



Off the Rails: The False Narrative of the Memphis Trolleys

Justin A. Davis, Memphis Bus Riders Union

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Introduction¹

For Memphis's three-pronged trolley system, 2015 has been a year of scrambling to pick up the pieces after fires and a critical APTA report shut it down. Citizens and officials alike have called for the trolleys' return, with MATA General Manager Ron Garrison coming under fire from some for a vague timetable.² In June, the MATA board approved the purchase of rubber-wheeled "trolley buses" to go up and down Main Street until a fleet of new trolleys is purchased through the Capital Improvement Budget in the next few years. And right now, MATA is conducting a feasibility study that includes a possible extension of the trolley into Overton Square.

While all of this is occurring, Memphis's bus system has been under significant strain. MATA has cut around 30% of service in recent years, with more cuts expected in the fall of 2015. These cuts often hit underserved, low-income neighborhoods whose residents rely on transit for their daily needs. Nevertheless, the city's focus seems to almost never be on them—but on fixtures of more touristy districts that they hardly use. The purpose of this report is to show that the trolleys are not a viable alternative to buses in their usage, financial sustainability, or their social effects on Memphis at large. This statement can be divided up into four major points:

1. Trolleys are used significantly less than buses.

This is perhaps the most obvious part of this report. Unlinked Passenger Trips (UPTs) and Fare Revenue alone show that the amount of bus trips vastly outnumbers those of the trolleys when they are active:

A) UPTs and Fare Revenue, 2013³

	Annual Unlinked Passenger Trips	Annual Fare Revenue
BUS	8,739,600	\$9,100,958
TROLLEY	1,468,000	\$846,992

However, it is important to remember that because the trolley system is significantly smaller geographically, it makes sense that their ridership would also be smaller. Another way of looking at usage is through Passenger Miles (PM) per Vehicle Revenue Mile (VRM), which is “a way to

¹ The cover photo, "Trolley Crash," belongs to the Memphis Flyer.
<<http://www.memphisflyer.com/memphis/trolley-crash/Content?oid=2901968>>

² Dries, Bill. "MATA Head Draws Heat on Trolley Delays." *Memphis Daily News*, 12 March 2015. Web.
<<http://www.memphisdailynews.com/news/2015/mar/12/mata-head-draws-heat-on-trolley-delays/>>

³ Unless otherwise noted, the charts and tables in this report contain data collected by the National Transit Database from 1996 to 2013. All of it is available online at <<http://www.ntdprogram.gov/ntdprogram/data.htm>>.

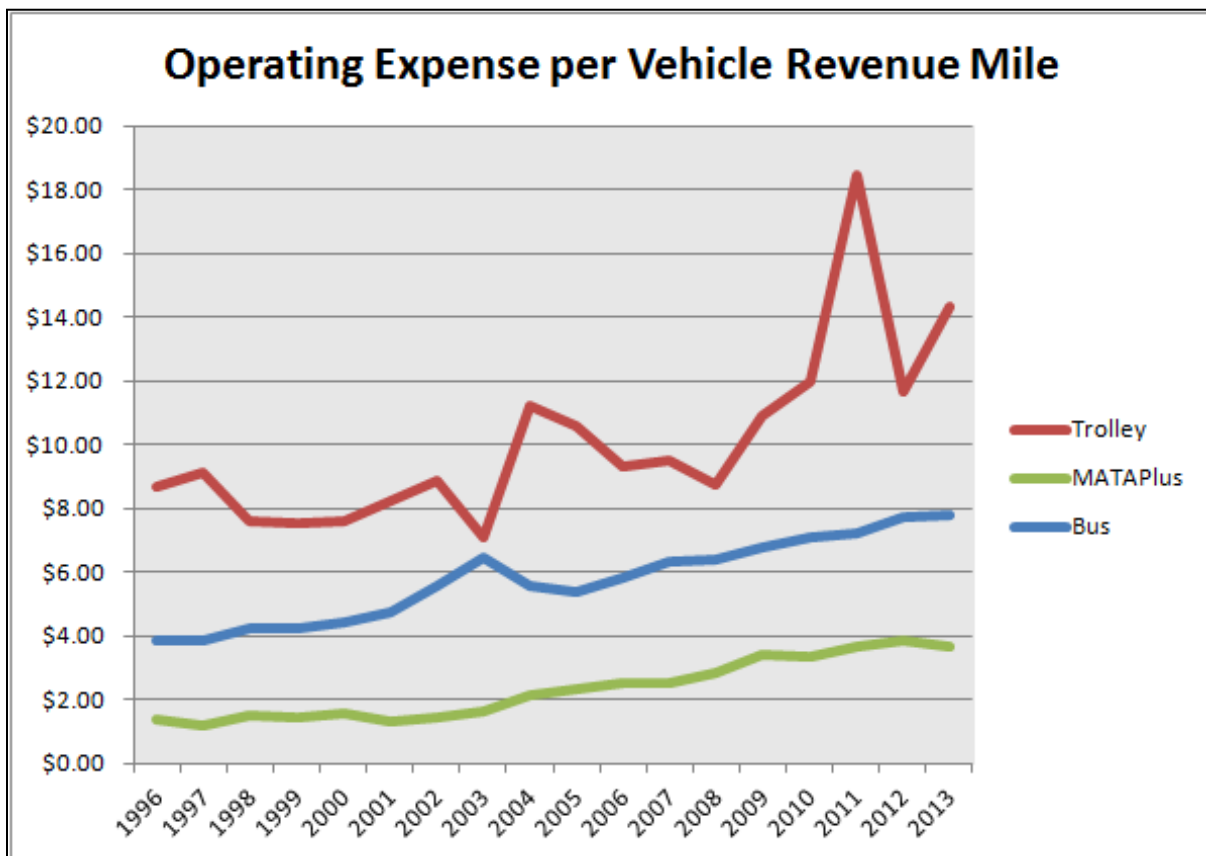
measure the average number of riders on a transit vehicle.”⁴ In this category, buses again lead trolleys by a significant amount:

B) Passenger Miles per Vehicle Revenue Mile

YEAR	BUS	TROLLEY
2013	8.510 miles	3.874 miles
Yearly average, 1996-2013	9.362 miles	3.205 miles

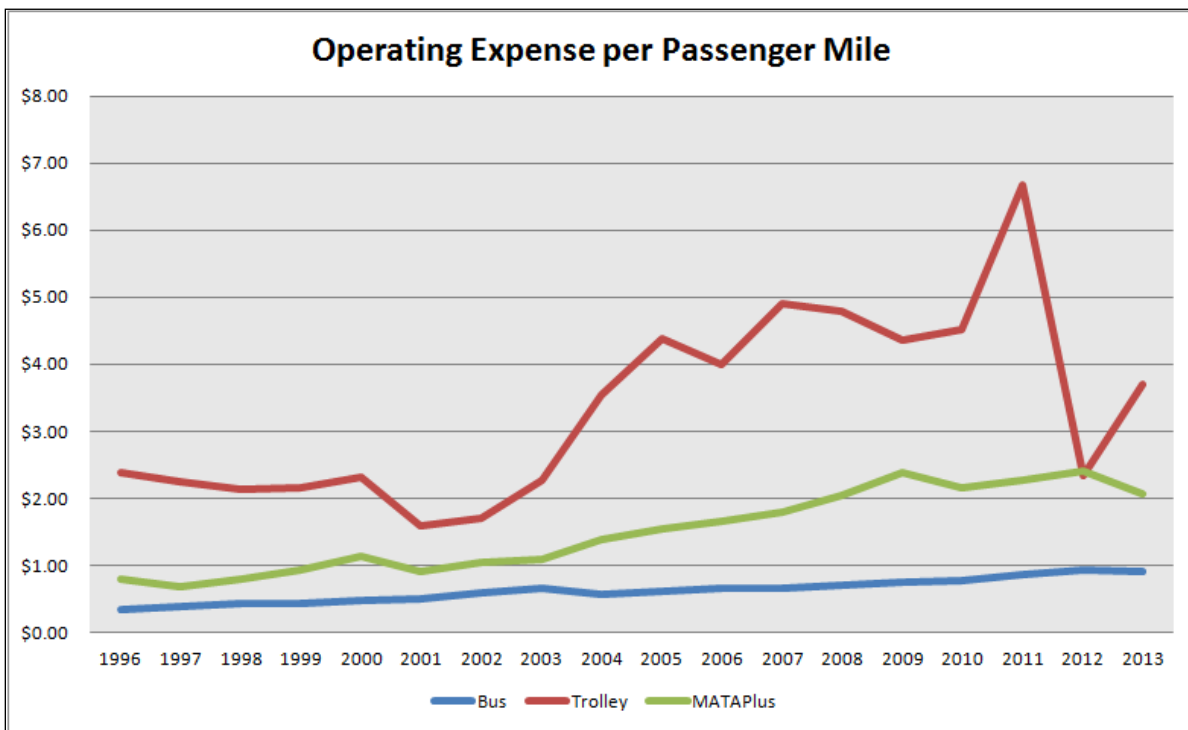
2. Trolleys are less cost-efficient than buses.

It is obvious that the trolley system is significantly smaller than the bus system, both in terms of space and ridership. However, the actual service that the trolleys provide is not proportional to the amount that they cost to build and maintain. This can be measured in several ways. When looking at Operating Expense (OE) per Vehicle Revenue Mile, trolleys have had a much higher cost for their entire Memphis lifetimes:



⁴ Keatts, Andrew. "Fact Check: 'One of the Best Light Rail Lines' in the Country." *Voice of San Diego*, 1 Aug. 2013. Web. <<http://www.voiceofsandiego.org/share/fact-check-one-of-the-best-light-rail-lines-in-the-country/>>

This primarily measures cost-efficiency. Cost-effectiveness, which takes ridership into account, is measured by Operating Expense per Passenger Mile, and looks very similar:



It is important to note that although the trolley’s cost is much higher, the bus cost has stayed consistently low. The average operating cost of the trolley system is almost double the cost of the bus system:

C) Average Operating Cost, 1996-2013

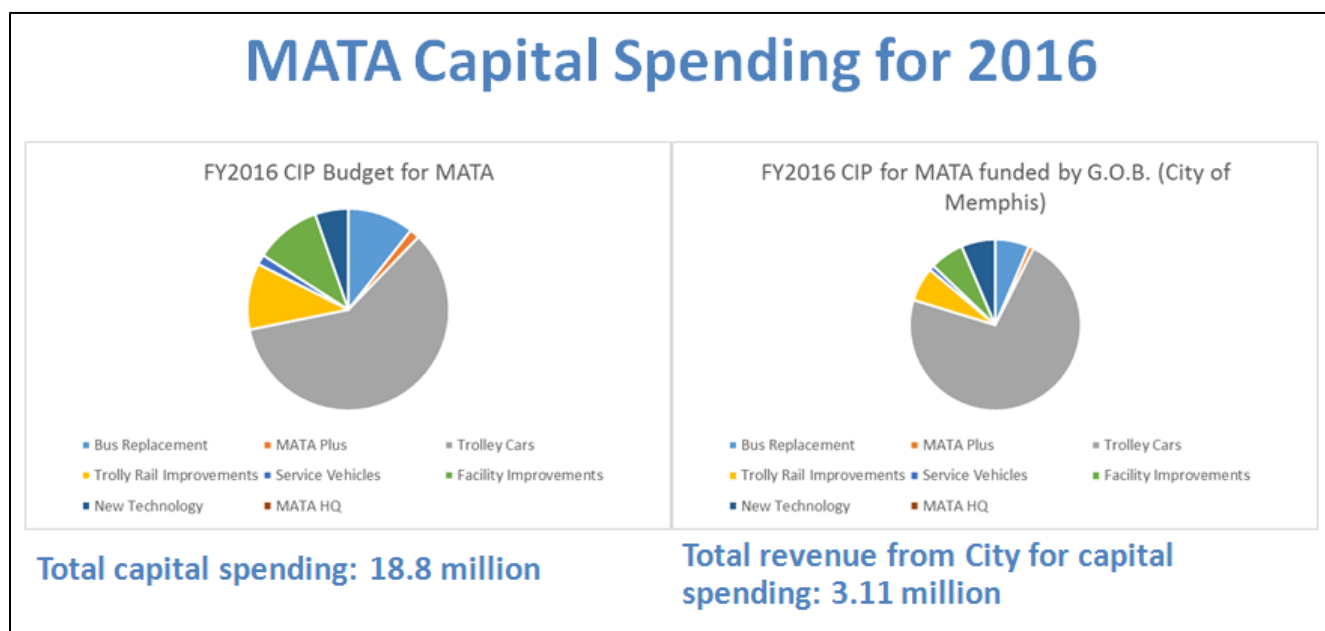
	BUS	TROLLEY
OE per VRM	\$5.75	\$10.09
OE per PM	\$0.62	\$3.33

Another metric for the economy of the transit system is the fare box recovery ratio, which measures how much of the operating cost is supported by fare revenue. For buses, the average ratio from 1996-2013 was 20.7%, while the average for trolleys was 16.75%.

3. Trolleys have been supported at the expense of better bus service.

Although the buses do more, and cost less, support for MATA has heavily favored the trolleys since their debut in 1993, much of which has come from non-bus riders. For example, in

MATA's Capital Improvement Budget for 2016, the vast majority of capital is going toward the purchase of new trolleys, a process which will likely continue through 2020.⁵



The capital going toward new trolleys (\$11,250,000) is almost 5 times the amount going toward new buses (\$2,000,000). Within that capital, the city of Memphis itself is contributing 10 times more to trolley replacement than to bus replacement. Because funding for buses is inadequate, MATA is unable to replace buses at a healthy rate, leaving them to rely on buses that are often as much as "200,000 miles beyond their useful life"⁶ and more prone to problems. This, in turn, creates extra operating costs and decreases the quality of service.

Inadequate bus funding is not only a local or state problem, but a national one. The trolleys owe their creation in part to the FTA's New Starts program in 1991, which offered financial incentives for rail projects. In 2012, the MAP-21 bill split the Federal Transit Administration's Section 5309 capital program for public transit into a group of smaller programs. Dedicated funding for buses, bus facilities, and bus technology—now under Section 5339—was cut in half from \$980 million to \$440 million, while funding for rail improvements increased significantly. These cuts have forced many transit agencies across the country to cut service: "Between 2008 and 2012, more than 85 percent of transit systems nationwide slashed service or raised fares—

⁵ Memphis, City of. *FY2016 Proposed CIP Budget*. 2015. The chart was created by Scarlet Ponder, co-chair of the Memphis Bus Riders Union.

⁶ Bailey Jr., Thomas. "MATA buys 8 buses designed to look like trolleys." *The Commercial Appeal*, 8 July 2015. Web. <http://www.commercialappeal.com/news/local-news/mata-buys-8-buses-designed-to-look-like-trolleys_78665803>

some multiple times—due to shortages in state and local funds.”⁷ MATA is no exception: as said earlier, 30% of service has been cut in recent years, with more cuts possible in the fall. The vast majority of these cuts, unsurprisingly, have affected bus service.

Section 5339 funding is primarily given out on the state level. In 2013, Tennessee received \$2,634,574 from Section 5339, which was then split across the entire state:⁸

D) Section 5339 Funding for Tennessee, 2013

Chattanooga	\$183,217
Knoxville	\$282,505
Memphis	\$525,358
Nashville	\$594,783
Cities with Populations between 50,000-199,000	\$446,820
Rest of State	\$601,891

According to a letter sent by transit groups to Congress, “the cost of an average heavy duty large bus [is] between \$325,000 and \$600,000,”⁹ meaning that the \$500,000 Memphis receives can be used for very little.

All the same, MAP-21's depression of bus funding was matched by an increase in funding for new starts and for rail projects, showing that rail capital has often directly replaced bus capital.

4. Trolleys promote an environment of exclusion among transit users.

On a cultural level, trolleys are often promoted as having a higher-quality atmosphere than bus service. A survey of various Memphis news articles shows that the language around trolleys is characteristically not about functionality:¹⁰

⁷ Laing, Keith. "Transit groups push for more bus funding in highway bill." *The Hill*, 20 July 2015. Web. <<http://thehill.com/policy/transportation/248498-transit-groups-push-for-more-bus-funding-in-highway-bill>>

⁸ Federal Transit Administration. *FTA FY 2013 SECTION 5339 BUS AND BUS FACILITIES FORMULA ALLOCATIONS*. 2012. Microsoft Excel File.

⁹ see footnote 7.

¹⁰ Most of these phrases come from the Commercial Appeal, some from a WMC Action News 5 story.

- the most interesting, entertaining way to travel downtown
- like a merry-go-round
- [makes downtown] blithesome
- just a cool little thing about the city
- almost like an amusement park ride
- has cosmopolitan panache
- vintage, antique, heritage
- a quaint transportation option
- adds to the ambiance
- [has] romance... magic
- provides a unique experience
- [has] rustic earthiness
- like a carriage ride
- nostalgic

The language around trolleys is often one of nostalgia and exoticism toward their period of greatest use, the early 20th century. However, this nostalgia is often traditionalist, and romanticizes an era that was characterized as much by Jim Crow policies as it was by industrialization. Of course, there is nothing inherently wrong with nostalgia: however, the nostalgia that specifically surrounds trolleys reinforces an exclusionary transit culture towards minorities and the urban poor, groups that historically would have had limited access to public transportation—if any. And when transit access does not greatly improve over time, the trolley atmosphere can feel even more unwelcoming as it is concentrated to the denser, upper-class, and tourist-driven parts of the city—places that are already far removed from many Memphians due to urban sprawl. The appendix shows pictures taken from MATA's website, in which trolleys are almost always shown with white riders, while pictures of buses generally show black riders.

All of this trolley marketing is tailored to the pursuit of so-called “choice riders,” people with cars who voluntarily leave them behind to use public transit. The majority of Memphis bus riders are low-income minorities: in 2014, the median annual income of a Memphian using public transit was \$16,323;¹¹ and statistics suggest that as many as 85% of bus riders do not have a car.¹² However, studies have shown that focusing on the transit-dependent is a much more effective way to increase ridership:

¹¹ Delavega, Elena. "Public Transportation & Earnings in Memphis." *Department of Social Work, University of Memphis*, 2014.

¹² Dries, Bill. "East of Cleveland: MATA exploring Madison trolley line extension to Overton Square." *Memphis Daily News*, 24 July 2015. Web. <<http://www.memphisdailynews.com/news/2015/jul/24/east-of-cleveland/>>.

Those most likely to use transit—the poor, racial and ethnic minorities, and the elderly—constituted 63 percent of the national transit ridership (Pucher and Renne 2003; Renne 2009). ...A number of studies have focused on inequity in funding for transit modes (usually bus systems) that serve low-income demographic groups. A 1999 review of national data and related research found that although transit-dependent riders were the more reliable of two remaining transit constituencies (suburb-to-downtown commuters being the other), policy often focused—with only marginal success—on funding efforts to recapture lost suburban ridership (Garrett and Taylor 1999).¹³

MATA's greatest market is, and will continue to be, the transit-dependent. These are people who, no matter what, will continue to ride the bus because they often have no other options. Catering to them would not only make sense from a social standpoint, but also economically. Public input sessions and anecdotal observations also show that people in this city are generally in support of MATA. They not only need, but want to be regular customers. Thus, when the system is inadequate, citizens continue to use it, but with more distrust and reservations towards an administration that to many seems uncaring. A 2005 study "found that regular transit users not only had the lowest level of mobility but also were most dissatisfied with existing service," and "recommended improving service to retain existing riders' patronage."¹⁴ Scholarship on the subject has also suggested that biases on the part of transit administrators can play into the lack of focus on the transit-dependent:

Although most research indicates that groups with limited mobility are the mainstay of transit ridership, planners and system managers may resent being identified as social service providers. A recent study employing attitudinal survey data found that transit system managers emphasized urban environmental and design goals in their work, indicating tensions exist between planners' interests, public investment, and the demographic realities of ridership (Taylor and Breiland 2011).¹⁵

The combined efforts of congress, transit agency, and Memphis's more affluent constituency are more than enough to move trolleys to the forefront, leaving the less-glamorous bus system in the dust.

¹³ Alam, Bhuiyan et al. "Investigating the Determining Factors for Transit Travel Demand by Bus Mode in US Metropolitan Statistical Areas." *Mineta Transportation Institute*, 2015.

¹⁴ See footnote 12.

¹⁵ See footnote 12.

Conclusion

If Memphis public transit is going to substantially improve, there needs to be a change in narrative. In the 1990s and 2000s, the narrative was that the trolleys would mark the beginning of a city-wide light rail system. And even though the money for that project was shelved in 2011,¹⁶ the idea hasn't died: a MATA spokesperson at a public input meeting for the Midtown Alternatives Analysis told people that although light rail "is not in any of our long-range plans at the moment," new streetcar routes could still potentially develop into light rail "in 30, 40, 50 years."

What is the purpose of mass transit? At its core, transit is the ability for citizens to access as much of their city as possible in a safe, convenient, and effective manner. A trip on any trolley will reveal that trolleys are not convenient in getting from place to place quickly, and their concentration to downtown and the Medical Center is not an effective way of reaching many Memphians. To go further, their current hiatus suggests that they are not always very safe. *Trolleys are not mass transit: they are a tool for development, and viewing them as something they are not is a dangerous way of approaching the very real problem of staying afloat as a public transit agency.* Much of the attention toward trolleys has come from the false idea that they bring any additional accessibility to Memphis as a whole. If efficient, accessible, comprehensive transit is desired, then there needs to be a financial and social shift to buses, and increasing service to the transit-dependent people who use them most. And when Memphis reaches a point where the biggest part of its system is fully adequate, then the trolleys can gain more traction. But until that point, they're just driving the city off the rails.

¹⁶ Maki, Amos. "City Council committee axes money for light rail route to Memphis airport." *The Commercial Appeal*, 25 May 2010.

Appendix

The following pictures all come from MATA's website as of July 2015.

BIKE 'N RIDE



FIXED ROUTE BUSES



MEMPHIS MUSIC TROLLEY UNPLUGGED



RULES FOR RIDING WITH MATA

