

McKenzie Humann
9/23 Annotation

Part I: Related Research

Fischer, Lauren Ames, Rosalie Singerman Ray, and David A. King. 2020. "Who Decides? Toward a Typology of Transit Governance." *Urban Science* 5 (1): 6. <https://doi.org/10.3390/urbansci5010006>.

Morales Sarriera, Javier, Frederick P. Salvucci, and Jinhua Zhao. 2018. "Worse than Baumol's Disease: The Implications of Labor Productivity, Contracting out, and Unionization on Transit Operation Costs." *Transport Policy* 61 (January): 10–16. <https://doi.org/10.1016/j.tranpol.2017.10.005>.

Parker, Madeleine E.G., Meiqing Li, Mohamed Amine Bouzaghrane, Hassan Obeid, Drake Hayes, Karen Trapenberg Frick, Daniel A. Rodríguez, Raja Sengupta, Joan Walker, and Daniel G. Chatman. 2021. "Public Transit Use in the United States in the Era of COVID-19: Transit Riders' Travel Behavior in the COVID-19 Impact and Recovery Period." *Transport Policy* 111 (September): 53–62. <https://doi.org/10.1016/j.tranpol.2021.07.005>.

Verbich, David, Madhav G. Badami, and Ahmed M. El-Geneidy. 2017. "Bang for the Buck: Toward a Rapid Assessment of Urban Public Transit from Multiple Perspectives in North America." *Transport Policy* 55 (April): 51–61. <https://doi.org/10.1016/j.tranpol.2016.12.002>.

Part II: Related News Articles

Blumgart, Jake. 2022a. "For Mass Transit Agencies, a Fiscal Cliff Looms." *Governing*. June 24, 2022. <https://www.governing.com/now/for-mass-transit-agencies-a-fiscal-cliff-looms>.

———. 2022b. "For Mass Transit Agencies, a Fiscal Cliff Looms (Part II)." *Governing*. June 27, 2022. <https://www.governing.com/now/for-mass-transit-agencies-a-fiscal-cliff-looms-part-ii>.

"Federal Financial Support for Public Transportation | Congressional Budget Office." 2022. March 22, 2022. <https://www.cbo.gov/publication/57940>.

Freemark, Yonah. 2021. "Expanding Federal Transit Operations Funding Could Help Achieve Equitable Access to Public Transportation." *Urban Institute*. August 26, 2021. <https://www.urban.org/urban-wire/expanding-federal-transit-operations-funding-could-help-achieve-equitable-access-public-transportation>.

Woodhouse, Skylar. 2022. "Without Commuters, US Transit Agencies Are Running Out of Options." *Bloomberg.Com*, June 16, 2022. <https://www.bloomberg.com/news/articles/2022-06-16/public-transportation-braces-for-fewer-commuters-amid-work-from-home>.

Part III: Summary of Q & A

The overall tone of the zoom chat waffled between two schools of thought. On the one hand, there were a few participants that expressed a broad-based skepticism of the importance or practicality of public transportation as a primary mode of transportation within the U.S.; on the other hand, there were more attendees who generally agreed with Aloisi's and Salvucci's messages but saw additional challenges facing U.S. transit agencies.

Amidst these perspectives, three themes emerged in the chat and question/answer session. Firstly, there were a range of messages that evaluated the practicality of transit as a primary mode of transportation without coinciding changes in land use. One participant wrote, "So much of the barrier to transit use in the US is due to land use patterns, and land use is largely baked in for decades to come, due to the life of the housing stock. For the life of me I can't see how we can get the density levels needed to make a meaningful dent in driving by shifting people to transit." Yet another participant responded directly with a more positive outlook, "Land use isn't baked in since we have a housing shortage. What comes next matters." The discussion also covered specific land-use changes such as transit-oriented development and new strategies within TOD. "Transit-Oriented Development now requires re-thinking the limits of reshaping of land use and associating fixed-route mobility," wrote a third participant. In the same way that Aloisi calls for a modernization of US transit planning, participants were interested in brainstorming ways how TOD could be updated to address emerging forms and patterns of transportation including micro-mobility, TNCs, and on-demand delivery services.

Different governance structures of U.S. transit agencies and their effects was a second theme that emerged. During the question and answer session, Jinhua Zhao asked Jim Aloisi how different governance structures enable imagination within U.S. transit agencies. Aloisi thinks a governance structure that balances municipal and state control and maintains a separation of politics and governance is best suited for hiring high-quality talent. Participants were also interested in considering new governance and funding structures for public transportation, typically in a way that incorporated either more private investment or management practices. They argued that these changes could make transit agencies be more innovative and increase productivity. Several attendees also suggested alternative service delivery models that incorporated or complemented emerging transportation modes such as micro-mobility services, on-demand transportation, and integrated multi-modal payment services.

Finally, in reaction to comments made about increasing the costs of driving via parking fees and congestion pricing, some participants argued that alternatives to driving need to be improved first. One person wrote, "Before we can take steps that would diminish the ease, convenience, and economics of driving, transit must be an easier, more convenient, and more economic alternative." Given the urgency of the climate crisis, Salvucci and Aloisi argued that simultaneous policy changes are needed. "It's a tapestry of policies and interventions that will get you to the place where you want to be. There's not just one policy or intervention," said Aloisi in response to a question about prioritizing efforts to encourage EVs or mode-shift. This bag of policies includes land use changes (TOD, densification, street design, safe bike lane infrastructure), passing on societal costs of driving to individual drivers (parking fees, congestion pricing, VMT tax) and improved public transit service delivery (higher frequency, more connectivity, accessible/comfortable/safe stations and stops) enabled by federal operations funding.

Part IV: Summary of Presentation

Both Jim Aloisi and Fred Salvucci share the perspective that public transportation must play a significant role within an equitable transition to a decarbonized transportation system in the U.S. Within this context, they used the MIT Mobility Forum as an opportunity to elaborate on specific areas of concern and opportunities for growth for the US transit system to move toward this goal. Their analysis addressed recent changes in travel patterns (and cash flows) due to Covid-19, yet connected to broader trends related to service sector productivity, federal transportation funding, and political coalition building.

To start, Aloisi sounded an urgent warning to address near term operating budget crises facing U.S. transit agencies. Three factors converged to create this crisis. Firstly, U.S. transit agencies have primarily focused on designing and maintaining systems for transporting commuters to and from work. Second, U.S. transit agencies rely on relatively high farebox recovery ratios meaning they rely on incoming fare revenue to cover a large share of operating costs. For context, in 2019 the MBTA reported they were recovering 44.6% of operating costs through fares. This means that if commuting patterns were to change quickly and drastically, say due to a global pandemic, U.S. transit agencies would not be able to cover almost half of their operating costs (in the case of the MBTA). During the Covid-19 lockdown, U.S. transit agencies received emergency federal funding to sustain their operating expenses amidst drastically reduced travel. However, as these funds expire and current ridership remains stagnant around 60% pre-Covid ridership levels (on average), U.S. transit agencies are now facing a 'fiscal cliff'. Aloisi warns that the MBTA, MTA, and other large transit agencies in the U.S. will have to seriously search for alternative sources of funding within the next couple of years, if not this fiscal year.

While Aloisi's warning was grim, he noted how the change in travel patterns also creates an opportunity for U.S. transit agencies to change (read: improve) their service delivery. Increasing trip frequency within, but more importantly beyond commuting hours, makes public transit more reliable and attractive to non-commuters. Utilizing existing rights of way like inner city rail assets and implementing elements of bus-rapid transit such as signal priority and dedicated lanes are lower cost options to creating a more connected public transit system. Moreover, this would be an important first step to demoting the dominance of commute trips in U.S. transit system design and operation, making it resilient to future changes in work patterns. Even though U.S. transit agencies face gaps in their operating budget, reducing service does not lead to proportional declines in operating costs; yet reduced service may cause remaining riders to abandon public transit altogether. Overall, Aloisi urges transportation planners to use the disruption of Covid-19 as an opportunity to transform the role of U.S. public transit; the future of transit in the U.S. goes hand in hand with the future of transportation.

Salvucci's presentation similarly focused on one challenge and one opportunity facing U.S. transit today. The primary challenge according to Salvucci is the low rate of labor productivity amidst rising wage rates, also known as Baumol's cost disease. In order to compete for workers in other (more productive) sectors, transit agencies need to offer competitive wage rates even though labor productivity within public transportation has not increased commensurately. This forces the cost of delivering the same level of service to increase over time - meaning the problems with public transit today will be worse tomorrow. Without public subsidy, U.S. public transportation would not be able to cover these rising labor costs. Salvucci argues such a subsidy is economically justified if the external benefits of public transportation

keep apace inflation. However, this justification can be politically tenuous when those benefits are concentrated in metropolitan areas while funding decisions are made at the state level.

Salvucci urges U.S. public transit advocates to build political coalitions with contractors, climate change advocates, and other groups to secure U.S. federal funding for public transit operating costs. This is always an opportunity (and challenge) for public transit; however, the urgency to decarbonize transportation creates a unique setting for public transportation to re-establish itself in the U.S. If public transportation does not play an integral role in the process of decarbonizing transportation, U.S. cities will continue to struggle with vehicle congestion, hampering agglomeration benefits and limiting opportunities for further urban development and vibrancy. Overall, the message from Aloisi and Salvucci is clear - US public transit deserves more federal support to avoid current budget shortfalls, but more importantly to diversify national efforts to reduce greenhouse gas emissions in U.S. transportation.

US Public Transportation

Challenges & Opportunities As We Enter
the Second Quarter of the 21st Century



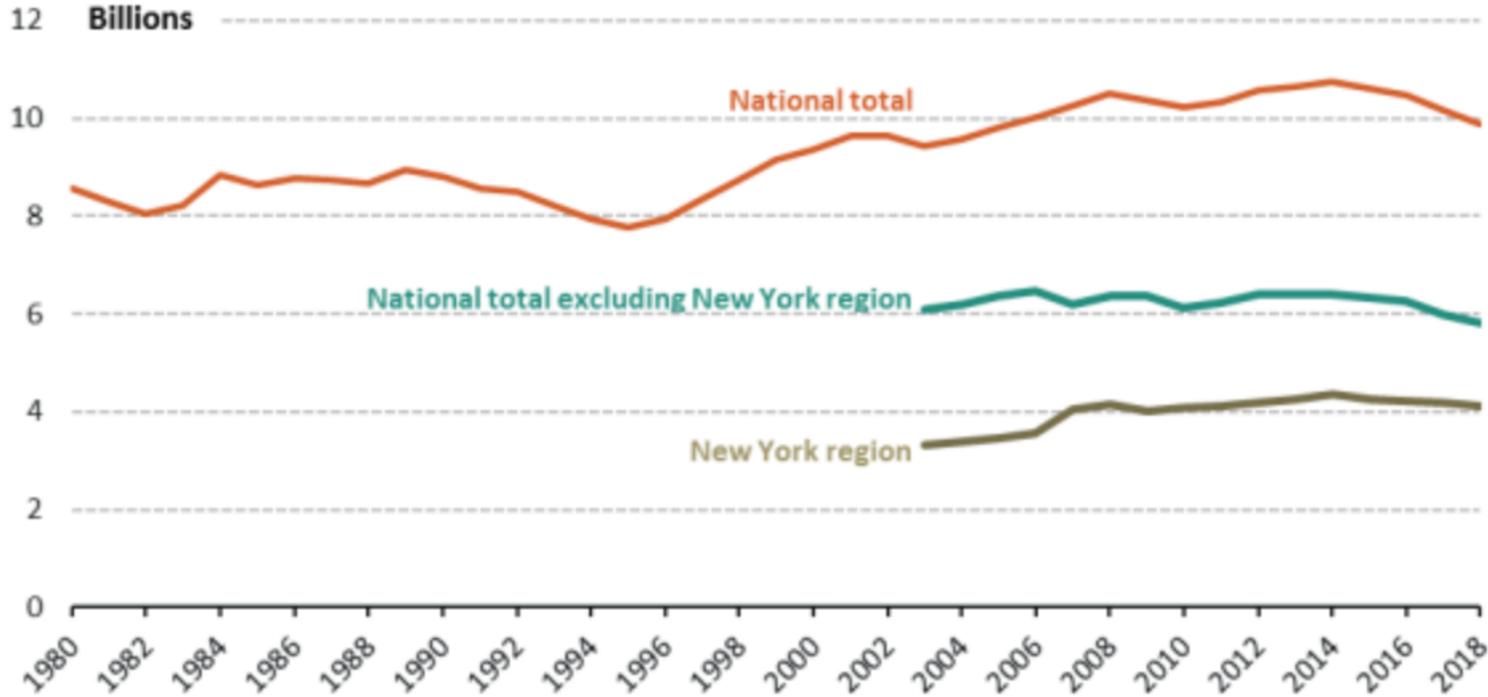




Photo: Minneapolis/St. Paul Metro Transit

Figure 1. Annual Public Transportation Ridership, 1980-2018

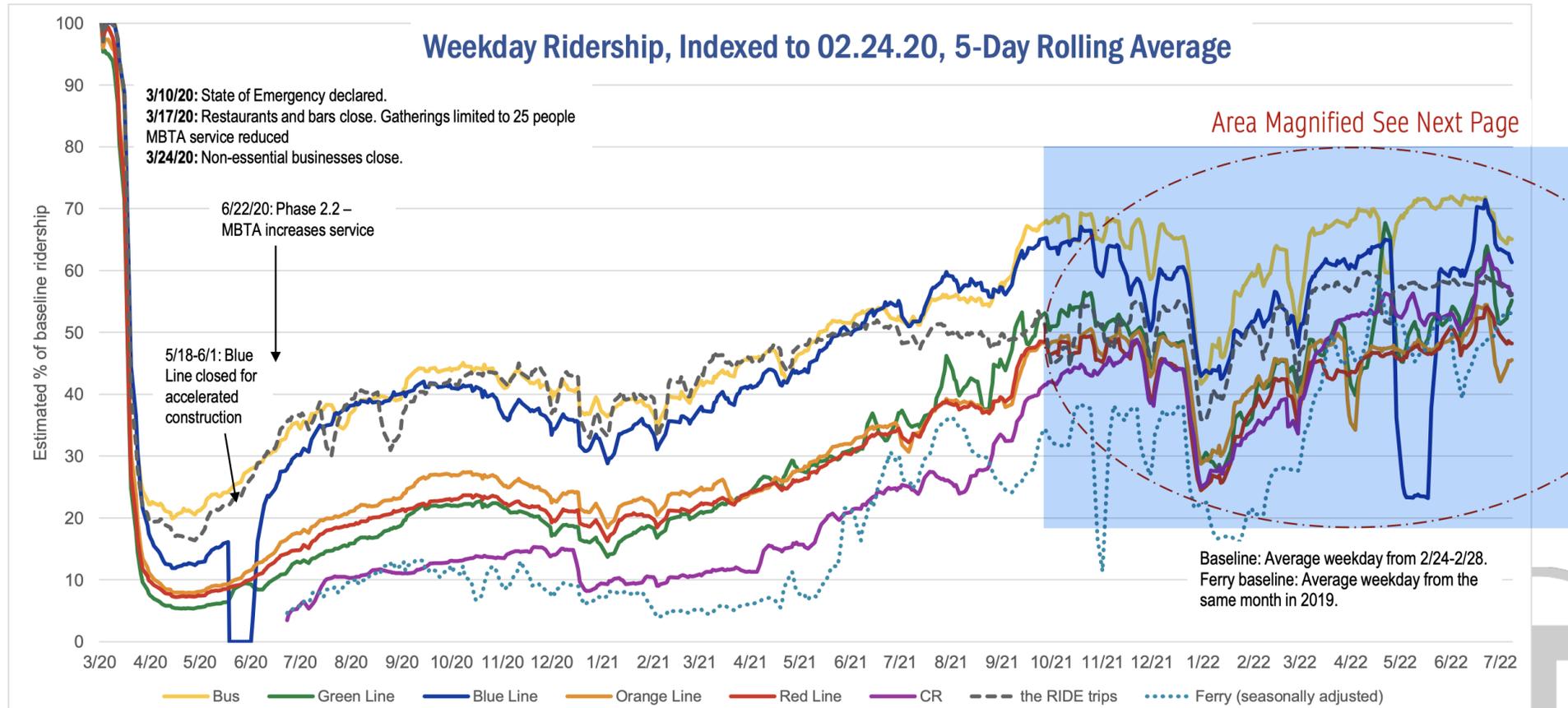
Unlinked Trips



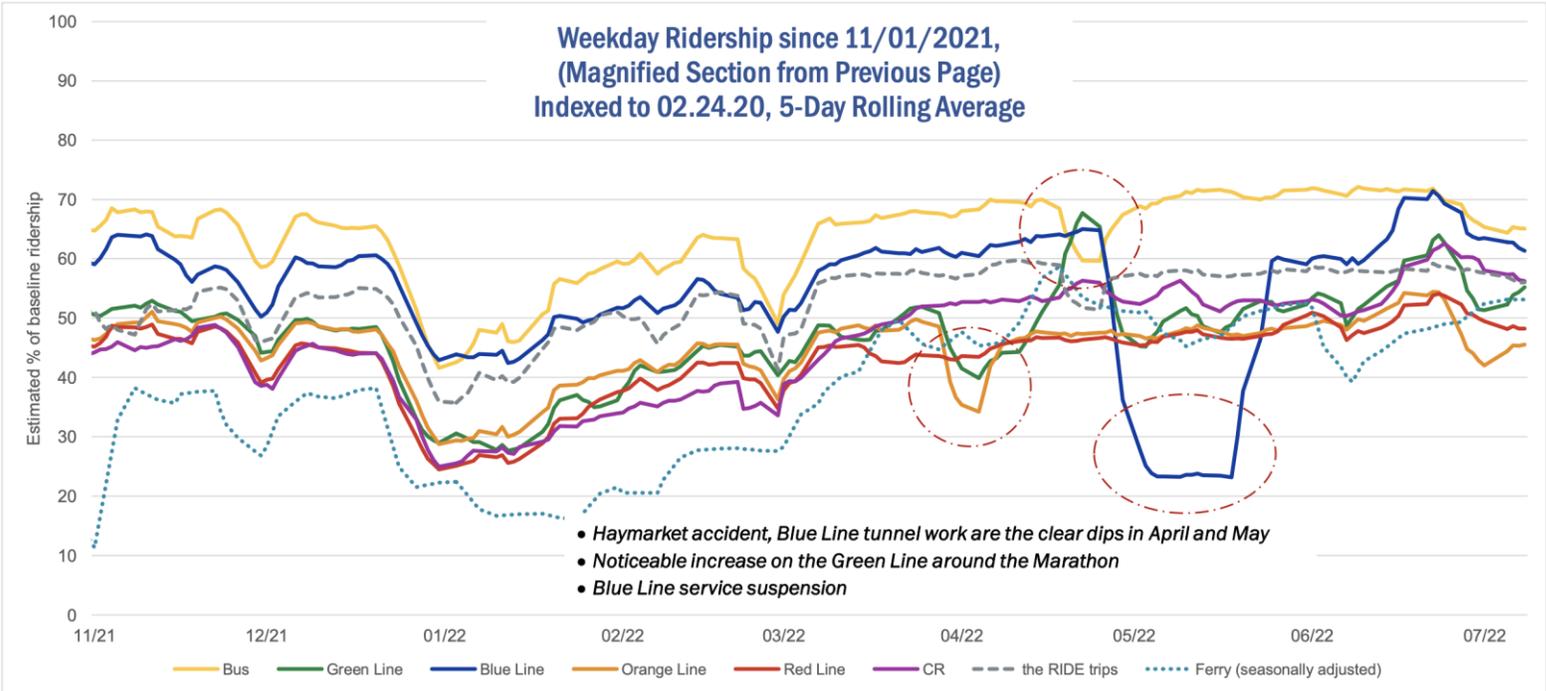
Source: American Public Transportation Association, [Public Transportation Fact Book](#); American Public Transportation Association, [Transit Ridership Report](#).

Note: An unlinked trip is counted each time a passenger boards a transit vehicle.

Pandemic Impact - Ridership Trend



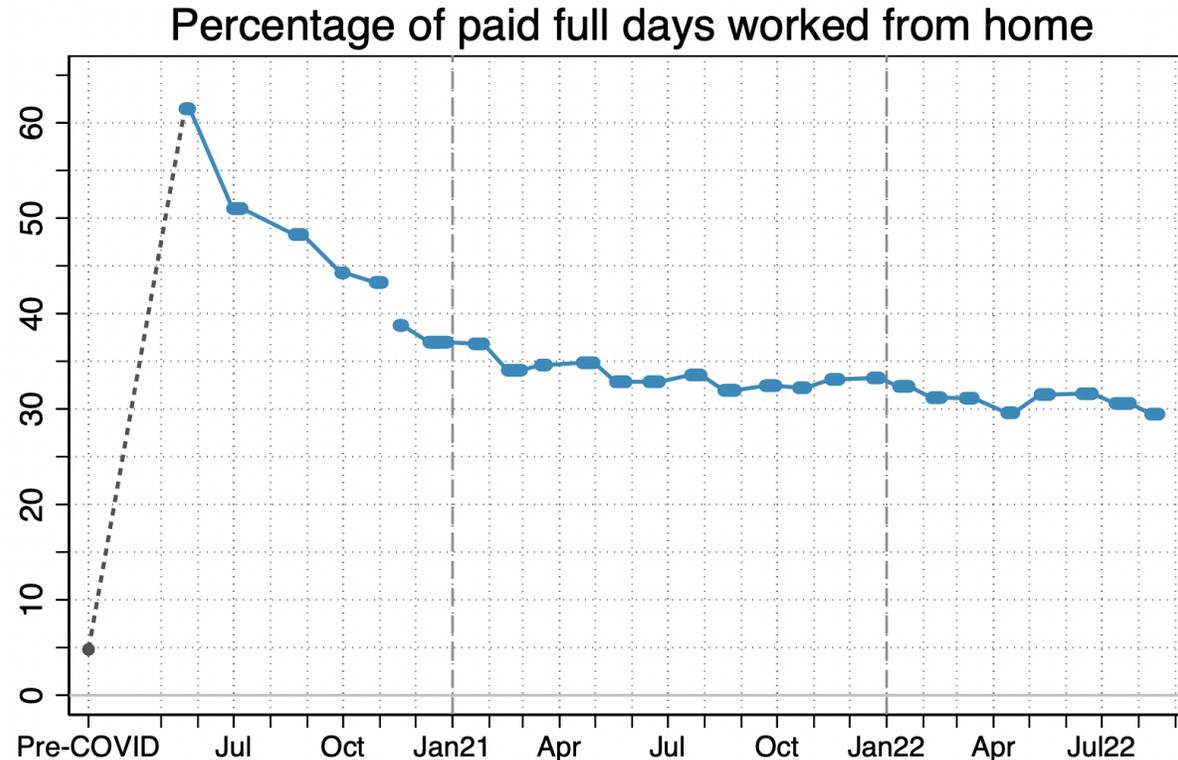
Pandemic Impact - Ridership Trend



COVID 19:
Did We Have The Experience But
Miss the Meaning?

Responding to Rapid Disruption/Acceleration of
Pre-pandemic Patterns

Percentage of Paid Full Days Worked from Home, May 2020 to August 2022

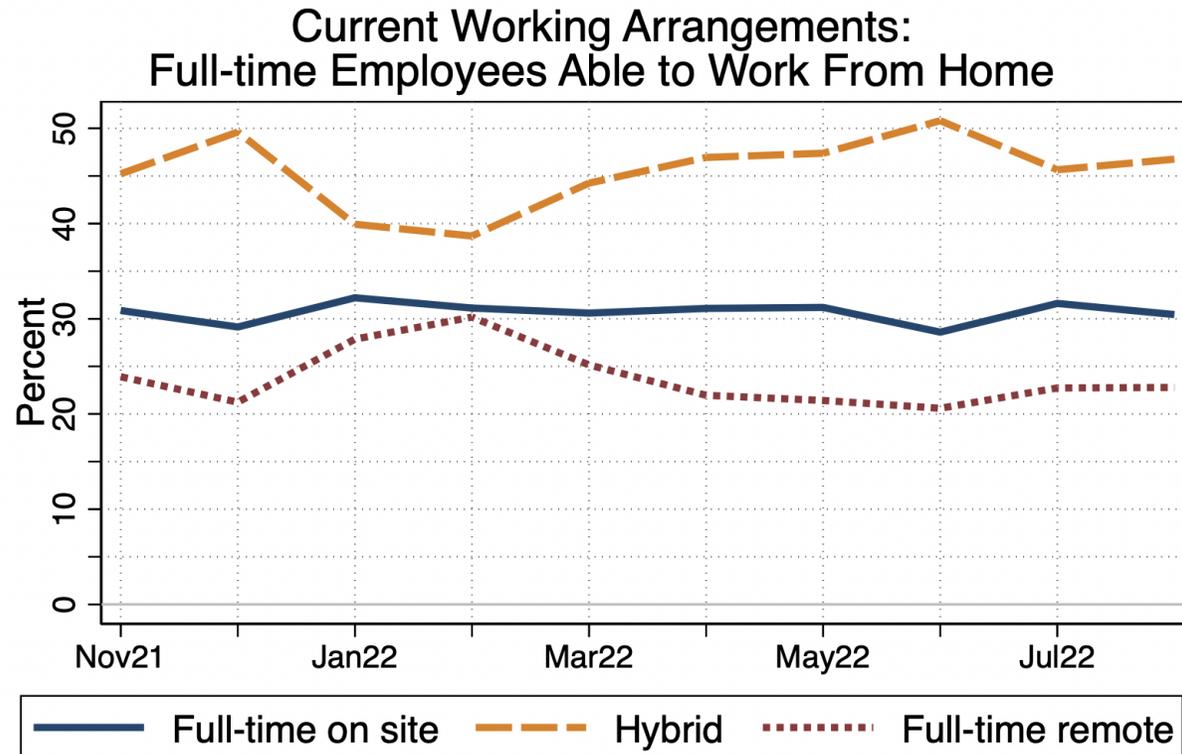


*Pre-COVID estimate taken from the 2017-2018 American Time Use Survey

*The break in the series in November 2020 reflects a change in the survey question.

Source: Barrero, Jose Maria, Nicholas Bloom, and Steven J. Davis, 2021.
"Why working from home will stick," National Bureau of Economic
Research Working Paper 28731.

Workers *able to work from home* are primarily in hybrid arrangements.

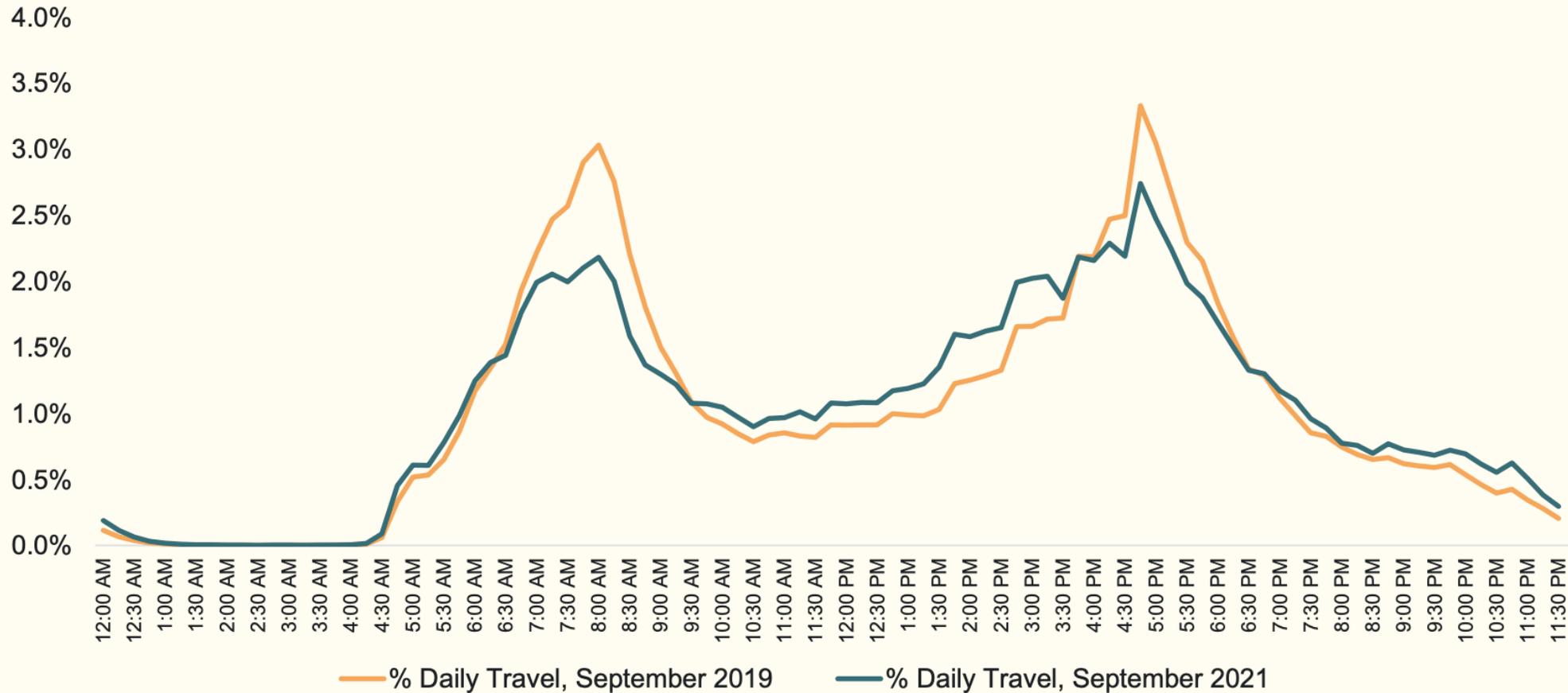


*The sample includes wage and salary employees who are able to work from home and worked 5 or more days during the survey reference week.

Source: Barrero, Jose Maria, Nicholas Bloom, and Steven J. Davis, 2021.
"Why working from home will stick," National Bureau of Economic
Research Working Paper 28731.

Ridership still less peaky than pre-pandemic, even with the increased volumes

Validations by 15 Minutes, Weekdays, Gated Stations, September 2021



- AM Peak continued to be lower than pre-pandemic
- PM peak is at similar volumes as pre-pandemic but more spread out
- Continued demand for mid-day service
- As riders return, keeping the peaks flatter allows for better service for peaks *and* off-peaks



The Transit Operating Budget Crisis



Climbing Back

US public transit systems work to bring riders back through promotions

Transit System	Ridership Recovery	Promotional Deals
Metropolitan Transportation Authority	60%	Fare-capping pilot program for subways, temporarily reducing monthly tickets for commuter rails
Bay Area Rapid Transit	30-40%	In September will offer 50% off all fares
Metropolitan Atlanta Rapid Transit Authority	49%	On-demand transit pilot program
New Jersey Transit	55%	Bring a friend discounts, excursion fares
Chicago Transit Authority	50%	Lowered the price on its 30-day full fare pass, plus running discount tickets
Los Angeles County Metropolitan Transportation Authority	70%	1-day and 30-day passes discounted by 50%
Washington Metropolitan Area Transit Authority	48%	Lower fares, discounted passes

Source: MTA, BART, MARTA, NJT, CTA, L.A. Metro, WMATA

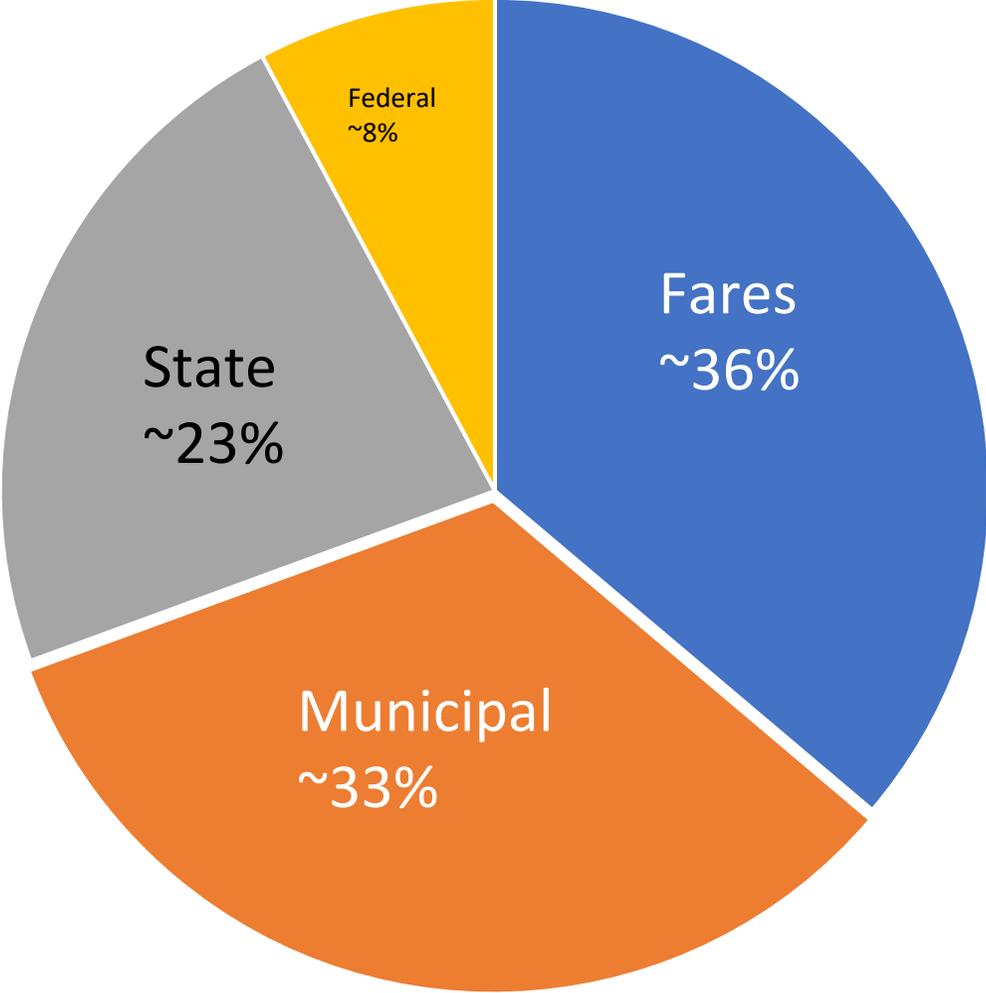
Data shows approximate ridership levels and summary of promotions. MARTA, WMATA, L.A. Metro, CTA show rail and bus. NJT shows weekday rail level, MTA shows subways

**Sources of Transit Financial
Assistance for Operations, 1975-1980**

Percent of Total Assistance for Operations
(Excludes Farebox Revenue)

<u>Calendar Year</u>	<u>Federal Government</u>	<u>State Governments</u>	<u>Local Governments</u>
1975	21.4%	28.9%	49.7%
1976	25.7%	22.3%	52.0%
1977	30.7%	25.1%	44.2%
1978	30.9%	25.3%	43.8%
1979	30.4%	21.4%	48.1%
1980	30.2%	22.7%	47.1%

US TRANSIT OPERATING FUNDING SOURCES



A Future of Fare Revenues at Pre-pandemic Levels is Not on Offer

Bloomberg City Lab

Without Commuters, US Transit Agencies Are Running Out of Options
Agencies reliant on fares for funding look to promotions to lure people back. But longer term, they're staring down service cuts and price hikes.

By Skylar Woodhouse

June 16, 2022, 7:30 AM EDT Updated on June 16, 2022, 11:08 AM EDT

It's Official: Boston, MBTA Announce Three Free Bus Routes for Mattapan and Dorchester

By Christian MilNeil | Feb 9, 2022 | 0 COMMENTS



A route 28 bus advertising the fare-free pilot passes through Grove Hall on Blue Hill Avenue on October 5, 2021.

YTD Operating Budget Summary

- YTD net revenues were \$651.2M with \$2,285.1M in total revenues and \$1,633.9M in total expenses
 - Without one-time federal funding, the operating net revenue would be deficient \$114.3M
- Positive net revenues YTD add to the Operating Budget Deficiency Fund balance
 - Deficiency fund balance dedicated to mitigate the projected deficit in FY23 or FY24 and any other current or future obligations, per Board vote in June 2021

(\$M) Category	FY22 YTD Budget	FY22 YTD Actual	YTD Variance (\$)	YTD Variance (%)	FY22 Annual Budget
Fare Revenues	142.1	230.5	88.4	62%	200.2
Own Source Revenue	30.0	40.3	10.3	35%	45.5
Non-Operating Revenues	1,905.1	2,014.2	109.2	6%	2,525.8
Total Revenues	2,077.2	2,285.1	207.9	10%	2,771.5
<i>Fare Recovery Ratio</i>	10%	18%	8%	-	11%
Wages, Benefits and Payroll Taxes	676.1	626.9	49.2	8%	899.2
Non-Wage	741.8	648.3	93.5	14%	987.8
<i>Operating Expenses Subtotal</i>	1,417.8	1,275.2	142.7	11%	1,887.0
Debt Service	343.7	358.7	(15.0)	-4%	467.8
Total Expenses	1,761.5	1,633.9	127.6	8%	2,354.7
Net Revenues Before Transfers	315.7	651.2	335.5	52%	416.8
<i>Federal Relief Revenue</i>	740.5	765.5	25.0	3%	959.2
<i>Net Revenues Without Relief Revenue</i>	(424.8)	(114.3)	310.5	-73%	(542.4)

*YTD Numbers are through March 2022

