

# General Motors and the Demise of Streetcars

In February 1974, Bradford Snell, a young government attorney, helped create the myth that General Motors caused the demise of America's streetcar system and that without GM's interference streetcars would be alive and well today. GM may have conspired with others to sell more of their automotive products to transportation companies, but that is irrelevant to his contention that GM helped replace streetcars with economically inferior buses. That they had done—just as they had earlier sought to replace the horse and buggy with the automobile.

The issue is whether or not the buses that replaced the electric streetcars were economically superior. Without GM's interference would the United States today have a viable streetcar system? This article makes the case that, GM or not, under a less onerous regulatory environment, buses would have replaced streetcars even earlier than they actually did.

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*by Cliff Slater*

**I**n August 1996, public television stations aired *Taken for a Ride*, a documentary that told how once upon a time...

*...smooth, clean, and comfortable streetcars ruled America's cities. How—and, significantly, why—America's viable public transit system vanished...a dystopian nightmare that didn't have to happen...a chilling commentary on GM's infamous slogan. What's good for General Motors is good for America.*<sup>1</sup>

This documentary about the destruction of the streetcar lines was funded by the National Endowment

for the Arts, the Corporation for Public Broadcasting, a consortium of four major public television stations including WGBH/Boston and, of course, "viewers like you."<sup>2</sup>

Leading public television executives around the country reviewed it ahead of the airing and put their national reputations behind it. National newspapers picked up the press release that preceded the showing and retold the story verbatim on their front pages.<sup>3</sup> Three years earlier PBS had aired another documentary covering the same materials.<sup>4</sup> The story even formed the core plot of the 1988 movie *Who*

*Framed Roger Rabbit?* which told of a sinister plot to buy out Los Angeles' two streetcar lines in order to dismantle them.

### The Charges Against GM

The story began in 1974 when Snell, a newly hired antitrust attorney for the U.S. Senate, stated that the government had criminally charged "...General Motors and allied highway interests for their involvement in the destruction of 100 electric rail...systems... throughout the country."<sup>5</sup>

Snell also noted that a "federal jury convicted GM of having criminally conspired with...others to replace electric transportation with gas- or diesel-powered buses."<sup>6</sup>

He further claimed that the former streetcar systems had been "vastly superior in terms of speed and comfort" to the GM buses that replaced them and that:

*The noisy, foul-smelling buses turned earlier patrons of the high-speed rail systems away from public transit, and, in effect, sold millions of private automobiles...General Motors' destruction of electric transit systems across the country left millions of urban residents without an attractive alternative to automotive travel.*<sup>8</sup>

Snell had been a scholar with the Brookings Institution and an attorney with Pillsbury, Madison and Sutro, the prestigious San Francisco law firm. His research had been funded by the Stern Fund,<sup>9</sup> a public policy group currently controlled by Ralph Nader's Public Citizen organization.

Snell's highly detailed testimony was followed by those of Mayor Thomas Bradley of Los Angeles and Mayor Joseph L. Alioto of San Francisco.

Mayor Alioto, himself a nationally prominent antitrust attorney, congratulated Snell on the "excellence" of his "very fine monograph." Alioto testified that, "General Motors and the automobile industry generally exhibit a kind of monopoly evil" and that GM "has carried on a deliberate concerted action with the oil companies and tire companies...for the purpose of destroying a vital form of competition; namely, electric rapid transit."<sup>10</sup>

Mayor Alioto also testified that if the San Francisco Bay Area Key System had "not been uprooted" a transbay BART tunnel would have been unnecessary.<sup>11</sup>

Mayor Bradley testified *in absentia* in the same vein. GM, through its American City Lines and Pacific City Lines affiliates, "scrapped" the Pacific Electric and Los Angeles streetcar systems to "motorize" Los Angeles. After GM was through, the "electric train system was totally destroyed."<sup>12</sup>

All this caught the imagination of the press and the public.<sup>13</sup> That it was utter nonsense would take careful explaining and even then the analytical rebuttal would never make the headlines the way the original charges did.

Believers ignored the debunking of Snell's argument during the Senate hearings. The testimony of UCLA's Professor George Hilton, a former chair of the president's task force on transportation policy, the Smithsonian's acting curator of rail transportation, and one of the nation's most respected transportation authorities was highly critical of Snell. It was particularly significant since Hilton's *The Electric Interurban Railways in America* was the most important scholarly work cited by Snell.<sup>14</sup> Hilton testified at the

time that parts of the Snell report were "so completely oversimplified that it is difficult to take seriously." At the conclusion of his lengthy testimony, Hilton emphasized, "I haven't exhausted the misrepresentations in [Snell's] report."<sup>15</sup>

Believers have also ignored the debunking by U.S. Federal Transit Administration policy analyst, Brian Cudahy,<sup>16</sup> Los Angeles historian Scott Bottles,<sup>17</sup> and even the pro-rail *New Electric Railway Journal*,<sup>18</sup> among many others. They have also ignored the writings of virtually every single academic transportation economist who believes that the replacement of streetcars by buses was a normal economic event.

People still want to believe that GM "had assiduously worked toward the systematic extermination"<sup>19</sup> of streetcars—even some serious researchers.<sup>20</sup> And so the Snell-generated myth keeps being passed along. As one writer commented recently, "Conspiracy theories are seductive—even, it seems, to the highly credentialed."<sup>21</sup>

One can understand an antibusiness Tom Hayden<sup>22</sup> believing the conspiracy idea, but less so are the responses of respected journalists like Jonathan Kwitny and Nicholas Von Hoffman. Kwitny wrote:

*In many places, mass transit didn't just die—it was murdered....Electrified trains and trackless trolleys are not only cheaper to run than automobiles, they are substantially cheaper to run than diesel buses. Riders tend to prefer them to buses...what the transit conspirators did was destroy mass transit systems that today could benefit millions of citizens...*<sup>23</sup>

*Hoffman charged that GM had been convicted of "criminally conspiring to*

wreck electric transportation"<sup>24</sup> and that the "conspiracy" was "much more serious than Watergate...."<sup>25</sup>

Microsoft, through its highly popular Bookshelf CD-ROM, says GM was "...convicted of criminal conspiracy to replace electric transit lines with gasoline or diesel buses."<sup>26</sup> Microsoft makes innumerable references to "criminal conspiracy conviction" whenever the decline of streetcars or interurban rail lines is addressed.

### The Myth

This is the myth that is now lodged deep in American public transportation folklore: GM conspired to destroy the streetcar systems that once ran quietly and efficiently in American cities.

GM had actually been convicted of conspiring with others in the automotive industry "to monopolize the sale of supplies used by the local transportation companies controlled by the City Lines defendants."<sup>27</sup> That is a far cry from conspiring to wreck economically viable transit systems.

But the story now seems as unstoppable as H. L. Mencken's *Bathtub Hoax*, a tongue-in-cheek editorial piece written as "a burlesque history of the bathtub" about the first real bathtub being invented in 1842 in Cincinnati, Ohio. It was total fiction but it took on a life of its own that, try as he might, Mencken was never able to kill.<sup>28</sup> The streetcar conspiracy is just such a myth.

It is important that we understand the Snell incident. Mencken's *Bathtub Hoax* was amusing but did no harm. The Snell incident, on the other hand, was damaging to a full understanding of the development of urban transportation. It also provided "evidence" for the antiauto movement that was

just getting underway and further inflamed the public hysteria about the "energy crisis." It encouraged more federal, state, and local subsidies for public transportation—an impact it continues to have to this day.

### The Advent of Streetcars

Public transportation did not impact most Americans until the arrival of the electric streetcar in 1888. Streetcars developed rapidly after its introduction. By World War I there were few towns of more than 10,000 population without a streetcar system.

Prior to 1920, streetcar use increased steadily, stimulated by three major influences:

- rising incomes,
- lower real fares, and
- rapid urban population growth.<sup>29</sup>

These positive influences overcame the negative effect that increased auto use had on streetcar ridership.

### The Jitney "Craze"

The auto's first major impact on cities was the great jitney craze during 1914-16. During this time jitneys made serious inroads into streetcar ridership until legal maneuvering by the streetcar companies put most of the jitneys out of business.

The first U.S. jitneys ran in Los Angeles in the middle of 1914<sup>30</sup> and before the end of the year there were 800 jitneys<sup>31</sup> in Los Angeles alone. Jitney use spread rapidly across the entire United States from Portland, Maine, in the East to San Francisco in the West. From a standing start in mid-1914, licensed jitneys reached an estimated peak of 62,000 nationally in 1915.<sup>32</sup>

Initially, jitneys were regular automobiles offering to carry passengers along fixed routes and usually paralleling existing streetcar routes. The fare was usually a nickel and the slang for a nickel was a jitney; hence, jitney bus. The appeal of the jitneys was that they were much faster and more frequent than the streetcars.<sup>33</sup> Even the American Electric Railway Association admitted that there existed a market for "service of a somewhat higher character than it is possible for the street railways to furnish."<sup>34</sup>

The impact on the streetcar companies was harsh. Some companies lost as much as 50% of their ridership.<sup>35</sup> The Los Angeles Railway Company may have lost as much as 25% of its revenues during the jitney period.<sup>36</sup> Streetcar companies all over the United States began laying off employees in response to the inroads that the jitneys were making into their revenues. Many believed that the day of the streetcar was over.<sup>37</sup>

Streetcar companies demanded that the authorities legislate the jitneys off the street since the jitneys did not have to run the full length of routes, were not bonded, and often would work only during rush hour. Local and state governments took actions designed to reduce these advantages and began to legislate all or some of the following:<sup>38</sup>

- Require liability bonds (the cost often amounted to 25%-50% of the jitneys' net earnings).
- Require minimum route lengths. Require jitneys to operate a minimum number of hours each day.
- Require jitneys to carry all city employees free of charge.

- Confine jitney operations on certain days to odd-numbered license plates and even numbered on others.
- Require jitneys to adhere strictly to their assigned routes or to charge double or triple fares if they deviated from them.
- Require jitney operators to specify routes and times of operation in advance.
- Exclude jitneys from high-ridership areas.
- Prohibit jitneys from using streetcar stops or stopping close to intersections.
- Prohibit jitneys from waiting at the curb for riders.
- Require a 10 mph speed limit for jitneys.
- Require jitneys to come to a full stop at all intersections.

The high fixed costs of liability bonds and the minimum working hours requirement drove all the part-timers off the street. As a consequence of these actions jitney use in the United States declined to 39,000 in January 1916.

These local regulations—particularly the bonding requirement—killed the jitney in most places. By the end of 1916, only 6,000 jitneys remained.<sup>39</sup> *Motor Bus* (formerly *Jitney Bus*) published its last issue in July 1916 and San Francisco's *Jitney Weekly* folded in October.

Thus, the era of the "jitney craze" ended. The authorities lost the opportunity to harness the many advantages of the jitney bus to supplement conventional service as happened in New Jersey. The streetcar companies had convinced them that the negative effects of cities having to pay their own paving costs, together with the general unpopu-

larity of the zone fare, were not worth the political cost.

What everyone had missed in all the furor was that the jitney was merely the precursor of the motor bus. The trade magazine *Jitney Bus* had used the terms "jitney," "jitney bus," or plain "bus" interchangeably. When *Jitney Bus* published its first issue in April 1915, there were more buses shown in it than automobiles. The editorial comment the following month was:

*In due course motor bus transportation will emerge out of its present, somewhat chaotic state into a condition of stable organization. There will doubtless be in every city and town one or more regular lines of buses traversing their appointed routes with at least as high a degree of regularity and frequency as the trolley cars do now.*

The magazine's June 1915 headline read:

*Large Motor Buses: With Capacities of Ten to Forty Passengers Coming Rapidly Into Use*

The progression from being an automobile-jitney drivers' publication to a bus publication was quick. By September the publishers renamed it *Motor Bus*. Their first editorial said:

*Most of the buses at this time are ordinary touring cars. The touring car, however, is being superseded by the regular motor bus....While the streetcar companies are showing a hostility, not unnatural, to the competitor who is materially reducing their profits, we venture to predict that inside of a few years the present-day streetcar interests will have*

*huge investments in the more economic means of transportation. It should be remembered that (the streetcar) interests' business is the carrying of passengers. If a more economic method of transporting passengers is discovered, they would be foolish to persist in their obsolete system. Never again, however, can the traction interests have a monopoly of public transportation. They must learn to compete, as other businesses compete.*

Unfortunately, that was not to be. Apart from intercity lines and some remnants in small pockets, the streetcar interests succeeded in was not minimizing the motor bus in most places. They could hardly do otherwise.

If the streetcar companies had had neither a monopoly nor any of the costly obligations that the municipalities had forced on them, then competitive pressures would have likely dictated a different response.

First, they would have sought a zone fare that was the common fare structure except in North America. It would have resulted in, say, a three cent fare in the inner cities with up to a ten-cent fare for trips to the suburbs. The jitneys could not have competed with a three-cent fare except for premium service, such as those people willing to pay more for faster service. In addition, left to their own pricing the streetcars would have charged a premium, say five cents, for rush-hour travel that was, and is, always the more costly. It would have resulted in the jitneys offering rush-hour service to supplement the streetcars. Such pricing would have benefited the streetcars financially because the cost of additional streetcars just to handle rush-hour traffic was not profitable. Then the streetcar

companies would have begun to use buses themselves to supplement streetcar service in those areas where it was economic.

However, the streetcar companies could not respond in this way because both the public and the establishment were adamant that the flat fare be retained. At the same time the companies could not encourage the motor bus because of the over-inflated investment in streetcar infrastructure. They could not afford to write this off. There was no choice but to try to drive the buses to the wall. Over time that approach would not be successful.

### **Development of the Modern Motor Bus**

The streetcar made no significant technical advances during the 1920s, whereas the motor bus changed beyond recognition. The motor bus was not taken seriously until about 1920, but from then on growth was explosive. Manufacturers made significant improvements to chassis and engines during this time. The improvements in speed, handling, and comfort made buses less costly and more comfortable. America's cities were rapidly paving their city streets and this helped the bus.<sup>40</sup>

Buses attracted new ridership because they were much faster and more comfortable than streetcars, particularly after the introduction of the heavy-duty pneumatic "balloon" tires during the early 1920s.<sup>41</sup>

Buses were also safer since they could pull in to the curb to discharge passengers, whereas streetcars had to let passengers off in the center of the street.

The public looked upon buses more favorably than the streetcars.

They considered the bus as "middle class between streetcar and auto or taxi" and a way to make "commuting a pleasure instead of a horror."<sup>42</sup> Bus lines also offered towns the ability to have more widespread service than the typical single streetcar line since they did not have the expense of stringing overhead electric lines or laying rail. A motor bus was self-contained and went where needed which allowed easy route changes.

Being faster, the motor bus also allowed commuters in larger towns to go farther in a reasonable commuting time. This opened up new suburban areas to development.<sup>43</sup>

GM introduced monocoque body construction for buses in 1931, the first automatic transmission in 1936, the diesel-engine bus in 1936,<sup>44</sup> the first acceptable 50+ passenger bus in 1948, and the first buses with air suspension in

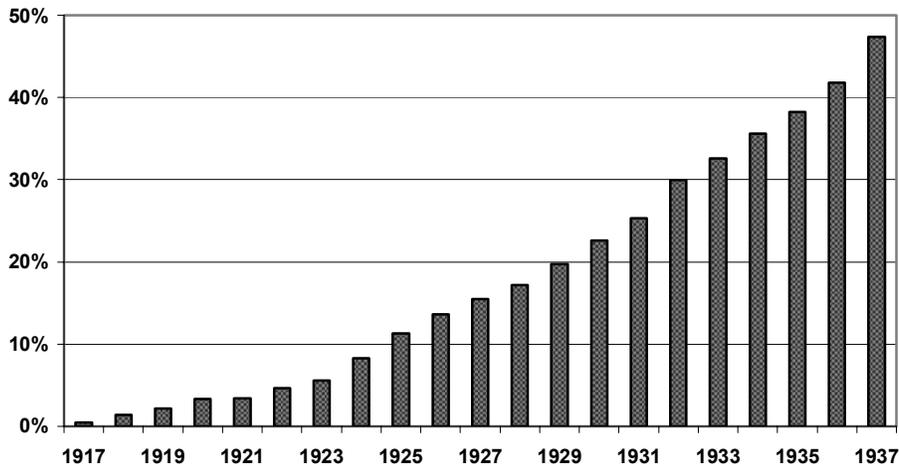
1953.<sup>45</sup> The fact that GM replaced more streetcars than other makes was simply because GM manufactured a better bus.

### Declining Streetcar Use

Streetcar ridership peaked at 13.8 billion riders in 1920 then declined to 11.8 billion during pre-Depression 1929.<sup>46</sup>

Two primary factors caused the U.S. decline in streetcar use in the 1920s. First, buses improved enormously and caused ridership on motor buses to grow from a negligible amount prior to 1920 to 2.6 billion, or 19% of the total of bus and streetcar, by 1929 (Exhibit 1). Streetcars were vulnerable to takeover by buses wherever there was low use of its electric and rail lines. The cost per passenger of these fixed assets

Exhibit 1  
Cities with Public Transportation Buses only



Source: *Bus Transportation*, February 1926, p. 72 and January 1938, p. 54.

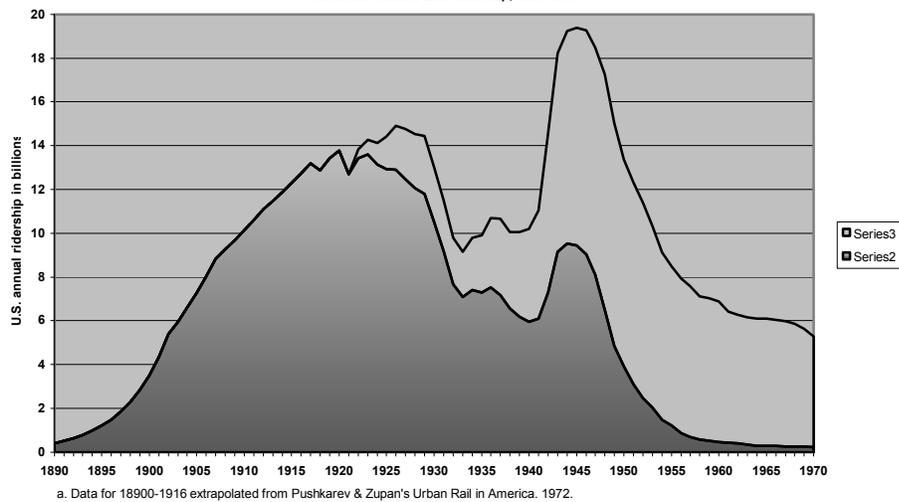
obviously varied according to use. The lower the utilization of these assets, the higher were the depreciation and interest costs per passenger. A small city street railway with infrequent service and half-empty loads had depreciation and interest costs far higher per passenger than a heavily used big city line carrying full loads with frequent service.<sup>47</sup> Accordingly, when a streetcar company faced the capital costs of renewing street paving<sup>48</sup> and replacing rail or electric lines, economic considerations quite often favored the motor bus.

Small cities had begun replacing their streetcar lines with buses as early as 1917 (see Exhibit 2). The percentage of all-bus cities—albeit small ones—grew to 10% by 1924 and 20% by 1929. Most cities had at least some bus service by 1929—either as feeders to their street rail lines or as a partial replacement for

particular routes. During the late 1920s, it seemed that every week a bus line replaced another small city street railway.<sup>49</sup>

In 1914, streetcars provided 100% of U.S. cities' public transportation. By 1937 only 39 cities, or 4%, of U.S. cities with public transportation were served only by streetcars: 50% of cities were served only by buses.<sup>50</sup> The second cause of streetcar decline was that automobile ownership grew from 8.1 million in 1920 to 23.1 million in 1929—a tripling in just nine years. Henry Ford originally priced his Model T at \$850 in 1908,<sup>51</sup> but had reduced it to \$269 by 1923.<sup>52</sup> Each of the new car owners who now commuted to work and went to the theater or shopped in their cars, rather than by streetcar or bus, reduced aggregate public transportation ridership.

Exhibit 2  
Streetcar v. Motor Bus Ridership, 1890-1970



However, combined bus and streetcar ridership continued to rise until 1926, whereas the streetcar had peaked in 1920. Thus, it was the bus rather than the family automobile that caused the initial decline in streetcar ridership.

From this time on, the process continued: The bus gained market share against the streetcar and the auto made inroads into both.

The 1920s were also the peak years of streetcar ridership in Britain and the time when bus ridership there first exceeded streetcar ridership.<sup>53</sup> While GM was not involved in U.K. bus operations, operators there had nevertheless abandoned 18 street railways by 1930, another 28 during 1931-35 and 11 more in 1936-39. Buses replaced streetcars in the United Kingdom within a few years of the United States.<sup>54</sup>

### **New Jersey Shows the Way**

The remarkable bus ridership achieved in the early 1920s in New Jersey holds valuable lessons for anyone studying the effects of regulating public transportation. They demonstrate that bus development in the United States lagged behind that of Europe principally because most state and municipal regulations inhibited bus development.

New Jersey allowed motor bus operators the freedom to compete with the streetcar and, in consequence, by 1922 New Jersey had 27% of the nation's buses versus only 3% of its population.<sup>55</sup> The New Jersey example shows what might have happened in other states had similar regulatory conditions prevailed there.

The first public transportation in New Jersey was a horsecar rail line begun in 1862 with a charter from the state legislature. The first successful electric street railway ran in 1890 after the New-

ark City Council approved it and, in the process, taxed the line 5% of its gross annual receipts.<sup>56</sup> The electric lines quickly replaced the horsecar lines because they cost less per passenger to operate and traveled at least twice the speed.

Over time the various northern New Jersey electric street railways consolidated into the Public Service Railway Company, a division of the Public Service Company of New Jersey, which also operated gas and electric subsidiaries.

Ridership on the New Jersey streetcars grew steadily and uneventfully until the arrival of the first jitney buses. By mid-1915 there were 300 jitneys in Camden alone.<sup>57</sup>

The various New Jersey streetcar companies complained about the "unfair competition" and in April 1915 introduced a bill into the state legislature to put jitneys under the control of the New Jersey Public Utilities Commission.<sup>58</sup> This bill failed to pass and tension between the jitney operators and the Public Service Railway Company grew.

As of August 1915, there were almost no restrictions on jitneys in the area covered by Public Service Railway. Then in April 1916 the New Jersey legislature finally passed the Kates Act, after first tabling it in the face of a demonstration by the jitney operators described as, "the greatest aggregation of motor vehicles ever lined up in Trenton."<sup>59</sup>

The act authorized municipalities to regulate jitney buses in major cities, provide for a franchise tax of 5% and require insurance of \$5,000 per bus. The Newark City Council already had jitney bus regulations in place including specifications for the buses and bonding and, with the passage of the

Kates Act, the city began to act on these regulations.<sup>60</sup>

One effect of the regulations was that the use of touring cars as jitney buses declined since it was usually necessary to have a motor bus rather than just a car to be licensed by most New Jersey municipalities.<sup>61</sup> In some communities, notably Hoboken and Atlantic City, riders overwhelmingly preferred touring cars because they were faster and gave more frequent service. In any case, these new regulations did not appear sufficiently onerous to hinder the growth of the jitney buses.

Newark's bus riders more than quadrupled from 8 to 37 million between 1917 and 1919. Rapidly increasing streetcar fares helped stimulate ridership on the less expensive and more flexible jitney buses in the post-World War I era.<sup>62</sup>

Thomas N. McCarter, president of Public Service Company, was an attorney nationally known for his public utility expertise. He was strongly opposed to the jitney buses and in 1920 he said:

*...this bastard competition of jitneys...is run by the man with his office under his hat, who is here for a minute, there for a minute, and who passes his dirty bus on to somebody else. It is a fly-by-night business.*<sup>63</sup>

The New Jersey Public Utilities Commission was not sympathetic. An official wrote:

*No industry of whatever character can justly complain of fair and proper competition ....Who is the patron of the jitney? A little study will convince anyone that he is the one*

*who desires, and through the jitney usually secures, three things. First, frequency of service; second, rapid transportation from origin to destination of journey: and, third, low rate of fare for such transportation. If he can secure these three requisites, it is safe to say he would rather not be jammed in a small vehicle, standing in a stooping position because of lack of head room, jostled over pavements, subjected to tobacco smoke and generally poor ventilation and to many other inconveniences, to say nothing of the danger from careless operation, than ride, also jammed if you please, in a trolley car where he can at least stand upright, which he can at least get out of without compelling half the occupants to get out before him if he happens to be in the rear, where, he can have a smooth and comparatively comfortable ride, which is possible on any even fairly well-maintained trolley property and under crowded rush-hour conditions....How shall this individual be recovered as a patron of the trolley service? And the answer naturally is: Give him what he wants [emphasis added]. It is the function of the trolley company, therefore, to furnish more frequent and rapid service on lines where jitney competition exists...A proper system of zone fares combined with frequent and proper service will doubtless do more to combat jitney competition than anything else.*<sup>64</sup>

But McCarter did not listen and the following year remarked:

*We are in business to transport the people. It is a monopoly—a natural monopoly—which is the*

*justification for the state regulating our price at all.*<sup>65</sup>

McCarter's Public Service Railway had been losing money since 1918 and that continued into 1920 even though it carried a record 362 million streetcar riders that year. However, the jitney buses carried about 20% of total riders in 1920 and McCarter needed them as a way to return his company to profitability.<sup>66</sup>

In June 1920 McCarter filed bills of complaint against 36 jitney operators saying they were, "a hindrance to the railway's obligations." He said he took the action because the New Jersey legislature failed to legislate jitney bus regulation by the Public Utilities Commissions.<sup>67</sup> The courts rejected the suit.<sup>68</sup>

The following year the legislature passed the Elliot Act which classified the jitney as a public utility when it operated on the same streets, in whole or in part, where street railway tracks existed. However, it grandfathered those jitney buses that had local consent prior to March 15, 1921.<sup>69</sup>

The effect of these changes was to upgrade the jitney bus fleet. Newark standardized bus specifications and operators had to submit plans of their buses to the city authorities before gaining permission to operate. In addition, buses had to have destination signs, interior lights, mirrors, doors, and guard rails.<sup>70</sup>

Promptly a majority of the jitney bus route associations adopted "pooled receipts" programs.<sup>71</sup> Members of the route association pooled all fares collected during the day and then disbursed the funds to members according to hours worked. This gave them the benefit of

being able to offer riders free transfers to other jitney buses.

Despite the new regulations, the jitney buses continued to gain riders. In 1920 those jitneys competing with Public Service Railway carried 78 million riders. The following year that increased to 103 million and in 1922, 141 million.<sup>72</sup>

From 1918 to 1921 Public Service Railway lost money and, while their union threatened to strike, the company could not afford the 30% wage increase the union was demanding.<sup>73</sup> In attempting to gain revenues, the company continually sought fare increases. In October 1921, it asked for an increase from 7¢ to 10¢ but was given only 8¢.<sup>74</sup>

In response to all the complaining from Public Service, a *Newark News* editorial suggested that all restrictions be taken off streetcars so they could battle to a finish with the jitneys for the right to survive.<sup>75</sup> Many New Jersey municipalities agreed with this view.<sup>76</sup>

However, McCarter continued characterizing the situation as: "this jitney evil...the unlimited, indiscriminate, unregulated competition of irresponsible jitneys...."<sup>77</sup>

McCarter refused to understand the role the bus was going to play in the future. He said in 1923:

*If we are engaged in an industry that has become archaic, we must pay the price. This is the history of our own industry. The old stage gave way to the horsecar; the horsecar to the cable car; and the cable car to the electric car. Of this we cannot complain But no one whose judgment is seasoned or entitled to respect upon this subject believes that the jitney bus can ever replace the electric railway industry.*<sup>78</sup> [emphasis added]

His frustration was understandable because in his battle against jitneys he was almost alone in the United States. He would complain that excepting New Jersey there were only six other large cities that allowed any competition at all—San Francisco, Louisville, Akron, Atlanta, Houston, and Norfolk—McCarter had to contend with 1,100 of these buses operating in direct competition with him.<sup>79</sup>

On August 1, 1923, with Public Service still unable to raise wages, the streetcar workers struck. Almost overnight the existing Newark buses, and some temporarily imported ones, handled more than twice the riders they had previously. While service was not totally satisfactory, the buses did manage to handle the bulk of the traffic.<sup>80</sup>

The strike ended on September 21, 1923,<sup>81</sup> when the court ordered Public Service workers back to work. In the process the PUC changed Public Service's fare structure from a flat fare of 8¢ to a fare of 5¢ within city limits and an additional 5¢ charge for travel beyond the city limits. It was, effectively, a modified zone fare. The jitneys quickly responded with lowered fares, free transfers, and ticket books to remain as competitive as possible with the new streetcar fares.<sup>82</sup>

By 1923 Public Service streetcars were carrying 400 million riders and the jitney buses 200 million. Thus, the buses were carrying a third of the area's total riders. The buses were catching up and McCarter came to his senses.

In 1921 the New Jersey legislature had given the PUC control of those new motor vehicle operators wishing to compete with the streetcars—but only the new ones since existing licensed operators were grandfathered in.<sup>83</sup> Therefore, McCarter bought out most of the

existing operators and converted what had been a competitive situation into a virtual monopoly.<sup>84</sup>

At the end of 1924 *Bus Transportation* would report that Public Service Railway had 600 buses and was in the process of taking over more. During the same year, Public Service began abandoning its smaller streetcar lines in Lodi and Plainfield and substituting buses.<sup>85</sup> By 1925, Public Service was operating 800 buses out of a total of 1,623 New Jersey city buses.<sup>86</sup>

The die was cast. Public Service would slowly take over the rest of the independents and gradually convert their own rail lines to buses.

### New Jersey Lessons

This ten-year episode contains remarkable lessons. The first was that the high bus ridership in New Jersey occurred simply because the authorities allowed bus operators to compete with the streetcars.

The 141 million bus riders carried in 1923 in the Public Service Railway service area was 30% of all the urban bus riders in the United States.<sup>87</sup> Such high bus ridership was more comparable to London at that time than the rest of United States.

The second was that nonmonopoly operators can provide any uneconomic service, such as senior citizen passes or late-night service, through route association membership. This is important to understand since one of the major arguments against allowing private participation in urban transportation is that private operators will only run economic routes and ignore other service.

### New York

Snell had testified during the 1974 Senate hearings that:

*In 1936 (GM) combined with the Omnibus Corp. in engineering the tremendous conversion of New York City's electric streetcar system to GM buses....The massive conversion within a period of only 18 months of the New York system, then the world's largest streetcar network, has been recognized subsequently as the turning point in the electric railway industry.<sup>88</sup>*

However, of New York City's 43 transit routes:<sup>89</sup>

- Seven of the routes, the old Third Avenue system, remained as streetcar routes until 1948.
- Four of the routes had been run by Second Avenue Railroad Corp. which had failed in 1933. Buses were then run on the same routes by Eastside Omnibus Corporation.
- Two routes of the Drydock, East Broadway and Battery Railroad had been Manhattan's first big streetcar failure in 1932. Bus service was subsequently operated by Avenue B and East Broadway Transit Company.

None of the operators of these 13 routes had any GM connections. Of the rest:

Ten Fifth Avenue-based routes had always been buses, and before that horse-drawn omnibuses, because influential inhabitants would not allow streetcar operators on Fifth Avenue.

- Six routes operated by Green Bus Lines had always been bus or jitney operations.

- Two routes of the original New York & Harlem Railway and the two of the 8th and 9th Avenue systems were abandoned before Omnibus Corp. began bus service.

Thus, Omnibus Corp., the GM affiliate, had little influence on the changes that occurred on these 20 routes.

The ten remaining routes, the New York Railway System, were indeed taken over by Omnibus Corp. in 1936 and converted to bus routes—to the great relief of the inhabitants. Ridership on these lines increased by 62% the first year.<sup>90</sup> Many New Yorkers had been pressing for years for buses. Grover A. Whalen, New York's commissioner of Plants and Structures said as early as 1920:

*Let me say emphatically that the trolley can be relegated to the limbo of discarded things, along with the stage coach, the horsecar' and the cable car; that the motor bus is the vehicle best adapted to the requirements of the surface transportation in cities, that the motor bus is superior in speed adaptability, safety and comfort....<sup>91</sup>*

In 1930 a representative of a leading New York civic organization stated:

*The substitution of motor buses for streetcars in midtown and downtown Manhattan has been for years the aim of practically every civic organization within the borough...<sup>92</sup>*

New Yorkers loved the buses. Ridership increased by 50% on the old Second Avenue Railway routes.<sup>93</sup> Riders nearly doubled on the Madison Avenue line with riders finding speed

the greatest advantage of the new buses. Noise at the curb was reduced from 90 to 65 decibels and the quieter streets allowed the renting of rooms formerly considered undesirable.<sup>94</sup> Riders agreed the buses were much faster and more comfortable.<sup>95</sup> And this all took place just before GM became involved.

## Los Angeles

For their main attack on GM, Snell and Bradley used the example of Los Angeles' former streetcar systems and testified:

*...two rail systems (the Los Angeles lines) which flourished in the 1930s, were destroyed by General Motors and allied highway interests....General Motors...tore down the power transmission lines, ripped up the tracks, and placed GM buses...on every L A. street.<sup>96</sup>*

Snell ignored the fact that Pacific Electric (PE) and Los Angeles Railway (LARY) were both pioneer bus operators. PE first built and operated buses in 1916.<sup>97</sup> Its purchase of 81 White buses in 1923, some of them to replace existing rail lines,<sup>98</sup> was considered at the time "the largest single transaction in the history of the motor bus."<sup>99</sup>

Then together the two companies formed the Los Angeles Motor Coach Company in 1923,<sup>100</sup> as the Los Angeles Board of Public Utilities recommended that the companies install 24 bus lines using 50 buses. The commission's report commented:

*The use of motor buses as auxiliaries to our existing streetcar service is a foregone conclusion. The vast cost of maintenance of the rail lines, including the upkeep of the tracks, paving rights-of-way, erection*

*of substations for the generation of power and the high cost of same, to which is added a very large sum in the form of depreciation, are all factors that will occasion the installation of bus line service...It is estimated that 4 cents of each 5-cent fare that is taken in on the streetcars is expended in the manner stated above.<sup>101</sup>*

By 1930 the two companies were carrying 29 million bus passengers annually.<sup>102</sup>

National City Lines, through its subsidiary American Transit Lines, did not buy the Los Angeles Railway segment of the streetcar systems<sup>103</sup> until 1944.<sup>104</sup> By that time, however, throughout the United States buses were carrying almost as many riders as the streetcars.<sup>105</sup> National substituted buses for streetcars on many of the Los Angeles routes—but not all. It still operated some streetcar lines when it sold its operations to a government entity—the Los Angeles Metropolitan Transit Authority (LAMTA). It was LAMTA itself that removed the remaining tracks.

Neither National, nor any other affiliated companies of GM's, ever owned Pacific Electric, a subsidiary of Southern Pacific Railroad. Southern Pacific owned PE until it was sold to Metropolitan Coach Lines in 1953. Metropolitan gradually continued to replace streetcars with buses until it, in turn, sold out to LAMTA in 1957. Four years later it was LAMTA that finally "ripped up" the remaining tracks and substituted buses.<sup>106</sup> And it was LAMTA, the public transit authority, that closed out the remaining streetcar lines; the Long Beach line

was the last to go in 1961.<sup>107</sup>

Adler said it best, "Everything Bradford Snell wrote...about transit in Los Angeles was wrong."<sup>108</sup> Since much of Mayor Bradley's testimony about Los Angeles streetcars was taken verbatim from Snell, that statement held true for the city's mayor also.

### Cost: Streetcars v. Buses

Why did streetcar operators replace streetcars with buses? It was simply a matter of cost. While streetcar operation was much cheaper than bus operation before 1915,<sup>109</sup> the reverse would be true by 1950.<sup>110</sup> At some point between these two times, buses became gradually cheaper to operate dependent on certain conditions—some technical and some political.

The biggest factor was the capital cost of the infrastructure required for the streetcars but not needed for buses. Among these were overhead electrical power lines and the rail lines themselves, particularly the repaving costs.

Streetcar companies were responsible for paving the streets on which they ran. When a city administration called on a company to repave certain streets, it was time for the company to consider whether or not to continue running streetcars or replace them with buses on those particular streets. Similarly, when overhead electrical wiring or street rails needed replacing, it was again time to reconsider.

Even when bus operating costs became cheaper than streetcars, companies were deterred from switching to buses because of having to write-off their streetcar assets.<sup>111</sup>

Disputes continued among bus and streetcar operators from the early 1920s to the late 1940s about when—and un-

der what conditions—buses were more economical than streetcars.

According to one report, "During the 1920s intercity bus fares averaged 2.25 cents per mile, with a low of 1.8 cents, while the interurbans charged between 2.4 and 3.0 cents per mile."<sup>112</sup> In 1931, the British found that "...the cost of running a large capacity (motor bus) is no higher than that for running a (streetcar)."<sup>113</sup> In 1938 the Union Street Railway of New Bedford, Massachusetts, said that their operating cost per seat-mile for buses was nearly 20% less than for streetcars.<sup>114</sup> In 1936, *Fortune* magazine reported, "The average large bus can be operated for about four-fifths the cost of running a trolley."<sup>115</sup> In the United Kingdom, "By the thirties costs per passenger on buses were comparable to those on (streetcars), instead of more than twice as high as they had often been around 1920."<sup>116</sup>

Buses continued to reduce their costs relative to streetcars and electric trolleys and so generally replaced them. By 1949, San Francisco would report their average hourly *operating* costs as \$4.50 for buses versus \$7.11 for streetcars—37% less.<sup>117</sup> When Philadelphia changed from streetcars to buses in 1961, they reported their operating costs for rail lines as a prohibitively high 93.5¢ per mile v. the cost of the bus at 47.7¢ per mile—nearly twice as much.

Clearly, after World War II, buses cost far less to operate than streetcars.<sup>118</sup> When companies added capital costs there was no longer any comparison. Buses did not have the capital costs of an overhead wiring and electrical delivery system. Buses had become cheaper to operate because they were increasingly faster and more maneuverable. A vehicle operator's labor was

the biggest cost item in public transportation expense. Vehicle speed was therefore critical because, if one vehicle was 50% faster on average than another it meant that, all other things being equal, the cost per passenger of the operator's time was one-third less.

Regardless, the "proof in the pudding" was that more and more cities came to rely on all-bus transit. The main factor was usually the infrastructure replacement problem and in particular repaving.

Honolulu was one of America's largest cities and its switch from streetcars to buses typified the general trend in the United States. In 1914 it tried, and subsequently abandoned, buses as a supplement because the costs were too high. It tried again in 1923, this time successfully, and steadily added to its bus fleet. In 1933 it purchased a quantity of Twin Coach buses (instead of GM buses) and used them to replace some streetcar lines. The leading daily newspaper editorialized:

*Honolulu is doing what all progressive mainland communities are nowadays doing: getting rid of streetcars and replacing them with good-size buses...we certainly will finally progress to the point of abolishing streetcar tracks. And that will certainly be a vast improvement.*<sup>119</sup>

Three weeks later, the Japanese language Hawaii Hochi agreed, stating:

*...[buses] are vastly better than the rattle-trap, clanging streetcars. Instead of an ordeal to be dreaded, a ride in these buses is an enjoyable, restful experience.*

By 1941 Honolulu had finished replacing its streetcars and become an all-bus city.

In the United States, generally buses were carrying more riders than streetcars by 1944, and that trend continued through the 1950s and 1960s until virtually the only cities with streetcars were those with portions of the route using tunnels where ventilation was a problem.<sup>120</sup>

Contemporaneous issues of *Bus Transportation*, *Electric Railway Journal*, *Transit Journal* and *American City* show no indication that buses were foisted on unwilling cities. Buses were preferred by their riders who thought them faster and more comfortable. Municipalities and motorists preferred them because they loaded at the curb rather than in the middle of the street and thus helped reduce both traffic congestion and accidents.

### Conspiracy?

Clearly, GM certainly did not cause the destruction of the streetcar systems. Streetcars were being replaced all over the world by buses on about the same timeline as happened in the United States. GM simply took advantage of an economic trend that was already well along in the process—one that was going to continue with or without GM's help. Whether or not GM was guilty of illegally, or legally, conspiring with others to corner the market on buses, bus equipment, or fuel is another issue.

The issue is not whether GM conspired with others "to monopolize the sale of supplies used by the local transportation companies." They were convicted of that. Nor is the issue whether GM sought to replace streetcars with buses. They obviously did—just as they had earlier sought to replace the horse and buggy (and the buggywhip) with the automobile.

The real issue is not even a legal

one nor is it really about GM at all. The real core issue in the whole Snell "conspiracy" debate is simply whether or not the buses that replaced the electric streetcars were economically superior to them. In other words, if GM had not existed would we today still have a viable streetcar system or would the general replacement of streetcars by buses have taken place anyway?

One must conclude that the street car became gradually outmoded over a period of 30 years. It first became apparent by 1920 that a superior technology was in the offing. By 1950 it was obvious that the streetcar was obsolete.

In 1920, except in special circumstances, the bus had generally higher operating costs than the streetcar.

However, on lightly traveled routes, the aggregate of operating and capital costs was higher for the streetcar than the bus. On heavily used routes the streetcar still cost less than the bus.

By 1950, even on the most heavily used routes, the bus cost less than the streetcar in every regard.

If this is correct, then the following sequence of what actually happened was economically logical:

- First, buses replaced streetcars in very small cities and on route extensions.
- Then buses replaced streetcars in small cities, or the suburbs of large cities, when infrastructure replacement, such as new paving, overhead wiring, or rails, became necessary.
- Then buses replaced streetcars completely—virtually everywhere except where they operated in tunnels.

If, on the other hand, streetcars were less expensive to operate than buses:

- Why in such disparate cities as San Francisco (municipally-owned) and Honolulu—having no connection with GM—would their streetcars be replaced with non-GM buses?
- Why did virtually all other countries, most having no connection with GM, replace their streetcars with buses?

In fact, not only was streetcar replacement by buses justified economically, local government regulations in the United States had typically hindered and delayed that replacement. If local regulation had not intervened, buses would have replaced streetcars earlier than they actually did, as seen from the New Jersey example.

The streetcar companies had two fears. First, that buses could threaten their franchises, since public utilities regulators might well not regard motor bus operations as a natural monopoly as they did streetcar operations.

Second, to replace streetcar lines with motor buses would mean a major asset write-off for most companies. The tracks and overhead electrical lines and, in some cases, power-generating equipment would have almost no disposal value. Thus, they would face the acquisition costs of the buses while, at the same time, writing off the street railway assets. It posed special problems for those companies with inflated capital structures. Municipalities set streetcar fares based on a fair return on a company's assets. Thus, there was a tendency for streetcar companies to inflate assets to improve their chances of being granted higher fares by regulatory bodies. To protect these assets

they had sought and usually obtained regulatory relief from state and local authorities against any competition. In addition, streetcar owners wistfully believed the streetcar ridership decline—which began in 1923—was a temporary phenomenon. For this reason, they actually kept their streetcar operations going

even longer than if they had understood that they were in permanent decline.<sup>121</sup>

The question no longer remains whether there was a conspiracy to replace an economically superior system with an inferior one. Rather, since they foresaw the future for buses as early as 1925,<sup>122</sup> what took General Motors so long to develop the business?

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## Endnotes

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