

# Streetcars and light rail services serve different rider markets in American cities.

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*The proliferation of streetcar projects in US cities is one of the most significant transportation developments of recent years, yet little is known about the factors that contribute to streetcar ridership or whether these factors differ from those related to light rail use. Using statistical models, [Luis Enrique Ramos-Santiago](#) and [Jeffrey Brown](#) examine differences in the factors related to ridership on US streetcar and light rail systems. They find that there are important differences in the role that service characteristics, and socioeconomic and land use factors have on streetcars versus light-rail ridership, suggesting that the two modes of transport serve distinct rider markets within the metropolitan transportation network.*



Streetcars – also known as trams – have returned to many cities in the United States, and dozens of cities are contemplating making their own streetcar investments (see Table 1). Yet, few scholars have examined the factors associated with riders’ use of streetcars, or determined whether these factors might be different from those associated with use of light rail, which is the transit mode most closely related to streetcars. In new research we investigate the resurgence of streetcars in many American cities, and find that streetcars and light rail services tend to cater to different travel markets.



**Table 1 – New Streetcar Openings, Construction Starts, and Under Construction**

<b>New Streetcar Projects Opened in 2013</b>	<b>Description</b>
<b>New Orleans UPT/Loyola corridor</b>	1-mile, opened in Jan. 2013, Union Passenger Terminal to Canal
<b>Salt Lake City Sugar House Streetcar</b>	2-mile, opened in December 2013
<b>Opened in 2014</b>	
<b>Tucson Modern Streetcar</b>	3.9-mile, from University of Arizona to Downtown Tucson - Opened July 25, 2014
<b>Atlanta Downtown Streetcar</b>	2.6-miles, from Martin Luther King, Jr. National Historic Site to Centennial Olympic Park, opened December 30, 2014
<b>Opened in 2015</b>	
<b>Dallas Oak Cliff Streetcar</b>	1.5-mile, opened on April 13, 2015 from downtown Dallas to Oak Cliff
<b>Dallas McKinney Avenue Streetcar</b>	1-mile downtown extension opened May, 2015
<b>Charlotte Streetcar (Phase 1)</b>	1.5-mile, opened on July 14, 2015 from downtown transit center to Presbyterian Hospital
<b>New Construction Starts in 2016</b>	
<b>El Paso Streetcar</b>	4.8 mile, from International border to University of Texas - El Paso
<b>Oklahoma City Modern Streetcar</b>	4.6-mile Oklahoma City route linking Midtown and Bricktown
<b>Milwaukee Modern Streetcar</b>	2.5-mile connecting Amtrak Station with Third Ward and downtown
<b>Under Construction</b>	
<b>Opening in 2016</b>	
<b>Washington, DC H Street/Benning Road Streetcar</b>	2-mile, from Union Station to Oklahoma Avenue opened on February 27, 2016
<b>Seattle First Hill Streetcar</b>	2.2-mile, from Capitol Hill to King Street Station, via Broadway opened on January 21, 2016
<b>New Orleans French Quarter Expansion Project</b>	1.3-mile, opening in 2016 along North Rampart from Canal to Elysian Fields Avenue
<b>Cincinnati Downtown Streetcar</b>	2-mile, opening in 2016 from Over-the-Rhine to Riverfront
<b>Kansas City Streetcar</b>	2-mile, opening in May 2016 on Main Street Downtown
<b>St. Louis Loop Trolley</b>	2.1-mile, opening in 2016 from Missouri History Museum to University Gate
<b>Opening in 2017</b>	
<b>Detroit M1 Rail</b>	3.4-mile, opening in 2017 from downtown to New Center

Source: [APTA](#)

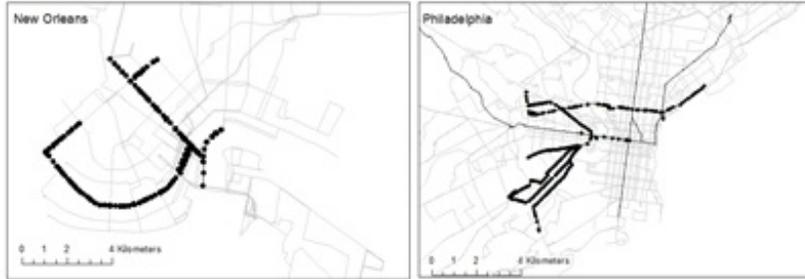
## Streetcar ridership and travel markets

We used statistical models to examine differences in the factors related to average weekday station boardings for a set of seven US streetcar and fourteen light rail systems (Figures 1 and 2). This sampling yielded a total of 475 stop-level observations for streetcar and 432 station-level observations for light-rail.

Based on a review of international transportation literature, we identified eleven variables to include in our models, in three broad categories; transit service level, socioeconomic characteristics of the nearby population and local land-use and built environment.

Figure 1 – Legacy and Modern-Era Streetcar Lines and Bus Routes in Seven Cities in the US

Legacy Streetcar Systems



Modern-era Streetcar Systems

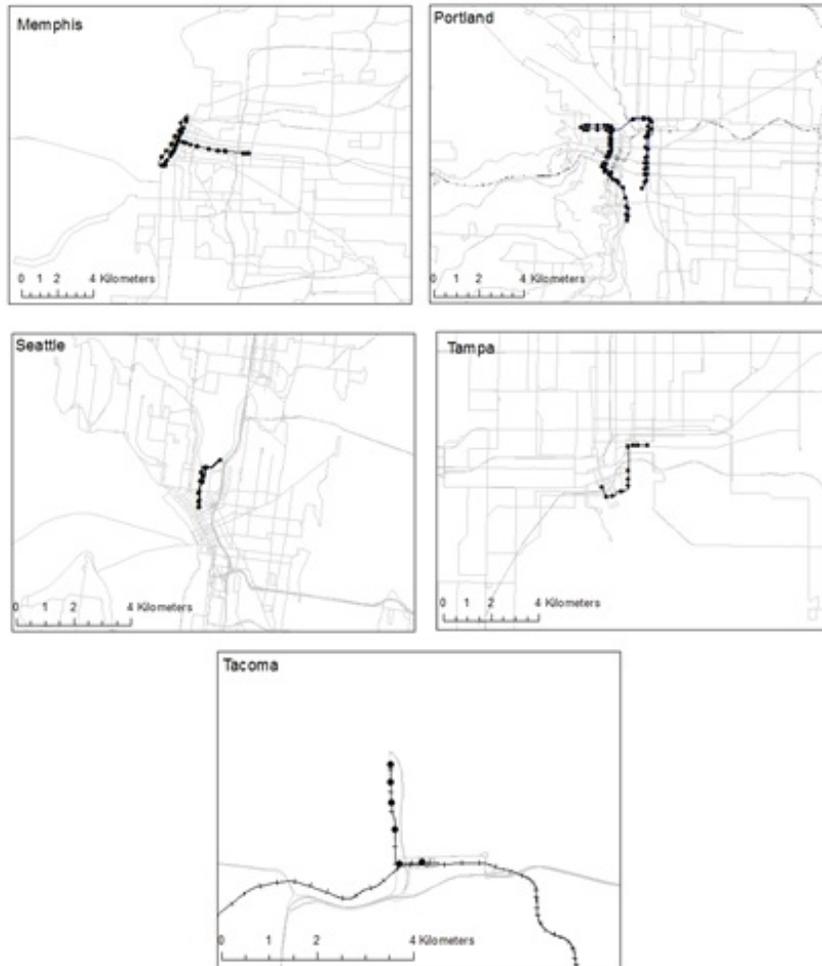
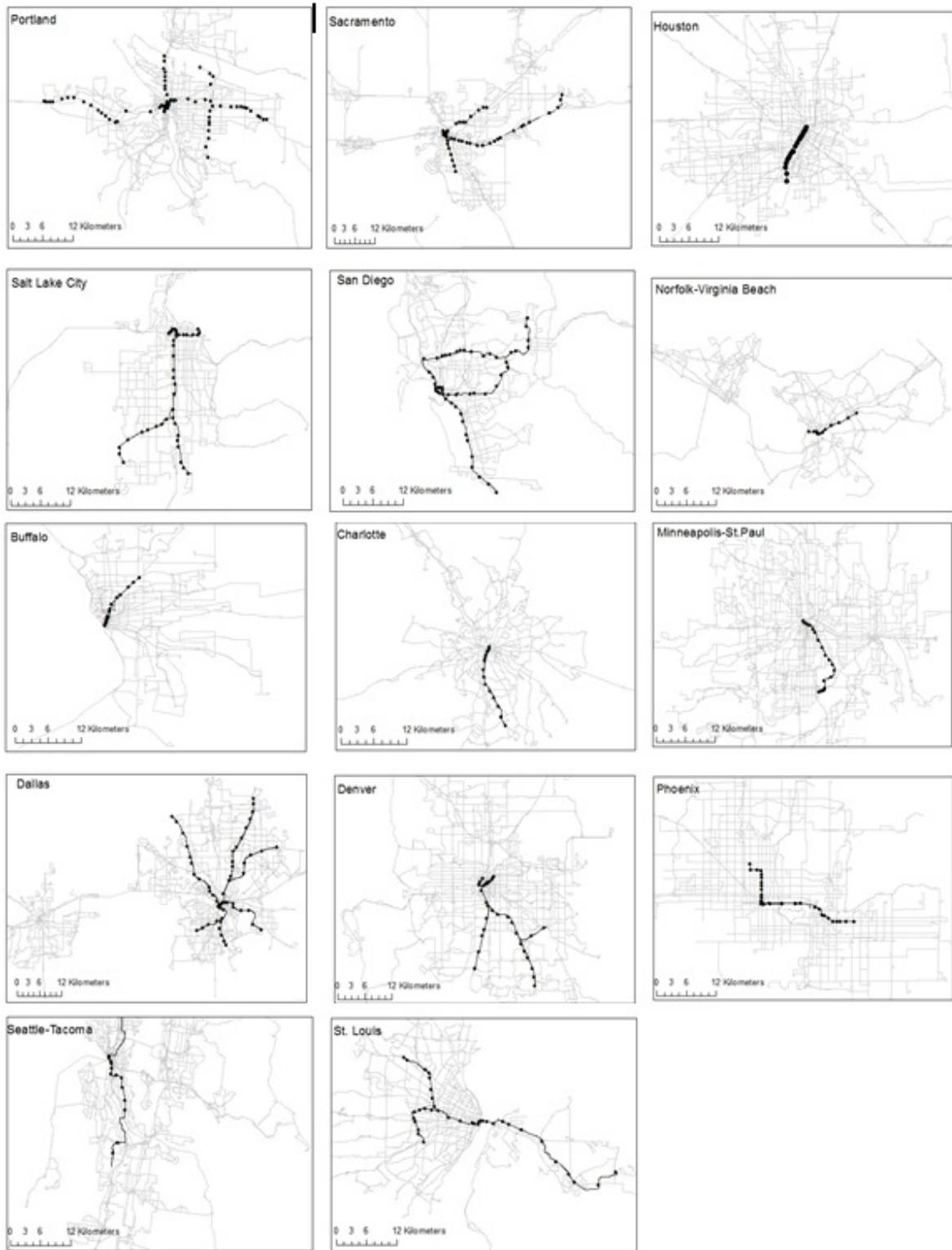


Figure 2 – Light-rail Lines and Bus Routes in Fourteen Cities in the US



## Streetcars and light rail serve different markets

The results of our model show that some factors that are positive and significant for station-level light-rail ridership, such as service frequency, job density, and level of connectivity to the local bus network, are neither positive nor significant for stop-level streetcar ridership. On the other hand the significance of special activity centers, such as tourism districts, hotels, convention centers, university campuses, hospital complexes, and the like for streetcar stop-level ridership is not shared for light-rail ridership.

The set of factors associated with light rail boardings suggest that light rail services are used by a more utilitarian

rider market – those going to work – while those factors associated with modern streetcars in the US suggest greater use by people trying to reach tourism and special activity center-related destinations. These findings suggest that the modes serve different functions and cater distinct travel markets within their respective metropolitan transportation networks.

Given that some supporters [argue](#) that streetcars are a more economical (cost-effective) alternative to light-rail; that modern-era streetcars register weaker transportation performance indicators as [compared](#) to the average bus service in the same areas; and that downtown development and image-making / marketing objectives overshadow transportation goals in most modern-era streetcar cases [recently evaluated](#) in US cities decision-makers considering streetcar and/or light-rail investments should carefully consider their modal options vis-a-vis their communities' transportation needs, goals, objectives, and resources.

As currently planned and operated in the US these two transit modes are not substitutes for the other. Land-use and transportation planners should take into consideration the distinct set of factors that influence station-level ridership for each mode during the projects' conceptual, planning, and operational phases and work within an interdisciplinary framework to advance more effective and efficient transit systems.

*This article is based on the paper, 'A comparative assessment of the factors associated with station-level streetcar versus light rail transit ridership in the United States', in Urban Studies.*

Featured [image](#) credit: [Travis Estell](#) (Flickr, [CC-BY-NC-SA-2.0](#))

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*Note: This article gives the views of the author, and not the position of USAPP – American Politics and Policy, nor of the London School of Economics.*

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