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**Autos, Transit and the Sprawl of
Los Angeles: The 1920s**

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ABSTRACT

The dispersed, low-density land-use pattern that has come to be associated with Los Angeles has roots in two periods of economic growth during which critical choices were made. While many observers associate the sprawl of Los Angeles with the freeway building program following World War II, the pattern was quite well established prior to 1930. It can be traced to an early period of dispersed growth, from 1880 to 1910, when inter-urban street railways allowed residential decentralization. The pattern was reinforced during the boom of the nineteen twenties, when rapid growth was accompanied by dramatic shifts in travel patterns and industrial location, partly in response to the automobile. This paper examines changes during these periods in the context of a continuing preference for low density living, and reviews the planning policies and political decisions of the twenties, when a comprehensive highway program was adopted, but a regional rapid transit plan failed to gain acceptance.

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Introduction

Throughout the world, Los Angeles is known for its unique urban form and distinctive lifestyle. Some consider it glamorous and others find it sterile, but the name generally evokes images of freeways, sprawling low-density communities of single family homes, and dependence on the automobile. While many share these images, it proves difficult to explain how or why Los Angeles got to be the way it is. In the popular press, its decentralization is often attributed to the freeway building program and the suburban housing boom that followed the Second World War, yet historical evidence shows that the familiar Los Angeles pattern existed well before 1930, and that freeways were as much a response to decentralization as its cause.

The decentralization that has come to be associated with Los Angeles was recognizable before 1900 and well established by 1930, the product of many interacting influences. The automobile was a critical ingredient, but so were street railways, attitudes of real estate speculators, the nature of the city's economy, and the timing of the region's most rapid growth. The decade between the end of World War I and the start of the great depression was probably the single most important period in the determination of Los Angeles' lifestyle and its accommodation to the automobile. Today's most complex decisions regarding land use, highways, and transit all have their roots in the twenties.

The automobile was being widely adopted during the twenties, precisely at the time Los Angeles was experiencing its most explosive growth. At the same time, the city planning movement was attempting to establish its influence over the growth and form of the city. By studying the ideas, plans, and politics of that period, we learn that the decentralization of Los Angeles and the growth of the planning profession there had common roots.

Los Angeles in the twenties provides another lesson of interest to students of urban form and planning. Many portray public transit investments as a means to bring about urban areas of greater concentration and higher densities, while automobiles and highways are seen as countervailing influences leading inevitably to lower densities and sprawl (Taebel and Cornehl, 1977). Historical analysis of Los Angeles, however, shows that during the formative decade of the twenties, highways and rail lines were not seen as competing influences upon urban form. They were portrayed as complementary elements of regional plans, contributing in concert to the decentralization of the metropolis at a time when decentralization was being vigorously pursued by businessmen, political leaders, and planners.

The First Great Boom

Los Angeles was first settled in 1781, and it remained a sleepy and relatively unimportant town for nearly its first hundred years, having a population in 1870 of about six thousand. In 1876, the town was first linked to the growing national railroad network when the Southern Pacific completed a line between Los Angeles and San Francisco. In 1881, the SP completed a more direct rail link between Los Angeles and the east, and in 1885, the Santa Fe opened its competing railroad. By 1890, the city's population had grown to more than 50,000, and the county's reached 100,000. While the European migrants to New York, Boston, and Philadelphia filled those cities with relatively poor and unskilled newcomers, the people arriving in Los Angeles were of a very different background (Brodsly, 1981, p. 63; Fogelson, 1967, pp. 54-55).

Most of the new arrivals to Los Angeles were American born, many came from the middle-west, and a large proportion were people of some means. Prosperous

middle-western farmers turned their holdings over to their children, and moved west to try their hand at citrus growing. Wealthy invalids sought a warmer climate in which to retire. Merchants and businessmen sought new markets and profits in speculation. Thus, one observer described the new residents of Los Angeles as ". . . the best American stock; the bone and sinew of the nation; the flower of the American people," and a San Francisco newspaper noted that "the outstanding quality of the newcomers was their prosperity" (Brodsly, 1981, p. 64). Another observer described the new settlers as "immigrants coming in palace-cars instead of 'prairie schooners,' and building fine houses instead of log shanties, and planting flowers and grass lawns before they planted potatoes or corn" (Fogelson, 1967).

With rural American backgrounds and the means to implement their ideals, the immigrants to Los Angeles pursued, even in these early years, an ideal of low-density single-family living, well before the automobile placed this lifestyle within reach of millions. Fogelson (1967, pp. 144-45) has described their pursuit of this vision as follows:

. . . the native Americans came to Los Angeles with a conception of the good community which was embodied in single-family houses, located on large lots, surrounded by landscaped lawns, and isolated from business activities. Not for them multi-family dwellings, confined to narrow plots, separated by cluttered streets, and interspersed with commerce and industry. Their vision was epitomized by the residential suburb--spacious, affluent, clean, decent, permanent, predictable, and homogeneous--and violated by the great city--congested, impoverished, filthy, immoral, transient, uncertain, and heterogeneous. The late nineteenth and early twentieth-century metropolis, as the newcomers in Los Angeles perceived it, was the receptacle for all European evils and the source of all American sins. It contradicted their long-cherished notions about the proper environment and compelled them to retreat to outskirts uncontaminated by urban vices and conducive to rural virtues. And though native Americans everywhere shared these sentiments, they formed a larger portion of the populace in Los Angeles than in other

great metropolises. Here then was the basis for the extraordinary dispersal of Los Angeles.

The Role of Early Transit Systems

Between 1870 and 1910, the technology of urban transportation was advancing substantially. Entrepreneurs were replacing horse car lines with cable, steam, and electric traction street railways in Boston, Chicago, New York, and Philadelphia. Similar technology was introduced in Los Angeles, but there it had different effects upon the city. The eastern and midwest metropolises had already become mature cities prior to the development of extensive street railway networks, and they were characterized by high residential densities, with living quarters in proximity to industrial and commercial districts. The street railways enabled these cities to add new residential districts beyond their older cores, through processes described by Sam Bass Warner in his classic book, Streetcar Suburbs (1962). Los Angeles, however, was just growing to maturity as a city when street railways were introduced, and had never developed a significant commercial and industrial core. Its first period of rapid growth from a population of five thousand in 1870 to nearly 320,000 in 1910, coincided with the introduction of street railways and interurban electric lines. These made residential growth possible at relatively long distances from the industrial and commercial center even when the region's population was quite small. While new industries and businesses concentrated near the downtown railhead in the days before motor trucks and telephones, the street railways made it possible for real estate speculators to develop low-density residential estates in outlying sections catering to the obvious preferences of the newcomers. Since the denser, congested, eastern cities were regarded as the source of illness and vice, the

low-density, outlying suburban growth of newer cities like Los Angeles was regarded as an advance which contributed to substantial improvement in the quality of life. Charles Horton Cooley, one of the early leaders of the emerging discipline of sociology, whose doctoral dissertation was entitled A Theory of Transportation (1894), illustrated the common view of the benefits of decentralization and contributions to good living made by the street railways when he wrote in 1891:

Humanity demands that man should have sunlight, fresh air, the sight of grass and trees. It demands these things for the man himself, and it demands them still more urgently for his wife and children. No child has a fair chance in the world who is condemned to grow up in the dirt and confinement, the dreariness, ugliness, and vice of the poorer quarter of a great city . . . There is, then, a permanent conflict between the needs of industry and the needs of humanity. Industry says men must aggregate. Humanity says they must not, or if they must, let it be only during working hours and let the necessity not extend to their wives and children. It is the office of the city railways to reconcile these conflict-requirements (Cooley, 1891).

With preferences for single-family, low-density living so prevalent, and a population of relatively greater economic means, it was inevitable that technological advances in transit would be coupled with ventures in real estate speculation. Between 1880 and 1910, cable car and electric trolley lines were built by holders of large tracts of vacant land with the specific intention of subdividing that land and profiting from the sale of homesites made accessible to downtown by the transit link (Foster, 1971). Often mechanically unreliable, and even more often on unsound financial footings, the street railways rarely turned profits as transportation businesses, though they often contributed to huge speculative profits in real estate. Despite many failures and bankruptcies of smaller transit companies, the period from 1901 to 1911 saw the development in Los Angeles of the largest system of interurban electric lines in the country. The Pacific Electric System,

assembled and extended by Henry Huntington from seventy-two separate companies, by 1923 offered service over 1,164 miles of single track and a network which extended over a hundred miles from one end to the other. While the Pacific Electric offered interurban service from Los Angeles to outlying towns and villages, the Los Angeles Railway operated local service on an additional 316 miles of single track within the city. Many think of the sprawling Los Angeles metropolis in terms of the automobile and freeways, but Spencer Crump (1962, p. 96) is more accurate when he observes that: "Unquestionably it was the electric interurbans which distributed the population over the countryside during the century's first decade and patterned Southern California as a horizontal city rather than one of skyscrapers and slums." By 1910, largely because of the Pacific Electric System, Los Angeles was functionally integrated with Long Beach, Santa Monica, and San Bernardino. The extent of the metropolitan region has not grown substantially since, and most of the more recent growth has instead consisted of filling in the interstices between outlying centers associated with important stations on the Pacific Electric.

The Arrival of the Automobile

During the very years of consolidation and expansion of the public transportation system which made dispersed residential development possible in Southern California, the automobile was being introduced and perfected. At first, it was relatively expensive, and available only to the wealthy. In addition, prior to 1920, the vast majority of automobiles were open to the elements, and extremely unattractive in the cold, rain, or snow. Early cars were difficult to operate where there were few paved roads, especially when winter weather turned dirt roads into quagmires. No wonder, then, that the auto was adopted early in Southern

California. The mild and dry climate made driving in open cars relatively comfortable, and kept its early roads reasonably passable. A greater proportion of Los Angeles' relatively affluent citizenry had the economic means to acquire autos than was the case in eastern cities, and lower-density single family neighborhoods provided ample space to store and maintain cars in comparison with eastern tenement communities. Thus, by the end of the year 1919, an article in Scientific American describing automobile ownership patterns in the United States, expressed amazement that California led the nation in per capita automobile ownership:

. . . if we had any idea that states would follow along in the approximate order of their population we would be speedily disillusioned to learn that California has 2,000 more vehicles than Pennsylvania, and leads seven other states which are credited with greater population. We find, then, that the banner is to be awarded to California, with her perpetual summer, her tourist industry, and her wonderful roads.

When this article was written, Los Angeles already had the highest ratio of automobiles per capita of any major city in the United States--about one auto per nine people. Yet, Los Angeles was poised on the edge of its second and greatest boom. Between 1910 and 1920, the great aqueduct was completed from the Owens Valley, providing the city with a reliable supply of water and relief from the problem of periodic drought. Before 1910, voters in Los Angeles approved the development of a harbor at San Pedro and Wilmington, and a series of improvements to that harbor continued into the twenties, allowing Los Angeles to compete successfully to become the largest west coast port by 1930. The decade following the First World War was the city's period of most rapid growth, decentralization, and automobile acquisition, and the low-density single family lifestyle which has come to be identified with this city was solidified during that period of dramatic growth.

The Great Boom of the Twenties and the Dispersion of Economic Activity

Between 1920 and 1930, the population of the City of Los Angeles grew from 577,000 to 1,240,000 while the population of the county increased from 1,238,000 to 2,200,000. This phenomenal rate of increase was described by one scholar of the period as "the largest internal migration in the history of the American people" (Thorntwaite, 1934, p. 18). By 1930, only twenty percent of the residents of Los Angeles had been born in California, while by contrast more than two-thirds of all Americans resided in the states in which they were born (Findley, 1958, p. 24). The population distribution for Los Angeles showed that it had a larger proportion of middle-aged and older residents than the country as a whole. And median income was relatively high, at least partly because the growth rate in employed workers exceeded the growth rate in population. While manufacturing industries grew, the proportion of employed workers engaged in manufacturing declined from 28% in 1920 to 22% in 1930, and Los Angeles was increasingly described as a "white collar" town, with real estate, finance, and tourism expanding most prominently (Findley, 1958).

The rapid growth of Los Angeles was, of course, not accidental. Like earlier booms, it was fostered by speculators, bankers, and businessmen who derived profits from the great boom of the twenties. In 1921, the "All Weather Club" was formed to advertise the wonders of Southern California in the east, and especially to promote tourism in the belief that a substantial proportion of those who vacationed in Southern California would be "sold" on the idea of staying permanently (Foster, 1971, p. 26).

During the first wave of Los Angeles' decentralization, between 1880 and 1910, residential subcenters grew up in outlying areas in response to accessibility provided

by street railways. Most businesses, with the exception of local services, remained downtown. The boom of the twenties, however, was accompanied by decentralization of much business and commercial activity as well as the continuation of residential dispersal. By the end of the First World War, the motor truck was available to free some businesses of their dependence on proximity to rail lines, and the availability of the telephone made it possible for businesses to communicate with one another without face-to-face contact. In addition, three factors which were unique to Los Angeles contributed directly to the dispersion of growth during the boom of the twenties. They were the central role of the petroleum industry in the local economy, the development of a port located quite far from the downtown area, and the adoption of a height limitation on buildings because of the danger of earthquakes.

With little coal except that imported from great distances, local oil production fueled industrial growth in addition to providing gasoline to operate the region's growing auto and truck fleet. As the twenties began, low petroleum prices and stable production gave way to tremendous fluctuations in prices and in the flow of capital into this industry. In 1920 there was a shortage of gasoline, and a public outcry over rising gasoline pump prices. This, in turn, spurred increased investments in oil exploration, and several major new fields were discovered in the early twenties. Later, their collective production glutted the market, and caused prices to plummet. Because some of the oil fields were located more than twenty miles from the central city, in places like Seal Beach, Signal Hill, and Fullerton, capital investments made in these outlying areas were another force for the spatial decentralization of Los Angeles during the twenties. Coupled with this investment was the development of refining and storage facilities near the port. The

petroleum industry, one of the most important in the boom of Los Angeles in the twenties, is inherently dispersed, and this certainly contributed to the sprawl of the metropolis during this decade. To a lesser extent, the arrival of the movie industry in the twenties had a similar effect. Seeking large lots and a variety of settings for movie production, the film industry also developed a dispersed pattern of investments as it took an important place in local economic growth.

While the harbors of many eastern cities were the sources of their early commercial growth, and determined the locations of their central business districts, the Los Angeles Harbor played a small role in the early development of the town. When the seaport did begin to develop as a significant part of the local economy, between 1890 and 1920, its growth took place approximately 20 miles from the business center of the city. The harbor was an important element in the economic boom of the twenties in part because of the growth in exports of the region's petroleum. The distance of the harbor from downtown meant that its growth fostered the decentralization of economic activity. In fiscal year 1920, 2,886 ships entered Los Angeles Harbor, carrying 3.5 million tons of cargo, valued at 154 million dollars. In the fiscal year ending in June 1930, the number of vessels entering the port had grown to 8,633 which carried 26 million tons of cargo valued at more than a billion dollars (Findley, 1958, p. 110). By this time, the port of Los Angeles ranked third nationally in total commerce and second in export tonnage (Findley, 1958, p. 111), and the associated growth in warehousing and commercial activity took place along forty miles of waterfront in the Long Beach, San Pedro and Wilmington areas, quite distant from the traditional commercial core of the city. In response, new residential communities sprang up between the downtown and port areas, on previously undeveloped land.

In 1906, following the disastrous San Francisco earthquake, the Los Angeles City Council passed an ordinance limiting the height of buildings in the city to 150 feet. The ordinance remained in effect until the mid 1950s, the only exception being the construction of the 28-story Los Angeles City Hall, completed in 1928. The limit on building height reduced the attractiveness of the central business district to office developers, thus contributing to the decentralization of economic activity. Certainly, after the elimination of the height limitation, at about the same time that freeway construction was at its peak, there was a surge of hi-rise development in the downtown area (Scott, 1971, pp. 189-190).

Autos and Traffic in the Boom of the Twenties

An extensive network of interurban and local street railways existed, which at first benefitted by the dispersed growth of the twenties. Because the system had been "overbuilt" in pursuit of earlier real estate profits, it had the capacity to carry more and more passengers as suburban growth accelerated after the First World War. While the Pacific Electric System had carried about 74 million passengers in 1919, in 1924 it carried its highest annual passenger total of more than 109 million, an increase of 47 percent in only six years (Crump, 1962, p. 251). This growth, however, was much smaller than the growth in automobile ownership during the same period, and interurban patronage fell off after 1924 as reliance on the automobile increased.

The growth of Los Angeles, which peaked in the early twenties, was accompanied by greater financial access of the population to automobiles following upon the introduction of both assembly line techniques and installment buying. Expansion of the automobile industry was simultaneously the cause and the result of

a decline in the price of cars. While the Ford Model T sold for \$950 in 1909 and a Ford runabout sold for \$390 in 1916, by 1926 a Ford runabout cost \$260 and a Model T carried a price tag of \$290. In 1926, however, the price tag was attached to a car which provided its occupants better protection from rain, dust, and direct sun (Berger, 1979, p. 44).

Los Angeles had an unusually high rate of automobile ownership before 1920, but during the twenties its familiar pattern of reliance on automobile travel was solidified. Between 1919 and 1929, the number of autos registered in the county increased from 141,000 to 777,000 (Foster, 1971, p. 143). This rate of increase (about 550%) was many times the rate of increase in population, and the ratio of people per car dropped in ten years from nine to one to roughly three to one. Nearly fifty years passed before the city reached the present ratio of people to cars, which approximates 1.7 to one (California Department of Transportation, 1979), indicating that the twenties was the watershed decade for Los Angeles' adoption of the automobile.

It is difficult, and probably fruitless to determine whether the decentralization of Los Angeles caused or resulted from this explosive growth in the use of the automobile, but the combination clearly gave the city its familiar character during the twenties. Foster (1971, p. 14) for example, reports that despite the decentralization of economic activity:

A 1933 study of traffic in ten major United States cities revealed that over twice as many vehicles invaded downtown Los Angeles in a twelve hour period as any other city studied. Roughly 277,000 automobiles entered downtown Los Angeles' central business district. Of cities with roughly equal sized central districts, Chicago was visited by 13,000 automobiles in the same time period, Boston by 66,000 and St. Louis by only 49,000.

A cordon count revealed that in 1924, 48% of all those entering the central business district of Los Angeles came by car, and by 1931 another cordon count showed that the proportion had risen to 62% (Foster 1971, p. 144). Amazingly, the passage of fifty years, and the construction of hundreds of miles of freeways has not really changed the basic pattern, for a 1980 cordon count showed that about two-thirds of those entering the Los Angeles CBD on a typical workday arrived in autos, vans, and trucks (Los Angeles Department of Transportation, 1980).

The rapid growth in automobile ownership and use during the early twenties had two important effects upon Los Angeles. First, it increased congestion on the streets at a much faster rate than street widenings, straightenings and new street openings could cope with. Second, the growth in automobile traffic had a devastating effect upon street railway operations, which had already been in financial difficulty before the widespread adoption of the automobile. The automobile first deprived the street railways of their weekend excursion traffic to beaches and mountain resorts, as people began to substitute Sunday drives for trolley car outings. For the financially strapped public transit systems, the withdrawal of this traffic was quite damaging. Their rush hour commuting patronage remained stable at first, but profit margins disappeared due to loss of revenue from recreational traffic. This forced a reduction in maintenance and a decrease in the frequency with which old vehicles were replaced. Some marginal routes were abandoned starting in the early twenties, and frequencies of service were decreased. Repeated requests for fare increases were denied by the city council, leading to further reductions in levels of service.

As transit service declined, more and more people took to automobiles for work trips, further crowding the streets which autos shared with transit cars. This, in

turn, slowed transit service, increased operating costs, and caused even larger numbers of commuters to abandon the trolleys in favor of auto commuting. Despite continued growth in population, revenue passengers on the Pacific Electric declined from 109 million in 1923 to 100 million in 1931 (Crump, 1962, p. 251). The slow speeds and declining quality of transit service caused citizens to be outraged whenever proposals for fare increases were made, and the deterioration of service accelerated as traffic congestion grew. Even before 1920, the Automobile Club, the Business Mens' Cooperative Association, officers of the Pacific Electric Railway, and members of the city council all had addressed the problem with a variety of proposals for potential solutions. They all widely publicized the idea that Los Angeles had a severe congestion problem primarily because it had an inadequate street system. They pointed out that Washington, D.C. at the time devoted 44 percent of its central city area to streets, and San Diego's CBD had 41 percent of its area devoted to streets, while Los Angeles' central area had narrow and discontinuous streets amounting to a mere 21.5% of its total downtown area. Street widenings and extensions would help automobile and transit commuters, since both modes shared the streets. In addition, proposals were made to initiate a system of traffic controls, including stop signs and traffic signals, and limitations on parking on the streets (Los Angeles Traffic Commission, 1922).

From January through April 1920, the city council considered instituting a ban on curb parking in the central business district, an action which proved to be very controversial. Some business groups supported the ban, while others opposed it vehemently, fearing that it would lead to a decline in central city sales, and an abandonment of the central district by many smaller businesses (Bottles, 1983). The Board of Railway Commissioners argued that the ban was needed to reduce

interference of auto traffic with the operations of the street railways and to avoid fare increases. The ban on parking was finally approved, but within days of its implementation it spurred protest meetings at which hundreds of businessmen reported dramatic losses of trade. The newspapers joined in criticizing the parking ban, and the city council was finally forced to amend the ordinance, allowing 45-minute parking on the streets between the hours of 10:00 a.m. and 4:00 p.m., and keeping the no-parking rule in effect from 4:00 p.m. until 6:45 p.m. In the same year, the Automobile Club installed the first traffic signal as an "experiment," and despite confusion and early violations, this innovation in traffic control took hold and in time, it was widely accepted and obeyed.

The Role of City and Regional Planning

The twin explosions of population growth and automobilization occurred in the early 1920s in Los Angeles, just as the city planning movement was gaining momentum. Foster (1979) has argued that city planners were so busy establishing the legitimacy of their undertakings that they were forced to accept and adapt to the automobile rather than control it. If this occurred in eastern cities, where population growth had peaked decades earlier and urban cores of higher density were long established, it was even more obviously true in Southern California, where a commitment to decentralization was stronger.

The nascent "city planning" movement of the first decade of the century had resulted in the creation of several "city beautiful" organizations which feared that growth would lead to congestion and a decline in the quality of life, but the potential for profit was so great that opposition to growth was ineffectual. An accommodation was reached, over time, between boosters of growth and promoters

of the "city beautiful." Both groups regarded east coast and European cities to be models of what should be avoided in Los Angeles, and both identified high densities and congestion as the greatest dangers facing their city. Promotion of low-density and dispersed growth could, they finally agreed, serve the interests of both boosters and reformers. The city of Los Angeles established a planning commission in 1920, and the commissioners spoke out for a dispersed city, avoiding eastern-style skyscrapers. The most tangible manifestation of their commitment to decentralization was their leadership in the creation in 1923 of the nation's first regional planning commission, joining together planning proponents from 39 cities in the County of Los Angeles. In the words of Fogelson (1967, p. 250), "from their conception of congested eastern and midwestern metropolises, the planners assumed that the great city was no longer the most pleasant place for living or the most efficient location for working. They proposed, as an alternative, residential dispersal and business decentralization" This view was reinforced by the appointment of realtors, bankers, and land developers to the two new planning commissions. While advocating orderly decentralized growth, the commissions for all practical purposes focused their everyday staff activities upon two principal tasks: the rationalization of land subdivision activity in the county, and the provision of adequate streets and highways, primarily through negotiated agreements with the land developers.

Against the backdrop of growing traffic congestion and increasing political salience of the traffic issue, Los Angeles in the early twenties considered two different regional transportation plans which would determine the directions of transportation policy in that city for decades to come. The first dealt primarily with highways, and the second primarily with transit.

The Major Traffic Street Plan

The Automobile Club and a voluntary association of civic leaders calling itself the Los Angeles Traffic Commission, both surveyed traffic conditions and called upon the city council in the early twenties to develop a single comprehensive highway and street plan for Los Angeles, to include street widenings, straightenings, and extensions in accordance with a set of principles for improved traffic flow throughout the city. At the time, individual subdivisions were platted with little reference to connectivity or capacity of the overall street network, and street widenings were considered only when petitions were received from property owners along the streets. Petitions were reviewed, on a case by case basis, by the city engineer. If the proposals were approved, the property owners would be assessed the cost of improvements, and a contractor retained to do the work. There was no master plan for such actions, and the individual projects were uncoordinated. After several independent proposals and plans for the improvement of traffic in Los Angeles, twenty-three members of the Traffic Commission were appointed and constituted as a "Major Highways Committee," and each donated \$1,000 toward financing and drafting a comprehensive traffic plan. They retained Frederick Law Olmstead, Jr., Harland Bartholomew, and Charles H. Cheney, who considered the many independent proposals and distilled from them the influential Major Traffic Street Plan of 1924. The plan argued for the widening, extension, and straightening of many streets, and the provision of a network of major streets. It proposed the first continuous grade-separated parkway, similar to those under development at the time in the New York area. The proposed Arroyo Seco Parkway would connect Pasadena to the central business district, and would later be incorporated into the

issues, and local assessments of affected property owners was advocated as a fair and balanced way of implementing the plan over the coming years.

Support for the two ballot measures was widespread, though there was some opposition, primarily related to the high cost of the project and its financing mechanisms (Foster, 1971, pp. 158-160). Some homeowner groups felt that special assessments were unfair, in that property owners abutting the improved roads would bear much of the cost, while many non-resident users would benefit. The bond issue was also opposed by some who argued that the growing population had greater need for schools and health care facilities than for roads. In fact, the proposed bond issue would raise an amount of money which could only provide a modest start toward implementing the street program, expected to cost hundreds of millions. Yet, a modest start was advocated precisely because the city council feared public opposition to larger spending programs. The propositions were both approved by wide margins, and the Major Street Plan had been adopted.

By the end of the twenties, only a small proportion of the projects included in the street plan had been implemented, but progress was underway. Significantly, the consensus that these projects were important remained strong throughout the depression years, and nearly every subsequent plan for highway or freeway improvements in many ways resembled the initial one. As new subdivisions were opened in later years, streets were extended and patterned after the 1924 plan, and its influence can today be seen throughout Los Angeles.

A Comprehensive Rapid Transit Plan

Everyone agreed that the automobile was critical to the future prosperity of Los Angeles, yet few in the early twenties believed that rapid transit would not also

be a critical element in the city's transportation system. Support for the highway plan and parking controls were both predicated in part on the improvements which they would engender in transit service as well as their benefits to auto commuters. Yet, the public and the press were extremely critical of the Los Angeles Railway and the Pacific Electric, complaining about the quality of service and opposing every effort to raise fares. After a series of critical articles in the local press, and outraged testimony before the city council, in 1923 the council and the Board of Public Utilities agreed to work with the railways to improve service (Bottles, 1983). Although there had been many proposals for rail rapid transit projects dating back to 1906, local planners urged that transit improvements should be undertaken only in accordance with a metropolitan comprehensive plan for transit improvements. Although construction was underway on a subway project which would permit streetcars to travel underground through one of the most congested central city areas to a downtown terminal building of the Pacific Electric, the city charter revisions of 1924 included a provision that no rapid transit construction could be undertaken until a city-wide plan was completed and approved (Foster, 1971, p. 112). In 1924, the city council and the County Board of Supervisors agreed to share the cost of hiring a firm of transit experts to prepare a comprehensive transit plan for Los Angeles. The Chicago firm of Kelker, DeLeuw, and Company was chosen, and in 1925 they submitted the Report and Recommendations on a Comprehensive Rapid Transit Plan for the City of Los Angeles.

The plan called for the construction of 26.1 miles of subways and 85.3 miles of elevated railways during the following ten years, and proposed many miles of feeder bus lines and bus routes in outlying areas. The report estimated the total capital cost of the transit system to be \$133,400,000. The authors acknowledged that Los

Angeles would continue to be a low-density metropolis of single-family homes, and that rapid transit could not be financed solely from operating revenues in such an environment. It recommended that special assessments be employed in the vicinity of the stations, and that the municipality participate in the real estate gains that would flow from the investment by acquiring vacant property along the route, with rental income in later years going to pay off bonded indebtedness which would be used to cover construction costs. Finally, it acknowledged that an increase in transit fares would be required, probably from the 1925 level of five cents to a new level of eight cents, to make the project a reality (Kelker, DeLeuw, and Co., 1925, pp. 163-181).

While many central city business groups supported the transit plan, and eventually some suburban chambers of commerce also endorsed it, the transit plan met from the start with much greater opposition than did the highway plan. Many questioned the wisdom of spending so much public money to benefit the privately-owned Pacific Electric and Los Angeles Railway, especially considering their poor record of service. Others decried the fare increase which would likely be required. While an eight cent fare may seem tolerable looking back upon these events from the perspective of the eighties, it actually constituted a sixty percent increase in fares, and was greeted by the public as would any current proposal to raise transit fares by an equivalent percentage. There was also damaging opposition to the proposal that the majority of the proposed transit routes would be elevated, and many homeowner groups decried elevated transit lines as dirty, rickety, noisy, and blighting. Reports appeared in the local press of depressed property values in New York, Chicago, and Philadelphia where elevated railways had already been

built. The consultants had pointed out, however, that four miles of elevated line could be built for a cost equivalent to that of one mile of subway.

At the time the Kelker DeLeuw recommendations were made, the City of Los Angeles had for years been attempting to force the major railways serving Los Angeles to abandon their separate downtown terminals and to jointly finance a "union station," located west of the plaza marking the point at which the city was supposedly founded. The railroads preferred to maintain their independent terminals for a number of reasons, not the least of which was fear that they would be forced to permit intercity service by new competing carriers from the union station. They could at the time effectively exclude new rail carriers from serving Los Angeles because the Santa Fe, Union Pacific, and Southern Pacific controlled the downtown terminals and the most economic rights-of-way providing access to downtown. The Los Angeles Times favored a union station at the plaza site, while several other newspapers favored the railroads' position. The railroads offered to elevate the tracks serving their existing downtown terminals, thus eliminating many grade crossings, reducing safety hazards, and facilitating the flow of downtown traffic. They also agreed to allow the Pacific Electric to use the proposed elevated rights-of-way, providing convenient access between the intercity railraod terminals and the public transit system. The issue became heated, and the debate lasted for years. Charges were made that crooked real estate deals were really behind the different positions, and several public commissions studied the issue without resolution. Finally, the controversy led in 1926 to two ballot propositions. The first asked voters to approve or disapprove of a union station; and the second asked them to approve or disapprove of the proposed plaza site. The battle peaked as the

election neared, and the opposition to the railroads' position, articulated by the Taxpayers Anti-Elevated League, was based in large part upon the environmental damage which would have been done by elevated lines.

Consideration of the Kelker DeLeuw plan was deferred until the union station issue was resolved, but the implications were clear. A defeat of the railroads' proposal would severely damage prospects for implementation of the transit plan, since the acceptance of elevated railways was so central to the debate over the terminal. The voters approved the concept of a union station by a margin of 61% to 39% and also chose the plaza site, though by a smaller margin. In reaching this decision, the voters had overwhelmingly rejected elevated transit. The city council could no longer consider the Kelker DeLeuw proposal, and as the depression arrived it had not adopted that plan nor acted to implement a rapid transit system for Los Angeles.

The Legacy of the Twenties

City planners and businessmen agreed that decentralization of Los Angeles was desirable, and recognized that pursuit of this objective required major capital investments in the capacity to move people between many activity centers. They agreed that investments in highways and transit would be necessary to support decentralization. Yet, there were several practical reasons that the highway plan was implemented while the rail transit plan was not. It appears, in retrospect, that these circumstances, rather than a clear preference for automobiles, governed decisions in the twenties.

The highway plan consisted of hundreds of individual, functional improvements which could be implemented in piecemeal fashion over many years, while the transit

plan would require more "lumpy" capital investments, each quite expensive and concentrated in space and time. The tiny staff of the city planning commission, numbering about fourteen in 1925 and seventeen in 1931 (Foster, 1971, p. 218), could address specific street dedications and widenings as it went about its primary activity of reviewing subdivision applications. The planners could use their subdivision approval authority to gain compliance from the developers who, in the end, realized that successful marketing of their subdivisions depended upon adequate street access. The financial burden of implementing the street and highway improvements was imposed upon particular property owners who recovered their costs from the sale of the subdivided lots.

The transit plan was more difficult to implement for several reasons. Because particular elements of the plan were of much larger scale and greater cost than most of the highway projects, regional tax assessments and fare increases would be required to implement them. Yet, the public was already critical of the private transit companies, and did not welcome the prospect of paying for improvements to services which would yield private profits. In addition, though today it seems ironic in a city internationally known for its air pollution, the elevated transit lines were viewed in the twenties as environmentally damaging. They would bring noise and shadows to a city in which sunlight and views were highly valued. The transit plan also suffered because it was closely associated with the dispute over the union station, which tended to identify the rail plan with crooked politicians, kickbacks, and land grabs. City planners were too busy implementing the highway plan, and too vulnerable to political criticism to adopt a high profile in support of the rail transit plan.

As the citizens of Los Angeles debated the highway and transit plans, real estate speculators, building upon widespread preferences for single-family living and the availability of autos, continued their practice of opening new subdivisions, often employing fraudulent promotional tactics. By July of 1925, there were nearly half a million vacant but subdivided residential lots in Los Angeles county, meaning that more than 55% of the subdivided lots were as yet undeveloped (Foster, 1971, p. 183). While the real estate speculators experienced a substantial decline in volume of transactions during the late twenties, their earlier activity insured the continuation of the decentralized pattern which had been established in the days of the street railways.

By 1930, Los Angeles led the nation's cities in the proportion of its dwelling units which were single-family homes, with an astounding proportion of 93.7 percent. The same census showed by comparison that New York, Boston, and Chicago all had housing stocks of which less than 53 percent of the dwellings were single-family units (U.S. Bureau of the Census, 1930, p. 450-51). In 1930, the Census Bureau reported that Los Angeles had a population density of only 2,812 persons per square mile. This figure may be somewhat misleading, since it is based upon a land area which includes the large and then sparsely-developed San Fernando Valley, annexed to the city after completion of the Owens Valley aqueduct project. Excluding this portion of the city, the density approximated 6,000 people per square mile, still dramatically lower than the reported figure of more than 23,000 residents per square mile in New York, nearly 18,000 per square mile in Boston, and nearly 17,000 per square mile for Chicago (U.S. Bureau of the Census, 1930, p. 77).

By 1930 it was also clear that businesses, services, and commercial activities had dispersed in the twenties to a far greater extent than they had in the previous

four decades. For example, while 55% of all the city's banks were located downtown in 1920, only ten years later that proportion had declined to eleven percent, as hundreds of branch banks opened throughout the area. The proportion of dentist's offices outside the central city increased from 16% in 1920 to 55% in 1930; and the proportion of the city's theaters which were in the central city declined from 73% in 1920 to just 20% in 1930. While less than half of the city's delicatessens were in outlying locations in 1920, 93% were located outside the central city by 1930 (Reeves, p. 19). By all accounts, then, the dispersed pattern typical of Los Angeles was clearly established during the twenties, long before the start of construction on the region's freeways.

The great boom of the twenties ended with a dramatic slowing of economic growth, bankruptcies of many realtors and speculators, and a slowing of the pace with which citizens of Los Angeles acquired more automobiles. The pattern of the twenties persisted, with the street railways slowly declining during the thirties, and prospering briefly during the war years in response to gasoline rationing and military production in Los Angeles. Each year, bus routes were expanded and street railway lines abandoned. Buses could more economically serve a large low-density metropolitan area, and that pattern had been well established prior to 1930. There were many proposals for transit improvements, but they all failed to capture the imagination of the public, and its political leadership.

Following the end of the Second World War, when suburban growth again boomed in Los Angeles, the freeway building program began. In the early sixties the last rail transit line was replaced by buses and since then at least half a dozen major rapid transit plans have been considered as hundreds of miles of freeways were built. Los Angeles now has the largest all bus transit fleet in the United States, and

it appears that after sixty years a start will soon be made on a rail rapid transit system. The arguments for and against the most recent subway proposals for this city have been substantially identical to those offered in the nineteen twenties, and the major stumbling block continues to be failure to secure the necessary funding for a rail transit system in a growing and vital but decentralized metropolitan area.



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