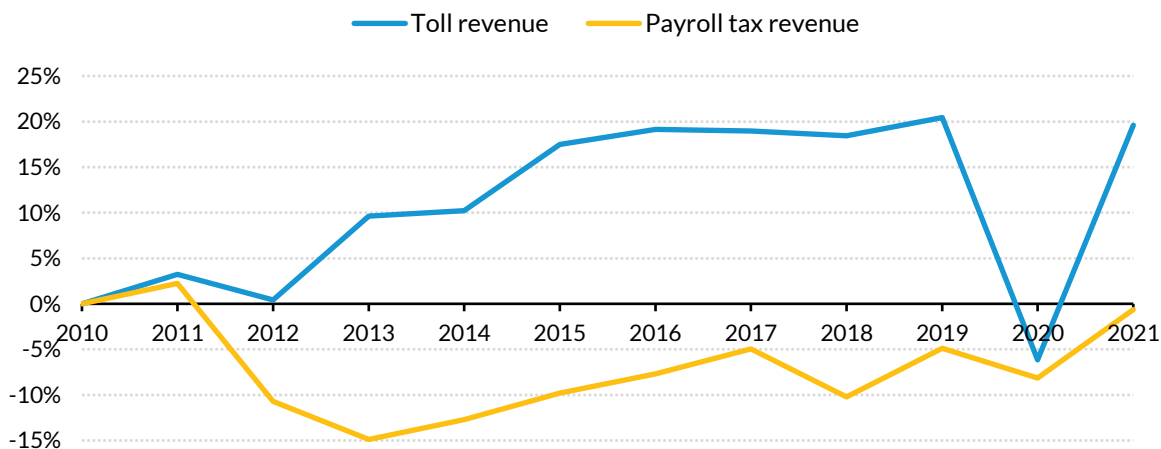
Transit agencies also derive revenue from a variety of other sources, such as tolls collected from motorists and payroll taxes, which are a form of income tax imposed directly on employers before paychecks are distributed. These revenues are less common than property taxes and far less common than sales taxes, but they could play an important role for transit agencies in the future if they help agencies diversify their revenue streams. Tolls have the added benefit of being tied directly to transit's purpose, since they can encourage a mode shift from driving cars onto riding buses and trains.

In figure 20, we show changes in revenue from tolls and a payroll tax, both used to fund New York's Metropolitan Transportation Authority. These changes show that payroll tax revenues have been relatively unstable, falling from their initial levels and only matching 2010 collections by 2021. On the other hand, toll revenue increased dramatically after 2012, bringing in far more, even adjusted for inflation over time. The one exception to this trend was in 2020, during the pandemic, but even in that year, revenues were barely below those collected in 2010.

FIGURE 20

For New York's Metropolitan Transportation Authority, Toll Revenue Was a Generator of Increased Revenue until the Pandemic

Percentage change from 2010 revenue, in 2021 inflation-adjusted dollars



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Source: The authors, based on an analysis of agency comprehensive annual financial reports and a report from Reinvent Albany (Reinvent Albany 2022).

Looking to the Future

Each transit agency should be planning how to respond to *future* emergencies. If ridership does not return, agencies that previously used fares to cover a large share of costs will be in a bind, given insufficient funding. In table 2, we divide the nation’s agencies into groups based on prepandemic FRRs. About 16 percent of agencies collected more than 20 percent of revenues from fares, putting them in a difficult spot; these agencies accounted for 77 percent of national ridership in 2019. An agency with an FRR of 20 percent in 2019 and collecting half as many fares now could face a 10 percent cut to revenues—an enormous drop in its ability to provide service. An agency at the higher end of that spectrum—collecting 50 percent of revenues from fares—could experience a 25 percent revenue cut if only half the equivalent prepandemic fares were collected. For context, in 2010, New York City Transit reduced service by \$68 million per year (about 1 percent of operating costs), eliminating two subway lines, discontinuing 32 bus routes, and reducing service frequency across much of its network.

TABLE 2

Some Agencies Are in More Vulnerable Positions than Others

Farebox recovery ratio, by average between 2015–19

FRR average 2015–19	Share of agencies	Average 2019 ridership, by agency	Operating revenue cut with FRR at half of 2015–19 levels, at the bottom of the distribution
0–5%	31.5%	161,819	0%
5.1–10%	28.5%	557,769	–2.5%
10.1–20%	24.3%	3,974,133	–5%
20.1–30%	6.6%	11,031,430	–10%
30.1–50%	4.6%	22,776,886	–15%
Over 50%	4.5%	44,603,766	–25%

Source: NTD TS2.2 Service Data and Operating Expenses Time Series by System.

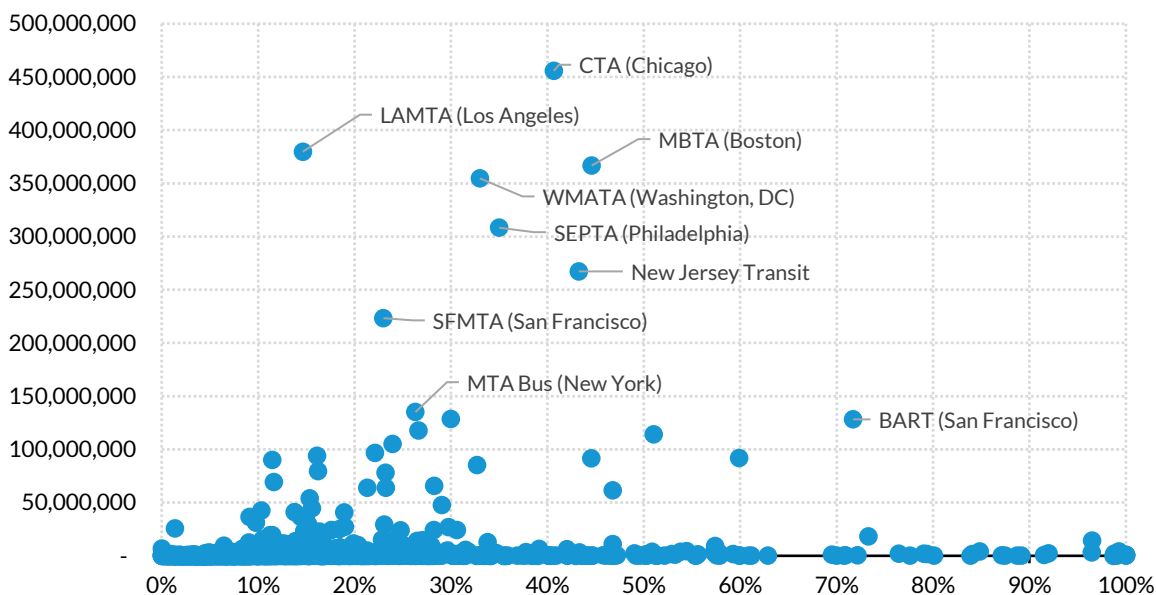
Note: Total of 1,990 agencies in this analysis. FRR = farebox recovery ratio.

Figure 21 illustrates that the nation’s largest transit agencies stand out in terms of ridership and prepandemic use of fares to fund operations. Of the 10 largest, all but Los Angeles Metropolitan Transportation Authority raised more than 20 percent of operating expenditures from fares in 2019; several raised more than 40 percent. These agencies are the ones that most urgently need to identify additional funding sources.

FIGURE 21

Large Transit Agencies Combine High Ridership with Relatively High FRRs

2019 farebox recovery ratio against 2019 ridership volumes



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Source: NTD TS2.2 Service Data and Operating Expenses Time Series by System.

Notes: MTA New York City Transit excluded due to extremely high ridership. 2019 FRR for that agency was 52 percent and 2019 ridership was 3.5 billion. BART = Bay Area Rapid Transit; CTA = Chicago Transit Authority; LACMTA = Los Angeles County Metropolitan Transportation Authority; MBTA = Massachusetts Bay Transportation Authority; MTA = Metropolitan Transportation Authority; SEPTA = Southeastern Pennsylvania Transportation Authority; SFMTA = San Francisco Municipal Transportation Agency; WMATA = Washington Metropolitan Area Transit Authority.

COVID-19 assistance from the federal government, described above, has been a lifesaver for large transit agencies, some of which we list in table 3. Support ranged dramatically in terms of aid per rider, with lower-ridership agencies generally benefiting more from increased per-rider support than higher-ridership agencies (though these trends varied). That aid covered the equivalent of about one to two years of operating funding for those systems—billions of dollars, in total, to fill the gap left by dramatically reduced fare revenues. In some cases, federal funds were so substantial as to substitute for *other* sources of revenue as well; this enabled transit systems to save directly generated, local, or state funds for future-year use. These agencies now must select appropriate approaches to fill the gap. What are the streams of financial support that best suit their needs? We begin to consider that question in a review of case-study agencies in the next section.

TABLE 3

Large Transit Agencies Received Funding to Cover the Equivalent of One to Two Years of Funding*Primary transit agency receiving COVID-19 assistance, listed in descending order of urbanized area population*

Primary urbanized area served	Agency	Federal COVID-19 assistance funds received 2020–21	2019 operating expenditures	COVID-19 aid as a share of 2019 operating expenditures	COVID-19 aid per 2019 rider
New York City	Metropolitan Transportation Authority	\$15.2 b	\$9.1 b	166%	\$4.39
Newark	New Jersey Transit	\$4.5 b	\$2.6 b	172%	\$16.89
Los Angeles	Los Angeles Metro	\$3.2 b	\$2.0 b	162%	\$8.30
Chicago	Chicago Transit Authority	\$2.2 b	\$1.7 b	131%	\$4.91
Dallas	Dallas Area Rapid Transit	\$658 m	\$766 m	86%	\$9.50
Houston	Houston Metro	\$832 m	\$690 m	120%	\$9.25
Washington, DC	WMATA	\$2.9 b	\$2.4 b	122%	\$8.23
Philadelphia	SEPTA	\$1.7 b	\$1.5 b	114%	\$5.42
Atlanta	MARTA	\$617 m	\$699 m	88%	\$5.25
Miami	Miami-Dade Transit	\$577 m	\$683 m	84%	\$7.26
Phoenix	Valley Metro	\$595 m	\$220 m	270%	\$14.50
Boston	MBTA	\$2.1 b	\$2.0 b	104%	\$5.71
San Francisco	BART	\$1.7 b	\$915 m	187%	\$13.31
Seattle	King County Metro	\$897 m	\$958 m	94%	\$6.98
Minneapolis	Metro Transit	\$667 m	\$445 m	150%	\$8.56

Source: Author calculations based on data from NTD and USA Spending.**Notes:** Pandemic support is the combination of funds from the 2020 Coronavirus Aid, Relief, and Economic Security Act; the 2020 Coronavirus Response and Relief Supplemental Appropriations Act; and the 2021 American Rescue Plan Act. All dollar amounts in 2021 dollars. MARTA = Metropolitan Atlanta Rapid Transit Authority; MBTA = Massachusetts Bay Transportation Authority.

Case-Study Transit Agencies

To better understand the fiscal conditions in which transit agencies find themselves today, we worked with TransitCenter, this project’s funder, to identify a group of five systems that illustrate how the current fiscal cliff is hitting transit systems differently. We selected a group of agencies representing a wide range of geographies and political jurisdictions across the United States, providing service to areas with various population sizes, and providing a variety of service types (table 4). We anticipated that lessons specific to financial resilience as well as rate of recovery afforded by different funding sources might reveal themselves in an examination of agencies disparate in these ways. These agencies, finally, vary in how they are responding to the challenges presented by COVID-19.

TABLE 4
These Five Agencies Represent Much of the Variety That Exists in the US Transit Agency Landscape
Prepandemic service conditions across case-study agencies

Agency	States served	2019 vehicle revenue miles (millions)	2019 ridership (millions)	First year of operation	Services operated
Southwest Ohio Regional Transit Authority (SORTA), serving Cincinnati	OH	11.0	14.0	1973	Bus and paratransit
VIA Metropolitan Transit, serving San Antonio	TX	38.7	42.5	1978	Bus, paratransit, and rideshare
Denver Regional Transportation District (RTD)	CO	67.0	105.2	1969	Rail, bus, and paratransit
Bay Area Rapid Transit (BART), serving San Francisco	CA	79.7	128.2	1972	Rail
Washington Metropolitan Area Transit Authority (WMATA)	DC, MD, VA	144.5	354.7	1973	Rail, bus, and paratransit

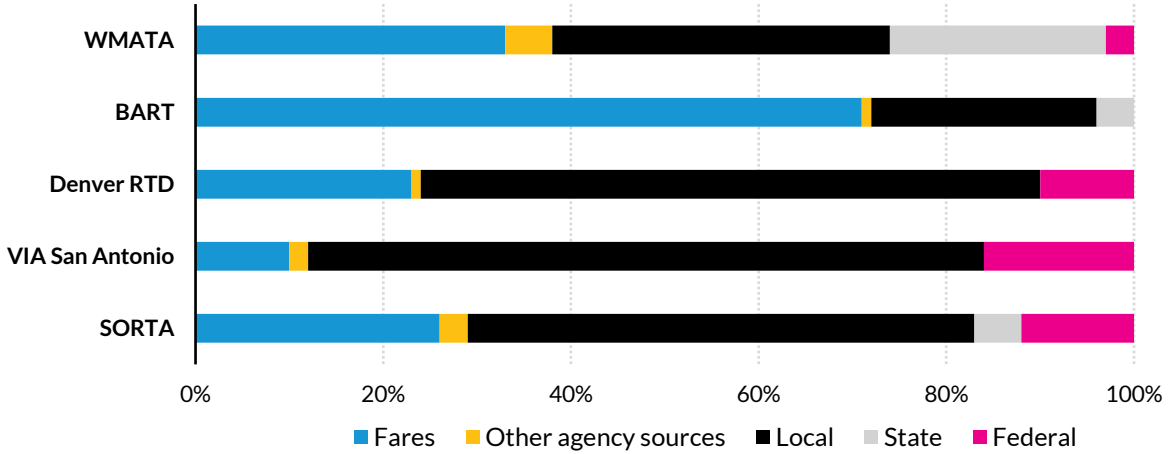
Source: NTD TS2.2 Service Data and Operating Expenses Time Series by System.

These agencies vary substantially in terms of the ways they are funded (figure 22). Differences in funding structure left agencies vulnerable to the system-shock of the pandemic in different ways. In the prepandemic period, of the five agencies BART was most reliant on fares, VIA San Antonio most reliant on local support, and WMATA most reliant on state support (counting Washington, DC, as a state). Relatedly, they have experienced varied rates of returning ridership in the post-pandemic period. SORTA has recovered most quickly, achieving ridership in May 2023 similar to its 2019 levels. WMATA, once struggling the most in terms of rider attraction, now has the second-highest rate of returning riders (figure 23).

FIGURE 22

These Agencies Vary in Whom They Depend on Most for Funding

2019 funding sources for case-study agency operating budgets



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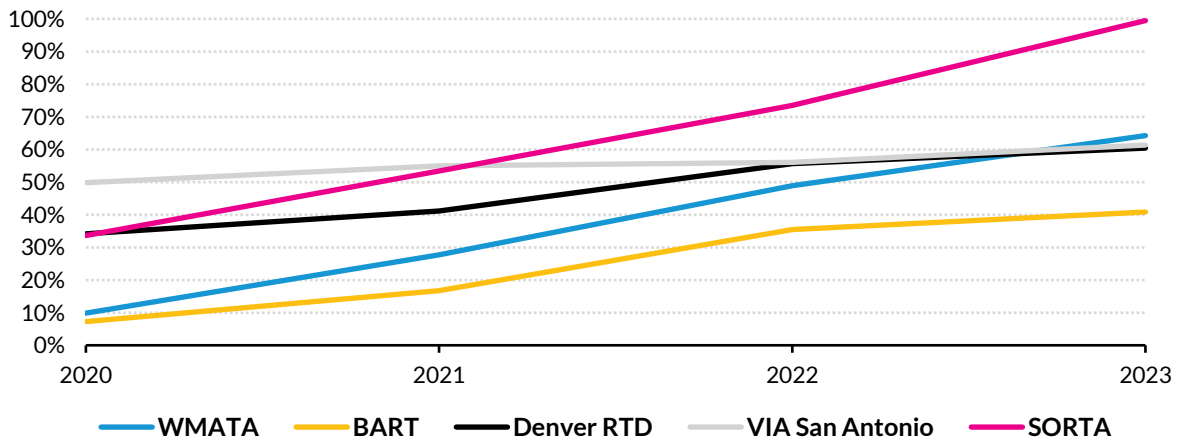
Source: NTD 2019 Agency Profiles.

Notes: WMATA receives operating funding support from the District of Columbia, Maryland, and Virginia, as well as a number of local jurisdictions in the two states. Federal funding provided assistance for paratransit. Note that federal support increased dramatically in 2021.

FIGURE 23

Rates of Ridership Recovery Vary Significantly across Case-Study Agencies

Monthly ridership for the month of May as a share of May 2019 ridership



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Sources: SORTA (via email correspondence); NTD Monthly 2023 Raw Monthly Ridership (other agencies).

Note: VIA data for May 2023 were not available, so VIA data depicted represent the months of April in each year.

Zooming In on Agency Conditions: Lessons to be Learned

In this section, we detail what we learned by examining financial and service conditions among the five case-study agencies, before turning to learnings from research on how *other* sorts of public services are funded. These examples provide insight into how transit agencies might achieve more stable funding.

WMATA

In the early days of the pandemic, WMATA faced the same hardships as every other agency. It experienced major drops in ridership (May 2021 ridership was just 25 percent of May 2019 ridership) and lost fare revenue. This was combined with a local railcar crisis that forced significant service cuts (2021 VRM was 80 percent that of 2019 levels). The agency's future is put further into question as it presently has no dedicated funding source for operations—an issue that is particularly challenging for this agency because it operates significant service across two states and the District of Columbia. That said, WMATA's ridership has recovered comparatively quickly despite service not yet returning to prepandemic levels. In 2022, ridership return outpaced 2020 projections by 40 percent,³² and by May 2023, monthly ridership counts were 64 percent of May 2019 counts, according to the NTD. (For comparison's sake, May 2023 ridership for Philadelphia's Southeastern Pennsylvania Transportation Authority (SEPTA) was 59 percent of May 2019; Chicago Transit Authority's was 60 percent).

Serving a high share of government workers is not the primary reason for WMATA's positive-trending recovery; federal return-to-the-office has been slower than in the private sector, though the Biden administration has recently announced it plans to encourage more federal employees to return to the office, which will likely increase WMATA ridership.³³ Instead, since the pandemic's onset, WMATA has taken bold steps toward improving service in ways that increase efficiency. To that end, it has worked with local governments to establish dedicated bus lanes and announced the launch of new enforcement systems that will improve operating efficiency (e.g., by enforcing bus-lane adherence with cameras instead of police officers, or not at all—though that program is, as of this writing, now on hold).³⁴ At the same time, it has simplified its fare structure and established a means-tested 50 percent discounted fare. It also announced that, in the latter half of 2023, it will be running more service than ever in its 47-year history, to the tune of 104 percent of 2019 levels via improved frequencies and lengthened span of service.³⁵ This includes more all-day service throughout the week, with less of a focus on the peak commute periods.

To fund these enhancements, WMATA is largely relying on the last bits of its federal pandemic aid. The agency predicts that it will completely exhaust this funding in fiscal year 2024 and, in the absence of

assistance, expects an operating deficit of \$750 million in fiscal year 2025, as of the writing of this paper in fall 2023. This deficit will grow through 2035 despite continued ridership recovery (WMATA 2023). The agency has also outlined what changes to service should be expected if the funding gap goes unfilled. Beginning in 2025, rail and bus service could experience cuts of 67 percent, with service concluding at 9:30 p.m., while 98 of the network's 135 bus routes could be eliminated entirely, and remaining customers would be subject to headways of no better than 20 to 30 minutes on both bus and rail services. Additionally, WMATA's paratransit, MetroAccess, would see major cuts to its span of service hours and range of coverage.

WMATA's fiscal situation is concerning and potentially bodes ill for the availability of public transit in the nation's capital and surrounding areas. But the agency's approach to responding to the pandemic and describing its finances may offer valuable lessons for other agencies that could help them inform their approaches in the coming years. By emphasizing better service options, the agency is encouraging a rapid increase in ridership that it hopes will demonstrate to regional policymakers that the services it provides are necessary for the region's quality of life. This is a political gamble that, to some degree, may sacrifice short-term fiscal stability (since, in theory, the agency could cut service as a mechanism to fill its funding gap) in the interest of building long-term support for other sources of funding. By acknowledging its funding situation and anticipated future service scenarios, the agency is being transparent about what it needs to continue the positive momentum it has generated over the last year.

BART

Prior to the pandemic's onset, BART was the nation's poster child of successful transit funding, covering as much as 80 percent of its operating budget with fare revenue. Unfortunately, a lack of funding source diversity rendered BART vulnerable to pandemic-induced shocks in ridership. Despite returning to full, prepandemic service levels on existing routes and the opening of two new stations in Santa Clara County in 2020, BART ridership has been slow to recover. Its May 2022 and May 2023 ridership levels were just 35 and 41 percent of May 2019 volumes, respectively. To minimize the financial shortfalls during the pandemic's early days, BART froze wages of executive staff and cut hundreds of vacant positions, saving a reported \$32.7 million (BART 2020).

In early 2023, the agency projected annual deficits of \$300 million beginning as early as fiscal year 2025.³⁶ In an attempt to make minor dents in that cliff, BART plans to increase parking prices and fares in the coming years, adding to what are already high fares compared with the national average. The agency stated that losses of the scale predicted for 2025 could force the agency to resort to one-hour

headways, reduced weekend service, elimination of all weekday service after 9 p.m., reduced airport services, and several station closures.³⁷ The State of California agreed in June 2023 to a \$5.1 billion, five-year revenue stream to help transit agencies; the Bay Area region is expected to receive a total of \$400 million for operations and \$800 million for capital projects (of which BART will receive a substantial share, though not all), but agencies will be able to spend capital funds on operations. This support will help operators like BART to continue providing adequate service, at least over the next two years.³⁸ It remains to be seen whether the state will make a similar commitment in the coming years to ensure BART's long-term stability in the face of continued low ridership.

BART's issues are multilayered, as its solutions will likely need to be. First, riders' feelings of safety in and around transit spaces have plummeted, especially in downtown San Francisco—the core into which virtually all BART service feeds (BART Police Department 2023). This network design has left BART's health intertwined with the vitality of the region's employment core (downtown San Francisco has suffered from low levels of workers returning to the office). This is an unsustainable codependence that has contributed to new thinking about how transit works in the Bay Area, where there are nearly 30 independent transit agencies operating. There is widespread support for a merger of BART and Caltrain, for example.³⁹ Some argue that this merger could provide truly regional—as opposed to commuter—rail and drastically simplify and better align service options.⁴⁰ It would also facilitate a wider breadth of funding sources for the region's rail transit providers (including directly sourced agency funding such as park-and-ride charges and advertising, which combined made up 7 percent of BART's 2019 operating budget). A regional agency would also reflect that transit's impacts on quality of life, public health, the environment, and social justice are distinctly regional, not local.

BART's key to getting back on track may also be uniquely paired with changes in land use and development policy. Despite considerable demand over the past few years for new housing construction in the Bay Area, the area has been a notable laggard from a national perspective. State law, however, provides BART the ability to enforce higher density developments in its station areas;⁴¹ one approach may be activating those neighborhoods to enable dense growth and thus future transit ridership. It may specifically benefit from developing underused land, such as surface parking lots, that it already owns. BART may also be aided by the expansion of the state university system into downtown San Francisco, which has recently been proposed to help stabilize that area.⁴²

Finally, BART's financial health in the years to come may be intertwined with the level of representation it receives on decisionmaking boards. The Metropolitan Transportation Commission is the Bay Area's Metropolitan Planning Organization (MPO). This MPO handles transportation funding distribution that comes to the region via federal and state allocation for nine counties. The Metropolitan

Transportation Commission is composed of 18 voting members, nearly all of whom are local elected officials at the city and county levels. As a result, BART does not have a voice on the board responsible for determining the share of resources the agency receives. Though the call to better integrate MPOs and transit providers has been made in many parts of the country and is far from new—federal recommendation on providing transit agencies representation on MPO boards dates back to 2014⁴³—the idea takes on new importance as the quest for new, stable funding sources intensifies.

Denver RTD

Denver RTD experienced a relatively mild reduction in ridership at the onset of the pandemic. May 2020 hosted 35 percent of the ridership of May 2019 (compare that with BART at 7 percent and WMATA at 10 percent, for example). Ridership has tracked up in the following years, as shown in figure 23. This is not to say, however, that the agency did not take major hits. RTD deferred over \$100 million in capital and maintenance projects, made major staffing cuts—reducing its workforce by about 300 employees between March 2020 and January 2021—and reduced overall VRM by about 30 percent during the pandemic’s first two years.⁴⁴

The primary nonfederal, nonfare revenue funding RTD operations is derived from local sales and use taxes. These sources have been relatively variable, both historically and through the pandemic; many advocates have pushed for the state to increase its thus-far-negligible contributions, which amounted to less than 1 percent of its operating budget prior to the pandemic.⁴⁵ In 2021, Colorado Governor Jared Polis signed Senate Bill 260 into law, which will raise \$5.4 billion over the next decade through a combination of general fund transfers and new fees on gasoline, diesel, electric vehicles, deliveries, and ride-hailing services with the express intention of reducing greenhouse gas emissions by 40 percent by 2030. The law enforces climate targets on transportation projects and allows the Colorado Department of Transportation to withhold funding from projects that fail to meet targets. It allows for the redirection of funds that would support projects with projected negative impacts on climate to those with positive impacts, such as transit investments. The law will also allow the state to channel funds into transit-adjacent development and to support the electrification of transit and school bus fleets.⁴⁶ All of this is generally good news for transit and good news for RTD, as any increase in state funding would better balance its funding structure, now heavy on local contributions.

RTD will not run out of federal COVID-19 aid until 2025. Unlike BART and WMATA, which chose to use their federal aid in part to return to full service levels as quickly as possible, RTD stockpiled the funds and committed instead to decreased service levels, in a sense creating a rainy-day fund. By the

end of 2021, RTD had \$350 million in federal aid remaining, equivalent to about half of a typical year of the agency's operating budget. Also contributing to RTD's comparatively calm fiscal situation is the fact that the agency collected more-than-anticipated sales tax revenue in 2022 and stockpiled over \$127 million of those funds in 2021 due to staffing shortages (with which the agency continues to struggle). Agency leaders have not released any doomsday projections regarding service cutbacks but have made clear that they do not foresee running service levels above 85 percent of prepandemic levels any time before 2027.⁴⁷ The agency continues to provide diminished transit service. While potentially healthy from a fiscal perspective, this means the region's residents will experience lower-quality service into the coming years, challenging the goal of encouraging more transit use.

Note that RTD was not the only agency that was able to stockpile money in this way. Pennsylvania law, for example, mandates that transit agencies maintain a rainy-day fund. Agencies were able to leverage this source of funds during the pandemic to keep services running while providers determined funding plans for the coming years.⁴⁸ Choosing how much funding to direct to rainy-day funds rather than improved service requires careful consideration on the part of transit agencies to avoid undercutting the goal of guaranteeing effective bus and rail options for riders.

VIA San Antonio

Though VIA ridership was not decimated in the pandemic's first year, its ridership may be in danger of plateauing. Ridership volumes during April of 2020 and 2023 were 50 and 61 percent of April 2019 volumes, respectively. To avoid a ridership plateau, VIA has focused on increasing frequency, reliability, and network connectivity. VIA plans to offer entirely new services. The agency is continuing to deliver on its Keep San Antonio Moving masterplan, which voters approved in 2020 and which is designed to improve headways on nearly all routes, expand the paratransit service area by 300 square miles, add five new mobility hubs, add four Bus Rapid Transit corridors, and build a new maintenance facility.⁴⁹

This full-steam-ahead approach raises questions about how VIA will finance these service improvements and expansions. Part of VIA's funding share from local contributions is derived from a voter-approved half-cent sales tax. This is further supported by a quarter-cent sales tax approved in 2004. This tax funds transportation improvement projects not only implemented by VIA—which receives half of this revenue—but also by the City of San Antonio and the Texas Department of Transportation, which split the remaining half. San Antonio voters are committed to continued transit funding, having approved Proposition A in 2020; this will rededicate an eighth-cent share of an existing one-cent local sales tax away from roadway projects and toward public transit, beginning in 2026.⁵⁰

This redirection of existing tax levies is not a commonly utilized tactic. Its successful passage suggests that agencies should consider mobilizing this tool. In cities with strong support for criminal justice reform, for example, a redirection of police funding toward transit might be successful. Higher ridership facilitated by better transit options is directly correlated with measured improvements in public safety in and around transit spaces. By redirecting police funding to transit operations, a city might be better able to achieve the primary objective of police forces, “expanding safety.”⁵¹

Still, VIA leadership is wary of the volatile nature of sales tax revenue and have expressed interest in seeking other, more stable sources to complement their suite of sales tax channels.⁵² Though leadership has not yet publicly specified these sources, VIA receives no funding from tolls, fuel tax, income tax, or property tax sources. Advertising also accounted for a tiny share of the agency’s operating budget (0.6 percent—similar to other agencies). It also does not receive any funding from state sources. These are possible avenues for financial diversification.

SORTA

SORTA ridership has rebounded very well; May 2023 ridership came in at more than 99 percent of May 2019 levels. SORTA quickly deployed federal aid to return to full, prepandemic service in 2020. Since then, it has expanded paratransit service, offered free weekend service in summer 2022, and redistributed service offerings to areas with the most resilient ridership needs since the pandemic’s onset. In addition, it improved regular bus service, adding 24-hour options for the first time in the agency’s history on key corridors, expanding the system to new neighborhoods that it had previously failed to serve, and launching on-demand service in two suburban areas.

In May 2020 and effective in January 2021, voters opted to replace the existing Cincinnati income tax funding for SORTA with a funding structure that instead leans on a county-level 0.8 percent sales tax to be levied for 25 years.⁵³ Of this funding stream’s revenues, 75 percent are allocated to bus system operations (raising about \$110 million a year), enabling the service increase noted above, and the rest go to transportation infrastructure projects (such as roads improvements) that are managed by the SORTA board. This was a substantial increase over the \$67 million generated in 2019 by the old income tax. SORTA has not reported on projected deficits; annual expenses came in at budget for fiscal year 2021 and have performed favorably compared to budget thus far in 2023 (SORTA 2022).

Though the agency appears to be in comparably good financial health, there are still potential funding sources going underutilized that could diversify SORTA’s funding structure. State contributions from Ohio, for example, could better balance funding. Presently, the state leverages a 38.5-cent-per-

gallon gasoline tax and a 47-cent-per-gallon diesel fuel tax. These are primary sources of funds for roadway maintenance and contraction costs, producing roughly \$2.6 billion statewide annually.⁵⁴ Just 1 percent of that is equivalent to nearly one-quarter of SORTA's 2021 total operating budget.

Overview of Lessons from the Case-Study Transit Agencies

Exploration of the case-study agencies renders several potential positive takeaways for other agencies:

- Provide the best service possible to demonstrate that ridership demand not only persists but can in fact be created. If combined with improved operating efficiencies—produced, for example, by improved enforcement and dedicated bus lanes—agencies can provide better transit at a reasonable price. SORTA has been able to return ridership to prepandemic conditions to a large degree because it leveraged a well-timed tax increase to improve service substantially. WMATA's service improvements also appear to be bringing riders back at a rapid rate. It remains to be seen whether that increased ridership translates into increased political support for more funding from local and state sources.
- New taxes are not the only option. Localities and states could redirect existing taxes, which may be politically and administratively easier. VIA San Antonio demonstrates that voters may be willing to support a transfer of funds from one type of public service to another—and that transfer can benefit transit.
- Agencies can leverage land in areas around stations to generate future ridership. BART's ability to enable higher densities near its stops will eventually produce more transit-oriented neighborhoods.
- Transit agencies should be transparent about doomsday conditions and specify how lacking funding will translate into service cuts. WMATA has detailed the negative consequences of future financial gaps, if left unfilled. Though it is too early to state the degree to which establishing doomsday conditions will motivate policymakers into action in restructuring WMATA's funding, we think it is in as strong a position as possible from which to begin.
- Agencies could consider creating a rainy-day fund bit by bit to build up their reserves. Though Denver RTD's approach has been associated with potentially insufficient service, it has been able to leverage federal funds and higher-than-expected sales tax revenues to avoid future negative funding conditions.

Funding Other Public Services

In this section, we explore how our case-study cities source funds for other types of public services. This examination provides some examples of how policymakers have chosen to fund library systems, fire departments, and park authorities—often by using general fund revenues originally sourced from property tax revenues. These examples could be replicated on behalf of transit agencies to help stabilize their budgets in the coming years.

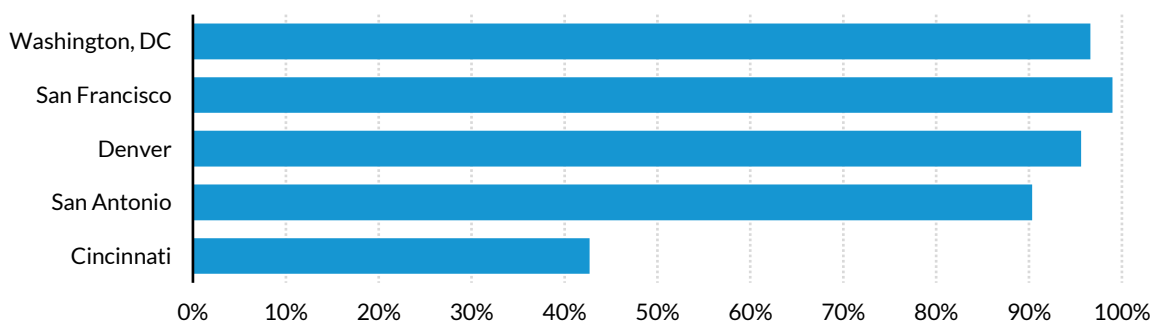
Libraries

Our case-study cities are largely alike in their library funding sourcing. All of them use some combination of donations, grants, fees, and government support to generate the operating budgets needed to serve their constituents. The overwhelming majority of library funding across four of the five case-study cities comes from each city’s general fund (figure 24). Cincinnati is the exception, with about 50 percent of operating funding generated from state sources.

FIGURE 24

Local Level General Funds Carry the Lion’s Share of Library Funding

Share of 2022 library operating budget covered by city general fund



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Source: Author calculations using FY2022 budget reporting.

Several of the cities have established a dedicated funding source for their libraries. For example, in 2022, Denver voters passed Measure 2i, which increased the property tax for its libraries. The tax hike was equivalent to \$10.73 per year for every \$100,000 in home value.⁵⁵ Similarly, San Francisco has had a dedicated Library Preservation Fund since 1994. This is composed of a baseline general fund annual commitment of 2.3 percent of city and county discretionary revenue, plus a property tax set-aside of 2.5 cents for each \$100 in assessed valuation. This funding pot has covered between 95 and 99 percent of

the city's library budget every year since its creation. Its renewal was voter-approved in 2022 for an additional 25-year term. Finally, Cincinnati also benefits from funding dedication baselines; Ohio libraries receive an annual minimum fixed commitment of 1.7 percent of the total state budget.

It is important to note the differences in the ways funding contributions are treated for libraries versus those for transit, where they exist. Take WMATA, for instance. The agency has been limited by a 2018 agreement that locks WMATA into a 3 percent maximum annual increase in operating subsidies from the jurisdictions it serves, a ceiling on potential revenues from states and localities.⁵⁶ In the cases related to libraries highlighted above, these contributions take the form of a floor—meaning revenues can be higher than expected. This difference, as we are seeing now, has major implications for an agency's ability to be responsive in a time of crisis: WMATA's 3 percent cap was maintained throughout the pandemic, despite obvious need for flexibility.

Attempts to secure dedicated and/or increased library funding have often targeted property taxes. As demonstrated in figure 1, very few transit agencies pool funding from property taxes. Instead, most agencies have focused on targeting sales tax increases. In localities with pro-transit leanings, it may be possible to propose changes to property tax revenues as a means of establishing dedicated funding for transit. Some cross-sector learning could perhaps be accomplished if transit agencies mirror the tactics deployed by libraries.

Fire Departments

Like libraries, fire departments are almost entirely funded by city-level general funds. Lessons from other public services, however, are not limited to variations in funding structures. Across the country, fire departments have had issues similar to those of transit agencies in retaining and recruiting staff. For both sectors, this reality impacts the level of service they can provide. Fire departments are reportedly having to spend an increasing share of their time responding to nonfire emergencies; medical emergencies, hazmat incidents, active shooter situations, and other fire-free conditions are, for some agencies, the majority of their call responses.⁵⁷ This uptick predated the pandemic, but public health conditions resulting from COVID-19 have exacerbated the matter.

Transit employees have also dealt with new difficulties in their workplace. Public spaces are measurably less safe than they were in 2019 (Massenkoff and Chalfin 2022). Transit has hosted much of this worsening in both measured and perceived public safety. Transit operators have experienced increased incidence of assaults against them since 2020 and are being confronted with quality-of-life support needs for which their prepandemic training did not well equip them (Van Eyken 2022).

For many fire departments, including Cincinnati's, Denver's, and San Antonio's, federal support has historically come in the form of aid specifically for capital expenditure (i.e., earmarked for vehicles and equipment), as for transit agencies. But fire department relief efforts have been creative in ways that policymakers may want to mimic. One form this creativity has taken is through tax breaks. In 2022, New York passed a measure enabling localities to enact property tax breaks of up to 10 percent for volunteer firefighters and ambulance workers. Could such breaks be granted to frontline transit workers? The inability to run high-quality service due to staffing shortages is contributing to ridership reductions (Redman et al. 2013). Furthermore, any financial losses resulting from such a staff recruitment policy would be more than made up for by a system like that which Massachusetts has recently established. In March 2023, Governor Maura Healey proposed that all the money generated from a new millionaire tax passed in November 2022 be directed to the state's Education and Transportation Fund. This proposal further delineates \$510 million for education and \$490 million for transportation, about 38 percent of which would be directed to the Massachusetts Bay Transportation Authority.⁵⁸

Another way that fire departments are tackling workforce difficulties is with federal funding dedicated to employee training, support, and retention. The federal Staffing for Adequate Fire and Emergency Response grant program has made 364 awards totaling \$558.6 million between 2016 and 2023.⁵⁹ Such dedicated workforce support at the federal level does not exist on a large scale for transit agencies, though new regulations in the 2021 infrastructure law enable states to flex federal highway funds for workforce training.⁶⁰ In addition, the Biden administration's recently launched Talent Pipeline Challenge may fill some of the workforce needs that agencies are presently facing, though the program is too young to determine its full impact or the longevity of that funding source.⁶¹

Parks

The first big lesson offered by parks funding is that advocacy has great value. Of our case-study cities, Denver offers perhaps the clearest demonstration of that fact. In 2018, Resilient Denver, a local environmental advocacy group, began collecting signatures and fostering support for a new energy use tax. Through the group's persistent promotion of a clearly defined idea, it helped shepherd the Denver City Council and Mayor's Office toward the creation of a Climate Action Task Force charged with engaging the public in defining goals, gaps, solutions, and investment opportunities under the umbrella of improving Denver's climate readiness and resilience.⁶² The result of this task force's efforts was a recommendation that a 0.25 percent sales tax increase be placed on the November 2020 ballot. With 62 percent of Denver's voters in favor, Measure 2A passed and was projected to generate about \$30 million annually to fund climate action. The City's 2021 annual report detailed that Measure 2A has

overperformed, contributing \$41 million to projects ranging from community solar installations and much-needed park maintenance to workforce development for green jobs (City of Denver 2021).

The second lesson is that public-private partnerships are sometimes worth pursuing. San Francisco Recreation and Parks Department has taken this to heart. Since 2015, the City Fields Foundation has contributed over \$20 million to the maintenance, renovation, and development of parks in collaboration with the City (San Francisco Recreation and Parks Department 2021). Other localities have found such partnerships fruitful as well: perhaps the best-known examples are Bryant Park in New York, Campus Martius Park in Detroit, and Post Office Square in Boston.⁶³ The case-study city of Washington, DC, has also found financial support for its parks through public-private partnerships. The Yards Park in Southeast DC has an annual operating budget of just over \$1 million. Development of the park—completed in 2010—and its ongoing operating needs are funded by the Capital Riverfront Business Improvement District.⁶⁴ This model might translate into contributions to transit agency operating budgets by the many businesses that benefit from being proximate to transit services, or perhaps the “adoption” of a station—including taking on the costs to maintain it. While such a relationship would need careful regulation, it is certainly worth considering ways that transit can capitalize on its indirect contributions to the economic strength of the places and businesses that profit from its existence.

A final funding lesson from parks across our case studies comes by way of a matching fund. The City of Alexandria, Virginia—situated within WMATA’s service area—runs a Community Matching Fund that targets the upgrading of athletic fields, community gardens, composting facilities, playgrounds, and more. If a partner organization, company, or group can demonstrate that their project meets the Fund’s goals, the City will award a one-to-one dollar match of up to \$200,000 per project.⁶⁵ A similar—potentially uncapped—matching program would provide transit agencies with a system by which to double their funds in cases where external supporters are interested and able. One can imagine developers being given the option to forgo having to build parking (a notoriously expensive endeavor) and meeting their development requirements instead by contributing to services that agencies agree to match spending on. While this is just one example of the deployment of a matching fund, this type of system allows for a more direct stream of contribution to transit services than, say, taxing at the city level and redistributing through a general fund. This directness could encourage funders who are on the fence to get involved.

Best Practices to Surmount the Cliff

We have documented some of the major financial challenges facing transit agencies due to their frequent reliance on a limited set of tax revenues, their recent declines in fare receipts, and a future with limited federal funding support for operations. What, then, should transit agencies do to help fill the gap in the future, surmount the current fiscal cliff, and prevent future emergencies? In this section, we provide recommendations for transit agencies—as well as elected officials and other policymakers—given experience and learnings from the case-study cities. A multifaceted approach to addressing transit’s funding constraints may include some combination of:

- transit agencies working to increase ridership, with the goal of maintaining current rider-generated funding and increasing transit’s mode share;
- policymakers at the local and state levels increasing funding for transit from a diversity of external subsidies, weighted toward sources known to be stable; and
- transit agencies working to improve operating efficiencies to provide more service with the same funds.

Together, these initiatives can enable transit agencies to ride the varying economic and social waves that impact public services. We detail potential approaches to achieving these outcomes below.

Increasing Ridership and Fare Revenues

The success of public transportation services is, to a large degree, reflected in how many passengers choose to ride transit. A nation with more people riding buses and trains is more environmentally friendly, with more people able to reduce their costs of travel. As transit becomes more popular, higher ridership can mean increased fare revenues, which can help fund agency operating costs. But even without much more funding from fares, higher ridership could encourage popular and political consensus in favor of funding this essential public service. More riders mean more voters who believe that transit is a key element of a functional, desirable society.

The data we presented above showed that—prepandemic—fare revenue roughly tracked ridership. Since prepandemic ridership was declining nationally, fares declined as a share of agency expenses. Fares by themselves are inadequate to keep agencies afloat when ridership declines—and increasing fares more than a modest amount could make the situation worse by dissuading some from using

transit. The good news is that the pandemic experience is unlikely to be repeated anytime soon; it was associated with a uniquely precipitous drop in ridership. But fares can serve as an important complement to a broad diversity of revenue sources to maintain transit funding stability.

One potential approach is to encourage political officials—at least for large transit agencies with high fare revenues—to think of fares as something that most people can pay but that remain a struggle for others. Programs like New York City’s Fair Fares NYC, designed to cover half the fare costs for people with low incomes, can ensure that people continue riding even if they do not have a large amount of disposable income.⁶⁶ That program is funded by the city government rather than the transit agency, allowing the agency to focus its limited resources on providing service. And the agency can continue charging fares to people who are able to afford using the system, providing it a source of funds. But this program and others like it do face challenges. For example, they require knowledge of the program’s existence and eligibility criteria on the part of applicants; in some cases, those who are undocumented may be unwilling to share their personal information in the process of signing up, for fear of negative repercussions. As a result, many who would qualify for such programs do not apply.

There are, however, ways to surmount these barriers. Pittsburgh streamlined the process of determining eligibility for both applicants and administrators in its discounted fare pilot, launched in September 2022, by making all recipients and parents of recipients of EBT/SNAP benefits auto-eligible for the program. The program saw an impressive 14,500 enrollees in its first nine months.⁶⁷ While Pittsburgh’s program design is a strong step toward ensuring that all who can benefit from support programs do so, an even stronger step could be made through deployment of an auto-enrollment system. Auto-enrollment is the process by which those eligible for an assistance program—such as SNAP benefits—are automatically enrolled in complementary programs such as free or discounted fares without having to specifically apply for them. This increases the likelihood of attracting new riders and retaining existing ones, and it heightens operating efficiencies by reducing the administrative cost of reviewing program applications.

When executed optimally, these sorts of approaches attempt to strike a balance between efforts to increase transit ridership and fare revenues. Eliminating fares altogether for large agencies would require a massive source of new funds that would not necessarily be equitably sourced. Many people riding transit—especially in large cities—can afford fares and can contribute a reasonable share for the use of buses and trains.

Growing transit ridership and maintaining fare revenues require transit agencies to be thoughtful about improving service to reflect demand in a post-pandemic environment. In recent years, some

agencies made alignment adjustments to their bus networks, often with the aim of maintaining flat overall expenditures. Some realignments were temporary, such as focusing solely on essential workers and trips that serviced health care sites and social services. In other cases, more substantial network redesigns were birthed—or continued to be developed—that took into account the lasting impacts of COVID-19 on travel needs and behavior. These plans typically featured an emphasis on creating new connections between neighborhoods to better support errand and leisure trips. Several, such as those in Boston; Madison, Wisconsin; Philadelphia; and Washington, DC, also demonstrated increased commitment to reliability; these plans are in various stages of rollout, depending on the agency. In collaboration with city agencies, all of these agencies are working to expand their bus-only dedicated roadway networks at accelerated rates compared to prepandemic times.⁶⁸

Many agencies also redistributed service across their existing networks. This included shifts in service volume from routes with heavy loss of ridership to those with lower losses; an increase in the number of routes offering all-day, frequent service; and improved frequency of weekend service. They also commonly took pandemic-informed steps, by shifting service away from the 9-to-5 morning and evening commuter peaks, toward more robust midday and evening service offerings to account for greater flexibility in work start-stop hours and to encourage greater use of transit for nonwork trips.

In Pittsburgh, for example, the Port Authority improved bus and rail headways in 37 percent of the neighborhoods within its service area during 2020. Areas that received increased service had larger shares of people of color, lower median household incomes, a higher share of residents who met the federal poverty threshold, and higher shares of households without access to a car than neighborhoods that experienced reduced service.⁶⁹ In sum, while some riders saw service level cuts, some communities of crisis-resilient riders saw their service levels somewhat improved as a result of agency actions informed by trends during the pandemic. In New York, state policymakers took this approach to service improvements more broadly, choosing to fund New York City Transit specifically to increase the frequency of several subway lines to ensure quality service.⁷⁰

Transit agencies should also evaluate how to increase ridership by encouraging increased development in the areas served by lines. This requires close coordination with local governments, which ultimately make most choices about land-use policy. Higher population and employment densities are closely correlated with higher ridership—and are associated with more cost-efficient transit services (Guerra and Cervero 2011). Some agencies, such as Seattle's Sound Transit, have developed detailed transit-oriented development policies designed to support access to affordable housing on land remaining after light rail construction. Sound Transit has combined this policy with a dedicated loan fund to encourage such projects.⁷¹

Funding from a Diverse Group of External Subsidies

Virtually all US transit agencies are reliant on external subsidies—meaning money they are unable to generate directly, such as through fares—to fund their services. These subsidies, as we have seen, provide varying revenue over time and are sometimes so unstable as to put agencies in a bind, unable to fund their basic operations. These problems sometimes lead agencies to suddenly cut service at the expense of riders. To move past the current fiscal cliff—and end the cycle of funding emergencies—policymakers at the local and state levels need to identify subsidies for transit that are stable. While the public appeal of sales taxes has enabled many agencies to expand their investments in capital projects like new rail lines, those revenues swing up and down precariously. Other options, such as property tax revenues, may be more stable. But policymakers should seek to develop a *diversity* of external subsidies for transit agencies that allow them to better handle year-to-year changes in income. If the federal government could increase its assistance directly, transit agencies would be even better off.

Federal Support

Transit agencies could seek additional federal support for operations expenses in the coming years (Freemark 2021). The relief provided by successive federal laws during the pandemic ensured that transit agencies could continue providing adequate service. That relief (\$69.5 billion) was equivalent to only about 1 percent of the total federal budget.⁷² If Congress *wanted to*, it could support the operations costs of the entire US transit industry with little impact on the national government’s revenues.

Unfortunately, Congress is unlikely to do so anytime soon, given its unwillingness to fund most transit operations since the 1980s (with the pandemic exception). This does not mean, however, that federal funds cannot be leveraged in support of public transportation. The 2021 federal infrastructure law provides considerably more funding for highway infrastructure than for transit expenses (most of which must be spent on capital costs). But federal law does provide considerable options in funding. Funds from most highway formula programs can be used directly on transit capital projects that are shown to meet the general goals of the highway program. The National Highway Performance Program, for example, enables funding for transit projects if they “reduce delays or produce travel time savings . . . and improve regional traffic flow,” among other possible criteria (FHWA 2022). States interested in supporting transit could leverage these funds to invest in better bus and rail service.

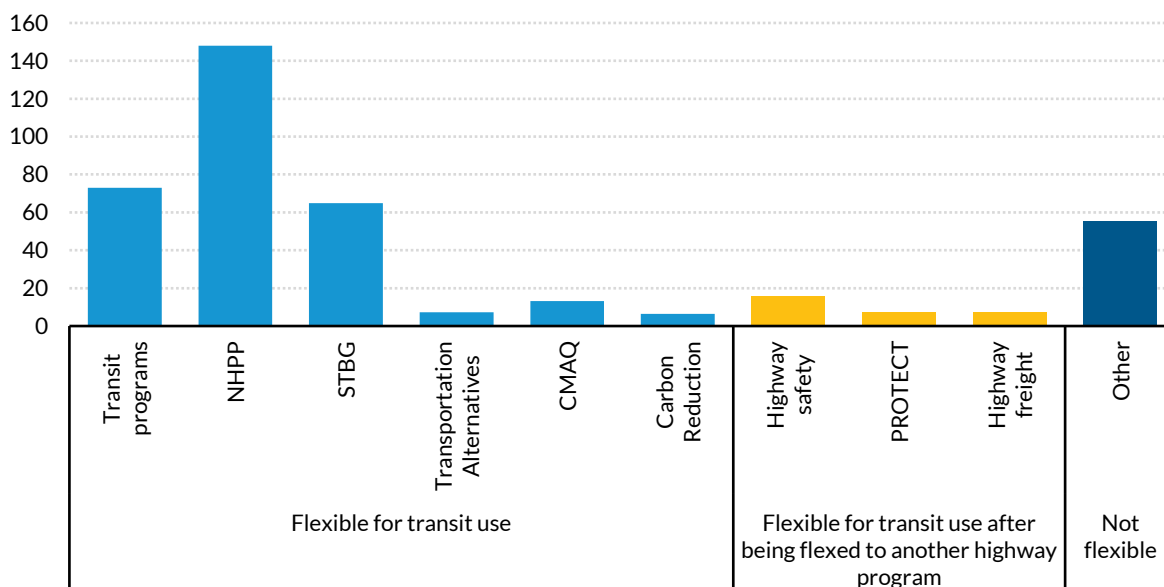
Moreover, funds from the National Highway Performance, Surface Transportation Block Grant, Congestion Mitigation and Air Quality Improvement, and Carbon Reduction Programs (which sum to \$240 billion, compared to just \$73 billion in federal formula funds for transit) can each be redirected

through “flexing” from highway programs to transit programs (figure 25).⁷³ This allows these funds to be used for any transit capital needs authorized under federal transit programs, not just those that meet highway program objectives. Finally, many other roads programs, such as the Highway Safety Improvement Program, can be flexed to another highway program, opening up other options to pay for transit investments.

FIGURE 25

Federal Surface Transportation Formula Programs Can Be Flexed for Transit Agency Use

Federal formula funding sourced from 2021 infrastructure law, in billions from fiscal year 2022–26



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Source: 2021 US Infrastructure Investments and Jobs Act.

Notes: NHPP = National Highway Performance Program; STBG = Surface Transportation Block Grants; CMAQ = Congestion Mitigation and Air Quality Improvement; PROTECT = Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation. Transportation Alternatives are a set aside of STBG funding. Figure does not include programs for which the federal government distributes funds through competition.

One key option for transit agencies is to work with their respective state governments to leverage these federal transportation funds in support of increased transit operations. Federal funds by themselves (even the flexed ones) are not particularly useful here unless Congress changes the law, because most large transit agencies must reserve them for capital expenses. But these funds could be quite useful if they *substitute* for state or local funds being spent on capital expenses.

In table 5, we examine conditions for 11 of the nation’s largest transit agencies in 2019. Each agency spent hundreds of millions—sometimes billions—of dollars on capital expenses. For each of these

agencies, state, local, and directly generated (i.e., taxes raised by the agency) revenue sources covered a significant share of capital costs, ranging from about 16 percent for Chicago Transit Authority to almost 90 percent for Sound Transit (note that these percentages shift significantly each year). In all but three cases, the amount of state, local, and directly generated funding for capital expenses is far lower than the total annual federal highway funds being distributed to each agency’s respective state that could theoretically be used for transit programs. If states and localities leveraged these funds to substitute for their existing capital contributions (with no overall capital budget increase), the agencies in table 5 could increase their operations budgets by 4 to 85 percent.

TABLE 5
Capital Expenses for Large Agencies Are Often Funded with State, Local, and Directly Generated Funds That Could Be Used for Operations if Substituted with Federal Highway Funds

Agency	2019 operating expenses	2019 capital expenses	Share capital expenses from state, local, or directly generated sources	Annual state highway funds from flexible federal programs ^a	Percent of flexible highway funds needed to substitute for state and local capital costs ^b	Resulting operations budget increase ^c
MTA NYCT (NY)	\$9.4 b	\$4.0 b	76.0% (\$3.0 b)	\$2.0 b	160%	NC
Los Angeles Metro (CA)	\$2.0 b	\$1.7 b	80.0% (\$1.3 b)	\$4.4 b	31%	48%
MBTA (MA)	\$1.9 b	\$1.1 b	54.8% (\$584 m)	\$733 m	120%	NC
Sound Transit (WA)	\$455 m	\$2.0 b	88.9% (\$1.8 b)	\$818 m	196%	NC
WMATA (DC, MD, VA)	\$2.1 b	\$950 m	54.2% (\$515 m)	\$2.2 b	35%	15%
Metro Transit (MN)	\$427 m	\$376 m	81.2% (\$305 m)	\$789 m	38%	54%
CTA (IL)	\$1.5 b	\$425 m	15.6% (\$66 m)	\$1.7 b	20%	NC
SEPTA (PA)	\$1.4 b	\$608 m	73.4% (\$446 m)	\$2.0 b	24%	23%
DART (TX)	\$753 m	\$209 m	35.8% (\$75 m)	\$4.7 b	4%	4%
Valley Metro Rail (AZ)	\$48 m	\$140 m	49.6% (\$69 m)	\$886 m	13%	85%
MARTA (GA)	\$651 m	\$299 m	84.4% (\$252 m)	\$1.6 b	15%	30%

Source: Author analysis of NTD and data from the US Federal Highway Administration.

Notes: CTA = Chicago Transit Authority; DART = Dallas Area Rapid Transit; MARTA = Metropolitan Atlanta Rapid Transit Authority; MBTA = Massachusetts Bay Transportation Authority; MTA NYCT = Metropolitan Transportation Authority New York City Transit. NC = not calculated because federal highway funds are insufficient to cover state and local capital contributions or because state or local contributions are currently too low.

^a Including NHPP, STBG, CMAQ, and Carbon Reduction programs, averaged for fiscal years 2022–26.

^b Assuming 20 percent match.

^c Assuming all substituted state and local funding for transit is moved to operations.

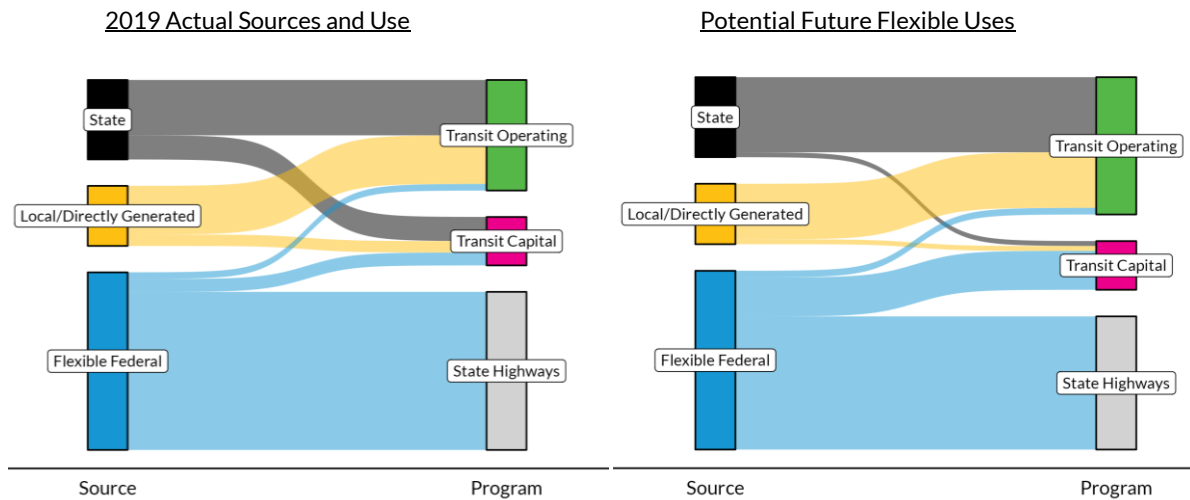
Consider, for example, SEPTA. That agency leveraged \$446 million in state, local, and directly generated sources to cover capital costs in 2019. If the State of Pennsylvania redirected 24 percent of its federally funded highway expenditures to support SEPTA, the agency could then move its state and local revenues now spent on capital (which generally can be spent on operations) to cover the costs of running trains and buses, while preserving the generally required 20 percent match for federal funds.⁷⁴ This would increase the agency’s operations budget by 23 percent. Or consider the Metropolitan Atlanta Rapid Transit Authority (MARTA). Its \$180 million in 2021 capital expenses raised from state and local sources could be redirected for operational needs. This would require redirecting just 15 percent of the state’s flexible federal highway funds—and it would increase MARTA’s operating budget by 30 percent, a dramatic improvement.

These potential changes in sources and uses are reflected in figures 26 and 27, which illustrate SEPTA’s and MARTA’s financial conditions in 2019 with potentially flexible funds sourced from the federal government. In both cases, the diagrams clarify that flexibility inherent in federal transportation funds could grow the pot for transit operations while redirecting state, local, and directly generated support away from capital uses. And in both cases, just a small share of potentially flexible federal funds is flexed away from highways—when far more could be used if desired to truly grow funding for transit.

FIGURE 26

SEPTA’s Operations Budget Could Increase by 23 Percent by Flexing Federal Funding

Operating and capital sources and programmatic expenditures for SEPTA, plus state flexible highway funding



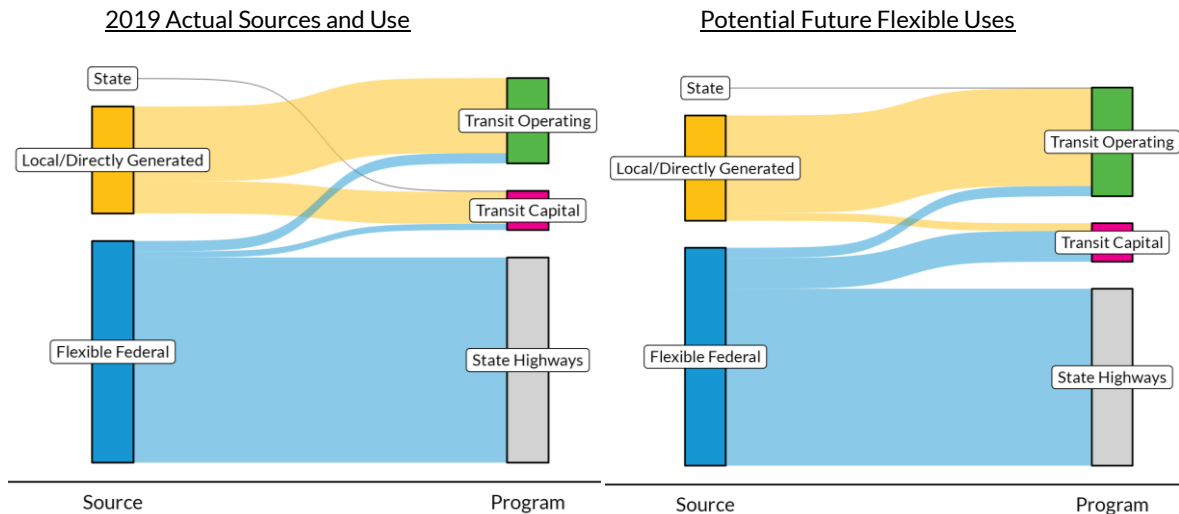
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Source: Author analysis of 2019 NTD for SEPTA.

Notes: Federal flexible highway funds include NHPP, STBG, CMAQ, and Carbon Reduction programs, averaged for fiscal years 2022–26, and federal transit funds in 2019. Does not account for state or local highway funding. More funds could be distributed from highway uses to transit if desired. Assumes 20 percent local or state match to federal transit investments.

FIGURE 27

MARTA Capital Costs Are Mostly Funded by Localities or the State—but Could Be Federally Funded
Operating and capital sources and programmatic expenditures for MARTA, plus state flexible highway funding



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Source: Author analysis of 2019 NTD for MARTA.

Notes: Federal flexible highway funds include NHPP, STBG, CMAQ, and Carbon Reduction programs, averaged for fiscal years 2022–26, and federal transit funds in 2019. Does not account for state or local highway funding. More funds could be distributed from highway uses to transit if desired. Assumes 20 percent local or state match to federal transit investments.

State and local governments can take advantage of these flexible funding opportunities, but it requires advocates and individual political officials to fight for the change. Among the 50 states, only California and New Jersey flexed more than 10 percent of their allocated flexible funds on transit between 2013 and 2020. Overall, states flexed less than 4 percent of these funds.⁷⁵ Even so, leveraging federal highway funds for new uses could be a tremendous opportunity to expand stable operations support for transit. That is particularly true because federal government spending on infrastructure is quite stable over time due to long-term federal infrastructure funding laws.

Support from State and Local Governments, Plus Directly Generated Revenues

Federal funding originally programmed for highway uses could fill a gap in agency revenues and expand funding for operations. But state and local governments should also ensure that the revenues transit agencies receive from those sources can be effective in funding transit over the long term. Based on our reading of scholarship in public revenue policy, the recent history of US transit funding, and our review of the case-study agencies, policymakers should pursue two primary goals for transit agencies:

- *revenue diversification*, meaning a collection of revenues from a diverse set of sources, to ensure that if one revenue stream declines for some reason, another can take its place; and
- *revenue stability*, meaning revenues better able to ride the waves of economic change over time.

From the perspective of revenue diversification, transit agencies have many options—if they can convince local and state policymakers to allow them to generate such revenues. Policymakers should consider a variety of possibilities, with the result being a diversity of revenues that produces a generally more stable stream of income. Potential options include the following:

- *Property taxes and land value taxes.* These are broadly deployed by local governments as a revenue-raiser. Property taxes are relatively stable during economic downturns and are relatively equitable because they are proportional to land and building value, which generally increases with landowner income and wealth. Some states, such as California, restrict the ability of local governments to increase property taxes (which is why some local governments have turned to sales taxes to raise funds). Even so, Austin’s voter-endorsed 2020 proposition to fund its transit expansion program was supported by a property-tax increase.⁷⁶
- *Income taxes on high-income individuals.* Income taxes on high-income earners are progressive and increase equity, charging higher rates for people with greater ability to pay. While not as stable as property taxes, since incomes typically decline more dramatically than home values during recessions, they can provide substantial revenue from a small number of affected individuals. Massachusetts voters in 2022 agreed to implement a 4 percent additional income tax on people with earnings above \$1 million; these funds will be used for education and transportation expenditures.⁷⁷
- *Parking and vehicle user fees.* One advantage of the United States’ otherwise problematic dependence on cars is that people can be relied upon to drive. It took little time for car traffic to return to its 2019 levels after the pandemic began.⁷⁸ Policymakers should consider generating new revenue for transit by charging to own and use a vehicle, such as by taxing vehicle purchases, charging for parking, or charging for licensing. The Seattle region’s 2016 Sound Transit funding referendum included a mix of new property taxes, sales taxes, and a charge on vehicle registration, based on value.⁷⁹ This approach not only integrated a diverse set of income streams, but also charged vehicle users equitably by using a proportional measure designed to reflect ability to pay: people with higher-cost cars pay more.
- *Congestion charging and other tolls.* We described how New York’s vehicle tolls provided a relatively stable source of revenues, falling only for a short time during the pandemic. Now,

New York City is planning to implement a congestion charge system for the city’s central business district, which is expected to produce about \$1 billion in new revenues per year for the transit system.⁸⁰ As with other vehicle fees, these charges can be expected to remain relatively stable because of the continued desire to drive that is unlikely to abate anytime soon.

- *Property taxes.* These have demonstrated their effectiveness repeatedly in terms of revenue stability. While rarely used to fund public transportation in the United States, they are a common source of local revenue. In case-study city San Antonio, for example, property taxes account for 29 percent of general fund revenues, 61 percent of which are used by the police and fire departments (City of San Antonio 2022). These funds help guarantee that the City can continue providing these services year-in and year-out, with less of the variation inherent in sales taxes, the primary source of revenue for the local transit agency.

What would the generation of new financing sources provide in terms of boosting service for each of the case-study transit agencies? In table 6, we estimate potential revenue generation options for each, building on known information in each of their respective regions. We developed some of these revenue concepts based on a review of local library, fire department, and parks revenues—indicating that these revenue sources are feasible options in their respective communities, given the existing political environment.⁸¹ Note that these are hypothetical revenue sources; state law or local ordinances would likely have to change for these sources to be implemented. In addition, the potential revenues generated as documented here are sketch-level estimates that require considerably more research to be confirmed. Nonetheless, they indicate what it would look like for these agencies to add new funding sources that diversify and stabilize their respective pots of funds.

TABLE 6
Theoretical Funding Sources for Transit Agencies

Agency	Potential revenue source	Potential revenues generated	Potential impact on services
WMATA	Central area roadway congestion pricing	\$250 million annually, assuming one-quarter of New York City’s expected revenues ^a	Up to 11 percent increase in operating funds, enough to fund 16 very frequent, long routes
BART ^b	Toll increases on regional bridges	\$150 million annually, assuming a 20 percent increase in tolls	Up to 18 percent increase in operating funds
	San Francisco city property tax	\$42 million annually, assuming a 1.25 cent per \$100 valuation tax (using library revenues as example)	15-minute headways on all services
Denver RTD ^c	City-county property tax	\$40 million annually, assuming 20-point increase in millage rate (roughly \$640 per homeowner)	Up to 6 percent increase in operations funds, enough to fund 3 very frequent, long routes

Agency	Potential revenue source	Potential revenues generated	Potential impact on services
	Sales tax increase	\$30 million annually, assuming 0.25 percent sales tax (using parks revenues as example)	Increase in frequency on 3 light rail lines from 30-minute to 15-minute headways
San Antonio VIA ^d	Vehicle licensing fee	\$9 million annually, assuming \$40 increase in fee	Up to 4 percent increase in operations funds. Covers 75 percent of the anticipated annual operating cost of a 12-mile, 27-station bus rapid transit line offering 10-minute weekday and 15-minute weekend headways.
Cincinnati SORTA ^e	Statewide millionaire tax	\$23 million annually, assuming 25 percent of state revenue (using Massachusetts tax as example)	23 additional routes providing 20-minute headways
	County property tax	\$20 million annually, assuming 50 percent increase in county millage (roughly \$835 per homeowner)	Up to 19 percent increase in operations funds

Source: Author analysis of NTD (2021 agency profiles).

Notes: Estimates assume no decline in revenue due to increased tax rates. Revenue raisers would require action by local and/or state governments.

^a Ana Champeny, “Follow the Money: The MTA’s New Revenues,” Citizens Budget Commission, April 5, 2019,

<https://cbcny.org/research/follow-money>.

^b Metropolitan Transportation Commission, “Historic Toll-Paid Vehicle Counts & Toll Revenue,” accessed August 1, 2023,

<https://mtc.ca.gov/about-mtc/authorities/bay-area-toll-authority/historic-toll-paid-vehicle-counts-toll-revenue>.

^c City of Denver Assessor’s Office, “Frequently Asked Questions,” accessed August 1, 2023,

<https://denvergov.org/Government/Agencies-Departments-Offices/Agencies-Departments-Offices-Directory/Department-of-Finance/Our-Divisions/Assessors-Office/Assessment-FAQ>.

^d County of Bexar, “Adopted Budget, Fiscal Year 2022–23,” September 13, 2022,

<https://www.bexar.org/DocumentCenter/View/35913/County-Managers-Message-and-Table-of-Contents-FY-2022-23-PDF#:~:text=The%20FY%202022%2D23%20Adopted,revenue%20in%20FY%202022%2D23>.

^e PropertyShark, “In-Depth Hamilton County, OH Property Tax Information,” accessed August 1, 2023,

<https://www.propertyshark.com/mason/info/Property-Taxes/OH/Hamilton-County/>.

In table 6, we have shown how new revenue sources could add to existing operating funds, allowing agencies to expand their service to more people. These revenue sources could also play a role in stabilizing agency finances over time by providing a complement to other less stable funding sources, helping them avoid future fiscal emergencies. In the case of BART and WMATA—continuing to recover from inadequate fare revenues—they may also be used to shore up agency finances to address the current fiscal cliff.

Increasing Operating Efficiencies

Our research demonstrated that transit agencies—at least on average across the United States—maintained relatively constant operating efficiencies in the years heading into the COVID-19 pandemic. But, due to a combination of factors, such as difficulty retaining drivers and higher material costs, those expenses shot up over the last three years. This is a major concern for transit agencies that are seeking to continue providing adequate levels of service quality in the face of unsteady transit budgets.

Transit agencies could identify best practices to increase operations efficiency while creating better working environments for their employees. This could mean negotiating new contracts that account for post-COVID needs and providing more job flexibility (Van Eyken 2022); it could also mean saving money on certain jobs that can be conducted remotely. Agencies should also consider whether they can reduce duplicative jobs, such as multiple operators on the same train. These types of changes are necessary for transit agencies to continue to keep their existing personnel on the job and to reduce their costs—or at least prevent them from increasing faster than inflation—to be able to use their funds to continue providing service. To be clear, agencies should also address the fact that historically they have underpaid their staff; correcting this can support employees and improve service.

One major opportunity presented by the 2021 US federal infrastructure law is allowing state governments to flex up to 100 percent of their highway funding for workforce development.⁸² States could work with transit agencies to dedicate new funds with the specific goal of developing a flow of new workers trained to drive buses, be mechanics, and provide other services important for the running of a transit system. A reliable and sustained group of individuals ready to take employment in the transit industry will ultimately make it better able to improve services.

It is true that, in many cases, transit agencies could also improve their operating efficiencies by reducing services. Fewer buses or trains running on fewer routes would likely cost the average transit agency less money—a potentially promising route forward for transit agencies that do not know how to face the fiscal cliff. Yet reducing transit service will activate the vicious cycle of declining transit use that we described in the introduction of this document; it is not a long-term solution to any of public transportation's problems if we intend to ensure that transit plays an important role in the future of mobility in the United States.

A Formula for Promoting a Virtuous Cycle for Transit: Growing Ridership, Diversified Revenues, Efficient Operations, and a Rainy-Day Fund

Transit systems are now struggling in the face of the fiscal cliff—only the latest in a line of successive fiscal emergencies they have confronted. Those historically reliant on fares are in a precarious spot, since they do not expect these revenues to return to prepandemic levels before federal funding support runs out. We believe, however, that transit has a bright future. Several systems in midsize cities have already returned to prepandemic ridership levels. Many other transit routes have exceeded prepandemic use levels on weekends and off-peak periods. There remains tremendous demand throughout the country for effective bus and rail networks that people can rely on for their daily needs.

Enabling transit agencies to surmount the fiscal cliff—and to do so in a way that expands services—requires them to work with local and state policymakers to carefully combine a focus on expanding ridership with a set of diverse, stable revenues. These revenues can be sourced in a variety of ways: they may be directly generated, from local or state governments, or from the federal coffers. Whatever the case, relying on an individual revenue source may imperil transit agencies in the coming years in the face of unforeseen changes in the economy or demographics. Advocates and policymakers must make the case for transit’s importance to political officials at the local, state, and federal levels, and then argue for expanding this diversity of funding sources as a key mechanism to reinforce transit’s stability over time.

Transit agencies, too, need to take fiscal management seriously. They have a responsibility to ensure that they increase operating efficiencies so that they can continue to provide adequate services within their means. This may mean increasing training opportunities and learning from the systems that have been able to do the most with the least funds. Agencies may also consider creating or enlarging rainy-day funds—essentially, savings accounts designed to make up gaps in costs when some funding source goes awry. Rainy-day funds are common among state governments,⁸³ and evidence we presented above suggests that many transit agencies were able to stockpile significant funds from local and state sources thanks to federal assistance during the pandemic period. These contingency reserves can remove some of the pain of variations in revenues over time.⁸⁴

Transit agencies have a potentially bright future. They can generate a virtuous cycle in support of more transit ridership, more livable communities, and more access to opportunities. Doing so will require concerted action on the part of a diversity of stakeholders in local, state, and federal agencies working to advance reliable, long-term funding options.

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