

Built For Riders: Rights-of-Way, Trackage, and Urban Geography in Early 20th Century North American Streetcar Systems

by Sara Stewart

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The streetcar was a piece of iconic Americana, inspiring, among other things, thousands of popular culture references – from the hard-boiled gumshoe cadging a free ride on the back of a passing car, to *A Streetcar Named Desire*, to the Toonerville Trolley, to the subplot of *Who Framed Roger Rabbit?*. Streetcar-centred life changed the way Americans acted, thought, and spoke. The streetcar even changed the urban (North) American landscape.

The existence of streetcar-centred development, such as the planned “streetcar suburbs,” of which famous examples are Van Nuys, Riverside, and San Bernadino California; North Toronto, Ontario, and Mount Rainier, Maryland, testify to the deep roots and centrality of the streetcar to life in North America in the early 20th Century.

The question is not whether the system that created this lifestyle worked; it did. The question is why it worked, especially why it worked as long and as successfully as it did. Part of the answer, and probably one of the most significant parts, is a pair of engineering principles -- rights-of-way and dedicated trackage. Giving streetcars dedicated tracks or the right-of-way in traffic had various purposes – to free the streetcar from traffic gridlock and to ease passage by other vehicles on the street which might otherwise be stuck behind streetcars; to allow streetcars to space themselves out and not get forced by traffic into groups, and, in areas where there was dedicated trackage, to allow the streetcars to move rapidly over long distances between stops.

Dedicated Trackage: Dedicated trackage functions in streetcar systems two ways – either it runs in the street in its own separate lane, or else it runs separately from the roadway, typically over long distances, as in interurban streetcar lines. In particular, Toronto, where streetcars have remained continually in service for over a century, has several routes operating partially on private rights-of-way, usually in the median of a street, separated from the automobile traffic by raised curbs. Most of these private rights-of-way are newly established (and a political battle continues as of this writing over private right-of-way for streetcars on St. Clair Ave.), but one street, the Queensway, has featured private streetcar right-of-way since 1957. This feature keeps the streetcars (and streetcar riders) out of the way of automobiles, and 1

automobiles out of the way of streetcars.

Toronto's streetcar system is likely the oldest surviving functional streetcar system in North America, although it is modest in scope compared to many of the systems, in particular, the interurban systems, in the US (and Canada, to a lesser degree), which connected municipalities through a network of fast, efficient streetcar lines. (Although Toronto's system was, at one time, a combined intra- and interurban system, it hasn't been for many years.) Probably the most famous and emblematic streetcar system ever was Pacific Electric's Red Car lines. It was an interurban system connecting to various intraurban streetcar systems, and its slogan "From the mountains to the sea," was the literal truth. Part of the reason the Red Car in Los Angeles and its surrounding municipalities became the largest and most successful streetcar system in North America, if not the world, was that it ran on its own dedicated trackage, often completely divorced from the roadways. This system eliminated the problems street railways had in the absence of right-of-way in traffic, where the streetcars simply contribute to traffic congestion. Archival footage from some of the last surviving Red Car lines shows a streetcar sweeping down a curving expanse of track surrounded by trees and green space, the rail equivalent of driving down one of Robert Moses' parkways in their early days, before they became clogged with traffic.

Giving streetcars their own rights-of-way has currency outside of modern Toronto and historic LA, however. In 1993, Joseph DePlasco (then director of public affairs for New York City's Department of Transportation) and Janette Sadik-Khan (then director of the New York City Mayor's Transportation Office) wrote an op-ed in *Newsday* outlining a proposed plan for revitalising transit in NYC, harkening back to the golden age of infrastructure projects in the city, the late 19th and early 20th Centuries. Part of their list of proposals includes "reconstruct[ing] bridges to carry trains and to rebuild major corridors, such as 42nd Street, to carry trolleys along a dedicated right-of-way." The current light-rail system in Minneapolis enjoys dedicated trackage and precedence at rail-roadway intersections. Similarly, the Pasadena Gold Line system has entirely dedicated trackage, which runs from LA to Pasadena along "right-of-way formerly occupied by the Pasadena Subdivision of the Burlington Northern Santa Fe Railway," according to Parsons, an engineering subcontractor for the project. The Gold Line evokes the old Red Car lines, although it doesn't repeat them – the new rail doesn't run along the same tracks.

Right-of-Way in Traffic: The other way to avoid streetcars' contributing to and suffering from traffic jams is to give streetcars the right-of-way in traffic, similar to the way some jurisdictions now require cars to yield to buses pulling into traffic away from bus stops. Interviewee testimony from Klein and Olson's documentary on streetcars and traffic, *Taken For A Ride*, suggests that in the early years of the 20th Century, streetcars had roadway precedence over automobiles in many places. Not only did traffic have to stop at intersections of dedicated streetcar tracks, as still happens with rail today, but drivers were required to yield to streetcars and provide them a clear path (headway) down the tracks. Recent developments in the analysis of traffic patterns and the physics of traffic flow (similar in some ways to fluid dynamics)

3 Built For Riders Sara Stewart

suggests that regulating rights-of-way and integrating streetcars actually reduces traffic congestion and increases overall traffic speed. (For a brief overview including a detailed bibliography, see “The Physics of Traffic,” *Physics World*, August 1999.) In much of North America, where streets are built on a grid pattern, reducing interference patterns in at least one direction helps speed traffic considerably, while a functioning streetcar system, either on dedicated trackage, or with precedence in traffic, helps reduce the load of automobile traffic in the first place.

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