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Transit: The Urban Parasite

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EXECUTIVE SUMMARY

The costs of supporting the nation's urban transit industry are rising, yet ridership is declining. Data released by the Federal Transit Administration in December 2019 indicate that 2018 transit ridership fell in 40 of the nation's top 50 urban areas, and, over the past five years ridership has fallen in 44 of those 50 urban areas. Data released by the Census Bureau in September 2019 indicate that the nation had 6.3 million more jobs in 2018 than 2015, yet the number of people who took transit to work declined by 146,000.

These declines have taken place in spite of huge increases in spending on public transit. In 2018 alone, subsidies to transit grew by 7.4 percent, increasing from $50.5 billion to $54.3 billion. Yet much greater increases will be needed to keep transit moving in many urban areas. A recent Department of Transportation report indicated that the transit industry has a $100 billion maintenance backlog, mostly for its rail lines, and expenditures will have to increase by at least another $6 billion a year to fix this backlog within 20 years.

At the same time, the justifications for spending this much money subsidizing a declining industry are disappearing. Most low-income workers have given up on transit as a method of commuting and have purchased cars. Instead of helping low-income people, transit's major growth market is people who earn more than $75,000 a year. In all but a handful of urban areas, transit uses more energy and emits more greenhouse gases per passenger mile than the average automobile. Far from relieving congestion, transit agencies are seeking to increase congestion in order to promote their businesses.

For all these reasons, it is time to end subsidies to transit and consider privatizing it instead. Private operators can provide transit at a lower cost than government agencies and will offer service that is responsive to transit riders, not political whims. To encourage this, Congress should end the transit capital improvement program (New Starts) and begin to phase out other federal subsidies to transit.

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> "Transit saps the vitality of the urban areas it is parasitizing by demanding huge subsidies from taxpayers."

INTRODUCTION

Data recently released by the Federal Transit Administration (FTA) reveal that taxpayer subsidies to transit grew by more than $3.7 billion, or 7.4 percent, between 2017 and 2018. Despite this increase, ridership fell by 215 million transit trips, or 2.1 percent. The massive increase in spending didn't even result in an increase in transit service, as measured in vehicle-revenue miles, which declined by 0.9 percent.

Preliminary data from the FTA also indicate that 2019 will be the fifth straight year of declining transit ridership, with ridership falling 7.8 percent since 2014 and, in many urban areas, falling by 20 to 30 percent. After adjusting for inflation, annual taxpayer subsidies to transit grew by 15 percent between 2014 and 2018, yet that increase did not prevent the decline in transit ridership. Fares are covering an ever-diminishing share of the costs of transit: just 23 percent in 2018. Economists would suggest this indicates that transit users don't place a high value on this service.

This raises questions about whether it is worthwhile for federal, state, and local governments to continue to subsidize transit. Transit advocates argue that it relieves congestion, saves energy, reduces greenhouse gas emissions, and provides mobility for low-income people and others who don't drive a car. In essence, they claim that cities and transit have a symbiotic relationship, and that urban taxpayers who don't ride transit nevertheless should pay to subsidize transit systems so that those systems can provide them with important benefits, such as lower traffic congestion.

A more realistic look at the data suggests that, outside of New York and perhaps a half-dozen other urban areas, these benefits are tiny to nonexistent, especially when compared with the costs. Transit is no longer more energy efficient than driving: the energy efficiency of automobiles is increasing, while the energy efficiency of transit is declining. Transit no longer serves large numbers of low-income people, as most of them have purchased automobiles. Transit systems with declining ridership do little or nothing to relieve urban congestion; nearly empty buses often increase congestion.

In short, the relationship between transit and most urban areas is not a symbiotic one but a parasitic one. Like any parasite, transit saps the vitality of the entities it is parasitizing, in this case by demanding huge subsidies from taxpayers. Like many parasites, some transit agencies even seek to reshape the regions they parasitize to make them more congenial for the health of transit even though such changes impose higher costs of living on the residents of those cities.

Transit advocates have reached the point where they act as though the purpose of cities and their residents is to benefit transit. In fact, transit should benefit residents by enhancing their mobility and well-being. If transit is not doing that, and people no longer value it, then it should not be subsidized.

RIDERSHIP IS FALLING

The transit industry is in crisis, as ridership has fallen for the fifth straight year. Counting the year ending December 31, 2019, the FTA reports that 2019 ridership was 7.9 percent below 2014 ridership. While the 2019 numbers are still preliminary, the FTA's final 2018 report indicates that transit carried 215 million fewer trips in 2018 than in 2017, a 2.1 percent drop. Ridership in 2018 declined from 2017 in 40 out of the nation's 50 largest urban areas.[1]

Bus ridership began falling first, with ridership decreasing every year since 2012. By 2019, bus ridership reached its lowest level of any year since 1939. But rail ridership has been falling since 2016, and in 2018 it fell by a larger percentage than bus ridership.[2]

Ridership declines in many urban areas were much greater than the average rate of decline. Since 2013, Los Angeles has lost 23 percent of its riders, Miami 29 percent, St. Louis 24 percent, and Cleveland 33 percent. Ridership in Chicago, Philadelphia, and Washington—three of the nation's biggest transit regions—all fell by 12 percent or more.[3]

Transit is bucking the trend in only a handful of the nation's major urban areas. Number

one is Seattle, where ridership has grown by 8 percent in the past five years. As will be described below, the primary reason for this is a massive increase in jobs located in downtown Seattle.

More modest growth has been seen in Houston, Richmond, and Columbus, Ohio. Transit agencies in these cities revamped their bus systems, increasing bus frequencies on popular routes, reducing or eliminating service on unpopular routes, and relocating routes to replace historic hub-and-spoke systems, which made sense when most jobs were downtown, with grid systems, which make more sense now that most jobs are in the suburbs.[4] While these examples are worth emulating, such overhauls will provide a one-time boost in ridership but will not solve the industry's long-term problems. Houston was the first major city to do such a redesign, and ridership grew for several years but now appears to have leveled out.

TRANSIT'S GROWING IRRELEVANCE

Table 1 shows that New York is the only urban area in the United States where transit plays a dominant role in people's daily lives. Transit carries more than half of all employees to work in New York City and almost a third in the New York urban area (which includes northeastern New Jersey, most of Long Island, Westchester, and Danbury, Connecticut). The average resident of the region rides transit well over 200 times a year.

It is important to distinguish New York from other urban areas because New York is so different from any other American region: what happens in New York, at least from a transportation view, has almost no applicability anywhere else. With almost 28,000 people per square mile, New York has, by far, the highest population density of any major city in the country, and with more than 71,000 people per square mile, Manhattan is the highest-density part of a city.[5] Lower Manhattan has two million jobs, which is 4 times that of any other job concentration in the United States and more than 10 times the number of downtown jobs in all but six other cities.[6]

The economic and population boom in New York since 1990 led to a 68 percent increase in the region's transit ridership between 1991 and 2014. This increase helped conceal problems with the transit industry in other parts of the country, which only became obvious after 2014, when even the New York ridership began to decline.

Reflecting the long-term decline in the importance of transit in most other parts of the country, New York's share of the nation's transit riders grew from 33.5 percent in 1991 to 44.5 percent in 2019. Outside of New York, 2019 ridership was 12 percent lower than in 2014.[7]

San Francisco–Oakland is a distant second to New York, as transit carries about 18 percent of Bay Area employees to work and the average resident rides transit 126 times a year. Transit also plays an important, although hardly dominant, role in Chicago, Philadelphia, Washington, Boston, and Seattle: it carries 10–15 percent of commuters, represents 2–4 percent of overall motorized travel, and averages 60–90 annual trips per resident. Honolulu almost makes this grouping, as its transit carries the average resident on 78 trips a year; however, it only carries 8 percent of commuters to work and many transit trips there are taken by tourists.

In a few more urban areas, including Los Angeles, Minneapolis–St. Paul, Baltimore, Portland, and a few college towns, transit plays a measurable, although hardly important, role, carrying 5–7 percent of employees to work and the average resident on 30–50 trips per year. Everywhere else, transit is almost completely irrelevant.

COSTS ARE RISING

Ridership isn't falling because of declining resources. In fact, taxpayer subsidies to transit rose by more than $3.7 billion, or 7.4 percent, between 2017 and 2018.[8] Total subsidies were $54.3 billion in 2018, or more

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Table 1

Transit ridership data by urban area

Urban area	2018 trips per capita	2018 transit share of commuting	2017 transit share of all travel	Ridership growth, 2014–2019
New York	224	32.5%	11.5%	-2.8%
Los Angeles	44	5.0%	1.8%	-21.3%
Chicago	67	13.1%	3.4%	-11.1%
Miami	21	3.1%	1.1%	-28.1%
Philadelphia	61	10.7%	2.4%	-11.1%
Dallas–Ft. Worth	12	1.6%	0.5%	-3.2%
Houston	16	2.3%	0.7%	5.4%
Washington	81	15.2%	3.2%	-11.7%
Atlanta	25	3.4%	0.9%	-8.6%
Boston	85	14.3%	2.7%	-11.4%
Detroit	10	1.4%	0.4%	-5.9%
Phoenix	17	1.9%	0.7%	-6.5%
San Francisco–Oakland[1]	126	18.2%	5.3%	-3.5%
Seattle	65	11.6%	3.4%	8.8%
San Diego	31	2.7%	1.3%	-11.1%
Minneapolis–St. Paul	33	5.5%	1.1%	-4.8%
Tampa–St. Petersburg	9	1.4%	0.3%	-15.6%
Denver–Boulder–Longmont[2]	36	4.0%	1.6%	2.0%
Baltimore	44	7.3%	2.3%	-16.8%
St. Louis	19	2.5%	0.6%	-24.9%
San Juan	13	2.6%	0.9%	-45.6%
Riverside–San Bernardino[3]	8	1.4%	0.4%	-21.4%
Las Vegas	31	3.3%	0.9%	-1.2%
Portland	53	7.0%	2.3%	-3.7%
Cleveland	20	3.1%	0.7%	-30.9%
San Antonio	20	2.1%	0.6%	-18.0%
Pittsburgh	38	7.2%	1.4%	-1.5%
Sacramento	13	2.2%	0.6%	-23.2%
San Jose	21	4.1%	0.9%	-19.4%
Cincinnati	11	2.1%	0.4%	-15.2%
Kansas City	10	1.1%	0.2%	-7.9%
Orlando	12	1.5%	0.5%	-15.7%
Indianapolis	6	1.1%	0.1%	-10.7%
Virginia Beach	10	1.6%	0.4%	-24.2%

Milwaukee	23	3.0%	0.7%	-28.8%
Columbus	13	2.0%	0.3%	1.3%
Austin	18	2.2%	0.6%	-9.2%
Charlotte	15	2.2%	0.4%	-17.2%
Providence	15	2.4%	0.5%	-18.2%
Jacksonville	10	1.1%	0.3%	-8.2%
Memphis	6	0.8%	0.2%	-28.0%
Salt Lake–Ogden–Provo	19	2.5%	0.8%	-3.3%
Louisville	12	2.1%	0.5%	-26.2%
Nashville	10	1.3%	0.3%	-0.8%
Richmond	8	2.0%	0.4%	3.3%
Buffalo	27	3.5%	0.7%	-3.8%
Hartford	21	3.2%	0.9%	-2.4%
Bridgeport	11	10.0%	0.3%	-19.4%
New Orleans	23	3.3%	0.6%	-14.9%
Raleigh	9	1.1%	0.2%	31.7%
Oklahoma City	3	0.6%	0.1%	15.7%
Tucson	19	2.4%	0.8%	-24.3%
El Paso	16	1.2%	0.7%	-0.4%
Honolulu	78	8.0%	3.7%	-7.1%
Birmingham	4	0.7%	0.1%	-4.7%
Albuquerque	14	1.6%	0.8%	-29.4%
McAllen[4]	2	0.2%	0.1%	15.1%
Omaha	4	0.8%	0.1%	-19.5%
Dayton	13	2.5%	0.5%	-10.0%
Rochester NY	21	2.8%	0.5%	-13.9%
Allentown	7	1.9%	0.3%	-13.0%
Tulsa	4	0.7%	0.1%	-17.0%

Sources: Transit trips per capita are based on total transit trips from the “2018 National Transit Database,” Federal Transit Administration, https://www.transit.dot.gov/sites/fta.dot.gov/files/Funding%20Sources_2.xlsm, divided by the American Community Survey’s 2018 estimates of urban area populations, “Means of Transportation to Work, 2018,” American Community Survey, Table B08301 (for urbanized areas), https://data.census.gov/cedsci/table?q=b08301&g=0100000US.400000&tid=ACSDT1Y2018.B08301&hidePreview=true. Transit’s share of commuting is from “Means of Transportation to Work, 2018,” American Community Survey, Table B08301, https://data.census.gov/cedsci/table?q=b08301&tid=ACSDT1Y2018.B08301.

Transit’s share of all travel by urban area is calculated by comparing vehicle miles of travel in “Highway Statistics 2017,” Federal Highway Administration, Table HM-72, https://www.fhwa.dot.gov/policyinformation/statistics/2017/hm72.cfm, with passenger miles of travel in “2017 Annual Database Service,” Federal Transportation Administration, https://www.transit.dot.gov/ntd/data-product/2017-annual-database-service. Vehicle miles of travel were converted to passenger miles by multiplying by 1.67, the average occupancy of automobiles according to the 2017 National Household Travel Survey (Washington: Federal Highway Administration, 2019), Table 16.

Notes: Urban areas are ordered by population rank, from largest to smallest.

1. Includes Concord and Livermore.
2. Transit’s share of commuting includes Denver-Aurora only, not Boulder or Longmont.
3. Includes Murrieta-Temecula.
4. Transit’s share of commuting is based on 2017 data; ridership growth is shown for 2014–2018.

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than $5.50 for each trip and $1.01 per passenger mile. By comparison, subsidies to driving are about a penny per passenger mile.[9] Of the increase, $1.9 billion went to increased operating costs, mostly for higher labor costs. Nearly $700 million went for benefits, while salaries and wages increased by $235 million.

The other $1.8 billion in increased costs went to capital costs. The FTA counts capital costs in two categories: *existing systems* and *extended systems*. Capital spending on extended systems represents genuine capital improvements, while spending on existing systems represents replacement of worn-out infrastructure and vehicles. In 2018, spending on replacement grew by $1.1 billion, while spending on capital improvements grew by $0.5 billion.

The increase in spending on capital replacement was needed because in recent decades transit agencies have been building new infrastructure without replacing the existing infrastructure as it wears out. The FTA calls this the *state-of-good-repair backlog*. A Department of Transportation report released in November 2019 estimates that this backlog was $106 billion (in 2019 dollars).[10] The FTA says that, as of 2015, the transit industry hadn't been spending enough on capital replacement to keep the backlog from growing further, much less enough to shrink it.

It isn't even clear that the transit industry is serious about eliminating the state-of-good-repair backlog. According to the FTA, the backlog for guideways (such as rails) is $23 billion.[11] Yet in 2018, transit agencies *reduced* spending on guideway repairs by $131 million, while they increased spending on new guideways by $217 million.[12] They did increase spending on station replacements, probably because stations are more visible to the public than guideways, and repairing or replacing them creates an appearance that the agencies are fixing problems. Yet worn-out tracks create a serious safety hazard, while worn-out stations merely look unattractive.

Even if it were properly allocated, the 2018 increase in spending on capital replacement was so small that, at that rate, it would take more than 75 years to eliminate the backlog. It will be necessary to increase spending on capital replacement by at least $6 billion more a year in order to eliminate the backlog in 20 years.[13] One way to do this would be to shift all the money now being spent on capital improvements to capital replacement—a measure that transit agencies are unwilling to consider. Unless that happens, the cost of sustaining transit systems will continue to rise even if ridership continues to fall.

FARES RISING, SERVICE DECLINING

Despite the increase in costs, service, as measured in vehicle-revenue miles, declined by 0.9 percent.[14] Despite the decline in ridership, fare revenues grew by 0.3 percent in 2018, which, however, only covered 1 percent of the increase in costs.

The revenue increase was possible because the average fare per trip grew by 2.5 percent.[15] This suggests that at least some transit agencies have entered a death spiral, meaning that they respond to declining ridership by increasing fares and cutting service, which further reduces ridership and forces more fare increases and service cuts.

Transit agencies rely on fares to cover a third of their operating costs, yet a new movement has sprung up for free transit. As part of this movement, on November 29, 2019, transit riders were encouraged by various activists to hop turnstiles or otherwise ride transit without paying. Supposedly, this would strike a blow against capitalism even though transit is one of the most socialized industries in the United States (and almost everywhere else in the world).[16]

In support of this movement, California State Sen. Scott Wiener argues that taxpayers should pay for a higher percentage of transit's costs because "transit is a public good and should have taxpayer support."[17] In fact, transit is not a public good, at least in the economic sense of the term. A public good is one that is nonrivalrous (i.e., one person's consumption of the good doesn't reduce another's

consumption of it) and nonexcludable (i.e., no one can be physically denied use of the good). Government often provides public goods because, given those two characteristics, private providers would be hard-pressed to have enough paying customers.

However, transit does not suffer from either of those characteristics. If I sit in a transit seat, you can't sit there, too; thus it is rivalrous. Putting gates on the entrances to transit stations and doors on the entrances to buses and other transit vehicles makes transit excludable. Hence, private providers can provide transit services (and in some cases do so)—if there is sufficient demand.

Wiener could mean something else when he uses the term "public good," but it is not clear what. Perhaps he simply means that it is currently provided by public agencies. But just because something happens to be supported by tax subsidies today doesn't mean it deserves those subsidies or that they should continue forever, especially when transit use is declining.

Other people (including people responding to Wiener's statement) claim that everyone benefits from transit, so therefore everyone should contribute to it through subsidies. I will argue that the supposed benefits of transit—reducing congestion, saving energy, reducing greenhouse gas emissions, helping low-income people, and promoting economic development—are either tiny or nonexistent. Besides, it could easily be argued that everything benefits everyone in some way or another, but that doesn't mean everything should be subsidized by the government.

More recently, Curbed—a staunchly pro-transit website produced by VoxMedia—argued that "free transit isn't enough" and that "transportation needs to be a right" because people need "access to opportunity."[18] If that's true, then the most effective government policy would be to give everyone in the country a free car. The most recent studies from the University of Minnesota Accessibility Observatory show that, in America's major urban areas, a 20-minute auto drive allows people to access twice as many jobs, and a 30-minute auto drive allows them to access four times as many jobs, as a 60-minute transit ride.[19]

Even from the viewpoint of transit riders, there are several problems with free transit. First, if transit agencies are 100 percent dependent on tax dollars, they will be far more responsive to politicians than transit riders. This means they will run transit when and where it is highly visible, but not where transit riders may need it the most. This can be seen in Los Angeles, where the county's transit agency, Metro, has been building highly visible light-rail lines even as they lose five bus riders for every rail rider they gain. According to a survey from the Transit Center, even low-income riders would prefer improvements in transit frequencies over reductions in fares.[20]

Second, making ridership free won't necessarily significantly increase transit ridership. Tallinn, Estonia, a city of 430,000 people, reduced its transit fares to zero in 2013, yet ridership increased by only 1.2 percent in the first year, and most of that increase resulted from people choosing to take transit rather than walk, not as a replacement for driving.[21] After five years, ridership grew by just 5 percent, which might have happened anyway.

Third, funding transit out of fares rather than taxes imposes a discipline on transit agencies to keep costs low and transit affordable. When capital costs are funded exclusively out of taxes, transit agencies go wild, spending billions of dollars on rail transit systems that are not any better (and in many respects worse) than buses. When operating costs are funded largely out of taxes, transit agencies allow costs such as labor to balloon.

Fourth, making transit free turns transit vehicles into rolling homeless shelters. Austin, Texas, experimented with a free transit system in 1989 and 1990. While ridership increased, much of the increase was because the elimination of fares attracted homeless people and other "problem riders." Physical assaults onboard buses tripled after fares were eliminated, and consequently costs increased because of the need to hire additional transit security officers. For their own safety and that of the

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riders, 75 percent of bus drivers signed a petition to restore bus fares and the experiment ended after little more than a year.[22] Other American cities that experimented with free transit had similar issues.[23]

A 2011 survey of transit fares found that nearly three dozen cities in the United States offer free transit. All of them were in small urban areas and most were either resort communities or university-dominated cities.[24] Despite the free fares, however, transit does not play a dominant role in the transportation systems of any of those cities or towns.

In December 2019, the Kansas City, Missouri, council voted to make all transit in the area free. Councilmembers reasoned that fares were already so low that they brought in little more than 10 percent of the bus system's operating costs and the city promised to make up the $9 million shortfall.[25] This was a remarkable decision, given the 30 percent decline in bus ridership the system has experienced since 2012. Final implementation of this plan is still under consideration by the Kansas City Area Transportation Authority.

TRANSIT SPEEDS DECLINING

Los Angeles Metro blames the loss of transit riders on slowing transit speeds resulting from traffic congestion.[26] This leads transit advocates to argue that transit buses deserve their own lanes in order to boost speeds and increase ridership.[27] This is ironic, considering that the increase in traffic congestion in Los Angeles and many other regions is largely due to policies that devote most regional transportation dollars to building rail transit lines rather than improving roadway capacities.

In fact, transit supporters are openly applauding projects that will increase traffic congestion in the hope that it will encourage some auto users to ride transit instead. "It's too easy to drive in this city," says Los Angeles Metro head Philip Washington. To get people back on the bus, he wants to "actually make driving harder" by converting lanes on streets that are now open to all traffic into exclusive bus lanes.[28] Considering that the Los Angeles urban area is already one of the most congested cities in the world, and that almost 90 percent of its commuters get to work by automobile, it isn't clear that adding additional congestion will change anyone's driving habits.

Federal Transit Administration data offer some support for the claim that ridership is affected by transit speeds. Average transit speeds can be roughly calculated by dividing vehicle-revenue miles by vehicle-revenue hours. By this measure, transit vehicles nationwide averaged 15.08 miles per hour in 2018, down from 15.16 miles per hour in 2017 and 15.20 miles per hour in 2016. Los Angeles bus speeds averaged 10.4 miles per hour in 2018, down from 10.5 in 2017 and 10.6 in 2016.[29]

Using ridership and speed data going back to 1994, the correlation between Los Angeles Metro bus speeds and ridership is a respectable 0.65. Using data going back to 1991 and counting all transit in the country, the correlation is even higher, at 0.78. Of course, correlation doesn't prove causation, and there may be other factors at work affecting both speeds and ridership. Moreover, reduced speeds don't explain recent declines in rail ridership, as trains are generally not subject to highway congestion.

In any case, rather than make congestion worse for nonbus riders (the great majority of people in every American city not named New York) in order to make it better for buses, it would make more sense to fund programs that would relieve congestion for *everyone*. This is especially true because simply having dedicated bus lanes doesn't make buses move much faster, as most of their time is spent picking up and dropping off passengers. The 2018 database reveals, for example, that supposedly "rapid buses," many of which use dedicated lanes, go an average of 10.1 miles per hour, compared with 12.0 miles per hour for regular buses.[30]

TRANSIT COMMUTING DECLINED IN 2018

Transit's decline is also revealed in the Census Bureau's American Community Survey,

which is based on surveys of about 3.5 million households per year. The 2018 survey revealed that the nation had 1.8 million more workers in 2018 than in 2017, yet the number who took transit to work fell by 23,000. Nearly all of the decline was in bus transit, which lost 58,000 commuters, while rail transit commuting grew by 22,500.[31] Since 2015, the United States has gained 6.3 million workers, yet transit lost 146,000 commuters.[32]

This doesn't mean that cities are better off building more rail transit, as many regions with rail transit saw overall declines in transit commuting. Some of the biggest declines in transit commuting took place in Baltimore (–11,000 transit commuters), Denver (–7,300), and San Diego (–7,500). Transit commuting also declined in Atlanta, Boston, Houston, Minneapolis–St. Paul, Nashville, Orlando, Phoenix, Portland, Salt Lake City, San Francisco–Oakland, and St. Louis.[33] All of these are urban areas that have opened up new rail transit lines in recent years.

This downward trend is a reversal of previous years, when the American Community Survey reported that the number of people commuting by transit grew, even if it didn't grow as fast as other methods of commuting. Yet, even before 2018, overall ridership was declining because of a reduction in nonwork trips. Now, both transit commuting and ridership are moving in the same direction: downward.

The fall in transit commuting meant that the *share* of workers commuting by transit also fell, and in 2018 was just 4.9 percent. Transit is an important method of commuting in only a few urban areas. While almost a third of workers in the New York urban area commute by transit, it carries more than 10 percent of workers in just six other major urban areas: Boston, Chicago, Philadelphia, San Francisco–Oakland, Seattle, and Washington. (Concord, California, is also on the list, but that is really a part of the San Francisco–Oakland urban area.)[34]

In most of the rest of the country, transit borders on insignificance. Transit carries less than 5 percent of workers in Denver, Los Angeles, and San Jose; less than 4 percent in Atlanta, Cleveland, and Salt Lake City; less than 3 percent in Austin, Charlotte, Houston, San Diego, and St. Louis; and less than 2 percent in Dallas–Ft. Worth, Detroit, Orlando, and Tampa–St. Petersburg. The number of people who work at home was greater than the number of people who take transit to work for the first time in 2017, and the difference grew in 2018, with 5.3 percent of workers working at home.

TRANSIT INCREASINGLY USED BY HIGH-INCOME PEOPLE

One justification for transit subsidies is that they help low-income people, but low-income people are dramatically reducing their use of transit. One study of Los Angeles ridership blamed the decline in bus ridership mainly on the increase in auto ownership among low-income workers.[35]

The American Community Survey confirms that transit use among low-income workers is declining, while transit's major growth market is among high-income workers. The 2017 survey was the first to find that the median income of transit riders was higher than the national median of all workers.[36] This was true in urban areas all over the country, including Boston, Chicago, San Francisco–Oakland, Seattle, and Washington.

In 2018, the median income of transit commuters rose to be higher than people who commute by any other method, including driving, walking, and cycling. Only people who worked at home had higher median incomes.[37] Again, this was true in many major urban areas.

The survey further revealed that people in every income class below $25,000 a year are decreasing their use of transit for getting to work and were 6 percent less likely to commute by transit in 2018 than they were in 2010. Meanwhile, people earning more than $65,000 a year were 7 percent more likely to commute by transit in 2018 than in 2010. The fastest growth in transit commuting is among people who earn more than $75,000 a year. People earning above $75,000 are especially disproportionately likely to ride transit in

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> "From 2010 to 2018, people earning less than $25,000 a year were 6 percent less likely to commute by transit, while people earning more than $65,000 were 7 percent more likely to commute by transit."

Boston, Chicago, New York, and San Jose.[38]

Transit subsidies are also supposed to help provide mobility for people who don't have cars. But the American Community Survey reveals that most workers who don't have cars don't take transit to work. The 2018 survey found that only 40 percent of workers who live in households without access to cars take transit to work. In fact, in many urban areas, including Charlotte, Dallas–Ft. Worth, Denver, Houston, Indianapolis, Kansas City, Miami, Sacramento, Salt Lake City, San Antonio, and Tampa–St. Petersburg, more people who live in households without cars nevertheless drive alone to work (possibly in employer-supplied vehicles) than take transit to work.

Studies show that low-income people are rational to prefer driving over transit. One study found that unskilled people were 80 percent more likely to have a job and earned $1,100 more a month if they had a car. In fact, the study found that owning a car was more helpful to getting and keeping a job than getting a high-school-equivalent diploma.[39]

As previously noted, this is because people can reach far more jobs and other economic opportunities within a 20-minute drive than they would within a 60-minute transit trip. This is why some nonprofit groups now specialize in making low-interest loans to low-income people to buy cars. The borrowers may have poor credit ratings, but once they own a car they often quickly find a job and pay off their loans.[40]

TRANSIT DOESN'T PROTECT THE ENVIRONMENT

Another reason often used to justify subsidies to transit is that it saves energy and reduces greenhouse gas emissions. Data in the 2018 National Transit Database reveal that this is no longer true (and hasn't been for several years).

The database indicates how many gallons of diesel fuel, gasoline, and other fuels are used by transit agencies, along with the number of kilowatt-hours used by electrically powered transit. The conversion of gallons and kilowatt-hours to common units of energy is straightforward based on factors provided by the U.S. Department of Energy.[41] In calculating electrical energy, I tripled the amount of energy used by transit. This is to account for the average generation and transmission losses measured by the Department of Energy, meaning that it takes three British thermal units (BTUs) of fossil fuels or other power sources to deliver one BTU to electric customers.[42]

Based on these calculations, American transit systems used an average of slightly more than 3,400 BTUs to move one passenger one mile in 2018. This number has increased every year since 2014, mainly because the average number of people onboard transit vehicles (calculated by dividing passenger miles by vehicle-revenue miles) has declined by nearly 20 percent since 2014. This happened because the transit ridership declined but transit agencies didn't proportionately reduce their transit service.

By comparison, the most recent data available indicate that the average car uses only about 2,900 BTUs per passenger mile, while the average light truck (SUVs, pickups, full-sized vans) uses 3,400.[43] Moreover, both of these numbers are declining. Transit began using more BTUs per passenger mile than the average car in 2008, and it is poised to use more than the average light truck by 2019. Personal driving in the United States is almost equally shared by cars and light trucks, so transit's per passenger-mile energy consumption is greater than the average of all automobiles, which is about 3,200 BTUs per passenger mile.

As shown in Table 2, the results are even worse for transit on an urban-area basis. Among the nation's 100 largest urban areas, transit is more energy efficient than cars only in New York, San Francisco–Oakland, and Honolulu, and more energy efficient than light trucks in those regions, plus Atlanta and Portland. Counting all 488 urban areas, transit is more energy efficient than the average car in just 4 of them, and more energy efficient than the average truck in just 12 of them. In many urban areas, including Dallas–Ft. Worth, Indianapolis, Kansas City, San Antonio, and Sacramento,

transit uses twice as much energy per passenger mile than the average car.

Calculations of greenhouse gas emissions per gallon of fuel are also straightforward, as based on standard conversion measures. Emissions per kilowatt-hour depend on the sources of electrical power. Power producers in different states use different combinations of fossil fuels and other fuels to generate electricity, resulting in different outputs of greenhouse gases per megawatt. To account for this, I applied U.S. Energy Information Agency estimates of the pounds of carbon dioxide per megawatt-hour for the electricity generated in each state to transit agencies based on the locations of their headquarters.[44]

Based on these calculations, transit nationwide does slightly better than the average car in greenhouse gas emissions. In 2018, transit emitted an average of about 198 grams of carbon dioxide per passenger mile, compared with 209 for the average car and 253 for the average light truck. However, transit numbers are heavily weighted by the New York urban area, where 44 percent of transit ridership takes place. According to the Department of Energy, electricity generated in New York State emits less than half the national average of carbon dioxide per kilowatt-hour, so New York transit's greenhouse gas emissions are unusually low.

On an urban-area basis, transit's greenhouse gas emissions are almost as bad as its energy consumption. Transit emits more greenhouse gases per passenger mile than the average automobile in 93 of the 100 largest urban areas and more than the average light truck in 90 of those urban areas. Transit is more greenhouse gas friendly than cars in just 8 of the nation's 488 urban areas, and more than light trucks in just 14.

These numbers count only the operating costs of energy and greenhouse gas emissions and are not a complete life-cycle analysis. Operationally, for example, rail transit is often more energy efficient and produces less greenhouse gasses than buses or automobiles. But a full life-cycle analysis would produce very different results. One such analysis found that the full life-cycle energy and greenhouse gas emissions from autos was 63 percent greater than the operational costs, but for rail transit it was 155 percent greater.[45]

Construction of both rail and roads uses large amounts of energy and generates large amounts of greenhouse gases. But over their lifespans, urban highways carry far more passenger miles than typical rail transit lines, so the energy cost per passenger mile of rail transit ends up being higher.

For example, the environmental impact statement for the Interstate light-rail line in Portland estimated that the energy cost of construction would be 170 times the projected annual energy savings from operation.[46] Since ridership on that line is well short of expectations, the actual payback period will be even longer.[47] Even if the payback period were much shorter, since rail lines need reconstruction every 30 or so years, which requires nearly as much energy as the original construction, the annual savings will never repay the cost of construction and reconstruction.

TRANSIT SPENDING MAY SLOW URBAN GROWTH

Transit advocates often claim that transit stimulates urban development. But comparing transit capital spending with urban-area growth rates reveals that such stimulants are, at best, a zero-sum game. At most, all transit does is influence the *location* of new development, not the *amount*. Moreover, recent data indicate that urban areas that spend the most on transit improvements grow slower than ones that spend less.

Transit supporters often claim that the opening of new rail lines is frequently followed by billions of dollars of urban redevelopment. What they neglect to mention is that the redevelopment is often supported by subsidies of its own, such as tax-increment financing, sales of properties for less than market value, and direct grants to developers.

For example, the city of Portland has oriented all of its urban-renewal districts around

> "The average car is more energy efficient than transit in 484 out of 488 urban areas."

> “The average car emits fewer greenhouse gases per passenger mile than transit in 478 out of 488 urban areas.”

Table 2

Transit, energy, and greenhouse gas emissions

Urban area	BTUs per passenger mile	CO2, grams per passenger mile
New York	2,341	94
Los Angeles	4,218	287
Chicago	3,395	197
Miami	4,854	324
Philadelphia	4,435	210
Dallas–Ft. Worth	6,482	441
Houston	4,066	290
Washington	4,459	277
Atlanta	3,172	204
Boston	3,477	202
Detroit	4,601	326
Phoenix	5,296	389
San Francisco–Oakland	2,616	115
Seattle	4,101	280
San Diego	3,648	240
Minneapolis–St. Paul	4,479	300
Tampa–St. Petersburg	5,601	417
Denver–Boulder–Longmont	4,027	279
Baltimore	4,425	269
St. Louis	5,062	378
San Juan	4,483	314
Riverside–San Bernardino	7,231	581
Las Vegas	4,274	341
Portland	3,270	159
Cleveland	5,821	417
San Antonio	6,013	466
Pittsburgh	5,242	341
Sacramento	6,642	392
San Jose	4,531	264
Cincinnati	5,399	394
Kansas City	6,895	523
Orlando	5,000	370
Indianapolis	6,844	500
Virginia Beach	6,032	419
Milwaukee	5,329	389
Columbus	7,309	565
Austin	5,103	373

Charlotte	4,687	305
Providence	4,746	347
Jacksonville	6,514	488
Memphis	6,811	495
Salt Lake–Ogden–Provo	4,011	293
Louisville	5,101	372
Nashville	5,472	396
Richmond	4,397	344
Buffalo	4,875	309
Hartford	4,958	363
Bridgeport	5,671	413
New Orleans	6,598	458
Raleigh	6,156	443
Oklahoma City	5,971	449
Tucson	5,293	383
El Paso	4,714	390
Honolulu	2,746	200
Birmingham	6,944	566
Albuquerque	5,793	428
McAllen	4,631	335
Omaha	10,093	743
Dayton	4,957	356
Rochester NY	4,471	326
Allentown	6,068	452
Tulsa	6,466	515
Average All Transit	**3,437**	**198**
Average Car	**2,890**	**205**
Average Light Truck	**3,389**	**241**

Sources: BTUs [British thermal units] per passenger mile are calculated from the number of gallons and kilowatt-hours of fuel, as reported in "2018 National Transit Database," Federal Transit Administration, https://www.transit.dot.gov/sites/fta.dot.gov/files/Funding%20Sources_2.xlsm.
Note: Urban areas are ordered by population rank, from largest to smallest.

its rail transit lines and, to subsidize development along those rail lines, it has issued nearly $1.8 billion in bonds to be repaid out of tax-increment revenues.[48] That's far from the only subsidy offered to developers: Portland's regional planning agency, Metro, recently sold land appraised at $6.4 million for just $1,000 to a developer because the land was next to a light-rail station.[49]

Valley Metro, Phoenix's transit agency, claims that its light-rail line has stimulated $11 billion worth of new development. But a careful review of the list of developments supposedly stimulated by the rail line revealed that at least a third received government subsidies and most of the rest were government buildings. The light rail connects downtown Phoenix with the University of Arizona, and Valley Metro claimed that every new university building and every new downtown

> "At best, transit lines may influence the location of new developments, but don't increase urban growth and so generate no new taxes that might help pay for the transit lines."

"Growing auto ownership seems to be the main factor behind recent declines in transit ridership."

government office building were the result of light rail. The supposedly transit-oriented developments included 70,000 parking spaces, an automobile dealership, and several gas stations.[50]

Cities often follow rail construction with rezoning that favors redevelopment. In fact, one of the factors for rating federal transit capital improvement grants is the support that cities will provide for so-called transit-oriented developments.[51] The FTA and other agencies have written entire books on how cities can subsidize and incentivize transit-supportive development.[52]

Transit advocates argue that the taxes generated by new development will help pay for the rail lines. At best, however, rail lines influence the location of development within a region but not the region's overall growth rate, so no new taxes are generated.

To assess the effects of transit capital improvements on urban growth, I compared per capita capital expenditures in the 1990s (starting in 1992, the earliest year for which data are available) with population growth from 2000 to 2009, and per capita capital expenditures of that decade with population growth in the 2010s (through 2018). I made this comparison for the nation's 50 largest urban areas. Since some transit agencies serve multiple urban areas, I combined census data for the Boulder, Denver, and Longmont urban areas of Colorado and the Ogden, Provo, and Salt Lake City urban areas of Utah. Per capita capital expenditures in these urban areas ranged from under $200 per year in Indianapolis, Kansas City, and Tampa–St. Petersburg to well over $2,000 a year in New York, San Francisco-Oakland, and Seattle.

The correlations between capital improvements in one decade with population growth in the next were weak to nonexistent. A correlation of 1 or –1 is perfect; a correlation of less than 0.15 is no better than random.[53] The strongest correlation was between capital spending in the 1990s with population growth from 2000 to 2009, at –0.31, meaning that more spending correlated with *slower* growth. The correlation between capital spending from 2000 to 2009 with population growth in the 2010s was 0.13. The correlation between spending in the 1990s with population growth in the 2010s was zero. Thus, spending more on transit doesn't boost growth and may even reduce it.

WHY IS RIDERSHIP DECLINING?

Many reasons have been offered to explain the steady decline in transit ridership over the past several years. These include transit's dilapidated infrastructure, cuts in transit service, slower transit speeds, growing car ownership, and the growth of ride-hailing services. All of these probably contribute in some ways, but one reason that has rarely been mentioned is probably more important than most of the others: the decline in the importance of downtown job centers.

Dilapidated infrastructure

As previously noted, the FTA estimates that the transit industry has about a $100 billion state-of-good-repair backlog, and most of this is in the half-dozen cities with rail transit systems that are more than 40 years old: Boston, Chicago, New York, Philadelphia, San Francisco–Oakland, and Washington. These systems suffer frequent accidents and delays, and this unreliability has discouraged transit ridership. While this helps explain ridership declines in those regions, it doesn't explain why ridership is declining in cities with newer rail systems or bus-only systems.

Transit service

Some writers have argued that transit ridership is dependent on the level of service: more service means more ridership, so declines in ridership must be due to declining service.[54] This may have been true at one time, but the relationship between service and ridership appears to have broken down. Between 2014 and 2019, Washington increased service (measured in vehicle-revenue miles) by 10 percent but lost 12 percent of its riders; Atlanta increased

service by 13 percent but lost 12 percent of its riders; Phoenix increased service by 22 percent but lost 9 percent of its riders. In fact, between 2014 and 2019, 30 out of the top 50 urban areas increased service but lost transit riders.[55] Not only is decreasing service not a primary reason for ridership declines, but spending money to increase service may simply be throwing good money after bad.

Slow speeds

The efforts by some transit agencies to blame declining transit use on slower speeds has already been mentioned. While this may be a problem in some areas, nationally it doesn't explain the decline in ridership. Between 2017 and 2018, the average speeds of conventional bus service and light rail both increased, yet both lost riders.

Growing auto ownership

As previously noted, a study in Southern California concluded that increasing auto ownership among low-income workers was a primary factor—if not the main reason—for declining ridership. Nationwide, the percentage of workers who live in households with no cars declined from 4.5 percent in 2014 to 4.3 percent in 2018. While that may seem small, when less than 5 percent of urban travel is by transit and 90 percent is by auto, a slight increase in auto ownership can translate into a relatively large decline in transit ridership. The significant decline in transit commuting among low-income people reported by the American Community Survey suggests that much of the increase in auto ownership is among such people. While this should be seen as a positive benefit of increasing wealth, transit agencies see it as an incursion into what they consider their captive customers.

Ride hailing

Ride hailing, using such services as Uber and Lyft, began to grow in 2014, about the same time that transit ridership began to decline. Most ride hailing isn't work-related, but ride hailing can explain why transit commuting is declining while commuting by taxi (which is where ride hailing would appear in the American Community Survey) grew much more in 2018 than transit commuting declined. However, this doesn't explain why a few urban areas—most notably Seattle, but also Columbus, Oklahoma City, and a few others—seem to be exempt from the decline in transit ridership taking place almost everywhere else. The other event that happened after 2014 was a large drop in gasoline prices—prices in some areas fell by nearly 50 percent—which suggests that increased auto ownership and auto driving may be more responsible for transit decline than ride hailing.[56]

Downtown jobs

Many people think that transit ridership depends on population densities, but the most important factor is the number of downtown jobs. This is because most transit systems primarily have hub-and-spoke routes centered on downtown, so most urban residents can get to a downtown job in one transit ride, while getting to a job somewhere else usually requires two or more transit rides.

Demographer Wendell Cox used 2010 census data to calculate the number of jobs in each of the downtowns in 52 major urban areas, using consistent criteria to define downtowns based on job densities in each census tract.[57] Using his numbers, the correlation between 2010 per capita transit ridership and downtown jobs in those 52 urban areas is 0.87, a strong positive correlation. For comparison, the correlation between per capita transit ridership and population densities in those same urban areas is 0.54, which is fairly high but nowhere near as high as that of downtown jobs.[58]

Cox hasn't done a more recent analysis, but he did a similar calculation using 2000 census data, which can give us some sense of trends over time. His data indicate that the number of downtown jobs fell between 2000 and 2010 in 29 of the 47 urban areas that were on both lists. During that time, New York gained nearly a quarter of a million downtown jobs, while the other 46 downtowns

> "The correlation between downtown jobs and transit ridership is much stronger than that between population density and ridership."

> "Uber and Lyft users in south Manhattan pay more per trip in taxes to support the subway system than subway riders themselves."

collectively lost 100,000 jobs.[59]

Even in downtown urban areas where the number of jobs grew, they didn't grow as fast as in the rest of those areas. In every urban area that is on both of Cox's lists, the downtowns' share of jobs declined between 2000 and 2010.[60] This is a continuation of trends since 1920, after which the trend toward land-intensive moving assembly lines led downtown factories to move to suburban areas where land was less expensive. Not coincidentally, per capita transit usage peaked in 1920 at 287 trips per urban resident (compared with 37 trips today). Downtowns' declining importance as regional job centers helps explain why transit is declining in so many areas.

As of 2010, only six urban areas—Boston, Chicago, New York, Philadelphia, San Francisco, and Washington—had more than 240,000 downtown jobs, and those six were also the only urban areas where transit carried more than 10 percent of commuters to work. Seattle stands out as the urban area whose transit ridership is growing the fastest when most others are declining, and that is because Seattle's downtown job numbers have been rapidly growing and recently reached the 240,000 threshold.

According to the Downtown Seattle Association, the number of jobs in downtown Seattle grew from 219,325 in 2010 to 313,589 in 2018, a 43 percent increase. Along the way, the number of downtown jobs first exceeded 240,000 in 2013, and not coincidentally 2013 was the first year in which the American Community Survey reported that more than 10 percent of Seattle-area workers commuted by transit.[61] Downtown Seattle now has 48 percent of all the jobs in the city of Seattle, a higher percentage than any other major city in America—even Lower Manhattan has less than 45 percent of the jobs in New York City.[62]

While all of these factors may have contributed to declining transit ridership in at least some urban areas, it seems likely that reductions in the number of downtown jobs and the increase of ride hailing services are the two most important causes of declining transit ridership. Both of these issues are largely beyond the control of transit agencies.

POLICY RESPONSES

Some cities are taxing ride-hailing trips, based on the questionable claim that ride hailing is increasing traffic congestion. Uber and Lyft users in south Manhattan pay more per trip in taxes to support the subway system than subway riders themselves: starting in 2018, the tax on ride hailing is $2.75 per ride, compared with average 2018 subway fares of $1.33 per trip.[63] (Average fares are generally lower than published fares due to monthly passes and discounts for seniors, students, and others.) Starting in 2020, ride hailers in Chicago will pay a $1.25 tax and for those in downtown Chicago the tax will be $3; the average fare collected by the Chicago Transit Authority buses and trains was $1.27 in 2018.[64]

In fact, ride hailing is not a significant contributor to congestion. The claim that it does contribute to congestion is based on a 2018 report by transit advocate Bruce Schaller, who found that ride-hailing operators drive 2.8 miles for every mile they actually carry a passenger.[65] This led some reporters to conclude that Uber and Lyft increase traffic 180 percent in major cities.[66] In fact, the traffic increases from ride hailing are negligible. Even pro-transit *CityLab* admits that congestion is not Uber and Lyft's fault.[67]

Schaller also estimated that ride hailing in nine major urban areas (Boston, Chicago, Los Angeles, Miami, New York, Philadelphia, San Francisco–Oakland, Seattle, and Washington) grew by 5.7 billion vehicle miles in 2017.[68] But according to the Federal Highway Administration, people drove 1.4 trillion vehicle miles in those urban areas in 2016, and the number declined slightly in 2017, so 5.7 billion isn't much of a contributor to congestion.[69] This is especially true as surveys indicate that most ride hailing takes place during non-rush-hour periods.[70]

The claim that ride hailing increases congestion is merely an excuse to tax it and to

punish a competitor to transit. If transit were private, cities would be much less defensive of it.

Cities and transit agencies also have few tools to increase downtown jobs. Besides the seven previously noted urban areas, no other city is close to having 240,000 downtown jobs. The closest, Atlanta, had less than 175,000 jobs in 2010.

Seattle benefitted from Amazon's and Microsoft's decisions to locate tens of thousands of new jobs in downtown Seattle rather than the suburbs, where the companies were founded and headquartered. This decision may have been influenced by Seattle's urban-growth boundary, which has made land in the suburbs much more expensive than it would be without the boundary, thus making the downtown relatively more attractive.

While Seattle's growth-management policies may have contributed to the increase in transit ridership, they have come with severe costs. When measured by hours lost in traffic congestion, Seattle—the nation's 15th-largest urban area—is now the third-most congested urban area in the United States.[71] Seattle also went from being one of the most affordable housing markets in the country in 1985, when King County first drew an urban-growth boundary, to one of the least-affordable housing markets today.[72]

Cities and transit agencies are also actively seeking to increase urban densities, especially along transit corridors, by subsidizing high-density development along those corridors and, in many cases, deliberately creating artificial shortages of low-density housing. But surveys show that most people living in such developments drive almost as much as people living elsewhere in the same urban areas, so this strategy has been a failure. Beyond that, this strategy violates people's freedom to choose the kind of housing they prefer.

As previously noted, another transit agency tactic is to persuade cities to convert general purpose traffic lanes to dedicated bus lanes. This simultaneously speeds buses and penalizes auto drivers. Advocates claim that every bus deserves its own lane.[73] This, however, is based on the assumption that buses are somehow more environmentally sound that autos, when in fact buses use far more energy and emit far more greenhouse gases per passenger mile than autos. The reality is that, even with congestion, automobiles are faster and more convenient than transit, so policies that increase congestion just waste people's time without significantly changing travel habits.

A REALISTIC LOOK AT TRANSIT'S FUTURE

The recent declines in transit ridership are a continuation of trends that began before 1920: the most important of these are the increasing levels of auto ownership and the migration of jobs and people to the suburbs. Even ride hailing is just a 21st-century version of the jitneys that threatened streetcar companies in the mid-1910s.[74] Seattle's experience notwithstanding, all of these trends appear to be irreversible in the long run.

The main reasons that have been given for subsidizing transit—providing transit to lower-income people, reducing environmental costs, and relieving congestion—are obsolete:

- Large numbers of low-income people no longer rely on transit, and, in fact, increasing auto ownership has helped lift many people out of poverty because automobiles provide them with access to far more jobs and other economic opportunities than transit does.
- In all but a handful of urban areas, transit consumes more resources and does more harm to the environment than driving.
- Outside of New York and perhaps a half-dozen other urban areas, transit does little to relieve traffic congestion and may even increase it because dedicated transit lanes and railcars that frequently delay vehicles at grade crossings do more to increase congestion than to reduce it.
- Even if transit could achieve any of its

> "Since 1965, total subsidies to transit have exceeded $1.4 trillion, of which at least a third has come from the federal government."

> "Transit agencies should stop building new rail lines and, outside of New York, should replace rails with buses as the rails wear out."

high-minded goals, throwing money at transit has failed to get people out of their cars. The number of transit trips taken by the average urban resident has declined from 62 in 1964, the year Congress started extending federal subsidies to transit, to 36 trips in 2019.[75]

Federal subsidies to transit are especially questionable because most transit agencies do not engage in interstate commerce. When Congress passed a law in 1958 making it easier for railroads to cancel intercity passenger trains that cross state lines, several railroads proposed to also cancel commuter trains. This led Congress to pass the Urban Mass Transit Act of 1964, which offered federal funds to help states keep such trains operating. At the time, the justification for this was that some of the commuter trains serving Boston, Chicago, New York, and Philadelphia crossed state lines. But Congress extended its funding offer to any state or local government that operated transit services. In 1964, most transit was private and the industry as a whole was profitable, but within a decade it was almost entirely taken over by state or local governments and had become highly *un*profitable. Today, the vast majority of federal dollars allocated for transit go to transit agencies that do not cross state lines.

Since 1965, federal, state, and local governments have spent close to $900 billion (in 2018 dollars) subsidizing transit operations, more than $100 billion of which has come from the federal government. Early records of capital spending are incomplete, but since 1988 the federal government has provided more than $350 billion (in 2018 dollars) in capital subsidies to transit, out of $450 billion spent by the transit industry. Total subsidies have therefore been well over $1.4 trillion, of which at least a third has come from the federal government.[76]

Transit will clearly remain important in the New York metropolitan area. The question is: How will the region pay for it? The Metropolitan Transportation Authority's (MTA) long-term debt is more than $43 billion.[77] Its maintenance backlog is $60 billion.[78] Its unfunded health care liability is more than $20 billion.[79] Despite not having funds to close these gaps, the agency is planning to spend $13 billion extending the Second Avenue Subway another six miles at a cost of $2.2 billion per mile. As then MTA vice president Dave Henley admitted in 2009, "There will never be 'enough money'" to put the system in a state of good repair.[80]

Beyond New York City, New Jersey Transit needs $29 billion for the Gateway project that would rebuild century-old tunnels under the Hudson River and bridges near those tunnels. New Jersey's congressional delegation would like the federal government to pay half of this cost and to loan the states the other half, with no revenue source in sight to repay the loan—a plan that is opposed by the Trump administration.[81] Even if the federal government ultimately provides some funding, it doesn't seem likely that enough money will be ever found to completely restore the region's transit systems.

New York City's densities cannot be supported without transit, particularly the subway system. Buses running on the city's surface streets simply cannot move as many people as 10-car subway trains that run up to 30 times per hour. Unless New York finds a way to fund its transit, it may have to accept lower population and job densities and a wholesale movement of residences and offices to the suburbs.

Outside of New York, buses can replace most rail lines in the country and actually move more people per hour in the same amount of real estate. This is because, for safety reasons, rail lines can typically move no more than 20 railcars or trains per hour in mixed traffic (such as streetcars or light rail) and no more than 30 per hour in dedicated rights of way (such as subways), while a single bus lane can easily move hundreds of buses per hour. For example, Istanbul has an exclusive busway that moves more than 250 buses per hour, despite each bus stopping at 33 stations en route. While each bus has a lower capacity than a train, the increased number of vehicles per hour means the Istanbul Metrobus has an

estimated capacity of 30,000 people an hour—more than almost any rail line in the United States outside of New York City.[82]

Transit agencies should do several things in response to ridership declines. First, they should stop planning and building new rail transit lines. Buses can move more people per hour than most trains, at a far lower cost, and no city outside of New York has the job concentrations that would require a subway system.[83]

Second, as existing rail lines wear out, transit agencies should replace them with buses. This would save billions of dollars in capital replacement costs.

To save money operating those buses, transit agencies could contract out all bus operations to private companies. Several companies, including First Transit and Veolia, compete for such business, giving them incentives to keep their costs low. By Colorado state law, Denver's Regional Transit District (RTD) must contract out half of all of its bus services. The contractors are unionized and pay taxes that RTD is exempted from. The contracted half of the service costs taxpayers just 52 percent as much, per vehicle revenue mile, as the half that is operated by RTD.[84] Contracting out transit services in the seven urban areas where transit carries more than 10 percent of commuters could save taxpayers close to $4 billion a year.

An even better solution would be to privatize transit. This would result in the concentration of transit services in dense cities and near job centers, where people use it the most, but the reduction or elimination of services in low-density suburbs, where relatively few people rely on transit.

A number of private companies, including Bridj and Chariot, have attempted to enter U.S. transit markets but were unable to compete against heavily subsidized public transit systems.[85] In San Francisco, San Jose, and Seattle, major employers such as Apple, Google, and Microsoft provide private transit for their employees, which indicates that public transit systems in those regions aren't working very well.[86] Privatization would lead to transit going where people need it, not where politicians want it.

Congress should start by abolishing the transit capital improvement grant (New Starts) program, which encourages transit agencies to waste money building expensive, and generally obsolete, infrastructure that they won't be able to afford to maintain. The one strategy that transit agencies have successfully used to increase ridership is to redesign their bus systems, something that can't be easily done with fixed-rail systems. This limitation alone is a strong argument against new rail construction.

Next, Congress should phase out other federal subsidies to transit and end federal subsidies to highways. The Highway Trust Fund was originally created to collect funds from highway users and spend those funds on highways. As such, it was at least a weakly effective mimic of markets. Since 1982, however, Congress has increasingly diverted a share of the funds to transit and supplemented both highway and transit funds with general funds. In the long run, there is probably no need for the federal government to be involved with highways or transit. In the short run, Congress can at least ensure that funds collected by the federal government from highway users—and no other funds—go to highways.

A century ago, transit was a vital part of American urban economies. At least outside of New York City, that is no longer true. It's time to stop wasting $54 billion a year pretending that it is.

"Congress should abolish the New Starts program that encourages transit agencies to build expensive and obsolete infrastructure."

NOTES

1. "2018 Service," Federal Transit Administration, https://www.transit.dot.gov/ntd/data-product/2018-service.

2. "2018 Service," Federal Transit Administration.

3. "December 2019 Adjusted Database," Monthly Module Adjusted Data Release, Federal Transit Administration, https://www.transit.dot.gov/ntd/data-product/monthly-module-adjusted-data-release.

4. Laura Bliss, "A Year after a Radical Route Rethink, Houston's Transit Ridership Is Up," *CityLab*, August 18, 2016; Scudder Wagg, "Early Positive News from Richmond, Virginia Redesign," Human Transit, September 26, 2018; and Angie Schmitt, "The Columbus Bus Network Redesign Boosted Ridership," *Streetsblog* (blog), August 14, 2018.

5. Urban area population densities are calculated from 2018 population estimates in the "American Community Survey," Table B01003, https://data.census.gov/cedsci/table?q=b01003&g=0100000US.400000&tid=ACSDT1Y2018.B01003&hidePreview=true divided by land areas that are listed in the 2010 census, "2010 Urbanized Area Name," https://www.apta.com/wp-content/uploads/Resources/resources/statistics/Documents/2010-UZA-List.xls.

6. Wendell Cox, *United States Central Business Districts (Downtowns)* (Belleville, IL: Demographia.com, 2014), Table 2, http://demographia.com/db-cbd2000.pdf.

7. "December 2019 Adjusted Database."

8. Calculated from "2018 Annual Database Operating Expenses," Federal Transit Administration, https://www.transit.dot.gov/ntd/data-product/2018-annual-database-operating-expenses; "2018 Annual Database Capital Use," Federal Transit Administration, https://www.transit.dot.gov/ntd/data-product/2018-annual-database-capital-use; "2017 Annual Database Operating Expense," Federal Transit Administration, https://www.transit.dot.gov/ntd/data-product/2017-annual-database-operating-expense; and "2017 Annual Database Capital Use," Federal Transit Administration, https://www.transit.dot.gov/ntd/data-product/2017-annual-database-capital-use.

9. Randal O'Toole, *Transportation Costs and Subsidies by Mode* (Camp Sherman, OR: Thoreau Institute, 2019), p. 2.

10. *Status of the Nation's Highways, Bridges, and Transit: Conditions and Performance*, 23rd ed. (Washington: Department of Transportation, 2019), pp. 6–39.

11. *Status of the Nation's Highways, Bridges, and Transit*, pp. 6–39.

12. Calculated from "2018 Annual Database Capital Use"; and Federal Transit Administration, "2017 Annual Database Capital Use."

13. *Status of the Nation's Highways, Bridges, and Transit*, p. ES-17.

14. Calculated from "2018 Annual Database Service," Federal Transit Administration, https://www.transit.dot.gov/ntd/data-product/2018-annual-database-service; and "2017 Annual Database Service," Federal Transportation Administration, https://www.transit.dot.gov/ntd/data-product/2017-annual-database-service.

15. Calculated from "2018 Annual Database Fare Revenue," Federal Transit Administration, https://www.transit.dot.gov/ntd/data-product/2018-annual-database-fare-revenue; and "2017 Annual Database Fare Revenue," Federal Transit Administration, https://www.transit.dot.gov/ntd/data-product/2017-annual-database-fare-revenue.

16. "Nobody Pays!: An International Call for a Strike against the Rising Cost of Living November 29th," It's Going Down, November 18, 2019.

17. Scott Wiener (@Scott_Wiener), "Transit agencies brag about high fare-box recovery. High fare-box recovery is bad. It means tax $ isn't supporting transit. It means high fares that lower ridership & harm low income ppl. The goal is low farebox recovery. Transit is a public good & should have taxpayer support," Twitter, November 21, 2019, 10:48 a.m., https://twitter.com/Scott_Wiener/status/1197542209576292353.

18. Alissa Walker, "Free Transit Isn't Enough. Transportation Needs to Be a Right," Curbed, December 20, 2019.

19. Andrew Owen and Brendan Murphy, *Access Across America: Auto 2017* (Minneapolis: University of Minnesota, 2018), pp. 5–6.

20. "Should Transit Be Free?" Transit Center, January 28, 2019.

21. Shaunacy Ferro, "Why the World's Largest Experiment in Free Public Transportation Failed," *FastCompany*, January 31, 2014.

22. Jennifer S. Perone and Joel M. Volinski, "Fare, Free, or Something in Between?," Center for Urban Transportation Research, 2004.

23. Jake Blumgart, "As U.S. Transit Fares Increase, Europe Starts to Make It Free," *NextCity*, March 1, 2013.

24. Joel Volinski, "TCRP Synthesis 101: Implementation and Outcomes of Fare-Free Transit Systems," Center for Urban Transportation Research, 2012.

25. Laura Bliss, "Why Kansas City's Free Transit Experiment Matters," *CityLab*, December 13, 2019.

26. Matt Tinoco, "Metro's Declining Ridership, Explained," Curbed, August 29, 2017.

27. Alissa Walker, "Every Bus in This Country Deserves Its Own Lane," Curbed, October 14, 2019.

28. Ethan Millman, "As Bus Ridership Plummets in Los Angeles, Efforts to Boost It Hit Speed Bumps," *Wall Street Journal*, August 25, 2019.

29. "2018 Annual Database Service"; "2017 Annual Database Service"; and "2016 Annual Database Service," Federal Transit Administration, https://www.transit.dot.gov/ntd/data-product/2016-annual-database-service-0.

30. "2018 Annual Database Service."

31. Calculated from "Means of Transportation to Work, 2018," American Community Survey, Table B08301 (for the nation), https://data.census.gov/cedsci/table?q=b08301&tid=ACSDT1Y2018.B08301; and "Means of Transportation to Work, 2017," American Community Survey, Table B08301, https://data.census.gov/cedsci/table?q=b08301&tid=ACSDT1Y2017.B08301.

32. "Principle Means of Transportation to Work," Bureau of Transportation Statistics, U.S. Department of Transportation, 2019, Table 1-41, https://www.bts.gov/content/principal-means-transportation-work.

33. Calculated from "Means of Transportation to Work, 2018," Table B08301 (for urbanized areas); and "Means of Transportation to Work, 2017," Table B08301.

34. Calculated from "Means of Transportation to Work, 2018," American Community Survey, Table B08301, (for nation and urban areas).

35. Brian Taylor, Michael Manville, and Evelyn Blumenberg, *Why Is Public Transit Use Declining? Evidence from California* (Washington: Transportation Research Board, 2019), p. 1.

36. "Means of Transportation to Work, 2017," American Community Survey, Table B08121 https://data.census.gov/cedsci/table?q=b08121&g=0100000US.400000,&tid=ACSDT1Y2018.B08301&hidePreview=true&y=2017.

37. "Median Earnings in the Past 12 Months," American Community Survey, Table B08121, https://data.census.gov/cedsci/table?q=b08121&g=0100000US.400000,&tid=ACSDT1Y2018.B08121&hidePreview=true&y=2018.

38. Calculated from 2016, 2017, and 2018 American Community Surveys, "Means of Transportation to Work by Workers' Earnings in the Past 12 Months," Table B08119, https://data.census.gov/cedsci/table?q=b08119&g=0100000US.400000,&tid=ACSDT1Y2018.B08119&hidePreview=true&y=2018, https://data.census.gov/cedsci/table?q=b08119&g=0100000US.400000,&tid=ACSDT1Y2018.B08119&hidePreview=true&y=2017, and https://data.census.gov/cedsci/table?q=b08119&g=0100000US.400000,&tid=ACSDT1Y2018.B08119&hidePreview=true&y=2016.

39. Kerri Sullivan, *Transportation and Work: Exploring Car Usage and Employment Outcomes in the LSAL Data* (Cambridge, MA: Harvard Graduate School of Education, 2003).

40. Michelle Corson, *Freedom of Motion: Working Families and the Transportation Revolution* (Dallas: On the Road Lending, 2017).

41. Stacy C. Davis and Robert G. Boundy, *Transportation Energy Data Book: Edition 38* (Oak Ridge, TN: Department of Energy, 2019), Appendix B, Table B-4, https://tedb.ornl.gov/.

42. Davis and Boundy, *Transportation Energy Data Book*, Table B-6.

43. Davis and Boundy, *Transportation Energy Data Book*, Table 2-14.

44. "State Electricity Profiles," U.S. Energy Information Administration, https://www.eia.gov/electricity/state/unitedstates/index.php.

45. Mikhail V. Chester and Arpad Horvath, "Environmental Assessment of Passenger Transportation Should Include Infrastructure and Supply Chains," *Environmental Research Letters* 4, no. 2 (2009): 024008 (8 pp.), https://doi.org/10.1088/1748-9326/4/2/024008.

46. *North Corridor Interstate MAX Light Rail Project Final Environmental Impact Statement* (Portland, OR: Metro, 1999), pp. 4–104.

47. Rachel Dawson, "The MAX Yellow Line: A Look Back after 15 Years," *Oregon Catalyst* (blog), November 11, 2019.

48. *Prosper Portland Adopted Budget FY 19-20* (Portland: Portland Development Commission, 2019), p. 21, https://prosperportland.us/wp-content/uploads/2019/07/Prosper-Portland-Adopted-Budget-FY-2019-20.pdf.

49. Teresa Carson, "Metro Sells Land Near MAX Stop to Developers for $1,000," *Portland Tribune*, November 20, 2019.

50. Randal O'Toole, *Valley Metro Light Rail Economic Claims Fall Flat* (Phoenix: Arizona Free Enterprise Club, 2019), pp. 5–9.

51. *Guidelines for Land Use and Economic Development Effects for New Starts and Small Starts Projects* (Washington: Federal Transit Administration, 2013), pp. 11–26.

52. See, for example, Colette Santasieri, *Planning for Transit-Supportive Development: A Practitioners Guide* (Washington: Federal Transit Administration, 2014); and *Transit-Supportive Planning Toolkit* (Seattle: Puget Sound Regional Council, 2013).

53. As calculated in Excel, the correlation between any two sets of 50 random numbers will be frequently higher than 0.15.

54. See, for example, Laura Bliss, "More Routes = More Riders," *CityLab*, June 4, 2018.

55. "December 2019 Adjusted Database."

56. "Gas Price Charts," GasBuddy, https://www.gasbuddy.com/Charts.

57. Cox, *United States Central Business Districts* (2014), Table 2.

58. The Census Bureau defines urban areas, based on standard criteria, after every decennial census. Densities from the 2010 census are from "2010 Urban Area List Files," Census Bureau, https://www2.census.gov/geo/docs/reference/ua/ua_list_ua.xls. Per capita transit ridership is based on "2010 Annual Database Service," Federal Transit Administration, https://www.transit.dot.gov/ntd/data-product/2010-annual-database-service, which includes ridership by agency; and "2010 Annual Database Agency UZAs," Federal Transit Administration, https://www.transit.dot.gov/ntd/data-product/2010-annual-database-agency-uzas, which defines which transit agencies service which urban areas.

59. Calculated from Cox, *United States Central Business Districts* (2014), Table 2; and Cox, (2006), Table 1.

60. Calculated from Cox, *United States Central Business Districts* (2014), Table 2; and Cox, (2006), Table 2.

61. "Downtown Leads the Region in Job Growth," Downtown Seattle Association, 2019.

62. The number of jobs in each city is from "Means of Transportation to Work for Workplace Geography, 2018," American Community Survey, Table B08601, https://data.census.gov/cedsci/table?q=b08601&g=0100000US.160000&tid=ACSDT1Y2018.B08601&hidePreview=true.

63. Rachel Dovey, "NYC Uber Rides Will Soon Get More Expensive," *Next City*, April 5, 2018.

64. Sara Freund, "Chicago's New Ride-Hailing Tax Begins Now, and It's the Country's Highest Fee," Curbed, December 2, 2019.

65. Bruce Schaller, *The New Automobility: Lyft, Uber and the Future of American Cities* (New York: Schaller Consulting, 2019), p. 2.

66. Adam Brinklow, "Lyft, Uber Increase Traffic 180 Percent in Major Cities, Says Report," *Curbed*, July 27, 2018.

67. Robin Chase, "If Your Car Is Stuck in Traffic, It's Not Uber and Lyft's Fault," *CityLab*, July 27, 2018.

68. Schaller, *The New Automobility*, p. 2.

69. "Highway Statistics 2016," Federal Highway Administration, Table HM-72, https://www.fhwa.dot.gov/policyinformation/statistics/2016/hm72.cfm; and "Highway Statistics 2017," Federal Highway Administration, Table HM-72, https://www.fhwa.dot.gov/policyinformation/statistics/2017/hm72.cfm.

70. For example, see Steven R. Gehrke, Alison Felix, and Timothy Reardon, *Fare Choices: A Survey of Ride-Hailing Passengers in Metro Boston* (Boston: Metropolitan Area Planning Council, 2018), p. 10.

71. Trevor Reed and Joshua Kidd, *Global Traffic Scorecard* (Kirkland, WA: INRIX, 2019), p. 11, https://inrix.com/scorecard/.

72. "Mortgage Affordability, Rent Affordability, Price to Income Ratio," Zillow, 2019, https://files.zillowstatic.com/research/public/Affordability_Wide_2019Q3_Public.csv.

73. Walker, "Every Bus in This Country Deserves Its Own Lane."

74. Matt Novak, "Uber Is Currently Fighting the Battle That Jitneys Lost 100 Years Ago," *Gizmodo*, September 2, 2014.

75. Data for 1964 are from "2019 Public Transit Fact Book," American Public Transportation Association, Appendix A, Table 1, https://www.apta.com/wp-content/uploads/2019-APTA-Fact-Book-Appendix-A.xlsx. Data for 2019 are from "September 2019 Adjusted Database," Monthly Module Adjusted Data Release, Federal Transit Administration, https://www.transit.dot.gov/ntd/data-product/monthly-module-adjusted-data-release. Trips per capita were calculated using the Census Bureau estimates of urban population.

76. Calculated from "2019 Public Transit Fact Book," Appendix A, Tables 80 and 87; "2017 National Transit Database Funding Sources," Federal Transit Administration, https://www.transit.dot.gov/sites/fta.dot.gov/files/Funding%20Sources_1.xlsm; and "2018 National Transit Database," Federal Transit Administration, https://www.transit.dot.gov/sites/fta.dot.gov/files/Funding%20Sources_2.xlsm. GDP deflators from the Bureau of Economic Analysis were used to adjust to 2018 dollars: see "Current-dollar and 'Real' GDP," Bureau of Economic Analysis, https://www.bea.gov/national/xls/gdplev.xlsx.

77. *Independent Auditors' Review Report: Consolidated Interim Financial Statements as of and for the Six-Month Period Ended June 30, 2019* (New York: MTA, 2019), p. 21.

78. Emma G. Fitzsimmons, "7 Ways to Fix the M.T.A. (Which Needs a $60 Billion Overhaul)," *New York Times*, December 18, 2018.

79. *Independent Auditors' Review Report*, p. 112.

80. Dave Henley, "New York City Transit," presentation to the 2009 State of Good Repair Roundtable, Washington, DC, 2009, p. 15, https://www.transit.dot.gov/regulations-and-guidance/asset-management/state-good-repair/first-sgr-roundtable-legacy-systems.

81. Larry Penner, "Gateway's Numbers Don't Add Up: New York and New Jersey Have to Put in Some Real Money," *New York Daily News*, April 23, 2019.

82. M. Anil Yazici, Herbert S. Levinson, Mustafa Ilicali, Nilgün Camkesen, and Camille Kamga, "A Bus Rapid Transit Line Case Study: Istanbul's Metrobüs System," *Journal of Public Transportation* 16, no. 1 (2013): 160.

83. Randal O'Toole, "Rapid Bus: A Low-Cost, High-Capacity Transit System for Major Urban Areas," Cato Institute Policy Analysis no. 752, July 30, 2014.

84. Calculated from "2018 Annual Database Operating Expenses"; and "2018 Annual Database Service," Federal Transit Administration.

85. "The Future of Microtransit?" *Urbanism Next* (blog), January 23, 2019.

86. Annalee Newitz, "The Hidden Bus Routes in San Francisco that Are Only for Techno-Elites," *Gizmodo*, January 16, 2013.

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