

Los Angeles Public Transit in the 1930s: The All-Bus Proposal

David J. St. Clair

Professor Emeritus, Department of Economics
California State University, East Bay
25800 Carlos Bee Blvd.
Hayward, CA 94542
USA

Abstract

In 1945, National City Lines and its allies (General Motors, et. al.) purchased the Los Angeles Railway. The Los Angeles Railway was the mixed streetcar/bus system that was the core of the city's public transit system in the 1930s. After the acquisition, National City Lines immediately undertook the wholesale elimination of electric streetcars in favor of buses supplied by General Motors. The reasons, motives, and the consequences of National City Line's motorization are at the core of allegations that motorization was a conspiracy to disable public transit as a competitor to the automobile. This article focuses on a 1935 proposal to the City of Los Angeles to replace all streetcars with motor buses. The City of Los Angeles studied the all-bus proposal and rejected it. The reasons for the rejection in 1935 provide a unique and essential backdrop to the National City Lines motorization campaign a decade later.

Keywords: Los Angeles transit history; Los Angeles Railroad; Pacific Electric System; National City Lines and General Motors bus conspiracy; conspiracy to motorize and destroy urban transit; history of electric streetcars versus motor buses in transit systems; history of interurban versus urban public transportation systems

1.0 Introduction

On January 10, 1945, the Los Angeles Railway (LARY) was purchased by American City Lines for \$13 million. The LARY was the largest provider of public transit services in the City of Los Angeles, and American City Lines was an entity created by National City Lines (NCL) for the sole purpose of acquiring large urban streetcar systems in big cities such as Los Angeles. American City Lines was jointly owned by: NCL (74%); General Motors (7%); Standard Oil of California (6%); Philips Petroleum (6%); General American AeroCoach (3.5%); and Firestone Tire & Rubber (3.5%). In the acquisition, NCL acquired 1,034 electric streetcars and 531 motor buses.

With the purchase, NCL undertook its largest motorization of an electric streetcar system to date. As it had done on numerous smaller transit systems before, NCL immediately began to abandon the electric streetcars in favor of motor buses, primarily General Motors buses. The name was changed to the Los Angeles Transit Lines and the streetcars were abandoned and/or replaced by motor buses. NCL continued its motorization and ran the Los Angeles Transit lines for 12 years until a dispute with the California Railroad Commission (the public utility regulator in California) over the final phase of motorization lead NCL to sell out to the newly-created Los Angeles Metropolitan Transit Authority (LMTA), a government-owned transit authority overseeing a much smaller transit system largely devoid of electric transit.

NCL's motorizing policies were carried out in other big cities (St. Louis, Baltimore, Philadelphia, and Oakland-San Francisco) as well as in smaller cities across the country. The motives and reasons for these NCL acquisitions and motorizations have been at the center of a long-standing debate. Was the acquisition of the Los Angeles Railway simply the latest and largest NCL "conspiracy" to destroy viable public transit systems by eliminating electric streetcars? Was the goal of NCL's motorization to cripple transit as a competitor to the automobile?

The NCL conspiracy question has been around since at least the early 1970s, and it will not be resolved here.¹ Indeed, the author feels strongly that the very notion of "conspiracy" and its applicability to this issue needs closer scrutiny and clarification before any resolution is possible.

In any case, what is presented here is not simply another salvo in the conspiracy debate. This article offers a different, more fundamental, and hopefully more meaningful approach. It seeks a different way to approach the NCL debate by: 1) clarifying the nature of the transit system that NCL acquired in the LARY purchase; and 2) identifying what the City of Los Angeles and state regulators at the California Railroad Commission had concluded about the proposal to replace

all streetcars with buses in 1935. It is fortunate and rare to have a case where transit motorization had been seriously studied and rejected before NCL acquired it. The Los Angeles proposal is just such a case.

2.0 The 1935 Proposal to Motorize the LARY

In 1935, the Los Angeles City Council considered Proposal No. 449 calling for the City of Los Angeles to acquire and run all public transit systems in the city and to convert the entire system to motor bus service. The proposal came from a group called the Municipal Bus League.² Not much is known about the identity or composition of the Municipal Bus League, but the proposal was given full consideration.

The City Council ordered a comprehensive study of the feasibility and desirability of motorizing the transit system. (LA City Council, 1935) The Council specifically stipulated that the report focus on evaluating the all-bus proposal as a means to efficiently and economically handle the present and future mass-transportation needs of the city while providing greater service and comfort; and that it reduce the street-space taken up by streetcars in the Central Business District (CBD).

To this end, the Los Angeles City Council's 1935 report evaluated the all-bus proposal under two different ridership scenarios: 1) assuming 1930 ridership (i.e., pre-depression); and, 2) assuming 1934 ridership (i.e., depression-impacted ridership). It also assumed that the new busses would be 30-passenger buses. These were the buses proposed by the Municipal Bus League. All other service parameters were held constant.

The ensuing report to the City Council, along with two studies of Los Angeles transit systems undertaken by the California Railroad Commission (Calif. Railroad Com, 1935; and Calif. Railroad Com, 1940), provide a detailed look at transit operations in the city in the 1930s and the likely impact of motorization. The findings of these reports will be discussed herein, following a brief description of the structure of public transit in Los Angeles in the 1930s.

3.0 The Basic Structure of Public Transit in Los Angeles in the 1930s

The City Council report and the two California Railroad Commission studies provide a clear picture of the structure of public transit in the city in the 1930s. Transit services in Los Angeles in the 1930s were primarily provided by:

- The Los Angeles Railway (LARY)
- The local lines of the Pacific Electric (PE)
- The Los Angeles Motor Coach Company (LAMC)

The LAMC was a jointly-owned subsidiary of the Los Angeles Railway and the Pacific Electric. In turn, the Los Angeles Railway and the Pacific Electric were both owned by the Southern Pacific Railway. There were a few smaller transit operations and taxi companies that augment the list above, but they were rarely included in discussions of Los Angeles transit, and this practice will be continued here.

3.1 The LARY – Not the PE - Was the Core of Public Transit in the 1930s

The largest provider of public transit in Los Angeles was the LARY. The LARY rendered service via 33 main rail routes and 5 main motor coach routes entering the downtown central business district.³ (Calif. Railroad Com, 1935) These main routes were supplemented by 10 additional rail lines and 29 additional motor bus routes that were not part of the LAMC. In 1934, the LARY operated 775 electric streetcars and 136 buses. Combined, this was 75.2% of the transit vehicles operated in the city. The LARY (streetcars and buses) accounted for 63.4% of the route miles and carried 79.9% of Los Angeles revenue passengers. LARY streetcars alone carried 74% of all passengers using transit in Los Angeles. The LARY also generated 75.8% of all transit revenues in Los Angeles.

In contrast, the local lines of the Pacific Electric were a much smaller part of Los Angeles transit. All but 9 miles of the PE's 84 route miles were local electric rail lines which collectively operating 13.7% of the vehicles employed in Los Angeles transit. The PE carried 12.2% of passengers and generated 13.2% of passenger revenues. It should be noted that the Pacific Electric's interurban lines are not included here. Less than 15% of PE operations were local; the remaining 85% of PE operations were interurban passenger operations and freight operations.

The LAMC was a bit smaller than the PE, operating 11.1% of transit vehicles and providing 21.9% of Los Angeles route miles. The LAMC was created to handle newer lines in more outlying areas, or to provide service on routes where streetcars were prohibited by law. The LAMC enjoyed a distinct advantage the LARY and the PE because its fares were usually higher (often double) the fares on LARY and PE streetcars. The LAMC carried 7.9% of the passengers but generated 11% of passenger revenues.

In terms of streetcars versus buses, rail operations (i.e., LARY and PE rail lines) carried 86.2% of Los Angeles revenue passengers and earned 81.9% of the passenger revenue. Motor bus operations (i.e., LARY bus lines and the LAMC) accounted for 13.8% of revenue passengers in 1934.

3.2 The Commute: Destination - CBD

The description of the structure of transit in the Los Angeles presented above was supplemented in the reports by detailed analyses of the basic pattern of transit ridership. These analyses confirmed a very strong commute pattern in Los Angeles transit. The LA City Council report and the 1940 CRC report show the typical twice-daily surge in transit ridership that is characteristic of the commute. (LA City Council, 1935; and Calif. Railroad Com, 1940, sections C and D) All but the lightest travelled bus lines had morning and afternoon ridership peaks that were three to four times higher than mid-day ridership.

In addition, the reports identified the primary commute destination of transit riders – most were headed into or through the congested downtown Central Business District (CBD). The CRC reported that 54.9% of transit riders were destined for the “Congested District,” i.e., the Central Business District. (Calif. Railroad Com, 1935, Chp. II) Another 16.7% of riders were traveling through the congested district. The percent of riders heading to or through the congested district was greatest on rail lines, and lowest on LAMC buses. In total, for all systems, 71.6% of riders were entering the congested district. As transit commuters headed downtown, they joined the occupants of 276,753 automobiles making the same commute. (LA City Council, 1935, p. 13)

3.3 Why the Commute Was an Important Feature of Transit in the 1930s

Commuting has always been transit’s forte – it is what transit does best and where the automobile fares far worse. Discussions of the popularity of the automobile should always consider this point. It is pointless to deny that the automobile was popular with the general public, in Los Angeles or anywhere else across the country. But that does not mean that the public wanted to use their autos for all purposes. The automobile provides undeniable transportation benefits and freedom, but a slow commute crawl on a congested road is usually not one of them.

At this point, it is essential to make a distinction between two types of transportation systems – *urban* versus *interurban* systems. The former includes urban streetcar and motor bus operations serving a city and its suburbs, while the latter entails rail and (to a lesser extent) bus operations connecting urban areas. The era of the interurbans in the United States is generally placed at around 1900 to 1925.⁴

Most description of interurban railroads emphasize their physical features, but there is seldom any appreciation of the economic distinction between urban versus interurban systems.⁵ The primary economic difference between urban transit systems and interurban transit systems was the commute – urban systems had a commute; interurban systems did not. About 15% of the Pacific Electric lines did have a commute and they were properly included as part of Los Angeles transit. However, the remaining part of the PE was interurban passenger and freight operations that were properly excluded from Los Angeles transit.

But classification is not the important point here; the important point is competitiveness with the automobile. A simple example can show why. Suppose we consider two potential riders on PE rail lines; the first lives in San Bernardino (a city about 60 miles to the east of Los Angeles served by the PE). This patron makes a trip to Los Angeles every other week. The second customer lives in Los Angeles or its suburbs and takes a PE railcar to commute every workday to the CBD. Which potential patron is more likely to stick with public transportation? Which one would find a trip by private auto to be much better than a trip by rail? Which is likely to be a frequent customer? The answers to these questions are obvious, and they speak to the inherent vulnerability of all interurban systems vis-à-vis the auto. This was reflected in earnings; the rate of return on the *local* PE operations in Los Angeles in 1934 was +2.3%. However, the interurban portion of the PE lost money at the rate of -0.4%. (Calif. Railroad Com, 1935, Sec. II)

3.4 The Commute and CBD Congestion

The last important aspect of the commute pertains to congestion. The CRC summarized the role of the auto in CBD congestions as follows: “Of all the large cities in the country Los Angeles has by far the highest ratio of automobiles to population. It also has by far the largest number of automobiles entering the downtown business district, compared with any other city.” (Calif. Railroad Com, 1935, p. 10)

Table 1 shows that the CBD in Los Angeles in the 1930s was larger than most other large cities in the U.S. (New York excepted) and had by far the largest number of automobiles entering the commute to the CBD every workday. Los Angeles had also acquired a reputation for congestion that was brought on by the large number of autos entering the

district and mixing with the crowd of streetcars and buses bringing commuters to the CBD. Photographs of downtown Los Angeles reveal streets packed with automobiles trying to navigate through line after line of streetcars and buses. Indeed, one of the main reasons for the City Council's interest in the 1935 all-bus proposal was the promise of reducing this congestion.

Congestion in the CBD was also exacerbated by the small amount of street space devoted to roads in Los Angeles. Table 2 shows the small amount of space devoted to roads in Los Angeles compared to other large cities. Compared to other large U.S. cities, Los Angeles had the most autos entering the CBD (even after adjustment for the size of the CBD) while it simultaneously had the smallest space devoted to roads.

Los Angeles public transit certainly added to the CBD congestion, but a simple exclusion of transit vehicles from the CBD could never solve the congestion; it would only make it worse by bringing more autos into the area. The all-bus proposal promised less congestion, but unless buses could carry the same commute transit ridership with less space taken up, the motorization proposal could not possibly alleviate the congestion in the CBD.

3.5 Transit and Automobile Ownership

Hilton has argued that Los Angeles was an "auto-dominated" city from as early as 1914. There is ample support for this view. Bottles notes that there were 8.2 residents per car in Los Angeles in 1915. (Bottles, 1987, p. 93) This compared with 43.1 in the United States, and 61.0 in Chicago. By 1920, the respective figures were 3.6 in Los Angeles; 13.1 in the U.S.; and 30.0 in Chicago. By 1925, the Los Angeles figure fell to 1.8, while the U.S. and Chicago figures stood at 6.6 and 11.0, respectively. There was little change in Los Angeles figures after 1925.

3.6 Congestion and Population Densities – A Complicated Issue

The City report noted that "The City of Los Angeles is the largest in area of any in the United States, yet it is only the fifth in population. Its extremely irregular boundaries embrace an area of 450 square miles." (City Council Report, 1935, p. 9)

In 1930, Los Angeles had a population density of 2,747.3 people per square mile. (LA City Council, 1935, p. 11) This was the lowest population of the 13 largest cities in the United States. However, the Los Angeles figure is skewed by the large tracks of land added to the city in and around the San Fernando Valley. Population density in the San Fernando Valley was 263 people per square mile. However, 90% of Los Angeles residents resided in the central portion of the city where population density exceeded 8,500 people per square mile, very comparable to the population densities of most large American cities, New York and Chicago excepted. (LA City Council, 1935, p. 11)

4.0 The LARY usually had Positive Operating Income – Streetcars Were the Reason

The discussion thus far has focused on the structural characteristics of Los Angeles transit, but what about its financial health? A few points from the City and CRC reports are noteworthy.

First, the LARY had positive operating income in every year from 1918 through 1939, except for a small negative net income in 1934. (Calif. Railroad Com, 1940, Chapter 2 and Sec. B) In 1930, operating income was \$1.64 million dollars. (Calif. Railroad Com, 1935, Chp. II) This resulted in a net income of \$542,564 that year. Net income was derived by deducting interest expenditures on bond indebtedness from operating income. The interest payments were largely payable to the Southern Pacific Railroad, the parent company. However, interest payments were always deducted from rail operations, and usually not deducted from bus operations or the LAMC. For this reason, operating income is the preferred metric for comparing streetcars versus buses.

Second, the LARY's positive operating income was derived entirely from its streetcar operations. From 1924 through 1934, the LARY rail division had positive operating income every year. The total operating income over the eleven-year period was \$15.7 million. In stark contrast, the Motor Coach Division never had positive operating income in any year during this period. Total losses at the motor bus division of the LARY amounted to about \$1.8 million.

The same pattern was typical of the Pacific Electric; rail lines earned positive operating income, while bus lines never did. From 1924 through 1934, the PE rail lines had positive operating income in all years except 1932. (Calif. Railroad Com, 1935, Chp. II) On the other hand, the PE bus lines had negative operating income every year. Over the eleven-year period from 1924 through 1934, the PE rail lines posted operating income of \$1.7 million, while the PE's bus routes posted *losses* amounting to \$109,758.

Analyzing operating income for the LAMC is more problematic. The LARY's share of the LAMC bus lines generated losses each year from 1924 through 1928. (Calif. Railroad Com, 1935, Chp. II) Thereafter, their operating income was

positive through 1934. During the eleven-year period from 1924 through 1934, the LAMC generated operating income for the LARY totaling about \$449,753. The PE's share of the LAMC generated losses every year from 1924 through 1929, but was positive each year thereafter through 1934. In total, operating income for the PE's share of the LAMC during the period from 1924 through 1934 amounted to \$483,492.

Third, breaking down all Los Angeles transit operation income by mode (electric rail versus motor bus), rail operations generated operating earnings of about \$17.4 million from 1924 through 1934. (Calif. Railroad Com, 1935, Chp. II) During the same period, motor bus lines generated a loss of \$962,860. The disparity in earnings between rail and bus lines would be even greater if one were to take into consideration the preferential accounting treatment accorded all bus operations, and the higher fares charged on LAMC bus lines. (Calif. Railroad Com, 1935, Chp. II) The figures presented here were not corrected for these distortions.

5.0 Los Angeles Transit and the Great Depression

The Great Depression took its toll on Los Angeles transit. From 1930 to 1933, passenger revenues on the LARY and its share of the LAMC (i.e., excluding the PE and the PE share of the LAMC) fell 31.7%, mirroring the collapse of the local economy. (Calif. Railroad Com, 1935, Chp. II) From 1930 to 1934, the decline was 21.8% as the economy started to improve. Transit officials and the CRC argued that ridership would recover as the economy came out of the depression, and they were correct. By 1938, passenger revenue had increased to a level that was 13.5% higher than in 1930. However, as the economy entered a *recession in the middle of a depression* in 1938, passenger revenues again declined and were only 0.3% higher than in 1930. (Calif. Railroad Com, 1940, Chp. 2) All transit metrics followed similar paths, as did (to a lesser extent) automobile use and ownership in the city.

6.0 Mistaken Notions about Los Angeles Transit

Before looking at the findings of the Los Angeles City Council on the all-bus proposal, it is necessary to address a rather strange issue: According to numerous historians and writers, the 1935 Los Angeles transit system described herein had not, and could not have, survived in Los Angeles into the 1930s; many have even argued that it never existed in the first place. Such denials or dismissals deserve attention.

In view of the report findings on Los Angeles transit in the 1930s, consider the following quotes from eminent historians and writers:

1. John Rae wrote that "most central city streetcar lines were gone by World War II." (Rae, 1971, p. 209) Whether this was true elsewhere, it was certainly not the case in Los Angeles in the 1930s.
2. Historian Peter Norton has argued that "By the time National City Lines was buying up these streetcar companies, they were already in bankruptcy." (Quoted in Stromberg, 2015) Again, whether this was true of other cities, it was certainly not the case in Los Angeles in the 1930s.
3. George Hilton, along and with co-author John Due, have made the most pronouncements about Los Angeles transit:
 - a. "The largest intercity electric railway system in the United States was the Pacific Electric ... with about 1,000 miles of track..." (Hilton and Due, 1964, p. 406) and "Unlike the usual interurban, the Pacific Electric could have comprised the nucleus of a highly efficient rapid transit system." (Hilton and Due, 1964, p.409)
 - b. "Los Angeles had a vast network of suburban, interurban, and street railway trackage in the form of the Southern Pacific Lines' Pacific Electric system." (Hilton, 1967, p.380)
 - c. "None of the city's industries had any strong pull toward the central business district." (Hilton, 1967, p.381)
 - d. "Los Angeles, because of its lack of natural barriers and water barriers, and due to the nature of its industries and climate, quickly became an auto-dominated city in which transit did not, nor could have been expected to, survive." In this regard, he states that "the home-to-work trips, in particular, in Los Angeles were so diffused that the two rail systems [the Pacific Electric and the Los Angeles Railway], essentially, could do nothing but decline. As they declined, buses were less costly methods of moving people." (Hilton, 1967, p. 380)
 - e. "Streetcars were simply too inflexible and unable to compete with the public's preference for the auto. Motor buses could not reverse this, but they were the appropriate vehicle for dealing with the decline." (Hilton, 1967, p. 379)

- f. “Los Angeles had the most extensive network of suburban electric lines of any city, but the trip downtown which it was capable of serving became such a small part of the total transportation needs of the area that it passed out of existence entirely.”(Hilton, 1967, p. 382)
- g. Hilton and Due have been the largest source of confusion about three broad aspects of Los Angeles transit:
 - i) Los Angeles had no real CBD and/or no commute.
 - ii) Los Angeles transit was basically synonymous with the Pacific Electric, and therefore suffered the same fate of all interurbans.
 - iii) Los Angeles had no natural barriers that impeded traffic flow.

All of these assertions are simply incorrect and convey the erroneous impression that Los Angeles was basically incompatible with public transportation in general, and electric streetcars in particular.

Regarding the lack of a CBD and a commute, the 1935 reports clearly establish the existence and importance of both. The source of the error in Hilton and Due claims is not readily discernable, but their assertions are simply wrong and confusing.

Likewise, Hilton and Due were also incorrect in equating the Pacific Electric with Los Angeles transit. This was never the case. The LARY was always the mainstay of Los Angeles transit. The Pacific Electric only figured into Los Angeles to the extent that about 15% of its lines were urban and therefore part of the Los Angeles urban transit. The quotes above from Hilton and Due illustrate the degree to which they equated the PE with the Los Angeles transit system, and they are probably most responsible for the ensuing confusion about Los Angeles transit. The mystic of the “Red Cars,” perpetuated in movies and in academic discussions alike, is both wrong and confusing. Worse, by ignoring the LARY, they ignore the commute and the niche that it accorded public transit.

Regarding the natural barriers, the City Council report identified numerous natural barriers to the free flow of traffic. (LA City Council, 1935, pp. 10-11) A look at two will suffice. First, Los Angeles is the only major city in the United States bisected by a mountain range – the Santa Monica Mountains. These mountains run for 50 miles from the Pacific Coast to the eastern border of Griffith Park. The range is up to ten miles wide and features 21 peaks above 1,266 feet in elevation (the tallest is 3,111 feet high). Only two major passes - the Cahuenga Pass and the Sepulveda Pass - traverse the mountains at elevations of 745 ft. and 1,130 ft. respectively.

Second, the Los Angeles River runs through the San Fernando Valley portions of the city before entering the Los Angeles Basin (containing the CBD). It then bisects the city (north to south) before emptying into the Pacific Ocean. The only natural access from the San Fernando Valley to the CBD on the west side of the river runs through a very narrow strip of land between the Santa Monica Mountains on the west, and the Los Angeles River on the east. The first modern bridge crossing the Los Angeles River – the Glendale-Hyperion Bridge–was opened in 1929 after the old wooden bridge was washed away by the Los Angeles River in 1927. Automobiles and transit vehicles both used the bridge to cross the river into the CBD.

While many might scoff at the Los Angeles River’s concrete walls and the trickle of water passing through during the dry season, the river is a formidable and dangerous barrier. A trip to the river after a good rain will dispel any notions to the contrary.

How significant any of these barriers were to transit is unclear. But it is simply not accurate to say that Los Angeles was a good example of “barrierless” development that crippled transit.

In summary, simplistic arguments and assertions about why transit failed in Los Angeles, or why it had to fail, simply do not square with the fact that it did survive in the form described above. In addition, these assertions are ultimately a non sequitur: If electric transit had failed before the 1930s, then why did NCL buy the LARY and have to motorize it?

Dispensing with these simplistic notions should elevate the discussion of Los Angeles transit to a higher level.

7.0 The LA City Council Report Findings

Based on the Los Angeles City Council’s study of the all-bus proposal and the California Railroad Commission’s reports, the Los Angeles City Council noted the following findings:⁶

1. Based on 1934 passenger volumes, the motorization proposal would require the purchase of 2,179 buses; on 1930 passenger volumes, 2,883 new buses would be required.

2. The cost of the new equipment and facilities for an all-bus system would be about \$17.5 million based on 1934 ridership, and \$24 million based on 1930 ridership.
3. Buses carrying the same number of passengers into the CBD as streetcars would *increase* the street space devoted to transit vehicles by +41%. As such, the report concluded that the all-bus system was completely contradictory to the City Council's goal of alleviating CBD congestion.
4. With motor bus operations actually increasing CBD congestion, the report concluded that with "increasing population...[it] would ultimately [be] necessary to provide some sort of off-surface rapid transit facilities."
5. Buses were far less comfortable than the streetcars in current operation. This was especially true of the smaller, lighter buses. The report questioned whether the small buses advocated by the Municipal Bus League would in fact be acceptable to patrons.
6. Smaller buses did have lower operating costs, but they also generated lower revenues due to their small size, and they had higher capital costs due to the number of additional buses required to carry higher passenger volumes. In terms of operating revenues, the report estimated annual revenues from an all-bus system at about **\$10.3 million** based on 1934 ridership. However, annual costs for the all-bus system were estimated to be about **\$13 million** (i.e., creating a *net operating loss*).
7. The report identified the most economical transit vehicles by ridership volume: Motor bus on light-travelled lines; trolley coaches (electric busses) on medium-travelled lines; and streetcars (especially new PCC streetcars) on heavy-travelled lines. Regarding trolley coaches, the report provided an extensive comparison with motor busses and concluded that the trolley coach was vastly superior to the motor bus on all but the lightest-travelled lines.⁷
8. The proposed all-bus system was infeasible and would result in an annual deficit of approximately \$3.5 million.
9. Finally, the report concluded that limiting transit to only one type of vehicle was not only "undesirable," but actually "dangerous," depriving the City of the opportunity to utilize better suited equipment.

Because of these findings, the Los Angeles City Council rejected the all-bus proposal as infeasible, uneconomical, and counterproductive to alleviating CBD congestion. The California Railroad Commission did not specifically address the all-bus proposal, but their analyses of Los Angeles transit in 1935, and again in 1940, did not find any evidence that an all-bus system would have improved transit or alleviated CBD congestion.

Despite the rejection by the City of Los Angeles, the proponents of the all-bus proposal persisted and put the proposal on the ballot in December 1939. It was defeated at the polls.

The Los Angeles City Council report not only laid the basis for the City's rejection of the all-bus proposal, it reaffirmed the City's commitment to provide better transit services through a policy of maintaining and upgrading all transit vehicle types in their best-use niches. Sixty modern PCC streetcars were purchased by the LARY in 1936, and a further 100 were ordered in 1937. (Sweat, 1951, pp. 60-61) With the order of 100 PCC cars in 1937, the LARY became the largest purchaser of PCC cars in the United States. Another 30 PCC cars were ordered in 1942 to handle the demand for transit during the war. (Sweat, 1951, p. 63) Motor buses did replace streetcars on some lines where motor buses offered an advantage. In addition, streetcars had to be replaced by motor buses where city or state regulators mandated, or where urban freeway project required that track be relocated at the company's expense. But the recognition that streetcars were the core backbone of the system was strengthened by the purchase of the PCC streetcars.

During World War II, the LARY called on streetcars to meet the surge in war-time transit ridership and the problems engendered by war rationing, and shortages. Bus operations were drastically curtailed by tire and fuel shortages. In addition, buses proved to be less able to handle the overloads that streetcars routinely handled. During the war, old reconstructed streetcars were the primary adjuncts to the regular streetcar system to handle war-time demand.

8.0 Conclusions

This paper has sought to show that: 1) Transit had survived in Los Angeles through the 1930s; 2) electric streetcars were the backbone of the transit system and the primary source of transit operating income; 3) the extensive use of the automobile in Los Angeles had not led to transit's demise; 4) Los Angeles was not incompatible with transit; 5) Los Angeles transit had a vigorous downtown commute that the automobile joined, but had not eliminated; and 6) proposals for replacing streetcars with motor buses were not practical, economical, feasible, or desirable. Such policies would have only increased downtown congestion, while simultaneously reducing the operating income of transit systems.

The full history of public transit in Los Angeles before and during World War II has yet to be written. But when it is written, it will not be an autopsy or a death-bed vigil.

In the meantime, the discussion about the reasons for NCL's behavior will go on, but future discussions must consider not only what NCL did, but also take into account what had been in place before NCL's acquisitions and motorizations.

9.0 Tables

Table 1: Comparison with Other Cities of Passenger Autos Entering Central Business Districts

<u>City</u>	<u>CBD Area Sq. Miles</u>	<u>Autos Entering CBD</u>	<u>Autos Entering / Sq. Mile CBD</u>
Chicago	0.85	113,331	133,330
Detroit	0.67	82,439	123,124
Los Angeles	1.39	276,753	199,1033
Philadelphia	2.04	79,315	38,879
St. Louis	0.49	48,985	99,786
Washington	1.5	130,893	87,262

- Source: The first two columns are from (Calif. Railroad Com, 1935, p. 13). The third column figures are the author's calculations from the same source.

Table 2: Comparison with Other Cities of the percent of land devoted to Roads in the Central Business District

<u>City</u>	<u>% of CBD Area Devoted to Roads</u>
Chicago	29.0
Detroit	29.5
Los Angeles	21.5
San Francisco	34.5
St. Louis	37.0
Washington	44.0

- Source: (LA City Council, 1935, p. 15)

References

- Bottles, S. (1987). *Los Angeles and the automobile: The making of the modern city*. Berkeley: University of California Press.
- California Railroad Commission (1935). *Report on the local public transportation requirements of Los Angeles, case No. 4002*, December 16, 1935. Cited as: (Calif. Railroad Com, 1935).
- California Railroad Commission (1940). *Report on urban mass passenger transportation facilities and requirements of Los Angeles, volume II, analytical survey of existing facilities. case No. 4461*. October 17, 1940. Cited as: (Calif. Railroad Com, 1940).
- City of Los Angeles, Board of Public Utilities & Transportation (1935). *A study of the feasibility of a city-wide motor coach system to replace the existing local transportation systems in the City of Los Angeles, resolution no. 449*. Cited as: (LA City Council, 1935).
- Hilton, G. (1967). *Rail transit and the pattern of modern cities: The California case*. Traffic Quarterly, XXI, No. 3. July 1967.
- Hilton, G. & Due, J. (1960). *The electric interurban railways in America*. Stanford, CA: Stanford University Press.
- Kwitny, J. (1981). *The Great Transportation Conspiracy: a juggernaut named desire*. Harper's. pp. 14–15, 18, 20–21.
- Middleton, W. (1961). *The interurban era*. Milwaukee, WI: Kalmbach Publishing.
- National City Lines (1956). *Big five comparative statement of income*. Confidential internal document archived in the Southern California Rapid Transit Library, Los Angeles, CA.
- Rae, J. (1971). *The road and car in American life*. Cambridge: The MIT Press.
- Slater, C. (1997). *General Motors and the demise of streetcars*. *Transportation Quarterly*. pp. 45–66.

- Snell, B. (1974). *American ground transport: a proposal for restructuring the automobile, truck, bus, and rail industries*. A report presented to the Committee of the Judiciary, Subcommittee on Antitrust and Monopoly, United States Senate, February 26, 1974. Washington: U.S. Government Print Office
- St. Clair, D. (1986). *The motorization of American cities*. New York: Praeger.
- St. Clair, D. (1981). *The motorization and decline of urban public transit, 1935-1950*. *The Journal of Economic History*, September 1981, 579-600.
- Stromberg, J. (2015). *The real story behind the demise of America's once-mighty streetcars*. [online] Available: <https://www.vox.com/2015/5/7/8562007/streetcar-history-demise> May 7, 2015.
- Sweat, I. (1951). *Los Angeles Railway*, Los Angeles: Interurban Special, vol. 9, #3.

Endnotes

¹The literature on the purported conspiracy, both pro and con, is voluminous. For a sampling, see: (St. Clair, 1981); (St. Clair 1986); (Snell, 1974); (Bottles, 1987); (Kwitny, 1981); and (Slater, 1997)

²Not much is currently known about the Municipal Bus League. The group circulated flyers and advertisements for their all-bus proposal under the banner of *WakeUp Los Angeles*. Representatives of the group did testify in hearings for the City Council Report, but the final report was generally critical of the group for not being prepared or even knowledgeable about transit operations or how their proposal would impact transit operations. Municipal Bus League witnesses admitted that they had never specifically studied the proposal and lacked any specifics of the plan, but they did insist that their president, Victor Wilson, would provide specifics. However, the report summary and transmittal to the City Council states that Wilson had “avoided appearing at any of the hearings.” (LA City Council, 1935)

³All the figures cited in this section are from: (Calif. Railroad Com, 1935, Chp. II)

⁴ (Middleton, 1961, p. 13)

⁵For example, see (Hilton and Due, 1964, p.9) They identified four criteria for *interurban* status: 1) electric motive power; 2) passenger service as their primary business; 3) heavier and faster equipment than urban streetcars; and, 4) operations on tracks in city streets, or in rural areas on roadside tracks, or on private rights-of-way.

⁶All findings and quotes in this section are from (LA City Council, 1935, Transmittal Summary)

⁷The economy and desirability of trolley coaches on all but the least-traveled lines are supported by: (St. Clair, 1986) and (St. Clair, 1981)