Photographer: WMATA/Shutterstock/Madison McVeigh/CityLab

Why Did America Give Up on Mass Transit? (Don't Blame Cars.)

Streetcar, bus, and metro systems have been ignoring one lesson for 100 years: Service drives demand.

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August 31, 2018, 11:38 AM EDT

One hundred years ago, the United States had a public transportation system that was the envy of the world. Today, outside a few major urban centers, it is barely on life support. Even in New York City, subway ridership is well below its 1946 peak. Annual per capita transit trips in the U.S. plummeted from 115.8 in 1950 to 36.1 in 1970, where they have roughly remained since, even as population has grown.

This has not happened in much of the rest of the world. While a decline in transit use in the face of fierce competition from the private automobile throughout the 20th century was inevitable, near-total collapse was not. At the turn of the 20th century, when transit companies' only competition were the legs of a person or a horse, they worked reasonably well, even if they faced challenges. Once cars arrived, nearly every U.S. transit agency slashed service to cut costs, instead of improving service to stay competitive. This drove even more riders away, producing a vicious cycle that led to the point where today, few Americans with a viable alternative ride buses or trains.

Now, when the federal government steps in to provide funding, it is limited to big capital projects. (Under the Trump administration, even those funds are in question.) Operations—the actual running of buses and trains frequently enough to appeal to people with an alternative—are perpetually starved for cash. Even transit advocates have internalized the idea that transit cannot be successful outside the highest-density urban centers.

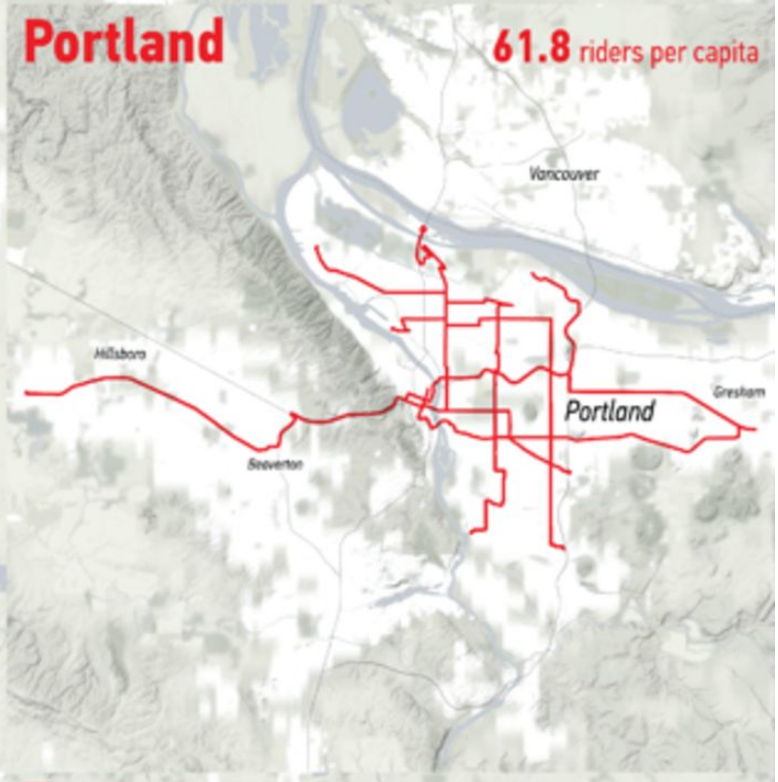
And it very rarely is. Below is a set of maps that show the present-day network rail and bus lines operating at least every 30 minutes, all day to midnight, seven days a week, for five urban areas in the U.S. and one in Canada for comparison. That could be considered the bare-minimum service level required for people to be able to live adequately car free. In fact, research says that frequencies of 15 minutes or better—good enough for people to turn up and go without consulting a schedule—are where the biggest jumps in ridership happen. But that is so far off from service levels in most American cities that a 30-minute standard is more appropriate.

Denver

43.2 riders per capita

Portland

61.8 riders per capita



Washington, D.C.

102.4 riders per capita

Toronto

329 riders per capita

From top left corner: Columbus, Ohio, does not have a single route that meets the full service standard. In Charlotte, North Carolina, the the newly extended Lynx LRT helps a little. Denver, Colorado is adding light rail and commuter rail, but many still struggle to get to the rail station without a car. So do people in Portland, Oregon, despite its large light rail network and forward-thinking transit culture. Washington, D.C.'s Metro is one of the most well-used U.S. rapid transit systems, but connecting bus service is limited. It's Toronto, Canada, that shows what properly high level of transit service looks like in North America.

Design: Jonathan English/Michael Binetti/David Montgomery/CityLab. Ridership data: American Public Transportation Association/Toronto Transit Commission. Map tiles: Stamen Design, under CC BY 3.0. Data by OpenStreetMap, under ODbL.

The maps illustrate the vast swaths of urban areas untouched by full service bus routes. For those who do live near one, it's quite likely that the bus wouldn't get them where they need to go, unless their destination is downtown. A bus that comes once and hour, stops at 7 pm, and doesn't run on Sundays–a typical service level in many American cities–restricts people's lives so much that anyone who can drive, will drive. That keeps ridership per capita low.

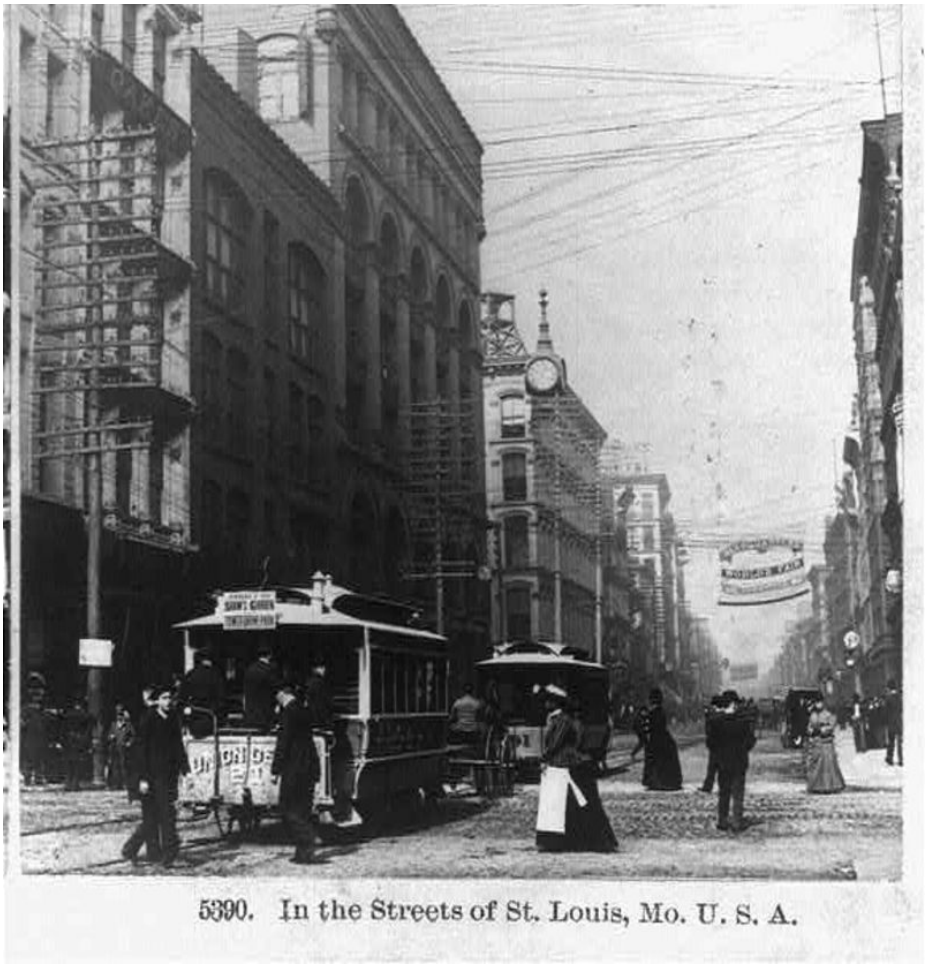
What happened? Over the past hundred years the clearest cause is this: Transit providers in the U.S. have continually cut basic local service in a vain effort to improve their finances. But they only succeeded in driving riders and revenue away. When the transit service that cities provide is not attractive, the demand from passengers that might "justify" its improvement will never materialize.

Here's how this has played out, era by era. In a companion article, I look at how differently things unfolded in other parts of the world.

THE AGE OF RAIL

1850s to 1930s

The decades at the turn of the century were a time of massive transit infrastructure growth in the United States, carried out primarily by private companies with some municipal subsidy. Much of New York City and Philadelphia's subways, Chicago's 'L,' and Boston's 'T' were built in this era. Huge networks of "interurbans"–a kind of streetcar that ran deep into rural areas–spread out from cities across the country. "Streetcar suburbs" grew outward along main streets, allowing middle-class people to buy homes while still easily getting to jobs downtown.



Streetcars run in St. Louis, 1890.

Source: Library of Congress

This was an era when transit could usually make money when combined with real-estate speculation on the newly accessible lands, at least in the short term. But then as now, it struggled to cover its costs over the long term, let alone turn a profit. By the 1920s, as the automobile became a fierce competitor, privately run transit struggled.

But public subsidy was politically challenging: There was a popular perception of transit as a business controlled by rapacious profiteers—as unpopular as cable companies and airlines are today. In 1920, the President's Commission on Electric Railways described the entire industry as "virtually bankrupt," thanks to rapid inflation in the World War I years and the nascent encroachment of the car.

The Depression crushed most transit companies, and the handful of major projects that moved forward in the 1930s were bankrolled by the New-Deal-era federal government: See the State and Milwaukee-Dearborn subways in Chicago, the South Broad Street subway in Philadelphia, and the Sixth Avenue subway in New York. But federal infrastructure investment would soon shift almost entirely to highways.

A return to transit by Uncle Sam would not come for another three decades.

THE RISE OF THE AUTOMOBILE

1920s to 1950s

Levittown, New York, is a pleasant collection of Long Island bungalows that sprouted between 1947 and 1951. It's become popularly known as the "first suburb," which is not quite true—there have always been places on the urban periphery where those who could afford transportation lived in a comparatively pastoral setting, away from the noise, congestion, and pollution of the city. The rich always had rural estates, and trains and streetcars made homes with gardens available to the upper middle class.

But Levittown was among the first postwar communities that established the idea of the middle-class suburb as we knew it in the second half of the 20th century: a car-centric community built around automotive access. By the 1950s, the increasing affluence of the American family and the declining cost of the automobile made this postwar suburban dream possible for even the average worker—though not for many minorities who were systematically excluded. White Americans could now drive far further, in a reasonable commute time, than had ever been possible with transit. And transit companies did little to serve these fast-growing new communities.

Like most of these postwar suburbs, Levittown had no meaningful transit to speak of. The nearest Long Island Rail Road station was well outside the town; its service was limited and its trains elderly and dilapidated. Those who worked in Manhattan, 30 miles away, were expected to drive. Since most households were single-car, people—usually women—were pretty much trapped in the house when the car was gone.

THE DEATH OF THE INTERURBANS AND STREETCARS

1920s to 1950s

In the popular history of postwar urban development, blame for the decline of the streetcars and interurbans is often placed at the feet of National City Lines, the company owned by General Motors, Firestone, and others in the auto industry that bought out many local streetcar companies to convert their operations to rubber-tired, GM-made buses. But the main issue was not the technology change—it was the decline in transit service, which happened everywhere, whether or not NCL bought the local company.

In the biggest cities, the radius from downtown accessible within an hour—generally considered the limit for daily commuting—by transit was fully developed by World War II. Cars dramatically extended that radius, and made it very hard for conventional transit to compete. The Pacific Electric's relatively speedy "Air Line" from Downtown Los Angeles to Santa Monica still took an hour. To the San Fernando Valley, it took an hour and 23 minutes. Increasing congestion on the roads that interurban trains shared with cars only made the problem worse.

So, in the postwar years, systems cut back their service and riders fled, prompting a cycle of further service cuts and ridership declines until there was virtually nothing left. This happened even in many of the municipally owned systems.

It is not a coincidence that, while almost every interurban and streetcar line in the U.S. failed, nearly every grade-separated subway or elevated system survived. Transit agencies continued to provide frequent service on these lines so they remained viable, and when trains did not have to share the road and stop at intersections, they could also be time competitive with the car. The subways and els of Chicago, Philadelphia, New York, and Boston are all still around, while the vast streetcar and interurban networks of Los Angeles, Minneapolis, Atlanta, Detroit, and many others are long gone. Only when transit didn't need to share the road with the car, and frequent service continued, was it able to survive.

THE SUPERHIGHWAY ERA

1950s to 1970s

In 1956, Congress passed the Interstate Highway Act, which promised federal funding for 90 percent of the cost of a grid of free high-speed autoroutes across the country. State highway officials used much of that funding on elaborate city expressways, comprising circumferential and

radial highways that cut through urban neighborhoods. As average commute speed rose, the sprawl of urban areas grew exponentially. Over time, suburban developments shifted to locations along the circumferential highways, where abundant cheap land was available. Urban areas were no longer restricted by remaining within a reasonable commute distance by expressway from the city center—they could now sprawl virtually without limit.

Ailing private transit companies of the 1950s were unwilling and unable to provide service in the new suburbs, ensuring that only those who were able to afford cars could move there. This was partly a deliberate strategy: It sought to keep transit self-sustaining by avoiding providing service in areas where costs would be higher—very different from the

approach the government took with superhighways, which created demand as they were built. Transit could have done the same, and in much of the rest of the world, it did. In the U.S., it was never given the chance.

By the 1960s, “white flight” was in full swing, spurred by the pull of suburban housing as well as the push of racial integration in urban neighborhoods. The populations of many cities plummeted. Detroit's dropped from 1.85 million people in 1950 to 1.2 million by 1980, while the suburbs grew rapidly. Since most transit systems had never seriously expanded beyond the urban cores, this increasingly meant that most of the metropolitan population was not meaningfully served by transit. Poor communities of color that could not afford to drive were particularly badly affected.

THE TRANSIT REVIVAL

1960s to 1980s

President Johnson’s Great Society programs sought to use the resources of the federal government to address urban problems. Inspired by increasing public resistance to expressways, which seemed to fill up as soon as they opened, the Urban Mass Transportation Act of 1964 was the first significant federal support for transit infrastructure since the Depression. If the United States could put a man on the moon, Congress’ logic went, it could certainly solve urban traffic jams–and this technology focus would be important in all the ensuing projects.

Automation, magnetic levitation, and even comparatively prosaic things like wider track gauges were all considered in an effort to make public transit truly modern. The aerospace industry–the Silicon Valley of the day–took a major role.

The San Francisco Bay Area and Atlanta both got new rapid transit systems with federal funding. A system was proposed for Seattle, but residents voted it down in the wake of an aerospace industry downturn. The showpiece of them all was Washington, D.C.'s Metrorail system, which began operation in 1976. All of these featured fast, partially automated trains running deep into the suburbs, often in the median of expressways. With their plush seating and futuristic design, they were designed to attract people who could afford to drive.

But these high-tech systems were a skeleton without a body, unable to provide access to most of the urban area without an effective connecting bus network. The bus lines that could have fed passengers to the stations had long atrophied, or they never existed at all. In many

cases, the new rapid transit systems weren't even operated by the same agency as the local buses, meaning double fares and little coordination. With no connecting bus services and few people within walking distance in low-density suburbs, the only way to get people to stations was to provide vast lots for parking. But even huge garages can't fit enough people to fill a subway. Most people without cars were left little better off than they had been before the projects, and many people with cars chose to drive the whole way rather than parking at the station and getting on the train.

The systems of this era were relatively successful in places like Washington, D.C., and San Francisco, where dense urban centers still had a large proportion of metropolitan employment, meaning a strong commuter market. But other cities where downtowns were comparatively weak, like Miami, Atlanta, and Baltimore, rapid transit ridership remained quite low.

The big investments of the revival era were too little, too late. They also began the ominous pattern of relying on federal funding for capital construction and scarce local dollars for operations and maintenance. Today, many systems have limited frequency and severe maintenance issues due to funding shortfalls over the decades. From New York to San Francisco to Chicago to D.C., virtually every major American rapid transit system has had a service meltdown as a result of chronic deferred maintenance.

THE HIGHWAY REVOLT ERA

1970s to 1980s

When Jane Jacobs wrote *The Death and Life of Great American Cities* in 1961, she captured the sense that much was being lost as old neighborhoods like the North End in Boston and the West Village in New York were threatened with wholesale demolition for highways and "urban renewal" projects. Many postwar downtowns became dead zones outside the 9-to-5 working hours, since there was little left other than office buildings and commuter parking lots, which were more profitable for developers than the retail and apartment buildings of yore.

Appalled at the demolition and displacement that accompanied government mega-projects, activists protested urban expressway projects across the United States, with increasing success. This was true not only in the historic urban centers like New York, Boston, and San Francisco, but also in more car-oriented places, as with such never-completed projects as the Laurel Canyon freeway in Los Angeles and the Stone Mountain Freeway extension in Atlanta.

Highways even played a role in the famous 1967 revolt in Motor City. Later, Detroit Mayor Coleman Young imposed a moratorium on new highways, which, like in many cities, had disproportionately displaced black neighborhoods. It is fitting that the last great urban highway projects, like Boston's Big Dig, sought to hide existing urban highways underground, rather than expanding the network.

These movements were part of a broader change in mentality away from the progress-driven modernist ideal to the embrace of “small is beautiful” and preservation of communities—principles that became enshrined in law. Big projects increasingly required extensive studies to determine their impact on surrounding communities and the natural environment. The use of eminent domain to force people out of their homes to make way for new infrastructure became far less socially acceptable. And the courts increasingly took a dim view of big road projects.

The coup de grace was the Westway, a project proposed in 1974 for a new expressway in Manhattan to replace an old elevated road that had fallen into such a parlous state that a truck driving to repair a pothole fell through the deck the year before. Westway seemingly incorporated all of the latest ideas in infrastructure, moving the road underground to be topped with waterfront parkland. Still, the idea of spending scarce infrastructure money on a highway when the subways were in a state of disrepair rubbed many New Yorkers the wrong way. Ultimately, after years of protest, it was killed by a judge who determined that its effect on the striped bass was not adequately considered in its planning.

Across the U.S., there are still projects to widen urban highways and bury existing ones. But the time of plowing new expressways through city neighborhoods is by and large over.

THE COMMUTER RAIL ERA

1980s to 2000s

Starting in the 1980s, dozens of commuter rail lines sprouted across the country. In many cases, they were designed specifically to substitute for highway expansion that was no longer possible, and they almost exclusively ran during the times when the highways were congested. Florida’s TriRail, for example, opened in 1989 to alleviate delays during reconstruction of I-95. These new lines used the many railway tracks radiating from major cities that by then had mostly been relegated to exclusively freight use.

However, they were not true transit systems, useful for people to live their lives without needing a car. Instead, they operated as a glorified parking shuttle: People drove to the nearest station, parked their car in a big lot, rode the train into the city in the morning, and reversed the process in the evening. Still, for many cities across the country, they are

the only significant transportation infrastructure expansion that have taken place in decades.

THE LIGHT RAIL ERA

1980s to Today

In 1986, Portland opened its MAX light rail system, and it sparked a trend. The definition varies, but in general, light rail uses smaller vehicles than heavy rail systems like subways, can operate in dedicated lanes on streets shared with cars, and are longer and higher capacity than streetcars. The idea combines the “small is beautiful” mentality of the highway revolt era with the ample federal funding of the transit revival. Partly driven by a nostalgic desire to revive the streetcar suburbs of the pre-car era, they are a relatively affordable way to bring rail transit to many cities and have proven to be successful at driving investment in transit-oriented development as well as improving transit ridership on their routes. By the 1990s, light rail systems were spreading across the United States.

MAX, Portland's pioneering light rail system, travels along Interstate 84 in 1994.

Photographer: Don Ryan/AP

The problem is that while there has been ample federal funding to build these lines (at least until the current administration, which has halted the flow of even allocated transit funding), there are no such resources for operations. This means that trains on these expensive showpiece lines may only run every half hour or less. (At the most extreme: For several years Cleveland's $70 million Waterfront line only had trains running two days a week.)

More importantly, the light rail lines often operate as isolated systems, with little connecting bus service to provide access to people not within walking distance of their stops. And though cheaper to build, light rail lines are often too slow and have too low capacity to make a truly meaningful dent in a city's auto orientation.

Nevertheless, light rail has been a successful catalyst for transit revival and denser development in many cities. Successful transit in Los Angeles was once considered an oxymoron, but that city's growing network of light rail lines has managed to attract considerable ridership and has played a role in a downtown revival. Even a city like Dallas has managed to build an enormous and relatively well-used LRT network. Seattle, especially once it built its new extension to the University of Washington, has a successful light rail corridor that makes up for the failure to build rail transit in the 1970s.

WHERE TO?

The story of American transit didn't have to turn out this way. Look again at Toronto. It's much like American cities, with sprawling suburbs and a newer postwar subway system. But instead of relying on park-and-ride, Toronto chose to also provide frequent bus service to all of its new suburbs. (It also is nearly alone in North America in maintaining a well-used legacy streetcar network.) Even Toronto's suburbanites are heavy transit users, thanks to the good service they enjoy.

Likewise, in Europe, even as urban areas expanded dramatically with the construction of suburbs and new towns, planners designed these communities in ways that made transit use still feasible, building many

of them around train stations. When cities like Paris, London, and Berlin eliminated their streetcar networks, they replaced them with comparable bus service.

A construction worker walks past a massive tunnel boring machine at a Metro Rail construction site in Los Angeles in 2005.

Photographer: Reed Saxon/AP

Service drives demand. When riders started to switch to the car in the early postwar years, American transit systems almost universally cut service to restore their financial viability. But this drove more people away, producing a vicious cycle until just about everybody who could drive, drove. In the fastest-growing areas, little or no transit was provided at all, because it was deemed to be not economically viable. Therefore, new suburbs had to be entirely auto-oriented. As poverty suburbanizes, and as more jobs are located in suburban areas, the inaccessibility of transit on a regional scale is becoming a crisis.

The only way to reverse the vicious cycle in the U.S. is by providing better service up front. The riders might not come on day one, but

numerous examples, from cities like Phoenix and Seattle, have shown that better service will attract more riders. This can, in turn, produce a virtuous cycle where more riders justify further improved service—as well as providing a stronger political base of support.

A focus on improving local service is all the more important in an era where the White House and Congress are not very favorably disposed to transit, and well-funded lobby groups like those of the Koch brothers are spending millions to fight transit infrastructure spending. Even if the money to build new light rail lines isn't coming from Washington, states and local governments absolutely can afford the comparatively small annual expenditure to run buses reasonably often, all day, every day, so that transit is a viable mode of transportation for all kinds of trips—not just 9-to-5 commuting. That has been proven around the world to be the way to attract riders to transit.

The U.S. is not going to be able to rebuild metropolitan areas overnight to turn them into model transit-oriented development. But good service can make transit successful even in low-density suburbs. It's worth the investment to make more metropolitan areas accessible to everyone, and to reduce the severe environmental impact of overwhelming dependence on the car. When it comes to transit, if cities don't build it, riders definitely won't come.

CORRECTION: An earlier version of this story misstated the year of a photo depicting tracks being torn up in an unidentified city. It is 1935.