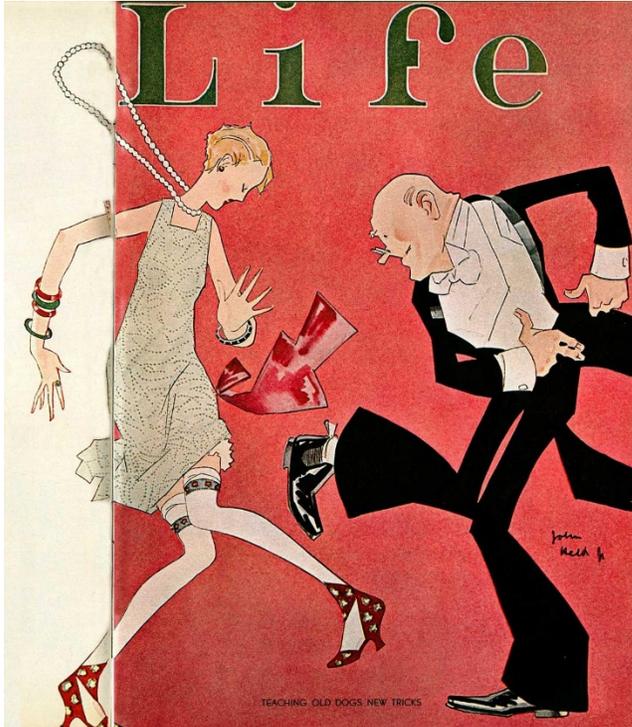


III

The Roller Coaster Years, 1923-1946

In the Roaring Twenties, America shifted gears and drove full tilt into the Jazz Age with its runaway stock market, radio, fast cars, flappers, skyscrapers, Prohibition, Lindbergh, Babe Ruth, Al Capone, and even “talking pictures.”

The all-time peak of U.S. transit ridership, World War II aside, was in the 1920's. It was



Life February 18 1926 “Teaching Old Dogs new tricks”

not merely the effect of the automobile that put the lid on growth of transit. People were working fewer days, radio programs were drawing nationwide audiences and the rising popularity of movies meant that nightlife was moving to the suburbs. Downtown was losing its role as a city's entertainment center.¹

During this period, there were two major events that roiled the entire urban travel market. First, starting at the end of 1929 the economy dropped into a sickening free fall that turned into the Depression — the worst economic slump in the nation's history. The economy finally hit bottom in 1933 but would still not fully recover until after the second major event, the War.

In September 1939, the war in Europe began. Then in 1941 came Pearl Harbor with both Japan and Germany declaring war on the U.S., which quickly became the *Arsenal for Democracy*, with an explosion of new jobs for both men and women regardless of color. Personal incomes increased sharply while restrictions on auto use led transit ridership to its all-time high, albeit a somewhat artificial one.

The Automobile

In the 1920s it was the auto that had the biggest single impact on family life. Sunday dinner became less important and the evening meal curtailed because there were just too many places to go and too many people to see when you had an automobile.

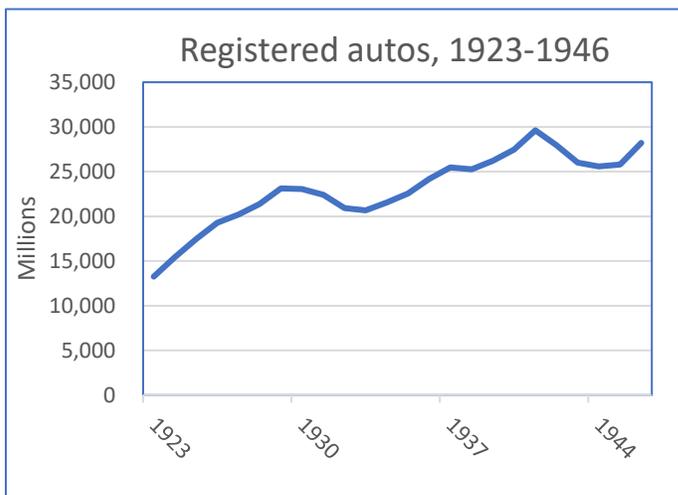
¹ Nichols, J.S. *The Development of Outlying Shopping Centers*. The 21st. National Conference on City Planning, New York City. May 1929. p. 17.



1923 Dodge Business Steel-bodied Sedan

At the beginning of the 1920s, there was some discussion of building retail stores in the suburbs. At the end of the decade, there were full-fledged suburban shopping centers.

Until 1920, Los Angeles real estate advertising emphasized proximity to streetcar lines. By 1930 the appeal had changed to "*a short, pleasant drive.*"² The cause of this was a near tripling of registered cars during the 1920s.



By 1920, the automobile had taken on the general characteristics of today's cars even if rearview mirrors and fenders were optional extras and the wheels were wooden.³

However, nearly 90 percent of the cars sold had open tops so poor weather tended to inhibit their use. Then in 1923, the Dodge Brothers Company introduced the first inexpensive all-steel-bodied closed car. By 1928, over 80

percent of all car sales were closed cars. This shift had a significant effect on travel habits because motorists could use closed cars in all weathers.

Steady price reductions achieved through innovative manufacturing methods also

2 Foster, Mark S. *The Model-T, the hard-sell, and Los Angeles's urban growth: the decentralization of Los Angeles during the 1920's*. Pacific Historical Review, 44 (4). 1975. p. 478.

3 Burness, Tad. *Cars of the Early Twenties*. Chilton. 1968. p.30.

increased sales. Henry Ford's Model-T, originally priced at \$850 in 1908,⁴ was reduced to \$269 by 1923.⁵ Allowing for inflation, the 1923 improved model was still priced 40 percent less than the 1908 model.

Until 1919, dealers mostly sold cars for cash since few credit facilities were available. Then General Motors Acceptance Corporation boosted auto sales by pioneering credit sales with their GMAC financing subsidiary. Ford promptly followed their lead and within ten years 75 percent of all automobile sales were on credit terms.

In the early 1920s, Ford Motor Company was the world's largest auto manufacturer and sold over half of all the cars in the U.S.⁶ However, General Motors had begun to pay more attention to organization and marketing and promoting cars that were better than the Model-T, including second cars marketed to women.⁷

Alfred P. Sloan, head of General Motors, attributed the accelerated growth of the total automobile market during the 1920s to four main elements, "installment selling, the used-car trade-in, the closed body, and the annual model."⁸

In addition, better streets⁹ and highways,¹⁰ lower automobile prices and rising incomes all helped to stimulate growth in automobile ownership. Registered autos nearly tripled during the decade from 8 to 23 million. In 1920, there was one car for every 13 people in the U.S. By 1930, there would be one for every five.

In 1927, Ford stopped production of the Model T and introduced the Model A. From 1928 to the Depression,

Ford and General Motors sold the same number of cars each year.

The 1929 *Middletown* study¹¹ of Muncie, Indiana showed that autos were involved in all of a family's major activities including commuting, church activities, taking children to school and shopping.¹²

Since farm and rural families now had ready access to urban areas, the catalog houses

4 Flink, James J. *America Adopts the Automobile, 1895-1910*. MIT Press. 1970. p.55

5 Burness, Tad. *Cars of the Early Twenties*. Chilton. 1968. p. 110.

6 Burness, Tad. *Cars of the Early Twenties*. Chilton. 1968. p. 109-112.

7 Wachs, Martin. *Men, Women, and Urban Travel* in Wachs, Martin & Crawford, Margaret, eds. *The Car and the City: The Automobile, the Built Environment, and Daily Urban Life*. University of Michigan Press. 1992. p. 92.

8 Sloan, Alfred P. *My Years with General Motors*. Doubleday Anchor. 1972. p. 172.

9 McShane, Clay. *Transforming the Use of Street Space: A Look at the Revolution in Street Pavements*. *Journal of Urban History* 5. May 1979. pp. 291-296.

10 Brummitt, Walter. *The Superhighway*. *American City*. January, 1929. p. 85.

11 Lynd, Robert Staughton. *Middletown*. Harcourt Brace. 1929.

12 Berger, Michael L. *The Car's Impact on the American Family* in Wachs, Martin & Crawford, Margaret, eds. *The Car and the City*. University of Michigan Press. 1992. p. 73.

such as Montgomery Ward and Sears, Roebuck & Co. began opening stores throughout the U.S. Sears, until then solely a mail-order catalog house, opened its first store in 1925 and just four years later had 324.¹³

During the 1920's traffic congestion was made worse by the dramatic near tripling of auto ownership. Congestion was ameliorated somewhat by the reduction of horse-drawn freight and their replacement by the faster and more compact motor truck. The other major activities during this period were the restrictions placed on the parking of automobiles.

Even downtown department stores, like Marshall Fields, built stores in the suburbs and before the end of the decade, many suburbs had drive-in shopping centers.¹⁴ All of this meant that people made fewer streetcar trips downtown. These changes were even more pronounced in the mid-west and western states since they generally had two to three times as many cars per capita than those in the east.¹⁵ This was due to better road conditions and greater private transportation needs in less densely settled areas.



1924 Ye Market Place, Los Angeles. 1

The 1930-1946 period was a hiatus between two periods of swift auto growth; one ended by the Depression and the other beginning with the end of the Second World War. During this 16-year period, registered autos only grew by 22 percent whereas in the ten years

¹³ Katz, Donald R. *The Big Store*. Viking. 1987. p. 11.

¹⁴ Nichols, J.S. *The Development of Outlying Shopping Centers*. The 21st. National Conference on City Planning. New York City. May 1929. p. 16-36.

¹⁵ *Automobiles and People*. Scientific American CXXI, 26. December 27, 1919. p.1. & Whitten, Robert. *Forecasting Automobile Growth*. American City. August, 1928. p. 118. & Foster, Mark S. From *Streetcar to Superhighway: American City Planners and Urban Transportation 1900-1940*. Temple University Press. 1981. p. 59. Foster shows autos to population as New York City 1:12, Boston and Chicago 1:8, Detroit and Seattle 1:4 and Los Angeles 1:3.

preceding this period autos had nearly tripled and in the ten years after the War they would double.

It was nearly four years from the stock market crash on Black Monday, October 27, 1929, until the Depression's worst effects were felt in 1933. Unemployment increased to 25 percent while real disposable incomes declined only slightly¹⁶ for those who still had work because of the government's efforts to maintain wages at a time when the cost of living fell by 25 percent.

When the Depression bottomed out, automobile sales had declined to only one-quarter of the 1929 level and would not reach the earlier level again until after the War.¹⁷ Of the 49 U.S. automobile manufacturers in existence in 1929, only 11 survived the Depression years. Memorable car companies like Duesenberg, Pierce-Arrow, and Stutz all succumbed.¹⁸ Of the survivors, only three would survive until today, Ford, General Motors, and Chrysler.



1937-40-Duesenberg_Model_SJ_Cabriolet

The Depression affected every aspect of life including transportation. The affluent bought far fewer cars while many of the less affluent could no longer even afford streetcar fare.

The reduction in automobile sales from 5.4 million in 1929 to 1.4 million in 1932 was not enough to replace those scrapped, replaced or stored by owners with the result that the number of registered autos fell by 11 percent. Autos recovered from the Depression in

¹⁶ *Historical Statistics of the U.S.* Series D 724, 726 & 727. Incomes declined 27 percent between 1929 and 1933 for those employed while the Consumer Price Index declined by 25 percent..

¹⁷ Census. *Historical Statistics of the United States.* p. 844, Series 147 & 150

¹⁸ https://en.wikipedia.org/wiki/List_of_defunct_automobile_manufacturers_of_the_United_States

advance of the general economy and registered autos regained their 1929 levels by 1936.¹⁹

The problems of parking and auto congestion that had so concerned cities in the 1920's continued throughout this period but without the increases that had given it such urgency. During the low-growth period that followed the onset of the Depression other problems were of greater importance.



1941 Super Deluxe Fordor Sedan, \$860; the 1946 model would be identical

There were significant improvements in auto handling during the Depression years. Increased horsepower and greater engine efficiency improved both auto speed and acceleration. The general adoption of four-wheel hydraulic brakes and the lowering of the auto's center of gravity improved maneuverability.²⁰

Manufacturers also introduced automatic transmissions, car radios, powerful engines like the V8, and trunks built into the car body, which all contributed to making automobiles more desirable.

Improved traffic engineering and management made roads and highways more efficient. Engineers widened streets, redesigned intersections with greater radiuses at the corners, striped lanes, installed traffic signals, eliminated on-street parking in busy areas and installed safety islands at streetcar stops. They also revised arterial routes to allow better

¹⁹ Appendix A.

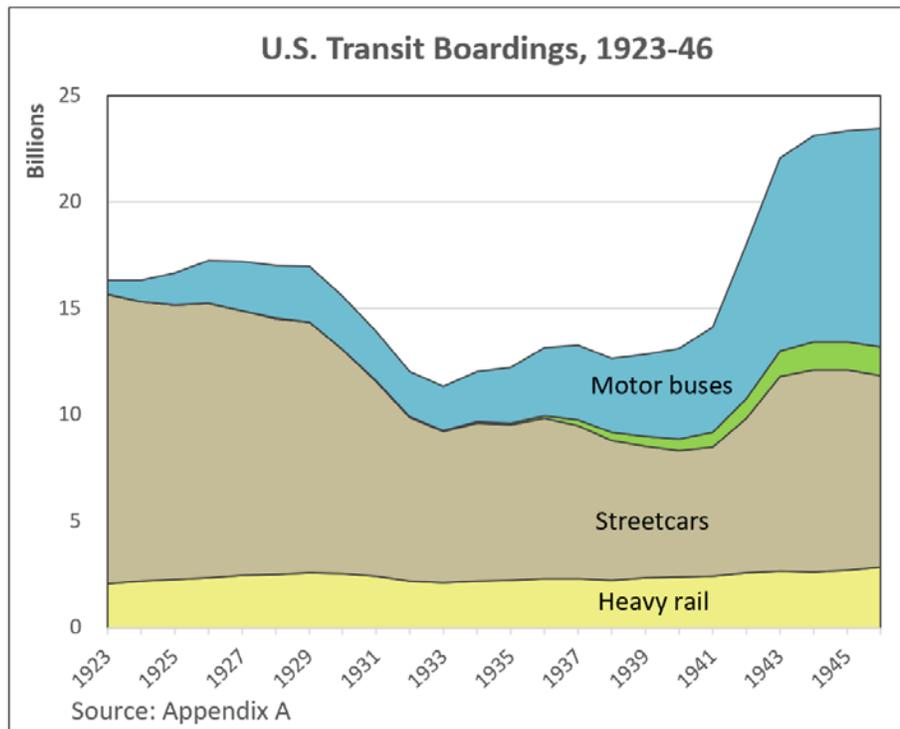
²⁰ McHugh, F. D. *Your 1930 Car*. Scientific American. January, 1930. p. 52.

handling of through traffic and improved street lighting.²¹ Thus, greater auto speed and maneuverability combined with more efficient streets and highways offset the potential traffic congestion that would have been caused by the moderate increase in automobiles.

Then came the Second World War and America immediately suspended the manufacture of automobiles and rationed gasoline and tires. This reduced registered automobiles by 15 percent and the gas and tire rationing reduced travel for the remaining automobile owners by another 15 percent.²² As a consequence, the use of transit increased to its highest levels ever.

Transit (public transportation)

The 1920's was the turning point for transit. As the decade opened the streetcars reigned supreme; they carried 20 times the number of passengers than buses and few foresaw that streetcar ridership would soon begin to decline. However, with the introduction of the automobile, each additional car on the road reduced transit ridership since the new owners would probably have formerly used transit.



In 1920-23, streetcar ridership reached its highest peacetime level and began to decline as it did also around the same time in the United Kingdom.²³ The UK replaced streetcars

²¹ *Highways and Transportation in Relation to Each Other and to Other Planned Development*. Preliminary Report of the Highways and Transportation Committee of the American Society of Planning Officials. 2nd National Conference on Planning, July 8-11, 1940. p. 50-52.

²² Appendix A & Pushkarev, Boris S. and Zupan, Jeffrey M. *Public Transportation & Land Use Policy*. Indiana University Press. 1977. Exhibit 0.2. There was a corresponding reduction in passenger vehicle miles traveled. *Historical Statistics of the U.S.* p. 718 Series Q 202 & 203.

²³ Barker, T. C. & Robbins, M. *History of London Transport. II*, George Allen & Unwin, 1963, p. 233.

with buses at about the same rate as the U.S. with, as in the U.S., smaller towns replacing the streetcars sooner than the larger ones.²⁴

Public transportation ridership had been influenced by several factors. Rising incomes of non-car owners combined with lower real fares²⁵ generated more passengers but rising incomes also meant that the more affluent could now afford a car, which reduced ridership. Urban population growth²⁶ also provided more potential passengers.

Between the auto taking away riders from transit generally, and motor buses taking riders from streetcars, the outcome was inevitable. Streetcar ridership in the U.S. peaked in 1923 and while bus use grew rapidly and was enough to move the peak of transit ridership to 1926, from that point on, the War aside, it was not enough to offset the ongoing decline. By the late 1920's it was clear that transit ridership was experiencing a secular decline.²⁷

In 1920, there had been 20 streetcar riders for every one bus rider. By 1929, bus ridership had increased and streetcar riders shrank to 4 riders for every bus rider. Streetcar companies had begun folding as bus competition prevailed. The U.S. streetcar line mileage, which had peaked at 45,000 miles in 1917, declined by 10 percent during the 1920s and then declined a total of 47 percent by 1937.²⁸ This reduction in line mileage was in line with the reduction in ridership.²⁹

The Depression led to one-third decline³⁰ in transit riders, 1929-1933, caused by high unemployment and wage reductions such that many could no longer afford the fares.



1940 Twin Coach trolley bus

Streetcar ridership dropped by 40 percent, buses by 19 percent and subways by 17 percent.³¹ Then transit recovered from the 1933 lows but had regained only a third of its losses by 1937. However, it was only the buses and the new electric trolleys that enjoyed increases. The streetcars and subways stagnated until the arrival of the War.

The recovery from the Depression was weak with personal incomes not reaching their 1929

²⁴ Sleeman, J., *The Rise and Decline of Municipal Transport*. Scottish Journal of Political Economy 9 (1962): 53-5.

²⁵ <https://archives.sfmta.com/cms/rhome/documents/TransitinSanFrancisco-CallwellChronologyweb.pdf> San Francisco maintained its 5¢ fare from 1878 to 1938 despite protestations from owners that it was uneconomic. New York similarly maintained the same 5¢ transit fare from 1904 to 1948. <https://mashable.com/2015/03/22/new-york-city-subway-fare/#ukQAGemkzPqm>

²⁶ Census Bureau. *Historical Statistics of the U.S.* p. 11, Series A57. U.S. urban population grew 64 percent between 1910 & 1930.

²⁷ Solomon, Richard J. & Saltzman, Arthur. *History of Transit and Innovative Systems*. USL TR-70-20. MIT Urban Systems Laboratory. March 1971. p 1-31

²⁸ Census Bureau. *Historical Statistics of the U.S.* 1975. p. 727.

²⁹ Appendix A.

³⁰ Appendix A.

³¹ Appendix A.

levels until 1941.³² Auto registrations, however, were back up to 1929 levels by 1936. Thus, the low gains in incomes combined with increasing auto ownership and slow growth in urban populations kept transit ridership low but rising, throughout the late 1930's.

As the War began, the government auto production factories into producing tanks, jeeps and other war needs. Then they rationed auto parts and gasoline, which reduced registered automobiles and restricted their driving. Gasoline sales during the war dropped 50 percent 1941 to 1944.³³ Employment and personal incomes, surged as the nation went on a war footing,³⁴ which combined with fewer autos, led to a dramatic 80 percent increase in transit ridership, 1940-45.³⁵ The less affluent could now afford transit and the more affluent had no choice but to ride it.



The Willow Run plant was built by Henry Ford in 1941 and employed more than 42,000. The factory produced one B-24 aircraft every 59 minutes.

During the War, real disposable income had risen 73 percent³⁶ from prewar levels but there were few consumer products available. As an example, 60 million people attended movies *weekly* during the War years because there was "more money to spend and fewer things to spend it on."³⁷

At War's end, transit ridership was at an all-time high and buses were carrying more riders than streetcars for the first time. Many were predicting transit's continued strength.³⁸ However, they were viewing the situation from a 1946 perspective. To them,

³² *Historical Statistics of the U.S.* Series D724.

³³ *Historical Statistics of the U.S.* p. 318. Series G 449.

³⁴ *Historical Statistics of the U.S.* Series F26, p. 225. Data are for 1940-43.

³⁵ Jones, David W. Jr. *Urban Transit Policy: An Economic and Political History*. Prentice-Hall. 1985. The war's impacts on transit use is covered.

³⁶ *Historical Statistics of the U.S.* p. 318, Series D 722.

³⁷ Casdorff, Paul D. *Let the Good Times Roll*. Paragon House. 1989. p. 34.

³⁸ Pollard, Warren R. *Expediting Traffic by Transit*. Proceedings of the 38th National Conference on Planning, New York City, May 6-8, 1946. p. 33.

it was as though the Depression had been merely an interlude in the continued growth of transit. Instead, they would learn that the War was only an interlude in its continuing decline.

Streetcars vs. Buses

The motor bus had little significance in American cities in 1920; unpaved streets mitigated against motor buses as did the unavailability of heavy duty pneumatic tires. The typical bus in 1920 was a bus body built on a converted truck chassis.

In 1920, the larger buses could only use solid or cushion rubber tires since pneumatic tires were not then strong enough. They could only use such tires on improved streets.³⁹ Used on rough unpaved streets, they shook the vehicles apart. Smaller buses used the troublesome high-pressure pneumatic tires.⁴⁰

In 1923 tire manufacturers launched the low-pressure balloon tire⁴¹ that gave motor buses a major boost in comfort while simultaneously reducing costs. They were first outfitted on the Fageol Safety Coach, which had been introduced a year earlier, initially with solid tires.

The big differences between the bus and the streetcar were the operating and capital costs. The construction of rail lines, which also required paving the adjacent roadway, together with elevated power wires and the purchase of the streetcars, was in the aggregate far more expensive per streetcar than were buses. This was especially true for small systems with fewer passengers per mile of rail. On the other hand, buses had higher operating costs in fuel and vehicle maintenance in the early years.

The operating cost for streetcars was less costly than those for buses in 1920 and the reverse would be true by 1940. The changeover was dependent on certain conditions, some technical and some political.

Initially, the streetcar operators vehemently opposed the use of motor buses. Buses could have served the streetcar companies as a useful way to offer short-cut service from factories to residential areas directly and as a way to defer costly streetcar extensions. They could have used buses to give rush-hour service on streets parallel to congested streetcar lines or to generally supplement streetcars during the rush hours since such service provided by streetcars was very expensive. They could also have used buses to provide a fleet of flexible vehicles to take over in emergencies.⁴²

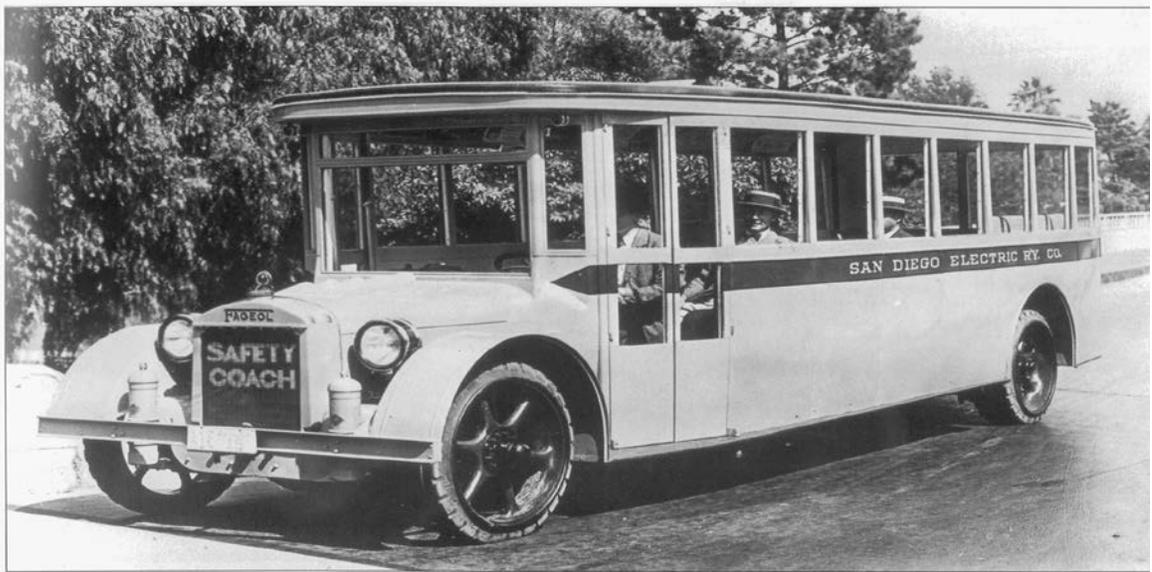
39 *Selection and Care of Motorbus Tires*. Bus Transportation. June, 1922. p. 277.

40 *Characteristics of Present-Day Buses*. Bus Transportation. July 1922. p. 375. & *Easy Riding on Heavy Motor Vehicles*. Bus Transportation. May 1922. p. 277.

41 Hale, J.E. *Shoeing a Car With Low-Pressure Air*. Bus Transportation. August 1923. p. 397.

42 Jackson, Walter. *Motor-Busses Will Aid Better City Development*. American City. July 1920. pp. 49-52.

The Bus versus the Streetcar



1922 Fageol Urban Safety Coach

The big story in the 1920s was the inroads the bus was making into the streetcar business. The technological progress of the motor bus can be clearly seen in these two photos.

The one above was the 1922 introduction of the Fageol Urban Safety Coach with solid tires. The photo below is of a 1929 Fageol Model 40 Twin Coach with balloon tires and recognizable as being close to today's buses. In contrast, during the 1920s the streetcar remained essentially unchanged.

From 1922 to 1930, buses gained 2 billion annual riders while streetcars lost 3 billion. Favorable remarks by bus passengers were about upholstered seats, a faster ride, and getting off at the curb instead of the center of the street.



1929 Fageol Model 40 Twin Coach

The streetcar companies had two fears. First, that buses could threaten their monopoly franchises since public utilities regulators might not regard motor bus operations a natural monopoly as they did streetcar operations. Motor buses operated in ways reminiscent of the long-displaced horse-drawn omnibuses, which had not been dependent on overhead electrical wiring, or rails, or any consideration that might warrant a monopoly franchise. Like the omnibuses, which were virtually unregulated, the motor buses could operate independently or as companies whereas the streetcar companies were dependent on their monopoly franchise granted by the municipality in which they operated. They were concerned that if they were unable to keep their monopoly franchises and had competition from bus companies they would lose control of the transition from streetcars to buses.

The streetcar companies had good reason to be concerned. They undoubtedly were watching what was happening in London, which in 1925 had 197 small companies running 646 motor buses in addition to the three major operators with 4,558 buses, a total of 5,204, all operating independently.⁴³

To replace streetcar lines with motor buses would mean a major asset write-off for most companies, especially for those 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.



Paving that the streetcars had to build and maintain.

They knew that in selling the tracks and overhead electrical lines and, in some cases, power generating equipment, they would get virtually nothing. Thus, they would face the acquisition costs of the buses while, at the same time, writing off the street railway assets.

The substitution of buses for streetcars took place first whenever there was both the low use of overhead power lines and street railway line, and the rail lines and paving were in need of replacement. The lower the utilization of these assets the higher were the depreciation and interest costs as a percentage of fares.

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. Thus, when a streetcar company faced the capital costs of renewing street paving⁴⁴ and replacing rail or electric

43 Barker, T. C., and Robbins, M. *A History of London Transport*. Vol. 2, George Allen & Unwin Ltd., 1963, pp. 215 & 225.

44 Jackson, Walter. *Trolley or Bus in the Small City: A Problem Largely Dependent on Paving Charges*. American City. September 1924. p. 206.

lines, economic considerations quite often favored the motor bus.

In addition, buses attracted new ridership because they were faster and more comfortable than streetcars particularly after the adoption of the balloon tire during the 1920's. Buses were also safer since they could pull in to the curb to discharge passengers whereas streetcars generally let passengers off in the center of the street.

The public regarded buses more favorably than the streetcars. They considered the bus as "*middle class between streetcar and auto or taxi*"⁴⁵ and a way to make, "*commuting a pleasure instead of a horror.*"⁴⁶

Bus lines also offered towns 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. During the late 1920's, it seemed that every week a bus line replaced another small city street railway.⁴⁷

In 1920 the delegates of the American Electric Railway Association decided they would discuss bus operations at their next annual meeting.⁴⁸ However, the result of even that meeting was still a refusal to allow in any new members who only operated motor buses.⁴⁹

Walter Jackson, the noted consultant, remarked in 1922,

It seems incredible that the electric railways themselves in the past have been among the opponents of legislation that would allow them to run motor buses. They actually feared that such recognition of the transportation usefulness of the motor bus would make all of their investments passé.⁵⁰

Streetcar operators had been severely affected by the scare that jitneys and jitney buses had given most of them in the 1914-17 period.⁵¹ McGraw-Hill, the publishers of *Electric Railway Journal*, introduced the trade journal *Bus Transportation* in 1922, and they received strong objections from streetcar operators that continued for quite some time.⁵² Not until 1924 would bus operating concerns be considered at an American Electric Railway Association meeting.⁵³ New Jersey's Public Service Railway ongoing battle with the independent buses was a another constant reminder of the problem.⁵⁴

45 T.E. Mitten, Philadelphia Rapid Transit Co. quoted in Barrett, P. *The Automobile and Urban Transit: The Formation of Public Policy in Chicago, 1900-1930*. Temple University Press. 1983. p. 174.

46 Ibid. p. 58.

47 Jackson, Walter. *Trolley or Bus in the Small City: A Problem Largely Dependent on Paving Charges*. American City. September 1924. p. 206.

48 Editorial: *Onward Rolls the Motorbus*. *Bus Transportation*. October 1928. p. 523-6.

49 Jackson, Walter. *The Place of the Motorbus*. *National Municipal Review*. November 1922. p. 368.

50 Jackson, Walter. *The Past, Present and Future of the Motor Omnibus*. *Bus Transportation*. January 1922. p. 62.

51 Slater, Cliff. *General Motors and the Demise of Streetcars*. *Transportation Quarterly*. July 1987. pp. 48-50. <http://www.honolulutraffic.com/TQOrigin.pdf>

52 *For the Good of All — Our Editorial Policy*. *Bus Transportation*. April 1923.

53 A.E.R.A. *Holds First Rail-Highway Gathering*. *Bus Transportation*. November 1924. p. 501.

54 Slater, Cliff. *General Motors and the Demise of Streetcars*. *Transportation Quarterly*. July 1987. pp. 53-56. <http://www.honolulutraffic.com/TQOrigin.pdf>

The motor buses prevailed. In 1921, some 27 streetcar companies operated just 134 buses nationwide.⁵⁵ Within five years that increased to 266 companies operating 7,284 buses.⁵⁶

In 1929, the Fageol Company introduced the Twin Coach bus which, with its double rear cast-steel wheels and heavy duty low-pressure balloon tires, was quite similar to those used today.⁵⁷ Industry leader Frank Fageol wrote that the new buses had totally changed the transportation business,

A modern bus of the Twin Coach type is an ultra-modern street car freed of the limitations of the street rails. It is a unit that combines the advantages developed in the street cars and stream railroad industry with the advantages gained in the automobile industry.

In view of this development the claim can no longer be sustained that rail cars are more efficient in handling transportation than the modern motor coach...I am firmly convinced that urban and suburban surface transportation on fixed rails will ultimately disappear from our streets.

In 1928, Fageol wrote that his new buses had around the same operating expenses as streetcars and thus when the time came that the streetcar companies faced the capital cost of replacing worn out rail tracks they would instead switch to buses.⁵⁸



1936 Presidents Conference Car 1

In the late 1920's the heads of the various streetcar companies believed that streetcars would always carry the bulk of urban transportation. They decided to build a modern streetcar that was more economical, quieter, and faster than those then being used. From a pooling of their ideas came the handsome Presidents' Conference Car, introduced in

55 *How Motorbuses Are Utilized by the Electric Railways*. Bus Transportation. September 1922. p. 481.

56 Deitz, Richard F. *Annual Survey Reveals: Steady, Continued Expansion*. Bus Transportation. February 1927. p. 62.

57 Theisinger, E. F. *Graphic Review of Bus Chassis Developments Since 1922*. Bus Transportation. February, 1927. p. 66.

58 Fageol, Frank R. *Large Capacity Bus Will Revolutionize Transportation*. Bus Transportation. September 1928. p. 424.

1936 and thereafter known as the PCC car. These new streetcars were faster than their predecessors but their advantages were still insufficient to overcome the flexibility and lower capital costs of the bus.⁵⁹ These included the streetcar's inability to overtake another streetcar on the same line, and its inability to pull to the curb to load/unload passengers. In addition, there was the simultaneous adoption of the diesel engine by the bus industry, which further reduced bus operating costs.

Being faster, the motor bus also allowed commuters in larger towns to go farther in a reasonable commuting time which opened up new suburban areas to development.⁶⁰

Buses continued to gain at the expense of the streetcars. In 1929 buses had carried only one-fifth of the passengers carried by streetcars but, by 1946, buses were carrying more than the streetcars.

To summarize the Streetcars vs. Buses battle: During this period generally, streetcars had higher capital costs but lower operating costs. Thus, established streetcar lines had lower costs per mile than buses since the higher capital costs for the streetcar were already in place. That argument changed when a streetcar line passed its useful life and had to be replaced. Then buses offered the greater value.

It was in the smaller towns that buses first began replacing streetcars because the capital costs were larger in proportion to operating costs than in large cities. Smaller towns carried far fewer passengers per mile of track than did larger cities and the savings to be had from adopting buses were more obvious.

Rapid transit

As introduced in Chapter I, rapid transit, or heavy rail, is urban rail transit that differs from streetcars or light rail in that it is totally separated from all other modes of traffic, technically known as "grade-separated," and usually by subway or elevated rail. While commuter rail, which developed early in the 1800s, meets this definition it is considered a different mode because there are greater distances between stations and their rail lines extend beyond the suburbs to the exurbs further out.

In Chapter I, we left the nation's rapid transit in 1923 with annual riders of a little over two billion. It subsequently hit a peacetime high of \$2.4 billion in 1929, declined during the Depression and then hit a high of 2.8 billion in 1946 and declined to 1.7 billion in 1972. This was much the same story as transit generally in the U.S.⁶¹

Until the "renaissance" of rail in 1972, no new heavy rail systems were opened after PATH (Port Authority of New Jersey and New York) was opened in 1908 with the sole

59 Pollard, Warren R. *Expediting Traffic by Transit*. Proceedings of the 38th National Conference on Planning, New York City, May 6-8, 1946. p. 38..

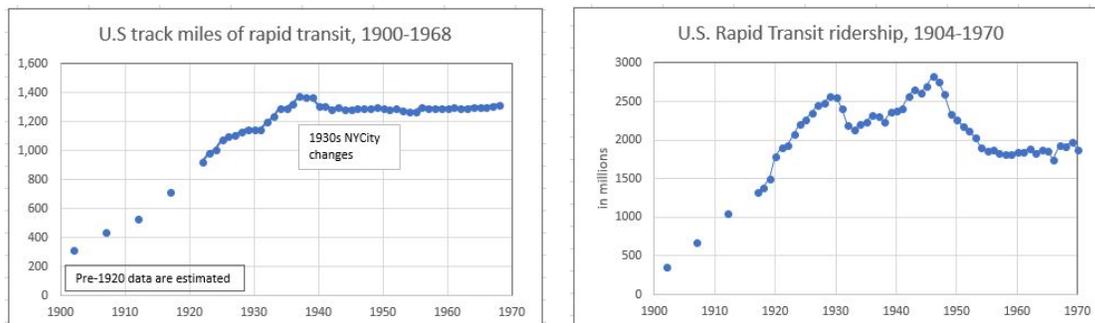
60 Bibbins, J. R. *The Growing Transport Problem of the Masses*. National Municipal Review. August, 1929. p. 519.

61 *Appendix A*.

exceptions of Cleveland⁶² and Philadelphia.⁶³ Both of these were unusual cases using abandoned regular steam train rail lines. They were both low budget outliers when compared with heavy rail norms.

New York had built subway lines up to the 1930s but after that they had largely just replaced the elevated lines with subway mileage; there was little additional net mileage.

The nation's track miles of rapid transit followed that of New York City, unsurprisingly since its 2.1 billion riders annually represented 75 percent of the nation's total rapid transit ridership as of 1946.⁶⁴



Data source: Pushkarev et al.

This 64-year hiatus in opening new rapid transit systems, and the seeming lack of interest in expanding existing systems after the late 1930s, was due to the heavy costs involved and rapid transit's lack of effectiveness in combating congestion.

There had always been proponents of more grade-separated rapid transit for the larger cities. In the 1920's it began to be suggested for the more dispersed cities such as Los Angeles, a city even then more spread out than any other large city in the nation.

Dissension from the pro-rapid transit view grew steadily for both economic and environmental concerns. It came from both the densest city, New York and the most dispersed, Los Angeles. This *New York World* editorial was not unusual,

"Look at the new subway now being built on Eighth Avenue. The ostensible purpose of that subway is to relieve the indecent congestion on the existing subways. Will it give relief? Look at what is happening on Eighth Avenue. Faster than the subway can be dug enormous skyscrapers are being pushed up all along the route. In those skyscrapers will work thousands of men and women who will live in the Bronx, on Long Island, in Westchester and in Jersey. Long before the subway is completed a new multitude will be there waiting to jam it to capacity. The street surfaces will be more crowded than ever

⁶² [https://en.wikipedia.org/wiki/Red_Line_\(Cleveland\)](https://en.wikipedia.org/wiki/Red_Line_(Cleveland)) See History.

⁶³ "It wasn't until the firm of Louis T. Klauder & Associates recommended using the existing rail line on the Benjamin Franklin Bridge and subway connections to Philadelphia instead of building a new tunnel, at a cost of \$94 million, that the PATCO dream became a reality."
<http://www.ridepatco.org/about/history.html>

⁶⁴ Pushkarev, Boris S. with Jeffrey M. Zupan and Robert S. Cumella. *Urban Rail in America. An Exploration of Criteria for Fixed-Guideway Transit*. Indiana Press. 1982. Table H2. & Appendix A. & Kirschling, Kyle. *An Economic Analysis of Rapid Transit in New York, 1870-2010*. Columbia University M.Sc. thesis.

with the additional trucks and cars serving the new skyscrapers. And the city's credit tied up in a new subway which cannot be run as a solvent concern with long hauls at 5 cents, will be that much nearer exhaustion. In the meantime, money desperately needed for parks, for playgrounds, for salary increases and other city purposes will not be available because the credit of the city is frozen in a subway that sharpens rather than relieves the transit problem.

New York can build skyscrapers faster than it can build subways. New York will build skyscrapers as fast as new subways are projected. Therefore New York can never solve the transit problem merely by building subways."⁶⁵

From Los Angeles, which then claimed their traffic congestion as the worst in the U.S.,⁶⁶ came a similar objection,

"The history of rapid transit development in American cities carries with it its warning to Los Angeles. The chief argument for rapid transit—congestion relief—is a delusion and a snare as far as sound city planning is concerned...Is it inevitable or basically sound or desirable that larger and larger crowds be brought into the city's center? Do we want to stimulate housing congestion along subway lines and develop an intensive rather than an extensive city? Will rapid transit spread the population anywhere except along the new right of way? Is it ultimately desirable to have an area of abnormally high values with its consequent demand for the removal of building-height restrictions? Must all large business professional and financial operations be conducted in a restricted area?"⁶⁷

Renowned urban planner Daniel L. Turner of the New York City Transit Commission said there were only two alternatives available,

...since under the conditions of unlimited building possibilities the expanding of rapid transit facilities in congested sections only make the congestion worse, then we must change our rapid transit policy. Either we must restrict or limit the building operations in such areas, thus balancing the land use with the transit facilities available, and thereby relieve traffic congestion;

Or, we must change our transit construction policy, and build new rapid-transit facilities through outlying unpopulated areas and route them thorough unbuilt business sections—in other words, construct decentralizing rapid-transit lines...thus attracting the population away from the congested districts and in this way relieve the congestion.⁶⁸

Lewis Mumford, renowned architectural critic and historian, said,

The modern city planner who has an opportunity to practice his art, decreases the area of paved streets and increases his garden space; he simplifies his sewer connections and use the savings for bigger rooms; he does away with the need for expensive subways and double decked streets by a better relation of home and industrial sites; and by all these economies he not merely adds an hour or two of leisure to the worker's day, but sets free

65 *Editorial. The New York World*. June 18, 1926. Quoted in *Height Limitations Under New York's Zoning Ordinance Are Utterly Inadequate to Prevent Congestion*. American City. September 1926. p. 318.

66 Sneath, Clarence R., Los Angeles Traffic Commission. *Los Angeles Making Scientific Study to Relieve Traffic Congestion*. American City. September 1924. p. 196.

67 Dykstra, F.A. *Congestion De Luxe— Do We Want It?* National Municipal Review. July 1926. Quoted in *And This From Los Angeles*. American City. September 1926. p. 315.

68 Turner, Daniel L., New York City Transit Commission. *Is There a Vicious Circle of Transit Development and City Congestion*. American City. September 1926. p. 314.

funds for schools, libraries, art museums, concert halls, theaters, and other public buildings.⁶⁹

Planners urged municipal authorities to exert strict control over the height and bulk of buildings. *American City* said,

It may be that New York can render a real service to the rest of the nation by diverting funds which normally would go for schools, playgrounds, waste disposal, and other urgent needs of a wholesome civic life, not multi-deck streets and multi-million dollar subways; for the result may prove valuable in furnishing an awe-inspiring example of what not to do in municipal development.⁷⁰

In 1924, the President of the National Conference on City Planning said,

Except in the largest cities, city planning study is showing the wastefulness of rapid transit subways or elevateds..."⁷¹ Three years later the National Conference passed a resolution that said, in part, the, "concentration of high buildings in a limited area...causes unwarranted and expensive traffic congestion..."⁷²

Transportation historian Mark Foster summed up the attitude of the Los Angelenos after they rejected rapid transit in the late 1920's,

...it is unlikely that planners and traffic engineers would have backed rapid transit proposals even under more favorable circumstances. A handful supported downtown-oriented rapid transit plans during the 1920's; however, most consciously rejected even the concept as an enormously expensive symbol of an outdated transportation technology. Subway and elevated systems are extremely inflexible once constructed. Thus, planners believed, while they made sense in a handful of densely settled cities with slowly growing populations and static growth patterns, they were out of place in the dynamic, rapidly changing urban environment of the 1920's...By the end of the 1920's opinion, even within the planning profession, was turning increasingly against core-city oriented comprehensive new systems. By the onset of the Depression, a majority of planners opposed 'old-fashioned' elevateds and subways for many reasons; the most important was their belief that rapid transit would ultimately exacerbate rather than cure congestion in central districts.⁷³

The argument about whether our cities should decentralize or not continued throughout the 1930's with the Depression's abandoned buildings and empty lots bringing it all into focus.

On the one hand, some said that the only way for the masses of working people to get "sunlight and fresh air" into their homes was by moving the greater mass of population out to suburbs while others believed that decentralization brought blight to the inner city

69 Mumford, Lewis. *The Next Twenty Years in City Planning*. Proceedings of the 19th National Conference on City Planning. Washington, D.C. May 1927. p. 57.

70 *Is Super-Congestion Inevitable*. *American City*. June 1927. p. 800.

71 Ford, George B., President of the Conference. *What Planning Has Done For Our Cities*. Proceedings of the 16th National Conference on City Planning. Los Angeles, CA. April 7-10, 1924. pp. 1-27

72 Resolution of Nineteenth National Conference on City Planning. Washington, D.C. May 9-11. Reprinted in *American City*. June 1927. p. 800.

73 Foster, Mark S. *From Streetcar to Superhighway: American City Planners and Urban Transportation 1900-1940*. Temple University Press. 1981. p.65-6 & p. 75.

and removed vital revenues.⁷⁴ An opposite view was that inner-city blight was a temporary Depression phenomenon; revitalization would occur as the economy recovered. The discussion was important because on it hinged whether or not transit would be practical for the future.

During the 1930's there was much less discussion of transportation problems than there had been during the 1920's. Planners were more concerned with economic survival, zoning, establishing urban planning as a respected profession⁷⁵ and with New Deal planning opportunities.⁷⁶

Opposition to solutions to both people and traffic congestion by "the Manhattan subway and skyscraper approach" had been strong through the 1920's and it continued through the 1930's. The 1938 National Planning Conference Transportation Committee said that, "If traffic plans are predicated on conditions such as those existing on Manhattan Island, where the 'piling-up' process, first of concentration, then of transportation facilities to meet such concentration, is repeated again and again in a vicious circle, there is no telling where we may end."⁷⁷

Parking

... hackney coaches were prohibited from standing in the streets of London as early as 1660, the law requiring them, "to stay in the yards until they may be wanted."⁷⁸

Until the 1920s, the problem of parking a car was not a significant factor in most U.S. cities. The near tripling of the automobile population in the 1920s, changed the situation and cities began to restrict curb parking.

There were some early exceptions: On July 15, 1914, Mayor Bell of Indianapolis signed an ordinance that limited the time cars could be parked on the downtown streets in daytime to 90 minutes.⁷⁹ Los Angeles, then America's most automobile-dependent city began in 1920 with restricting Central Business District (CBD) curb parking during the day to no longer than 45 minutes.⁸⁰

For most cities, the first step taken was to restrict the amount time allowed, usually 45 or 60 minutes, for curb parking in the CBD. The next step was to ban CBD parking during the rush hours. Regulations were then increased in increments until there was no curb parking in the CBD, or motorists were allowed non-rush hour parking at parking meters.

Each step along the way was accompanied by furious motorists and retail store owners protesting against further encroachments on their rights to park when and where they

⁷⁴ Clarke, Gilmore D. *Modern Motor Arteries*. Proceedings of the 22nd National Conference on City Planning, Denver, Colorado, June 23-26, 1930. p. 74. Remarks by Harland Bartholomew.

⁷⁵ Foster, Mark S. *From Streetcar to Superhighway: American City Planners and Urban Transportation 1900-1940*. Temple University Press. 1981. p. 133-4.

⁷⁶ Rehabilitation. Proceedings of the 31st National Conference on Planning, Boston, Massachusetts, May 15-17, 1939. p. 28. & Foster, Mark S. *From Streetcar to Superhighway: American City Planners and Urban Transportation 1900-1940*. Temple University Press. 1981. p. 132-3.

⁷⁷ Shattuck, I.S. et al. *Traffic Studies in Relation to City Planning*. Proceedings of the 30th National Conference on Planning. Minneapolis, Minnesota, June 20-22, 1938. p. 34.

⁷⁸ Goodrich, E. P. *The Urban Auto Problem*. National Municipal Review, July 1920, p. 436

⁷⁹ *Bell puts name to traffic code*. Indianapolis Star, July 16, 1914, p. 14.

⁸⁰ *Drivers resignedly accept parking law*. Los Angeles Times. August 7, 1921.

wanted. The more restrictions increased, the more that the private sector responded to the demand for parking with open lots and garages.



Euclid Square Garage, Cleveland, Ohio, circa. 1913.

The first automobile garages were created in New York City starting in 1900 by converting horse stables into automobile garages.⁸¹ Manhattan alone had 130,000 horses,⁸² which were declining rapidly as the horse-drawn streetcars were replaced by electric-powered streetcars and horse-drawn cabs by electric taxis. The first garages catered to wealthy owners looking to protect their very expensive early automobiles. As time progressed purpose-built garages, some automatic, were built as needed for regular automobiles.

During 1919, Los Angeles' first purpose-built automobile garage was erected at Fourth and Olive Streets; its four floors held 275 machines.⁸³ In 1921, the Los Angeles Times, reported that at Fifth and Grand stood the, "world's largest and most complete garage, the Grand Central, with accommodations for 1000 cars."⁸⁴

By 1923, most cities had some form of curb parking restrictions in the CBD.⁸⁵ As of 1924, only three large cities, Cleveland, Chicago, and Los Angeles provided any public parking.⁸⁶

New police rules went into effect in New York City in 1924 prohibiting car parking during the day for more than 20 minutes on the main arteries.⁸⁷

In 1926, three of every four cars entering the Los Angeles CBD were parked in off street parking garages and lots.⁸⁸ The same survey counted 136,000 spaces for automobiles in garages and parking lots with room for another 4,000 parking at curbs.⁸⁹

But planners were already thinking that, "With the growth of street congestion and the progress of prohibited parking, the provision of private storage spaces as integral parts of office and mercantile buildings is to be anticipated."⁹⁰

⁸¹ Grossman, Hilary. *Manhattan Parking Garages 1897-1930: Significance and Preservation*. Columbia University. May 2013.

⁸² McShane, Clay & Jopel A. Tarr. *The Horse in the City*. John Hopkins University Press. 2007. p. 16.

⁸³ *The perils of a parkless town*. Los Angeles Times, February 29, 1920, sec. 2, p. 1.

⁸⁴ *Drivers resignedly accept parking law*. Los Angeles Times, August 7, 1921, sec. 7, p. 10.

⁸⁵ Segrave, Kerry. *Parking Cars in America, 1910-1945*. McFarland & Co. 2012. p. 48.

⁸⁶ McKelvey, Blake. *The Emergence of Metropolitan America, 1915-1966*. Rutgers Press. 1968. p. 50.

⁸⁷ *Broadway closed to cruising cabs*. New York Times, June 6, 1924, p. 23.

⁸⁸ Segrave, Kerry. *Parking Cars in America, 1910-1945*. McFarland & Co. 2012. pp. 8-22.

⁸⁹ Segrave, Kerry. *Parking Cars in America, 1910-1945*. McFarland & Co. 2012. p. 63.

⁹⁰ McClintock, Miller. *Parking— When, Where and Why?* American City. April 1924. pp. 360-1.



Typical empty lot parking. Wilshire & Grand, Los Angeles, California, 1946

Some planners proposed developing shopping areas outside of the downtown areas.⁹¹ At this time some pioneering grocery and drug stores moved to the residential districts. This dispersion of the population acted as a relief from traffic congestion.⁹² Kansas City opened the first suburban shopping center catering to motorists, Country Club Plaza, in 1924.⁹³

On the other hand,

Downtown parking storage garages are not profitable unless operated at prices which the masses of car owners are unwilling to pay, and it is exceedingly difficult to permit such parking as will be satisfactory to merchants and shoppers, and at the same time prevent the use of our streets as open air garages for those who use their cars only for transit to and from their homes.⁹⁴

91 *New Type of Shopping Area Proposed*. American City. August 1926. p. 214.

92 *Traffic Congestion, Parking Facilities and Retail Business — II*. American City. July 1926. p. 664.

93 McKelvey, Blake. *The Emergence of Metropolitan America, 1915-1966*. Rutgers University Press. 1968. p. 50.

94 *Rapid Transit Suggested as a Partial Solution of the Parking Problem*. President of Seattle Planning Commission quoted in American City. March 1928. p. 5.

In April 1929, New York City put into effect plans to have the city trucks tow away cars that were violating parking regulations. In Manhattan's theatre zone, parking was prohibited during theater hours.⁹⁵

By 1929, nearly all cities had prohibited car parking on their main business streets, at least during morning and afternoon rush hours on the downtown streets and immediately towed away violators.⁹⁶

One official observed that the 30-minute parking limit ordinance required a large number of policemen to enforce it, more than were actually available for such duty.⁹⁷

Walter Lindersmith, of the Los Angeles Traffic Association, declared that their 1930 study showed that the prohibition of parking not only had no adverse effect, but had increased the number of vehicles coming to business and shopping districts.⁹⁸

By 1930, most large U.S. cities banned curb parking on city center streets during the rush hour⁹⁹ and, between those hours, only allowed parking for one hour.

It was dawning on people that,

...private transport has found its own limitations, i.e. lack of terminal facilities in cheap and convenient day storage, and disproportionate use of street space."¹⁰⁰

However, it was noticed at the time that when the parking downtown was restricted, it boosted streetcar ridership.¹⁰¹

The use of parking meters also made the administration of parking regulations more practicable. Meters were first installed in Oklahoma City in July 1935 and within three years 70 cities had adopted them.¹⁰²

Parking garages were a different matter. The cost of providing parking within a building was too high to be justified. A 1930 study found only 20 office buildings with internal parking in the whole U.S. although many Pacific Coast cities were apparently building them and Los Angeles had built 600 parking spaces in its new city hall. However, planners thought that it would be an economic impossibility for commercial building owners to provide parking space for all their tenants.¹⁰³

⁹⁵ Bell, J. G. *Police trying to solve parking car problem*. New York Times, January 6, 1924, p. A6.

⁹⁶ *Putting parking on a somewhat higher level*. Literary Digest 101 (May 18, 1929): 76.

⁹⁷ Robert H. Nau. *No parking—a year and more of it*. American City 40 (March 1929):

⁹⁸ Walter R. Lindersmith. *Less parking - more purchasing in Los Angeles*. American City 43 (December 1943): 120.

⁹⁹ *Parking Restrictions and Reactions in Several Large Cities*. American City. March 1930. p. 122-3.

¹⁰⁰ Bibbins, J. R. *The Growing Transport Problem of the Masses*. National Municipal Review. August 1929. p. 520.

¹⁰¹ *Increased Parking Difficulties Help Street Railway's Traffic*. American City. June 1927. p. 867.

¹⁰² *Automobile Parking in Central Business Districts*. Urban Land Institute Technical Bulletin No. 6. July 1946. p. 62.

¹⁰³ McClintock, Miller. *The Better Use of the City Street With Special Reference to Parking On and Off the Street*. Proceedings of the 22nd National Conference on City Planning, Denver, Colorado, June 23-26, 1930. p. 58.

The arrival of the Depression and subsequent increases in vacant buildings found many owners demolishing them and turning the cleared land into parking lots; the increased income from parking combined with reduced property taxes made economic sense.¹⁰⁴

By 1939, 25 percent of all private land in the Chicago Loop was used for parking lots¹⁰⁵ with about the same amount, or more, in other major cities¹⁰⁶ such as Baltimore,¹⁰⁷ Detroit,¹⁰⁸ and Providence.¹⁰⁹

The general increase in parking space combined with a reduction in registered autos during the Depression meant that parking was more available and cheaper than it had been earlier.

This happened across the country. For example, in 1927 the Detroit central business district had 7,720 parking spaces. By 1936 that had grown to 31,724 spaces, or four times the amount available earlier.¹¹⁰ In addition, 25 percent of U.S. cities had established municipal parking lots that were either free or charged a low fee.¹¹¹

In 1935, the Highway Research Board wrote with the respect to parking,

"No other subject brings up so much argument with so many opinions ... nothing is so full of trouble for local officials as discourteous or inconsiderate treatment of parking violator ... Every inch of parking space on the streets must be made available with the fewest possible restrictions."¹¹²

A 1939 review of the automobile and truck parking situation found, "*that the number of cars illegally parked in the congested retail area practically equaled the number parked legally.*"¹¹³

¹⁰⁴ Blucher, Walter H. *The Economics of the Parking Lot*. The Planners' Journal 2. September-October 1936. p. 113. & McClintock, Miller. *The Better Use of the City Street With Special Reference to Parking On and Off the Street*. Proceedings of the 22nd National Conference on City Planning, Denver, Colorado, June 23-26, 1930. & Blucher, Walter H. *The Economics of the Parking Lot*. The Planner's Journal. Vol. 2 No. 5. 1936.

¹⁰⁵ Gordon, C., Managing Director, American Transit Association. *Transportation as an Element in Urban Rehabilitation*. Proceedings of the 31st National Conference on Planning, Boston, Massachusetts, May 15-17, 1939. p. 26.

¹⁰⁶ Foster, Mark S. *From Streetcar to Superhighway: American City Planners and Urban Transportation 1900-1940*. Temple University Press. 1981. p. 146.

¹⁰⁷ Braun, W. L. *Are Business Streets for Parking—or Motoring?* American City. August 1940. p. 85.

¹⁰⁸ Blucher, Walter H. *The Economics of the Parking Lot*. The Planners' Journal 2. September-October 1936. p. 116.

¹⁰⁹ Manning, Lester P. *Providence Central Business District Parking Survey*. Annual Proceedings of the Highway Research Board. 1946. p. 432.

¹¹⁰ Blucher, Walter H. *The Economics of the Parking Lot*. The Planners' Journal 2. September-October 1936. p. 113.

¹¹¹ Gordon, C., Managing Director, American Transit Association. *Transportation as an Element in Urban Rehabilitation*. Proceedings of the 31st National Conference on Planning, Boston, Massachusetts, May 15-17, 1939. p. 26.

¹¹² *Traffic congestion, parking facilities, and retail business - II*. American City 35 (July 1926): 62-63.

¹¹³ Nolting, Orin F. & Oppermann, Paul. *The Parking Problem in Central Business Districts*. Public Administration Service, Chicago, Illinois. 1939. p. 1-2.

The authorities believed that the principal cause of traffic congestion was, "...*due to insufficient off-street parking facilities.*"¹¹⁴ In reality, it was due to four major factors. First, the American motorist's view of street parking as a right.¹¹⁵ Second, the downtown merchants' fears of losing business.¹¹⁶ Third, the authorities lacked the political will necessary to make and enforce appropriate regulations in the face of motorists' and merchants' opposition. Fourth, the authorities lacked the legislation enabling them to ticket the automobile rather than the driver, as we do today.

Until 1939 the authorities could only cite the actual driver of the automobile for parking violations and even had to get the drivers' signatures acknowledging the citation. It had first been suggested in 1930 that the authorities should cite the *owner* of an offending vehicle regardless of who was the *driver*.¹¹⁷ But it was not until 1939 that California passed legislation allowing it. Some eight months later, California cities found a marked increase in motorists' compliance with the regulations.¹¹⁸

Trucks would frequently obstruct streetcar rail lines by unloading while double-parked. The double parking resulted because few cities had buildings with off-street unloading and either the authorities allowed autos to park at the curb or they did not enforce the law on those who parked illegally.¹¹⁹ Many cities allowed truck loading and unloading during peak hours in the 1940's and in some cities even allowed trucks to back up to the curb.¹²⁰

About 20 percent of the Providence CBD was devoted to parking in 1946. Of this amount, 25.6 percent of the parking was at the curb, 63.6 percent in lots, and 10.8 percent in garages. Planners were worried that the lots would soon be built on and remove those parking spaces from the available inventory.¹²¹

¹¹⁴ Wallender, A. W. *New York City Tackles Parking Problem*. Traffic Quarterly. January 1947. p. 62. & *Self Liquidating Off-Street Parking Facilities*. American City. March 1940. p. 7.

¹¹⁵ McClintock, Miller. *The Better Use of the City Street With Special Reference to Parking On and Off the Street*. Proceedings of the 22nd National Conference on City Planning, Denver, Colorado, June 23-26, 1930. p. 46.

¹¹⁶ Nolting, Orin F. & Oppermann, Paul. *The Parking Problem in Central Business Districts*. Public Administration Service, Chicago, Illinois. 1939. p. 22.

¹¹⁷ McClintock, Miller. *The Better Use of the City Street With Special Reference to Parking On and Off the Street*. Proceedings of the 22nd National Conference on City Planning, Denver, Colorado, June 23-26, 1930. p. 48.

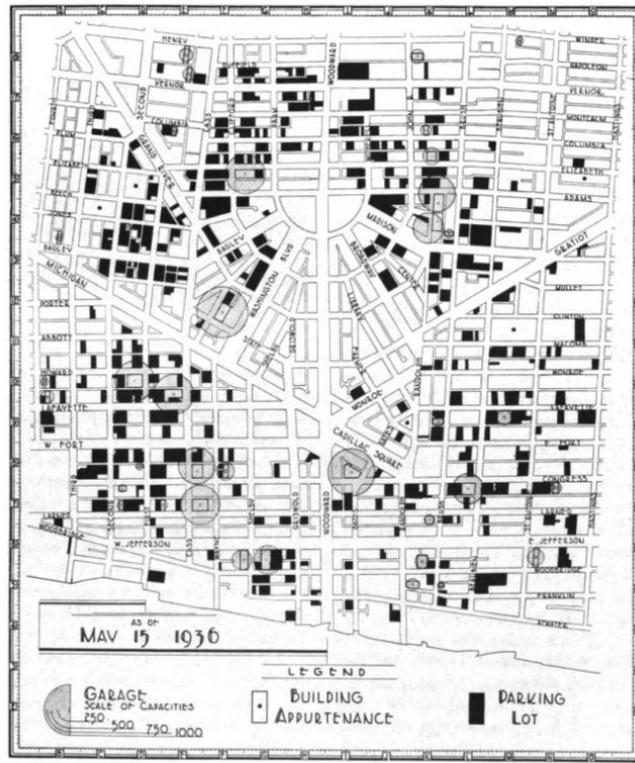
¹¹⁸ *California Cities Find "Absentee Parking Tag" Law Helpful*. American City. June 1940. p. 115.

¹¹⁹ Kraft, Mervyn A. *Keep Today's Traffic Moving*. American City. September 1940. pp. 97-101.

¹²⁰ *Haphazard vs. Planned Parking*. Report of the AAA Committee on Parking. American City. January 1941. p. 87.

¹²¹ Manning, Lester P. *Providence Central Business District Parking Survey*. Highway Research Board Proceedings. 1946. p. 438.

OFF-STREET PARKING FACILITIES IN THE CENTRAL DISTRICT



Street Traffic: City of Detroit 1936-1937. Michigan State Highway Department. 1937. Empty lots for parking in black.

Private garage owners could not operate profitably because cities did not enforce parking rules adequately¹²² and fees for off-street parking were greater than motorists were willing to pay.¹²³ Therefore, there was insufficient economic incentive to build more off-street parking garages. The economy, combined with an excess of new parking lots, further depressed prices.

By 1946, Philadelphia, St. Louis, Cleveland, Kansas City, Dallas and others had eliminated most downtown street parking for either the rush hour or the entire day.¹²⁴ Private landowners provided most of the parking downtown using empty lots.

This would soon change. Since 1930 planners had called for regulating the minimum amount of parking in new buildings in the central business district.¹²⁵ In addition, they advocated

for the public provision of parking space. By 1946 a quarter of the U.S. cities with populations over 100,000 had zoning requirements for off-street parking of some kind¹²⁶ and 30 cities required off-street parking for new commercial facilities.¹²⁷

¹²² Blucher, Walter H. *The Economics of the Parking Lot*. *The Planners' Journal* 2. September-October 1936. p. 113.

¹²³ *Haphazard vs. Planned Parking*. Report of the AAA Committee on Parking and Terminal Facilities. American City. January 1941. pp. 85-91. & Gordon, Charles, Managing Director, American Transit Association. *Transportation as an Element in Urban Rehabilitation*. Proceedings of the 31st National Conference on Planning, Boston, Massachusetts, May 15-17, 1939. p. 26. & Braun, Wallace L. *Are Business Streets for Parking—or Motoring?* American City. August 1940. p. 87.

¹²⁴ Picton, J. M. *Highway Studies in Cities*. 38th National Conference on Planning, New York City, May 6-8, 1946. p. 29. & *Parking Restrictions and Reactions in Several Large Cities*. The American City. March 1930. p. 122-3.

¹²⁵ McClintock, Miller. *The Better Use of the City Street With Special Reference to Parking On and Off the Street*. Proceedings of the 22nd National Conference on City Planning, Denver, Colorado, June 23-26, 1930. p. 50.

¹²⁶ Le Craw, C. S., Jr. and Smith, W. S. *Zoning Applied to Parking*. *Traffic Quarterly*, Vol. I, #1. January 1947. p. 13.

¹²⁷ *Automobile Parking in Central Business Districts*. Urban Land Institute Technical Bulletin No. 6. July 1946. p. 11.

The discussions of the time show little regard for the connection between the demand for parking and its price, let alone the idea that the authorities should rigidly enforce parking regulations and motorists pay the full market price of parking. Rather, there was a great deal of pressure from downtown merchants for cities to provide parking at low prices.

The consensus of the American Society of Planning Officials was:

*If the provision of off-street parking facilities is left entirely to private initiative, such areas will be provided only where an immediate profit can be shown. Moreover, the privately-owned lot may be considered a temporary use, since the land will be converted to more profitable uses if opportunity offers. Finally, the majority of parkers balk at paying the high parking fees charged at some private parking areas...the officials of many cities, as well as traffic experts, believe that the provision of off-street parking is coming to the front as a municipal responsibility...Only city ownership can assure continued operation and relative permanency of location of parking lots in retail business districts."*¹²⁸

The private parking lot operators objected to a public subsidy since it would tend to undercut their operations. They thought they deserved to be assisted, rather than threatened with government competition. They felt that the downtown merchants were, ... unloading a tax burden on the general public. Would it not be fairer for those who need, or think they need, these facilities to provide their own space, or to work out their problems with the parking station operator who can and will provide such space?¹²⁹

September 2, 1945 saw the end of World War II. Gas rationing had already ended and the first automobiles for consumers, identical to the 1941 models, were already rolling off the assembly lines in July. During 1946, registered automobiles increased 10 percent over 1945, gasoline sales were up 119 percent,¹³⁰ and parking worries burgeoned.

American City magazine surveyed cities on their parking conditions and titled it, *Cities in for Epidemic of Traffic Trouble*.¹³¹ They found that Boston was "chaotic," Providence was "bad and growing worse," Hartford was "intolerable," Salt Lake City was "too serious to be solved," And they all talked about the inordinate amount of time it was taking streetcars and buses to make their way through cities.

Franchises & Competition

By the mid-1920's municipalities had generally settled disputes about who should provide surface transit in favor of the local monopoly transit operator.

The jitney issue was raised again from time to time during this period because of some quirk or unresolved element in legislation. It seemed that every so often private operators found loopholes in franchise regulations that enabled them to provide service legally. How these incidents were handled varied with each community but it usually involved the passage of legislation to protect the monopoly operator.

¹²⁸ *Working at the Parking Problem*. The American City. February 1939.

¹²⁹ Rubin, Harry A. *Privately Owned Parking Lots*. Traffic Quarterly, Vol. I, no. 3. July 1947. p. 226.

¹³⁰ U.S. Census. *Historical Statistics of the U.S.* p. 318, Series G449. 1944-46.

¹³¹ *Cities in for Epidemic of Traffic Trouble*. American City. January 1946. pp. 106-7.

Various municipal regulations had banned jitney bus operations in most cities even though the St. Louis “service cars” still operated privately, legally and profitably along with the San Francisco's Market Street jitneys and the Atlantic City jitney buses, the latter of which would continue to be profitable through to the present day.¹³²

This was especially true in difficult economic times such as the Depression when people were losing jobs wholesale and unsold automobile inventories were abundant. The American Mercury said, "*Nothing seemed more natural than the cheap unsold automobiles and the growing army of jobless should be brought together.*"¹³³ The authorities had not considered the taxi business to be a public utility and had omitted them from the anti-jitney regulations of the early 1920's. This was seen by entrepreneurs as a ripe field.

The new taxi entrepreneurs of the 1930's began offering fares of 25¢ with no extra for additional passengers. Five people could ride a taxi for 5¢ each versus the streetcar fare of 10¢.¹³⁴ This was shared-ride service with a vengeance.

By early 1932 there were some 140,000 taxis operating in U.S. cities versus 84,000 before the Depression began. In Washington, D.C. there had been 600 cabs operating in early 1930 and 4,000 two years later.¹³⁵ In Wichita, Kansas, the low-rate cabs put a dent in the streetcar business¹³⁶ as they did in Honolulu.¹³⁷

The transit companies fought back again as they had done 20 and 10 years earlier to ensure that new regulations removed the taxi as a threat. The authorities passed new regulations to rein in the taxis. For example, one required taxis to use taximeters at all times regardless of their mode of operation. Taximeters meant they could only provide exclusive-ride service. Unable to provide shared-ride service, taxis could no longer compete with mass transit modes. This was welcomed, if not engineered, by the mass transit operators who had lost a great deal of revenue to the cut-rate taxis in the early 1930's.¹³⁸

Other ordinances were equally punitive. Cities required taxi drivers to submit to fingerprinting and venereal disease checks. As one writer put it, "A public which wants courteous, professional taxi drivers still often has ordinances which treat taxi drivers as criminals."¹³⁹

More stringent regulations and an improvement in the economy would return taxis to their traditional role by the late 1930's. An exception was that during World War II when

¹³² <https://www.jitneyac.com/atlantic-city-regular-route>

¹³³ Tompkins, Raymond S. *The Taxi Runs Amuck*. The American Mercury. August 1932. p. 386.

¹³⁴ Tompkins, Raymond S. *The Taxi Runs Amuck*. The American Mercury. August 1932. p. 388.

¹³⁵ Tompkins, Raymond S. *The Taxi Runs Amuck*. The American Mercury. August 1932. p. 388.

¹³⁶ Bus Transportation. April 1935.

¹³⁷ *Plague of Cheap Taxis*. Honolulu Star-Bulletin. January 25, 1933.

¹³⁸ Gorman, Gilbert & Samuels, Robert E. *The Taxicab: An Urban Transportation Survivor*. The University of North Carolina Press. 1982. p. 73.

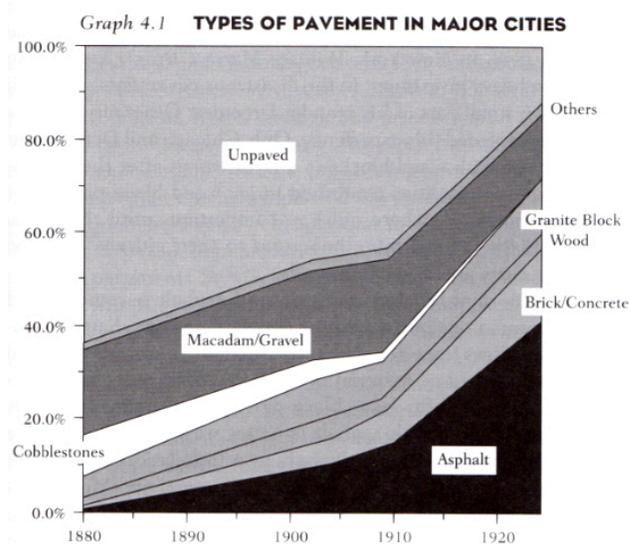
¹³⁹ Gorman, Gilbert & Samuels, Robert E. *The Taxicab: An Urban Transportation Survivor*. The University of North Carolina Press. 1982. p. 142.

45 large cities encouraged shared-ride taxi operations—but not New York.¹⁴⁰ They were banned again after the war. The exceptions were Washington, D.C. and Little Rock, Arkansas that still continue to this day to offer their shared-rides and zone fare systems.

In Honolulu, which the 1915 jitney craze had passed by, automobiles began offering jitney service in 1932 in direct competition with the local transit company.¹⁴¹ Again, as in other cities, the transit company fought them and eventually succeeded in having them banned—but not until 1940.¹⁴²

Streets and Highways

From the turn of the century, there had been continuing pressures from bus, truck and automobile users for new and better urban highways into, and within, cities. Planners



Source: Clay McShane. *Down the Asphalt Path*. Columbia. 1994.

pointed out that they would not help traffic congestion since the existing highways were still capable of carrying far more automobiles than could be parked in these cities.¹⁴³

In 1923, only about 50 percent of U.S. major city streets were paved with either asphalt, brick or concrete. This was a major improvement over 1900 when only 10 percent were paved in this way.

At the start of the Depression, only 20 percent of all America's roads and streets, both urban and rural, were surfaced. By 1941, Depression-era work programs increased that to 50 percent—an increase of a million

miles in surfaced roads. These were not new roads, merely the surfacing of old roads; total U.S. road mileage had barely increased since the turn of the century.¹⁴⁴

Freeways, named and described by noted planner Edward Bassett in 1930,¹⁴⁵ would take a great deal of capital and involve intense politicking for some 25 years before they would become reality. While there were obvious advantages seen in highways that had no cross streets or casual access, there were concerns that the freeway concept would expand

¹⁴⁰ Gorman, Gilbert & Samuels, Robert E. *The Taxicab: An Urban Transportation Survivor*. The University of North Carolina Press. 1982. p. 78.

¹⁴¹ *Annual Report for 1932*. Honolulu Rapid Transit Company, Ltd.

¹⁴² *Jitneys ruled off streets*. Honolulu Star Bulletin. May 7, 1940.

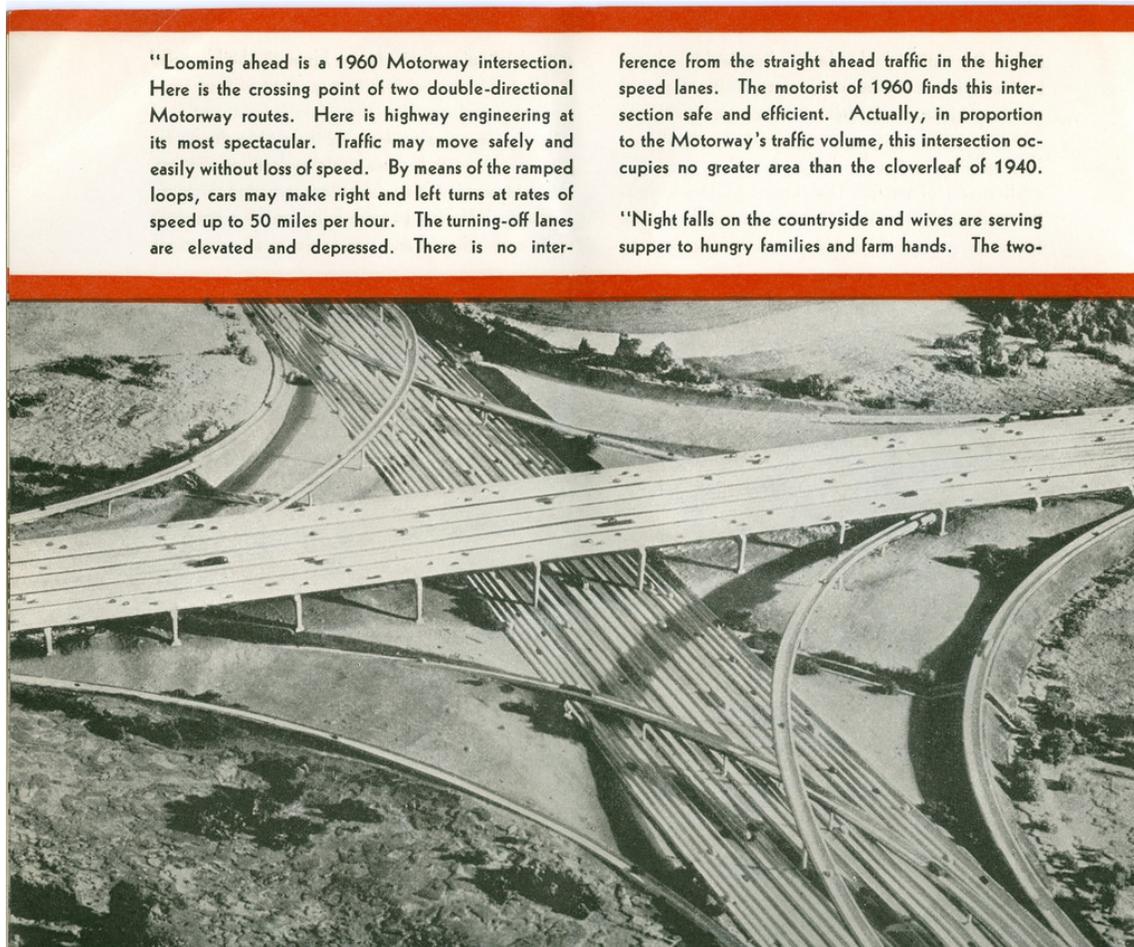
¹⁴³ McClintock, Miller. *The Better Use of the City Street With Special Reference to Parking On and Off the Street*. Proceedings of the 22nd National Conference on City Planning, Denver, Colorado, June 23-26, 1930. p. 45.

¹⁴⁴ U.S. Census. *Historical Statistics of the U.S.* p. 710, Series Q50.

¹⁴⁵ Clarke, Gilmore D. *Modern Motor Arteries*. Proceedings of the 22nd National Conference on City Planning, Denver, Colorado, June 23-26, 1930. p. 62.

the suburbs at the expense of downtown property values and the taxes they generated.¹⁴⁶

The future of freeways became more clear at the 1939 World's Fair. The General Motors' Futurama exhibit showed fourteen lane freeways moving vehicles at 50, 75 and 100 miles per hour, which GM forecast would be built by 1960.¹⁴⁷



"Looming ahead is a 1960 Motorway intersection. Here is the crossing point of two double-directional Motorway routes. Here is highway engineering at its most spectacular. Traffic may move safely and easily without loss of speed. By means of the ramped loops, cars may make right and left turns at rates of speed up to 50 miles per hour. The turning-off lanes are elevated and depressed. There is no inter-

ference from the straight ahead traffic in the higher speed lanes. The motorist of 1960 finds this intersection safe and efficient. Actually, in proportion to the Motorway's traffic volume, this intersection occupies no greater area than the cloverleaf of 1940.

"Night falls on the countryside and wives are serving supper to hungry families and farm hands. The two-

General Motors 1939 World's Fair brochure describes their exhibit promoting freeways.

Any planning for freeways was abandoned during the War but by 1946 the general public fully embraced the idea of freeways and plans were underway for their construction on a national scale. A report from the 1946 National Conference on Planning showed foresight in what it thought would be the result of freeways,

"A network of high speed highways superimposed on the average American city in competition with existing mass transportation facilities is likely to have a number of results, some not readily apparent...There is likely to be an acceleration of movement to the suburbs...Central district parking facilities would no doubt become less adequate

¹⁴⁶ Clarke, Gilmore D. *Modern Motor Arteries*. Proceedings of the 22nd National Conference on City Planning, Denver, Colorado, June 23-26, 1930. p. 74. Remarks by Harland Bartholomew.

¹⁴⁷ Rose, Mark H. *Interstate: Express Highway Politics, 1941-1956*. Regents Press of Kansas. 1979. p.1.

because travel would be increasingly by individual vehicles. In order to avoid the exorbitant cost of providing sufficient off-street parking facilities to meet the demand, numerous business establishments would probably move to sub-centers. Industries of all kinds using motor vehicles for the assembling of raw materials or the shipment of finished products could be expected to take advantage of locations on express highways and in the absence of zoning regulations new industrial plants are likely to spring up in unexpected places, even in the suburbs

Express highways may not be in competition with mass transportation, if they can provide for express bus operation. Transit experts are not all in agreement, however, that this is a complete answer; they point out that the short haul, not the long haul is the life blood of their business."¹⁴⁸

But this was all in the planning stage. The political wrangling had started but it would be another ten years before political settlements were reached over funding for freeways.

End of an Era

In 1946 the Roller Coaster Years ended. The turmoil of the Depression and the War had been but an interlude in the trend of transit ridership.¹⁴⁹ Few people foresaw the future when over 80 percent of commuters would drive alone to work by automobile. Rather, the prevailing view was that because of their carrying capacity, rush-hour mass transport by automobile was impossible.¹⁵⁰

¹⁴⁸ Shattuck, I.S. et al. *Highways and Transportation in Relation to Each Other and to Other Planned Development*. Proceedings of the 32nd National Conference on Planning, July 8-11, 1940. p. 49.

¹⁴⁹ Simpson, F. R. *The War's Impact on Urban Transit Systems*. Harvard Business Review. Summer 1945. p. 460.

¹⁵⁰ Bibbins, J. R. *The Growing Transport Problem of the Masses*. National Municipal Review. August, 1929. p. 518.