UNIVERSITY OF CALIFORNIA AT LOS ANGELES

An Analysis of Proposals to Provide Rapid and Adequate Mass Transportation for the Los Angeles Area

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by

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CHAPTER I

AN ANALYSIS OF THE PROBLEM

The problem of rapid and adequate mass transportation in the Los Angeles area has been a prominent as well as a serious one for many years. Official recognition of the transportation difficulties of Los Angeles was made as far back as 1910.[1] Twenty years later, Mayor John C. Porter, at a conference on the rapid transit question stated, "This rapid transit problem is one that deserves the very closest attention and scrutiny."[2] Some eight years after that statement, there appeared in a local newspaper an item to the effect that Mayor Shaw had just secured ninety thousand dollars from the Federal government for the purpose of making a comprehensive rapid transit study and "to lay the groundwork for the development of a rapid transit system that will serve all portions of the city...."[3]

Evidence of the Problem

The need of expediting local transportation, while one of long standing, has become increasingly evident during late years. A striking illustration of the sluggishness of present day local transportation movement was made recently by a representative of the Automobile Club of Southern California, and a

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1 Los Angeles. Board of Public Utilities and Transportation, First Annual Report (1910), p. 150.

2 Los Angeles. Board of City Planning Commissioners, Conference on the Rapid Transit Problem (1930), p. 79.

3 Los Angeles Times, June 27, 1938, p. 7. This amount was later reduced to $65,000.

member of the Los Angeles Times staff. Comparisons were made between the time it took for a horse and buggy in 1890 to drive on Broadway from First Street to Tenth Street, and the time it took to drive an automobile and run a street car over the same route at present. It took the horse and buggy ten minutes and twenty-one seconds to make the distance in the year 1890. Now it takes an automobile fourteen mimutes and twelve seconds to traverse this distance, almost four minutes slower than the horse and buggy time of forty-eight years ago. The trial showed the street car was likewise slower in the travelling of this same distance. The time was twelve mimutes and two seconds, almost two minutes longer.[4]

Judging from the above figures, the approximate rate of speed for an automobile travelling through the central business district is four miles an hour, and the street car rate in downtown Los Angeles is between four and five miles an hour. These approximations of speed of travel as they pertain to the Los Angeles Railway Corporation's operations in that district are in agreement with official statements of that company. In a memorandum to the Board of City Planning Commissioners, City of Los Angeles, Mr. Richard Sachse, Consulting Engineer of the Los Angeles Railway, said that the rate of speed in congested districts during peak-load periods falls below five miles an hour.[5] This low speed rate in the downtown district is also

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4 Ibid., June 18, 1938, p. 1. The time trials for automobile and street car were made at a normal average period of traffic during a week day; not at the height of congestion.

5 Board of Planning Commissioners, op. cit., p. 26.

particular to the Pacific Electric cars.[6]

Beyond the immediate central business district, congestion is lessened to an extent that surface cars are enabled to reach somewhat higher speeds of transit, although these speeds are comparatively inadequate. An average schedule-speed of eleven miles an hour is obtained within a ten mile radius of Seventh Street and Broadway.[7]

The Los Angeles Motor Coach Company has been able to speed up their bus service in a slight degree, although the general average speed is low. Recent data show an average downtown business district rate of between seven and eight miles an hour. The overall average schedule time approximates thirteen miles per hour within the city limits. On the only interurban line of the Los Angeles Motor Company operates, the rate of speed averages twenty-two miles an hour.[8]

The possible mechanical speed of both street cars and motor buses is from thirty-five to forty-five miles an hour.[9]

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6 George D. Rowan, Need For a Rapid Transit System in Los Angeles, p. 2 (1936).

7 Ibid., p. 6. The average speed of Los Angeles Railway cars in 1920 was ten miles per hour. In 1924 this speed was 9.53 miles per hour, and increased to 11.01 miles per hour by 1933, due in part to the decreasing number of passengers per car mile. Cf. Railroad Commission of the State of California, Report on the Local Public Transportation Requirements of Los Angeles, p. 205 (1933).

8 Personal conversation with Mr. Kanning, Assistant Manager, Los Angeles Motor Coach Company, June 29, 1938. Mr. Kanning states that the average speed of seven and one-half miles per hour obtained in the central business district is due to the recent traffic innovations on Eighth Street which expedite motor vehicles considerably. He states further that north and south traffic, particularly on Hill Street, will not average more than from three to five miles per hour.

9 Sachse, op. cit., p. 26.

and this discrepancy between the actual running time and potential speed is significant. That mass transportation in Los Angeles is sluggish and moves at a snail's pace in the light of modern technological capacity seems certain.

The Automobile Club of Southern California has shown in a recent survey of metropolitan traffic conditions that in spite of the vast sums of money expended for traffic improvements the rate of automotive travel has definitely retrogressed from the year 1930 to the year 1936. The driving time from Seventh Street and Broadway to outlying localities during off-peak traffic periods in the year of 1930 was compared with 1936. Table I shows some of the evidences of this slowing up of automobile driving time during that period.

The original diagram, depicting the driving time location of the principal cities and towns in the metropolitan area, cites data on fifty cities. This data shows that in forty-one instances the time between these cities and Seventh and Broadway is greater today than it was in 1930.[10]

Factors in Growth of Congestion

Buses, street cars, and automobiles constitute the chief modes of transport utilized by the citizens of Los Angeles. If, as the various surveys of transportation in the city have tended to show, these means have failed to provide the public with efficient and adequate transit facilities, what factors

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10 Automobile Club of Southern California, Traffic Survey Metropolitan Area, 1937, 29 (1938).

have contributed to the growth of congestion which has prevented the free flow of mass transportation?

Certainly, Los Angeles is not unique in having a transportation problem. New York, Philadelphia, Chicago, have had and are having today such difficulties. But because of certain dissimilar circumstances surrounding the growth of Los Angeles, this city's problem is not the same as that of New York, Philadelphia, or Chicago.

Population

In order to understand more clearly the present day transportation situation it is necessary to take into account the factor of population growth and its distribution in this locality. It is obvious that the volume of population within a city area has a decidedly important bearing on the question of mass transportation. The distribution of this population will determine the type of transportation problem involved, and is of major importance in the solution thereof.[11]

The City of Los Angeles has had a tremendous growth in population. In 1900 the official census showed a population of 102,479 persons.[12] The county of Los Angeles had at that time 170,298.[13] From that time on the number of people living in Los Angeles increased rapidly. By 1910 the city figure was

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11 The density of population determines to a large degree the financial feasibility of building subways.

12 Twelfth Census of the United States Population, (1900), p. lxix.

13 Ibid., p. 32.

TABLE I

INCREASE IN DRIVING TIME DUE TO CONGESTION*

From Los Angeles	To	Driving time in Minutes 1930	1936
Seventh and Broadway	Beverly Hills	28	31
" " "	Pasadena	28½	31½
" " "	Glendale	22	24
" " "	Alhambra	23½	25½
" " "	Huntington Park	18	20
" " "	Burbank	32	31
" " "	Wilmington	45	40
" " "	Bell	25	25

* SOURCE: Automobile Club of Southern California, Traffic Survey Los Angeles Metropolitan Area, 1937.

TABLE II

GROWTH OF POPULATION IS LOS ANGELES AREA 1910 - 1937 *

Census Year	City	County
1900	102,479	170,298
1910	319,198	504,131
1920	576,673	936,455
1930	1,238,048	2,208,492
1937	1,322,784	2,359,648
1938	1,327,602	2,368,242

* SOURCE: United States Census, 1900-1930. Figures for 1937-38 from Los Angeles Chamber of Commerce, Research Department.

319,198,[14] and in 1920: 576,673.[15] During the next ten years, paralleling the increasing traffic congestion, population within the city limits showed a substantial growth of one hundred and fourteen percent. The population figure for 1930 was 1,238,048.[16] The past seven years has witnessed a less abrupt rate of growth, although evidencing a forward movement. Estimates for the beginning of the year 1938 placed the figure at 1,327,602 persons.[17]

The increase in population for Los Angeles county has kept pace with, and at times exceeded, the rate of the city increase. Table II illustrates this twin development of population in the Los Angeles area.[18]

From these figures it can be seen that Los Angeles has had a phenomenal increase in population over a relatively short period of time; rising from the seventeenth largest city in the United States in 1910, to the fifth largest in 1930. The major portion of this rapid increase occurred during the "twenties." This rapid growth to over one million inhabitants was a major factor in projecting the transportation problem into a position of first importance to the citizens of Los Angeles.

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14 Thirteenth Census of the United States Population (1910) p. 82.

15 Fifteenth Census of the United States Population (1930) p. 61.

16 Ibid., p. 61.

17 Los Angeles Chamber of Commerce estimate based on Federal Government figures.

18 United States Census figures, 1900-1930, passim. The 1937-38 estimate is from the Los Angeles Chamber of Commerce.

Distribution of Population

As mentioned above,[19] the distribution of the population in a city is an important factor when seeking a solution to the problem of expediting transportation. Likewise, the distribution of population is a conditioning factor as regards the intensity of transit difficulties; especially the degree of concentration within a centralized business district. If in the normal processes of growth there occurs the crowding of large masses of the people within certain restricted areas, it follows that the transportation problems is greatly aggravated.

In comparison with other large cities in the United States, Los Angeles may be considered fortunate as regards municipal and residential density of population.

There has resulted less concentration in the Los Angeles business district than in any other comparable city in the country. This is due in part to the 150 foot building height limit in the central business district. It is also due to the gradual movement of the center of this district southward and westward.[20] This latter fact also holds true of the density of population in districts remote from the center of the city.[21]

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19 Supra, p. 4.

20 Donald Baker, "Mass Transportation and Some Related Problems," A. S. C. E., IV, p. 3-4 (1931). This article gives an adequate account of this movement of the central business district.

21 Contributing factors affecting this scattering of population in outlying districts are excessive subdivision of property, and the advent of the automobile, plus the lack of rapid transit facilities.

Table III shows this comparison with other cities.[22] From the figures given in this table it appears that Los Angeles has had an unusual distribution of its population over a wide area; that its transportation difficulties have not resulted primarily from mass concentration of people in towering skyscrapers. Los Angeles is not a replica of New York, Philadelphia, or Chicago in this respect.

Sources of Traffic Congestion

Even though Los Angeles has not followed this particular pattern of urban development, it does not signify that there is not a heavy flow of traffic into and out of the central business district each day. The nature of this flow is in good part responsible for the present day sluggishness of mass transportation movement.

Los Angeles is fifth in population in the United States and thus has heavy usage of its streets. Moreover, the fact that "the streets are used by many thousands of residents of nearby communities and a not inconsiderable number of tourists"[23] accounts for much congestion. Los Angeles County contains slightly over a million more inhabitants than the city.[24]

Although the county is wide spread,[25] there is located

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22 Board of Public Utilities and Transportation, A Study of the Feasibility and Desirability of a City-Wide Motor Coach System, p. 20 (1935).

23 Bureau of Street Traffic Engineering (R. T. Dorsey, Chief) Report, p. 2 (February 15, 1938).

24 Supra, p. 4. The actual excess of population in the county over the city is 1,040,640.

25 Present area of Los Angeles County is 3951.9783 sq. miles. Information supplied by Los Angeles County Surveyor's office, July 1, 1938.

TABLE III

DENSITY OF POPULATION OF IMPORTANT CITIES*

City	Density per square mile
New York	23,176.7
Chicago	16,723.3
Philadelphia	15,241.9
Detroit	11,375.4
Los Angeles	2,747.3
Cleveland	12,725.1
St. Louis	13,224.5
Baltimore	10,224.5
Boston	17,794.7
Pittsburgh	13,056.9

* SOURCE: Board of Public Utilities and Transportation, A Study of the Feasibility and Desirability of a City-Wide Motor Coach System, p. 20.

within a sixty minute ride from the center of the city forty-five towns and cities.[26] The Pacific Electric Railway by rail and bus service brings a large number of commuters from these outlying centers into the central business district each day. Figures are not available to show the exact number of individuals transported from these satellite communities,[27] but as Mr. Dorsey, City Traffic Engineer, has said, it is undoubtedly many thousands.

The Automobile

More specific data is available, however, to show that the essence of the local traffic congestion lies in the unusually high use of the automobile in this area; that it is this factor which has influenced congestion so strongly and brought it to its present intensity.

Fourteen years ago at the time of the Kelker, DeLeuw survey[28] the statement was made that:

> The use of the passenger automobile in California as a means of transportation to and from places of business and employment as well as for recreational purposes and pleasure riding, is without parallel in any other state. While this is true of the entire state, it is particularly true of the city and county of Los Angeles....[29]

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26 Automobile Club of Southern California, op. cit., p. 29.

27 Conversation with Mr. Belnap of Traffic Department of the Pacific Electric Railway brought forth the fact that such figures are not available. At the present time, however, in the comprehensive traffic survey now being carried on, such data is being compiled.

28 Infra, Chapter II.

29 Kelker, DeLeuw, and Co., Report on a Comprehensive Rapid Transit Plan for the City and County of Los Angeles, p. 25 (1935).

The registration of motor vehicles in Los Angeles City and County during the years from 1914 to 1936 inclusive emphasizes the phenomenal growth of traffic which occurred as a direct result of this factor. In 1914 there were but 43,099 automobiles in the county.[30] By 1918, registrations showed a total of 107,232, which increased to 425,582 in 1923, a growth of approximately four hundred per cent in five years.[31] This amazing development continued without interruption, save for the three depression years of 1931, 1932, and 1933 when there was a slight decrease.[32] By the end of 1934 the forward movement was under way again with substantial gains showing for the past three years.[33] At the end of 1936 there were registered in the County almost a million cars, the exact figure being 960, 416.[34] If one considers the additional number of automobiles traversing the streets and highways of the city and county which come from localities outside of this area, it is estimated that there are well over a million motor vehicles in use in Los Angeles during some period of the day.

Recent investigations have shown that the Los Angeles area has the highest automobile registration per unit of any large

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30 Los Angeles Chamber of Commerce, Research Department, Personal Interview (March, 1937).

31 Idem.

32 Idem.

33 Idem.

34 Idem.

city in the country. The Automobile Club of Southern California in a survey found that the unit registration for this and other areas in relation to population for 1936 was as follows:[35]

Los Angeles:	one	registered	vehicle	to	each	2.8	persons
Chicago:	"	"	"	"	"	8.2	"
Detroit:	"	"	"	"	"	4.4	"
New York:	"	"	"	"	"	11.6	"
Philadelphia:	"	"	"	"	"	9.0	"

Referring to the year 1924 again, which is the year when the automobile emerged as the significant factor in Los Angeles traffic, it is important to note automobile registrations at that time and to observe the large growth which has occurred. In 1915, available data shows thirty-five cars registered for each one thousand population. By 1924 this had leaped to a figure of 200 registered cars per one thousand population, whereas in 1931, the count showed 366 per thousand population.[36] The most recent figure (1937) shows that there are now 444 cars registered for each one thousand persons in the city. This represents a little more than a one hundred per cent increase since 1924.[37]

Another study by the Bureau of Street Traffic shows a

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35 The Club states: "It is believed that the density per square mile of automobile use is greater, particularly in the congested portions of the Los Angeles area, than in any other locality in the United States." Automobile Club of Southern California, op. cit., p. 10.

36 Donald M. Baker, A Rapid Transit System for Los Angeles, p. 16 (1933).

37 Los Angeles Chamber of Commerce, Research Department (1937).

slightly higher figure for the year ending 1937; one of 2.33 persons for each registered vehicle in the Los Angeles City area. This report states:

> Los Angeles has the heaviest percentage of motor vehicles of any large city in the United States.... It may be stated that the number of automobiles entering the Central Traffic District[38] of Los Angeles is nearly twice the number entering the "Loop District" in Chicago. Fifty-six per cent of all persons enter the Los Angeles central traffic by private automobile, as against twenty-two per cent in San Francisco.[39]

Table IV further illustrates the comparison between Los Angeles and other cities as regards the use of automobiles.

Factors Influencing Use of Automobiles

A consideration of the reason the automobile has played such a large part in the development of both Los Angeles and its transportation difficulties reveals two predominating factors involved. First and foremost, of course, is the climate of this area. The significance of this important element in promoting the widespread use of the automobile in Southern California in general, and in Los Angeles in particular, has been frequently recognized.[40] All agree that the equable and mild climate which exists here has resulted in conditions which favor the daily use of the automobile the year round.

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38 The Central Traffic District as defined in this report is the area bounded by Los Angeles Street on the East, Sunset Boulevard on the north, Figueroa Street on the west, and Pico Boulevard on the north.

39 Dorsey, op. cit., p. 2.

40 See Board of Public Utilities and Transportation, op. cit., p. 22 (1935); Kelker De Leuw & Co., op. cit.; Donald Baker, op. cit., p. 17; Olmstead, Bartholemew and Cheney, A Major Traffic Street Plan for Los Angeles, p. 11.

TABLE IV

REGISTRATION OF AUTOMOBILES IN LOS ANGELES AND OTHER CITIES*

	1930 Population	Total Registered Motor Vehicles	Registered Motor Vehicles per 1000 Population
Chicago	3,376,478	485,565	144
Philadelphia	1,950,961	229,371	117
Detroit	1,568,622	388,946	248
Los Angeles	1,238,048	517,693	418
Boston	781,188	113,116	145
Pittsburgh	669,817	74,584	112
St. Louis	896,307	168,176	188
Baltimore	804,874	325,597	404
Washington	486,869	156,686	322
Kansas City	521,603	126,119	242

SOURCE: Los Angeles Chamber of Commerce, Research Department.

Speaking of the growth in automobile use, Donald Baker states:

> It is questionable whether a similar type of growth could occur in any other large city, even with an approach in density of automobile ownership. In Los Angeles one may use a car 365 days during the year in going to work. In New York, Chicago, Boston, and Detroit it is almost impossible to obtain such a use during the winter time, although recently this winter use has shown some increase. Seasonal variation in highway traffic into New York ranges from 20 per cent to 225 per cent of the annual mean. As a result of climatic conditions in Los Angeles a man's place of residence may be almost anywhere within the metropolitan area so long as he can drive his car to his place of work or business within a reasonable time....[41]

Climatic conditions, then, act as an indirect factor of considerable importance in any consideration of the influences affecting the problem of transportation in Los Angeles.

The other important element which has contributed directly to the increase of automobile use and consequent congestion in Los Angeles, is the widely scattered residential area which obtains and the consequent housing of families in single dwellings which prevails so extensively. Los Angeles is the largest city in the United States from the standpoint of surface area.[42] Excessive subdivisions of property have resulted in scattering the population of the city on a wide-flung basis, extending from the center of the city in all directions to distances of from five to twenty-five miles.[43] This situation, coupled with the

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41 Donald Baker, "Mass Transportation and Some Related Problems," A. S. C. E., IV, p. 3. (November 1931).

42 On April 1, 1930 Los Angeles had a land area in square miles of 440.3. New York World Telegram, The World Almanac, p. 314. (1939).

43 During the ten year period between 1920 and 1930 records were filed in the City of Los Angeles which showed a total of 188,352 lots resulted from subdivisions. This equals a total area of 37,700 acres, or 59 square miles. Baker, A Rapid Transit System for Los Angeles, p. 6.

fact that the city and county have been most aggressive in the building of streets and highways within this area so that a network of over twelve thousand miles of roads has been constructed, has resulted in an ideal combination to foster automobile growth.[44]

While population growth and development of automobile traffic have been the most significant factor contributing to the increasing seriousness of the transportation problem in this area, there are several other causes which should be mentioned.

Effect of Early Rail Layout

The Automobile Club of Southern California, in considering the growth of traffic difficulties in Los Angeles, states that in a large degree the physical features of the locale and the plan of transportation for both streets and interurban rail lines have been responsible. They point out that the Pacific Electric Railway and the Los Angeles Railway Corporation laid out their rail lines so that they were projected "like the spokes of a wheel" into every part of the outlying area. This resulted in fostering development along radial lines. Out of forty-two incorporated cities in the local area, thirty-nine are in debt to these two railways for their early growth. Thirty-six of these cities are within twenty-five miles of Seventh and Broadway.[45]

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44 The Los Angeles County Regional Planning Commission estimates that the city of Los Angeles had 4,920 miles of streets by 1936.

45 Automobile Club of Southern California, op. cit., pp. 11-12.

The early construction of streets and highways usually followed rail lines and converged as a rule in the central business district. In a survey made of automobile travel as far back as 1920, it was found that out of a total of 21,664 trucks and autos entering the city during the day, 97 per cent of this traffic had for its objective the central business district.[46] Thus the laying out of the rail lines deeply influenced the transportation problem which arose at a later day.

Not only in this manner did the plan of construction of the rail lines lead to a developing difficulty in transportation. Congestion of traffic in certain specific districts of the city occurred as far back as 1910, and does so today. This was due to the use of Main Street for the interurban cars of the Pacific Electric Railway. At that time a study was made which revealed that:

> Fully 40,000 riders on both street car systems are delayed from five to forty minutes during the rush hours of each day and as many more are inconvenienced during the non-rush hours, due to the fundamental defects of the transportation arrangements along Main Street.[47]

The use of a "stub end" terminal with incoming track from a main thoroughfare, the use of a narrow gauge track by one system and a standard gauge by the other system, and the hampering of intersectional traffic across Main Street on account of the use of interurban lines on Main Street are factors in congestion dif-

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46 Automobile Club of Southern California, op. cit., p.11-12.

47 Bion J. Arnold, "The Transportation Problem of Los Angeles," The California Outlook, XI, p. 12 (November 4, 1911).

ficulties which may be attributed to the designing of the Pacific Electric track layout.[48]

Topographical Factors

The physical features of the Los Angeles area also had something to do with the growth of this problem. Certain natural obstacles have created hindrances to smooth flowing transportation, and while these topographical difficulties are today being rapidly surmounted by large scale engineering projects,[49] they should still be mentioned.

Outstanding in this respect as an impediment to free flowing rapid transit, is the area known as the Biltmore Heights Area (formerly Bunker Hill). This district located immediately north and west of the Central District has been a decided handicap to transportation units entering the downtown area. It consists of a large hill bounded by Sunset Boulevard on the north, Hill Street on the east, Fifth Street on the south, and Figueroa Street on the west. Because of the difficult grades involved, the district has not been utilized as part of the business district. Several tunnels through the hill have been constructed which have in part obviated the handicap, but the area still stands as an important obstacle to easy access downtown--particularly as regards travel from the west.[50]

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48 Infra, Chapters II and III.

49 An elaborate survey made for the purpose of judging the feasibility of eliminating this terrain was conducted in 1931 by Wm. H. Babcock and Son. See their Report on Economic and Engineering Feasibility of Re-grading the Bunker Hill Area.

50 Infra, Chapter IV for discussion of projects which have minimized these natural barriers.

The Los Angeles River and the various railroad terminals and yards have for some time past presented a dual natural and artificial topographical barrier to easy movement to the northeast and east sections of the city.

Other particularly notable physical barriers have been the Santa Monica hills and the Los Angeles River, which have not only curtailed smooth flowing of mass transportation in the northwest area of the city, but have reached almost to the heart of the city seriously to hinder passage of all vehicles north and northwest. This has resulted in the development of Los Angeles toward the west and south, the path of least resistance. This situation, in turn, concentrates an especially heavy traffic flow in these directions. It has also resulted in a heavy concentration along a few main arteries such as North Broadway, Sunset Boulevard, San Fernando Road, and Glendale Boulevard.[51] Table V illustrates the preponderance of volume in traffic flow resulting from the aforementioned factor.

Although there are other topographical conditions which have affected circulation of transportation to some extent, such as Baldwin Hills in the southwest, Palos Verdes Hills adjacent to San Pedro, and the Arroyo Seco river bed, the previous three wielded by far the biggest influence in the development of the present transportation problems.

The Factor of Available Street Space

Mention should be made at this point of another important

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51 Automobile Club of Southern California, op. cit., p. 15.

TABLE V

TOTAL VEHICLE TRAFFIC ENTERING AND LEAVING BUSINESS DISTRICT*

(on an average week day from 6 A.M. to 10 P.M.)

DIRECTION	CARS
North	94,213
South	204,933
East	127,540
West	300,551

*SOURCE: Automobile Club of Southern California, Traffic Survey, Los Angeles Metropolitan Area, 1937.

factor which has contributed considerably to the trouble: the failure to utilize all the existing street space available for traffic purposes and the restriction in street space available. In 1924, George Baker Anderson, then Manager of Transportation, Los Angeles Railways, showed that the percentage of street space available in the downtown area was very small.[52]

Coupled with this definite handicap in volume of usable street space is the inadequate use of the street space available. This results in large measure from the amount of space utilized for parking of motor vehicles. No figures are available to show the exact amount of street space which is taken from moving transportation units by parked cars. It is large, and this fact is borne out by photographic studies made by the Automobile Club of Southern California. One photograph of the central business district showed a total number of 10,915 cars parked on the streets.[53] Allowing forty square feet per parked car this takes away from moving traffic approximately 436,600 square feet of space.

A survey of parking on Broadway between First and Ninth Streets disclosed a total of 2,642 parked cars, of which

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52 George Baker Anderson, "Traffic Relief in Los Angeles," Electric Railway Journal, March 8, 1924, p. 325. Cleveland, St. Louis, Pittsburgh, Detroit, Chicago, and San Francisco, showed percentages of 39 per cent, 34½ per cent, 34 per cent, 29⅛ percent, 29 per cent, and 34½ per cent respectively. Los Angeles was the lowest of all with but 21.5 per cent of the downtown district available for street space.

53 Automobile Club of Southern California, op. cit., p. 21.

25 per cent were trucks.[54] The fact that some 556 trucks on the one street were utilizing traffic arteries for loading and unloading of merchandise points to the additional handicap of lack of alleys for such commercial purposes. The present problem of parking is not as acute today as it was a few years ago. This is because of the numerous city ordinances which have been passed to restrict this privilege. However, parking is still of major importance in reducing available street space for surface transportation units.

The problem of developing the maximum usable street space is complicated further by the large number of conflicting uses on one street level. Two types of street cars utilizing different gauges of track, buses of various classification, taxicabs, passenger and motor truck vehicles, pedestrian traffic, are to be found taking up space, each one of which acts to obstruct the other.

The Los Angeles Railway has pointed out continuously the handicaps to adequate street car service which result from the encroachment of the automobile on its trackage. The complaint is made that the private automobile, considered an inefficient means of transportation because of the large amount of street space it utilizes in proportion to the number of riders, has been allowed to hamper seriously the more efficient carriers

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54. Dorsey, op. cit., p. 4.

by usurping the street.[55] The automobile definitely imperils street car operation, especially in congested centers; the street cars obstruct free movement of the auto; the truck is an obstacle to both of the other forms of transportation, and vice versa. Pedestrians do their share to halt and slow the movement. As population increases, the number of pedestrians and motor vehicles increase. Thus the speed of mass transportation is constantly hindered as long as no segregation of these forms of traffic occurs.

Ill Effects

If adverse transportation conditions of a rather serious nature do exist in this city, what are the ill effects resulting? What is it costing the people of Los Angeles in time, energy, money, and emotional stability to be the victims of such an unhealthy civic situation? To answer these questions definitely is not possible at this time, as specific data is not available. Many of the losses which occur are in the nature of the intangible, and exact measurement seems remote. For example, the exasperation and irritation which result from being forced to function in an out-of-date transportation system.

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55 The Railroad Commission in its 1935 report states that causes of delay to street cars are often due to double parking of trucks and autos and also to careless parking of trucks forcing, in some cases, a line of traffic out over the rails. Autos often fail to keep in line and frequently block car tracks by as little as a foot. Left hand turns of autos and trucks in and out of alleys, garages, and parking lots. There are 25 parking lots on Hill Street in the business district and many on Spring Street. Cars travel 30 per cent more slowly on Spring than on Broadway due to this handicap.

There have been, however, some small attempts at measurement of time loss and of economic loss, and statements by prominent men in business life have estimated waste involved. Mr. John Bullock, speaking at the "Conference on the Rapid Transit Question," brought out the point that "property values downtown depend upon profitable use of this property for business purposes. Business activity largely depends upon having adequate transportation.... Continued delay or failure to promote rapid transit will tend to depreciate the stability of property values and other investments in downtown business."[56] Naturally, the lack of adequate transit facilities to the central business district works for decentralization of shopping and business centers with consequent serious loss to the downtown area, as Mr. Bullock stated.

An estimation of the dollar loss involved as a direct result of impeded traffic has been made. This shows that estimating 700,000 people entering and leaving the city daily in all types of transportation facilities with a delay of five minutes by traffic congestion and an estimated cost of one cent per minute for each individual, two thirds cent per minute for each motor car, and seven cents per minute for each street car, the total loss annually amounts to $15,000,000.[57] This does not include any other type of loss such as that which accrues to merchants

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56 John G. Bullock, Conference on the Rapid Transit Question, Called by The Board of City Planning Commissioners, p. 8.

57 Rowan, op. cit., p. 1.

or depreciation of property values in the central area.[58]

Economic waste and loss in personal efficiency are most important in a consideration of the harmful effects of traffic congestion and inadequate transportation facilities. Another serious ill effect which has caused widespread concern owing to its upward trend during the past years, is loss of property and life from transportation accidents. The statement is made that the Los Angeles Railways Corporation "has an average of at least 500 collisions per year with automobiles and persons, and puts aside between $300,000 and $500,000 per year to take care of injuries and damage."[59] Whether this large number of accidents is due more to obsolete equipment or to traffic congestion is not stated, but it stands as a significant sign of inefficient transportation functioning in Los Angeles.

In Los Angeles County in 1936 there were 18,092 motor accidents resulting in the death of or injury to 34,288 persons; 16,110 happened in Los Angeles City territory.[60] For the six-year period from 1931 to 1936 there were 5,383 people killed and 145,258 injured in Los Angeles County.[61] That traffic congestion is in part responsible for these high figures is evidenced by the fact that Los Angeles has the highest density

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58 Idem.

59 Ibid., p. 2.

60 Automobile Club of Southern California, op. cit., p. 10.

61 Idem.

of automobile registration in the country and the highest death rate of any city in the United States.[62] Thus one finds loss and waste rising in high proportions because of the problem.

Summary

Los Angeles has a real problem of providing rapid and adequate transportation. The volume of traffic in business areas has approached the saturation point. Speed of travel in some instances is little faster than a walk. Congestion is evident.

Factors involved in the development of the problem are numerous. Accelerated population growth in a short period of time paralleling the expansion of automobile ownership has been largely responsible. Ideal climatic conditions plus wide surface areas and scattered residential districts have fostered the unreserved use of the automobile in the district. Other factors contributing to the growth of the problem have been: topography of the community, original layout plan of streets and railways, inadequate street space and restricted use of this space, indiscriminate and haphazard intermingling of assorted types of traffic, concentration of business in centralized areas, and lack of modern intersectional crossings. Obsolete equipment of the main local rail line is significant. Serious ill effects have resulted subsequent to the development problem, occasioning huge losses of life in accidents, as well

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62 San Francisco records showed traffic deaths of 102 persons for the year 1936. Miller McClintock, Summary of San Francisco Traffic Survey, p. 4.

as large-scale economic loss and waste.

Through the years, various efforts have been made to study the problem and to offer solutions. The most important of these will be sketched in the next chapter.

CHAPTER II

HISTORICAL SKETCH OF MAJOR TRAFFIC SURVEYS AND PROPOSALS

Los Angeles has not been unconscious of the problem of transportation incident to her growth and development. For the past twenty-eight years, recognition has been made in various ways. The most concrete form which this recognition of traffic difficulties and the related problems of mass transportation has taken, has been through numerous private and public studies. These have been made in an effort to get the facts of the situation and to consider proposals for solution. These proposals, while seldom carried into effect, have been exceedingly valuable. They have served to keep before the citizens the factual knowledge necessary to realize and understand the seriousness of the matter. Also, they have indicated the trend of ideas which has developed relating to solutions. Proposals being made today would have seemed remote and fantastic to the early planner. Again, these proposals and surveys have been invaluable in bringing to light the conflicts of interests bound to arise in the attempted solution of such a major difficulty. The purpose of this chapter is not to make an intensive study of these assorted reports. It is a survey of the studies and proposals given in chronological sequence designed to give an understanding of the efforts in their relationships to each other.

Early Proposals 1910-1922

The first detailed study of the transportation problem of Los Angeles was made by a prominent Chicago engineer,

Bion J. Arnold.[1] This was undertaken at the suggestion of the Board of Harbor Commissioners, who were concerned with the building of a municipal railroad between Los Angeles and the harbor. It was thought that such a railway would be required to accomodate the increased travel anticipated when the Panama Canal was completed. A resolution by the Board to this effect was presented to the City Council in January, 1911. The City Council then appointed a committee to make and submit plans for this railway. This committee, composed of members of the Board of Harbor Commissioners, members of the Board of Public Utilities, and the City Engineer, decided that the investigation should include all phases of transportation in the city, in addition to the municipal railway project. Recommendations to this effect were well received by the City Council, and the subsequent engagement of Mr. Arnold to make this study resulted.[2] In outlining the work expected, Mr. Arnold was asked to submit:

> A scheme or outlined plans for the handling and future development of our municipal transportation systems based upon the assumption of transportation service for a city increasing from its present population of 350,000 to a population of not less than one million people within the next ten to fifteen years.[3]

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1 Preliminary Report on the Transportation Problem of Los Angeles (October, 1911). Mr. Arnold was at that time Chief Engineer, Board of Supervising Engineers of the Chicago Traction Co. He was an eminent authority of the day and conducted studies in several large cities including Chicago, Pittsburgh, and San Francisco. Much of the responsibility for preparing the report rested upon Mr. George A. Damon, then Dean of Throop Polytechnic Institute, Pasadena, and manager of Mr. Arnold's office.

2 Thomas E. Gibbon, "Introduction to Report of Mr. Arnold," The California Progressive Weekly, XI, pp. 1-2 (Nov. 4, 1911).

3 Idem.

In October, 1911, the report was issued. Mr. Arnold had made a study of the problem under the following headings:[4]

Municipal Railroad
Passenger Stations
Grade Crossings
Freight Handling
Local Street Railways
Interurban Railways
Immediate Relief from Main Street Congestion
City and District Planning
A Comprehensive and Constructive Transit Plan.

This report, while general in nature, presented the facts of the situation at that time, including distribution of population in Los Angeles and vicinity, territorial growth of the city, volume of traffic carried by local railways, causes of congestion, and a diagram of rapid transit needs in the downtown district. The report is of particular significance because of the stress Mr. Arnold laid upon the need of intelligent city planning to go hand in hand with any solution of the transportation problem. Several of the recommendations made by Mr. Arnold were carried out in the following year, but in the main no action was taken to make effective his suggested plans.[5]

Mild controversy took place during the next few years relative to Mr. Arnold's report,[6] but no further investigation occurred until the year 1920, when the Railroad Commission of the State of California published its elaborate and detailed report on Railroad Grade Crossing Elimination and Terminal

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4 Arnold, op. cit., p. 2.

5 Infra, Chapters II and IV.

6 Supra, Chapter IV.

Investigation, Los Angeles. Richard Sachse, then Chief Engineer for the Commission, included in the report a brief discussion of the subject of rapid transit for Los Angeles.[7] This subject was incidental to the nature of the report as a whole, and occupied but short space in the voluminous total. Mr. Sachse, using the Arnold report as a basis, reexamined the question from the standpoint of facilitating mass transportation via the local and interurban railways. He considered also the suggestion for rapid transit between Pasadena and Los Angeles, and suggested plans of development. The report, while bringing to the surface once again the question of rapid transit, was of no outstanding significance in this respect.

Fresh emphasis was laid on the problem in 1922 with several important studies resulting. New facilities of local transportation were inaugurated at this time and caused considerable controversy.[8]

It was natural that the Automobile Club of Southern California, being in an apt position to be cognizant of the developing trend in motor vehicle traffic, should proceed with a detailed Report on Los Angeles Traffic Problems with Recommendations for Relief. This study, one of the first of its kind in the United States, recognized fully the position of the automobile in the problem,

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7 Railroad Commission of California, Report on Railroad Grade Crossing and Terminal Investigation (1920) Vide, pp. 109-118.

8 Infra, Chapter IV, for discussion of efforts of Senator McAdoo and others to set up city-wide system of bus transportation.

and sought to provide a solution for the anticipated complexity of traffic congestion from this aspect. Feeling that because of its close relationship to and familiarity with all phases of the traffic problem, it was well fitted to give voice to the needs of the automobile owners, the Club brought forth this first detailed engineering study in August, 1922.

The report was made under the supervision of the Club's consulting engineer, Mr. J. B. Lippencott, with Mr. C. H. Richards directing activities. The survey occupied a period of almost one year and utilized the aid of a total of forty assistants.[9]

The report dealt with data illustrating the rate of population growth in Los Angeles. Comparison of this data with that of nine other cities from the year 1860 to the current date was given, as were population forecasts. The growth of passenger car and truck registration for Los Angeles County and the State, from 1913 to 1921, was also charted to show this rapidly rising trend. The costs and causes of traffic congestion were gone into in detail.[10] The essence of the survey had to do with the recommending of an elaborate "Major Street Plan" for Los Angeles City, with detailed maps and charts showing a design of the plan. Methods of financing and the legal steps necessary to place the plan in operation were included in the recommendations.

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9 Automobile Club of Southern California, Report on Los Angeles Traffic Problems, p. 3 (1922).

10 This report was one of very few which attempted to measure quantitatively the loss in time and money involved in the congestion of traffic.

The appendix included a "Review of Accomplishments in the Development of Streets and Traffic Thoroughfares."[11]

Proposals, 1923-1933

The next two years found considerable activity in Los Angeles relative to transportation. There were important events taking place in bus transportation.[12] The Board of Public Utilities and the City Council were alive to the problem. The Board, in an effort to secure an intimate knowledge of how the question of rapid transit was being handled in other cities, had dispatched their commissioner, Mr. E. F. Bogardus, and their Chief Engineer, F.A. Lorentz, to prominent eastern cities to study thoroughly problems of traffic and transportation. Upon their return, a transportation survey based upon their observations was submitted to the Board.[13] This report, general in nature, emphasized the absolute need for rapid transit lines; unification of transportation system; separation of street car traffic frommotor vehicular traffic; the use of motor buses as auxiliaries and feeders; a central station at Pershing Square; and a comprehensive, detailed plan to take care of transportation needs for at least 20 years in the future.[14] This report laid the basis for the elaborate investigation made by Kelker, De Leuw & Co., the following year.

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11 Vide, pp. 31-41. A unique feature of this report was the use of aerial photography to reveal the parking situation as well as other interesting phases of traffic. See opinion of Miller McClintock, Street Traffic Control, (1925), p. 20.

12 Infra, Chapter IV.

13 This report was approved by the Board and passed on to the Los Angeles City Council with the recommendation that detailed plans for rapid transit be undertaken at once.

14 Board of Public Utilities and Transportation, Fourteenth Annual Report, pp. 38-42 (1923).

At this same time, the Los Angeles Railway Corporation became concerned about its place in the local transportation situation, and engaged the services of an out-of-the-city engineer to make a study for their company. This survey, written with the purpose of suggesting ways and means for the company to protect itself from encroachments by other modes of transportation, traced population growth, compared the rate of increase of automobiles with passengers carried by the Los Angeles Railway. Finding this unfavorable, it stressed traffic congestion caused by automobiles and recommended the abolition of parking privileges in the downtown area. It suggested the idea of staggering hours for opening and closing of business concerns as an aid to relief of congestion; also an ordinance requiring all motor vehicular traffic to stay off car tracks. The report showed that the Los Angeles Railway Corporation was alert to the need of protecting their interests as the demand for a solution gained momentum.[15]

In May 1924, the most intensive study of traffic difficulties made up to that time was published by the Traffic Commission of the City and County of Los Angeles. This organization of prominent business men had engaged the services of three nationally known planning engineers to institute a survey and to plan a traffic system for the metropolitan area. The result of their

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15 Joe R. Ong, Traffic Survey for the Los Angeles Railway Corporation (1923). See also paper presented to Midyear Meeting of American Electric Railway Association, St. Louis, March 4, 1924, by George Baker Anderson, Manager of Transportation, Los Angeles Railway Corporation, for position of that company.

investigation was known as A Major Traffic Street Plan for Los Angeles.[16]

The report dealt exclusively with the solving of traffic congestion by means of improvements to existing streets and highways and the construction of additional road facilities. Using the recommendations set forth in the 1922 report of the Automobile Club of Southern California and those already prepared by the Traffic Commission of the City and County of Los Angeles, the engineers attempted to provide a "broad, practical, well-balanced scheme for handling traffic."[17] In making the study, the causes of street congestion were gone into extensively, and a complete statement was made relative to a solution of that problem.[18] Principles underlying the design of a major street traffic system were detailed, as was the subject of legal and administrative procedure in opening, widening, and improving streets. The "Major Street Plan" of Los Angeles made up the bulk of the report with a list of thirty-five traffic arteries necessary to make the plan effective.[19]

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16 Olmstead, Bartholomew, and Cheney (May 1924). The report includes 21 maps, plans and diagrams.

17 Olmstead, Bartholomew, and Cheney, op. cit., p. 7.

18 Ibid., pp. 11-19. The material on cause of traffic congestion is more complete than that in other studies.

19 In the appendix there was included a very complete article with diagrams, by Wm. D. Hudson, illustrating the reduction of traffic congestion by means of street grade separation; an analysis of legal phases of the problem of carrying out the plan; and the complete data on a traffic count conducted by the Boy Scouts for the survey. Olmstead, et. al., op.cit. pp. 20-61.

The engineers in charge of the survey worked in close relationship with the Los Angeles Traffic Commission, the Automobile Club of Southern California, and others interested in the development of Los Angeles from the standpoint of motor vehicle progress, such as: Paul G. Hoffman, and Henry W. Keller. This report was of major significance in forwarding solutions to the transportation and traffic problems of Los Angeles.

The Kelker De Leuw Study

Hand in hand with proposals which seek free traffic circulation by means of street planning go proposals for the expediting of mass transportation by other means. Consequently, the study made by Kelker, De Leuw and Company in 1925 served to bring into balance these different approaches to the problem.[20] This report followed suggestions made by the Los Angeles Traffic Commission, and brought to a head the movement for such a survey which had been advocated by the Public Utilities Board. The Los Angeles City Council approved an appropriation of $40,000 to carry out this extensive survey of transportation.[21] Mr. F. A. Lorentz, Chief Engineer of the Board of

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20 Kelker, De Leuw and Company, Report on a Comprehensive Rapid Transit Plan for the City and County of Los Angeles (1925). These engineers had devised the transportation system of Chicago, and had conducted surveys in many cities, Baltimore, Boston, and San Francisco.

21 Electric Railway Journal. "Extensive Traffic Survey Planned for Los Angeles," Vol. 63, No. 12, March 22, 1924, p. 481. It was urged that the amount be raised to $100,000. This was not granted. The city and county each put up $20,000.

Public Utilities, supervised the investigation which was started on April 22, 1924, and concluded April 20, 1925.

This report was of a genuinely comprehensive nature, designed for a "transportation system adequate to meet the demands of a city of 3,000,000 people."[22] The report was not only significant in that it sought to visualize the needs of the city for years ahead, but also in the fact that it envisioned a system for the entire metropolitan district. Every aspect of the problem was touched upon in the year's time spent on the investigation. Population and area growth of both city and county were studied, and a forecast as to probable future population was made. Various aspects of street traffic were studied with suggestions for traffic improvement. Existing transportation facilities were investigated and comparisons made with transportation systems in New York, Chicago, Philadelphia and Boston. The authors then emphasized the absolute need for a co-ordinated transportation system, and suggested a scheme for unification of the entire system. A complete physical plan for both immediate and future construction was set forth including a thorough study of designs of rapid transit structures. Methods of financing with recommendations were also discussed.[23]

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22 Kelker, De Leuw and Company, op. cit., Letter of Transmittal, p. 4.

23 Kelker, De Leuw & Company, op. cit., Chapters 2 to 8. The appendices included legal opinions, time savings as a result of rapid transit, influence of rapid transit on real estate values in other cities.

The Kelker, De Leuw report remained the outstanding and most significant proposal relating to transportation for a number of years. Owing to its official sanction, and to its widespread recommendations, it engendered considerable discussion and debate. Shortly after the report was filed, the new City Charter was put into effect, and the City Council was obligated to pass the necessary ordinances, featuring a rapid transit system. To meet this requirement a committee consisting of various representatives was appointed to co-ordinate traffic regulation with the development of a rapid transit system.[24] Plans in detail for the first unit of the proposed system were being prepared by Kelker and members of the City Engineering departments.[25] There were, however, certain factions in the city which were definitely opposed to the proposal of Kelker, De Leuw. These groups prevented any action being taken at that time.[26] The heated controversy which occurred at that period over the union depot location was also a factor in preventing action.

During the year 1929 the subject was brought to the fore, in a small way, when the Los Angeles City Club rendered a report to its members as of January 15th, on the questions of traffic

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24 Members appointed to the committee were from the City Council, State Railroad Commission, Los Angeles and Pacific Electric Railways, and the Los Angeles Traffic Commission. See Electric Railway Journal, "The News of Industry," Vol. 66, No. 16 (October 17, 1925), p. 711.

25 Idem.

26 Electric Railway Journal, "Rapid Transit Issues in Los Angeles," Vol. 68, No. 8 (August 21, 1926), pp. 317-318; Los Angeles City Club, Bulletin, Supplement, "Report on Rapid Transit," (January 30, 1926); also Second Conference on Rapid Transit, Los Angeles City Planning Board (May, 1933).

and transportation. The gist of the report was that it was inadvisable to construct a rapid transit system in Los Angeles until existing facilities were co-ordinated and improved to obtain maximum efficiency for them. Specific recommendations to this effect were made, such as skip stops, reserved strips in center of streets for street cars, restricted parking, timing of traffic signals, and other ideas which could be put into operation with little additional cost.[27]

During the next year the Los Angeles Board of City Planning Commissioners held two conferences on the rapid transit question. At the first conference twelve papers were read by prominent persons interested in the subject and various shades of opinion were expressed, with the majority of papers favoring the idea of a rapid transit system for Los Angeles.[28] The second conference was for the purpose of giving an opportunity to those not heard previously to express their views upon the subject. The tone of this meeting was entirely different from that of the first meeting. Led by various representatives of improvement associations, there was severe criticism and condemnation of the idea of rapid transit as developed by the Kelker, De

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27 Los Angeles City Club, Bulletin (Supplement), "Report of Committee on Traffic and Transportation," (January 15, 1929).

28 Board of City Planning Commissioners, Conference on the Rapid Transit Question (January 21, 1930), Mr. Donald Baker, prominent local engineer and President of the Board of City Planning Commissioners, is credited with being responsible for these two conferences.

Leuw plan.[29] This meeting was the first public hearing that showed the full force of opposition to the current movement for a comprehensive rapid transit program. The conference tended to show that Los Angeles would not need such an expanded system of rapid transit as New York or Chicago. But there is a need in Los Angeles for a system that would expedite both local and interurban traffic in the central business district. One specific result of these two conferences was to start a movement "to bring about a comprehensive up-to-date rapid transit survey to be made under the auspices of a representative citizens' committee and the Los Angeles Traffic Association."[30]

Recent Proposals, 1933-1937

The next report, however, was one sponsored by the Central Business District Association of Los Angeles and published by them during the latter part of 1935.[31] Mayor Shaw, in his Plan for Public Improvements, announced immediately after taking office in 1933, emphasized rapid transit. In order to further this, the Association engaged the services of Mr. Donald M. Baker, to make an extensive report on a proposed system of rapid

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30 Board of Public Utilities and Transportation, Twenty-first Annual Report, p. 69.

31 Donald Baker, A Rapid Transit System for Los Angeles (Nov. 15, 1933).
The Central Business District Association is an organization to foster the interests of downtown business men and the membership contained names of leading realtors, bankers, and merchants.

transit serving the City of Los Angeles and surrounding area. The report was made with the purpose in view of submitting it to city authorities. The latter were to use it in support of an application to the Federal Emergency Administration of Public Works to secure a loan and grant.[32]

The report did not make a new approach to the problem through field studies or by preparing original diagrams and maps. Those in charge availed themselves of the great amount of material already collected. They analyzed and co-ordinated this data so as to bring the picture of the problem up to date. The material gathered together pertained to:[33]

> A general description of local past population growth and a forecast of future increase; studies of population shifts and movements within recent years; a description of existing transportation facilities and service; a discussion of traffic conditions in the city, particularly in the approaches to and within the Central Business District; a suggested comprehensive plan for transportation, with a more detailed description of the system proposed, for the financing of which the above mentioned loan is requested; an estimate of operating revenues and expenses of such a system; and a discussion of the suggested method of financing it.

Following the publication of the Baker report, efforts were made to secure funds from the Federal Government for the purpose of constructing the first unit of the proposed four-line rapid transit system. No action was taken, as Federal funds were not obtained.

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32 Donald Baker, op. cit., p. 1. The loan was to be made under the provisions of the National Industrial Recovery Act of 1933.

33 Ibid., p. 2. The report contains thirty-one illustrations and maps and eighteen tables depicting various data.

During the same year (1933) the California Railroad Commission published its study relative to the service rendered to the citizens of Los Angeles by the local public transportation carriers: the Los Angeles Railway Corporation, the Pacific Electric Railway Company, and their joint agency, the Los Angeles Motor Coach Company. The study was the outcome of a formal complaint filed by the City of Los Angeles against the two rail lines in order to compel better service. The investigation was made to review the entire operation of the two companies so that recommendations fitting the need of Los Angeles transportation requirements could be made. It was the most significant effort yet made to secure adequate transportation service from these carriers.[34]

The next attempt to solve the transportation difficulties of the Los Angeles area dealt with a different approach. The movement looking toward the establishment of a municipally-owned and operated motor coach system had reached a position of importance and was soon to be voted on by the public.[35] Certain interests in the City Council, anxious to ascertain facts about the proposal, passed a resolution in which the Board of Public Utilities and Transportation was requested to make a survey "on the feasibility and desirability of a city-wide,

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34 Railroad Commission of California, Report on the Local Public Transportation Requirements of Los Angeles (Dec. 16, 1935). This report was entirely a technical study of past and present operation and equipment to see if the City was justified in its complaint.

35 Infra, Chapter IV.

municipally-owned and operated motor-coach system in the City of Los Angeles."[36] As a consequence of this resolution, the Board published on April 30, 1935, a careful study and analysis of facts surrounding the establishment of such a system.[37] In making the study, the engineers of the Board first examined the types of transportation vehicles now being used on surface streets of cities throughout the country, and considered the scope of application of these types: the electric railway street car, the gasoline bus and the trolley bus. They turned next to the factors peculiar to the Los Angeles problem, such as population, area, topography, climate, and present traffic problem, following with a review of existing transportation facilities. The concluding material deals with an exhaustive and minute analysis of the municipal bus proposal as backed by the Municipal Bus League.[38]

Another group which was active in attempting solutions and whose interest has had to do with highway construction in city and county, has been the Regional Planning Commission of Los Angeles County. At the beginning of the year 1935, this Commission published a traffic survey which had been carried on for the past three years under the supervision of Chief Engineer, William J. Fox. The purpose was to obtain reliable statistics

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36 Los Angeles City Council, Resolution No. 449 (Feb. 8, 1935).

37 Board of Public Utilities and Transportation, A Study of the Feasibility and Desirability of a City Wide Motor Coach System to Replace Existing Local Transportation Systems in the City of Los Angeles (1935).

38 Passim.

pertaining to traffic flow in the Los Angeles County region. The survey determined traffic loads on many important highways of the city and county, thus facilitating the planning of new streets and improvements to old ones. Findings were summarized and recommendations setting forth basic principles for a unified highway system were detailed.[39] This traffic survey was thoroughly carried out and was preliminary to an even more intensive survey of traffic made a few years later by the same organization.[40]

During 1935 and 1936 much activity was witnessed in several directions but no other major proposals were forthcoming. Several papers were written and pamphlets published which served to keep the question before the public, while stremuous efforts were being made to secure funds from the Federal Government for a new, comprehensive survey of the transportation problem.[41] In the subsequent year, 1937, three important studies and surveys were compiled and published by the end of the year.

The Regional Planning Commission instituted another traffic survey under the direction of Chief Engineer Fox. The purpose was to bring completely up to date the data of 1934 and to extend the survey to include the downtown district of Los Angeles. Mr. Fox in his letter of transmittal to the Commission stated:

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39 Regional Planning Commission, Report of a Highway Traffic Survey in the County of Los Angeles (1934). This survey was carried on in large part by personnel from County and Federal Relief roll with funds being supplied by Reconstruction Finance Corporation and State Emergency Relief Administration.

40 Ibid., p. 26.

41 See Egerton Shore, Downtown, a Study of the Central Business District of Los Angeles (March 1935); Los Angeles Traffic Association, Salient Facts on Mass Transportation in Los Angeles (August 1935); George D. Rowan, op. cit.; Donald Baker, What Shall We Do with the Next Million? (Mar. 10,1936).

> The data compiled in this report will again place in the hands of those responsible for the preparation of highway construction the scientific means for the establishment of such budgets on a sound basis of actual traffic need.[42]

Similarly to the earlier investigation, this newer one gathered data to show the average daily load on streets and highways of the City and County, depicting this situation in various areas by a series of valuable tables, maps and diagrams. Both of the Regional Planning Commission surveys were of great value. They secured and presented a large amount of data which was essential to an adequate solution of the problem.

The second report to be brought forth at the end of 1937 also dealt with a metropolitan survey of traffic. This one, published by the Engineering Department of the Automobile Club of Southern California, was of major significance as a consequence of the startling recommendations it contained.[43] Sponsored by the Automobile Club, it was natural that the study should deal with the problem largely from the aspect of motor traffic, and seek to solve Los Angeles' complex problem through the wider and speedier use of the automobile. The Roads and Highway Committee, who undertook the survey, emphasized that the city had:

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42 The Regional Planning Commission, Report of a Highway Traffic Survey in the County of Los Angeles (1937), p. 7. Mr. Charles D. Clar, of the Regional Planning Commission supervised both this and the original survey. The W. P. A. provided $31,000 for labor costs.

43 Infra, Chapter V.

> grown up with the automobile. Motor Vehicle transportation has shaped its growth to the extent that business and social life of the area is today vitally dependent upon the motor vehicle for the major part of its transportation. If street and highway congestion continues to increase, the day is not far distant when the automobile will in many parts of the area have lost its usefulness.[44]

Working from this natural outlook as a basis, the survey mentions the need of solving the problem, not alone from the viewpoint of Los Angeles City, but also from the viewpoint of the entire metropolitan area. Thus, it dealt with the traffic problem of this larger region. The material in the study was presented in two parts. The first part represents an overview of the problem and its important factors. It outlined the extent of the area involved in the study and how this land was used.[45] Present transportation facilities of the area were sketched. Current population was given, the population growth was plotted from 1890 to 1936, and the curve projected as far as 1950.[46] The number of motor vehicles, with data relative to accidents, was brought out, to show congestion and one of its harmful effects. Growth of the traffic problem, and some of the important factors contributing to the growth were outlined. The heart of the first part of the survey, however, dealt with the data pertaining to the survey of traffic in the Los Angeles area.

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44 Automobile Club of Southern California, Traffic Survey, Los Angeles Metropolitan Area, 1937, p. 5.

45 The point is made that the development of the Los Angeles area was not planned in any respect, but grew "like Topsy" as a result of promiscuous subdivisions.

46 Automobile Club of Southern California, op. cit., p. 9. Estimate of population at that period is 6,500,000.

Traffic counts were made in a variety of districts at various periods of the day and night. These counts were depicted in a series of diagrams which serve to illustrate clearly the traffic flow of 1936 as compared with 1929. Another important aspect of the problem was considered carefully: the question of parking.[47]

The second part of the study deals with the recommendations that the Automobile Club sets forth. They are developed in a thorough manner so that full understanding can be had of the Automobile Club's daring plan. In the recommendations the street system, buses, and street cars are all considered. Major emphasis is on the new system of proposed highways.[48]

The study was given considerable publicity since the Automobile Club desired the public to become favorably acquainted with their proposal.[49] There is no doubt that this study represents an important milestone in proposals to solve the transportation problem of Los Angeles. It was symbolic of the new day as regards the movement of traffic in the modern city, and will stand as a pioneering venture regardless of its acceptance or rejection in the immediate future.

The final study of the series of three current proposals was one done by the Bureau of Street Traffic Engineering, which

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47 As in 1922, the Club again utilized the technique of the aerial photograph to determine volume and extent of curb and lot parking. See pp. 23, 24, 25, 26, 27.

48 Ibid., pp. 31-36; Infra, Chapter V.

49 See series of six daily feature articles in Los Angeles Times, Section II, pp. 1-2, June 12-19, 1938.

is under the jurisdiction of the Police Department, City of Los Angeles. This report, for which Mr. R. T. Dorsey, Chief Traffic Engineer of the Bureau, was responsible, was issued as of February 15, 1938. It was a much more restricted study than those of the other two reports, inasmuch as it attempted to give only "a picture of the Central Traffic District congestion problem and of the Bureau's methods in endeavoring to solve it."[50] This study was unique in that it was the first one made by the City's official traffic organization.[51]

The investigation followed the usual pattern of presenting data which defined volume and growth of automobile registration and population, and movement of traffic by direction and hour. It made a much more detailed study, however, of obstacles to smooth flowing traffic, such as: parking, loading and unloading of trucks, pedestrian congestion, over-loaded lanes of traffic, congestion due to routing of buses and street cars, and inefficient utilization of street space. It then proceeded to a number of recommendations and proposals. These, if accepted, according to the report, would provide a satisfactory solution to the traffic problem for the next 25 years.[52]

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50 Bureau of Street Traffic Engineering, Traffic Survey of the Central District, p. 1 (1938).

51 This organization was provided for in Ordinance Number 73014. This ordinance also established the Board of Police Commissions as the official Traffic Commission.

52 Bureau of Street Traffic Engineering, op. cit., p. 15.

There was nothing spectacular about the nature of these recommendations. They appeared to be entirely utilitarian and were considered a logical step forward until such a time as the public could gain a wider vision of the problem.

Summary

This chapter has attempted to point out the fact that effort, time, and money have not been spared in the study of the transit problem. Tentative solutions have come from a wide variety of interested groups and organizations, public and private. Including the present study now in process there have been many major attempts to gather the facts of the situation and to solve the difficulties. This has indicated not only the seriousness of the problem, but also the wide variety of approaches to the problem.

CHAPTER III

ANALYSIS OF PROPOSALS WHICH PERTAIN TO STREET CARS

During the long range of years in which Los Angeles struggled to find a satisfactory solution to the problem of transportation there has been set forth a wide variety of proposals, some of which have been of an exceedingly complex nature. There have been others, of course, which have attempted solutions through the rearrangements of existing facilities of transportation in order that axorbitant financial burdens might be avoided; that a natural growth of the existing means of transportation be fostered; and that no alarming inroads upon the present systems might take place.

Electric surface cars were at one time the dominant means of transportation in Los Angeles, as in most other cities. Today they no longer maintain this exclusive domination of the transportation scene. But in spite of the fact that their very existence has been threatened from time to time, they still play a major role. And today, as in the past, they are the subject of study and investigation as regards measures to improve their service and to give the citizens of Los Angeles adequate transportation. In the light of the present day situation it hardly seems possible that at one time the local Board of Public Utilities found it necessary to recommend that an ordinance be passed which would prohibit

street cars from going over 12 miles an hour in the business district, and over 20 miles an hour in the outer district; this so that the street cars should not have a higher rate of speed than other vehicles.[1] Today, if such speed could be maintained, there would be considerable satisfaction on the part of patrons.

Sources of Proposals

The proposals which have been made for the purpose of bringing about surface rapid transit have come from several sources. Most of the general surveys, reports, and investigations conducted have touched upon this aspect of the problem to some extent, although in several of the major proposals the emphasis has been upon either sub-surface or elevated facilities. The agencies which have been most intimately concerned with the problem through the years have been the companies themselves and the two public agencies: the State Railroad Commission and the Municipal Board of Public Utilities and Transportation. There have also occurred, from time to time, recommendations and proposals from such sources as the Los Angeles City Club, the Traffic Commission, and outside groups promoting some special system which they hoped to sell to the local company.

Nature of Proposals

The nature of these proposals has been, in the main, concerned with mechanical rearrangements and operation of

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1. Los Angeles City Council, Ordinance No. 20,322 (New Series), May 21, 1910.

existing surface facilities, the modernization of surface equipment, and the revising of certain traffic regulations so that maximum efficiency might be obtained from existing equipment. It was natural that the latter emphasis should be that of the local rail company. Progress has been slow and difficult to secure in the field of surface car transportation, as in the other areas of local mass transportation. Opposition to proposals for betterment has frequently arisen whenever an individual or special group considered that its interests might be hampered by the changes recommended. Nevertheless, some results have been obtained, and their total has made a fair contribution to the task of expediting surface transit in Los Angeles. On the other hand the seriousness of the problem has increased rapidly and as a result achievements to date have not been very effective.

Early Recommendations - Mechanical Rearrangements

Efforts to speed up street cars were first directed to the severe traffic congestion of Main Street. In 1910 and 1911 the interest of public officials was focused on this area and specific recommendations resulted. Mr. Bion J. Arnold, in his official report, made the recommendation that if local railway cars were to move more rapidly then the interurban cars of the Pacific Electric Railway Company must be removed from the local tracks. As a means of temporary relief he suggested

the use of San Pedro Street for interurban cars.[2] He considered this the most feasible solution of the difficulties pending a more permanent solution. This same recommendation was stressed on several other occasions; once by the prominent local engineer, Mr. George Damon, Arnold's associate, and again by the head of the police traffic squad of Los Angeles, Lieutenant J. L. Butler.[3] The latter stated that there "could be no relief for street railway congestion on Main Street. . . until an outlet is provided for Pacific Electric cars on some other street. . . ."[4]

This proposal was well received by the Pacific Electric Railway Company, who applied for a franchise on San Pedro Street to relieve the congested traffic condition on Main Street. However, action in this regard languished because of objections and opposition by certain groups. Property owners and real estate firms owning property along San Pedro Street as well as those in the northeastern part of the city insisted that the franchise, when granted, should be for a three-rail line. This would allow for the use of the street by the narrow-gauge local railway company

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2 Bion J. Arnold, The Transportation Problem of Los Angeles, Infra, Chapter IV for discussion pertaining to sub-surface recommendations by Mr. Arnold.

3 George A. Damon, "Rapid Transit," Electric Railway Journal, XXXIX (March, 1912), p. 363.

4 Butler, Idem.

and would result in increased property values owing to access to local transportation.[5] This opposition was overcome, and the franchise was granted to the Pacific Electric to operate over the Municipal Railway on San Pedro Street between Ninth and Aliso Streets as of February 5, 1913, with service beginning on March 23, 1914.[6] The placing of this line in service diverted 112 trains a day from Main Street to San Pedro Street, and was responsible for relieving to a great extent the congestion on Main Street.[7]

A second important proposal ventured by Mr. Arnold and concurred in by other students of the problem was the elimination of loops and curves in the downtown district. He showed that cars passing around a curve take at least fifty per cent more time to clear a crossing than a car passing directly across a street at right angles. In fact, he believed that the slowing down of street car transportation in the business district was due not so much to the excessive number of cars on a line as to the large number of loops and curves existing in the system.[8] This proposal, that cars be passed through the district so as to avoid all turning points, was considered of major importance and was pushed continuously by the Board of Public Utilities.

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5 Unsigned "News of Electric Railways," Electric Railway Journal, XXXIX (1914). p. 365.

6 Los Angeles. Board of Public Utilities and Transportation, Fifth Annual Report. p. 107. Franchise Ordinance, No. 26, 874. The cost of this franchise to the Pacific Electric amounted to $1200 per annum for life of franchise.

7 Idem.

8 Arnold, op. cit., p. 9.

Lieutenant J. F. Butler, of the Police Department, in a report to the Board in 1912, commented:

> As indicated in previous communication, I am in favor of eliminating cars on curves in the congested districts and think railway companies should be urged to keep them in mind when routing lines through the city, and, if necessary, they could be forced to make changes in the routing, and where it is necessary to construct curves in outlying districts in order to accomplish the end desired. . .[9]

In 1915 a report was drafted by the chief engineer of the transportation division of the Public Utilities Board in which a comprehensive scheme of rerouting in the business district was outlined. It was hoped that this plan would solve the congestion difficulties, thus making it unnecessary to advocate subways. The same year the Board of Public Utilities issued an order to the Los Angeles Railway Corporation calling for a complete revision of the car routing plan in the downtown district. Ten existing car lines were ordered discontinued and twelve new lines established, while the practice of turning cars back was to be discontinued. The plan did away with curves to some extent, and in the main only straight line crossings were permitted. Service on the two busiest thoroughfares, Broadway and Hill Streets, was not disturbed at that time.[10] At this time no opposition developed and the order was executed in a satisfactory manner.

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9 Butler, op. cit., p. 200. In this report Mr. Butler presented a detailed plan for rerouting local cars so that cars would be taken from the curve on crossings badly congested and place them where traffic was much lighter.

10 Board of Public Utilities and Transportation, Seventh Annual Report (1916), pp. 128-130.

This was not the case, however, a short time later. The Engineering Department of the Board of Public Utilities in a report on traffic conditions made a thorough study of causes of congestion.[11] The heavy movement of cars around inside and outside curves was stressed as a major factor in street car congestion. Based on this study, complete recommendations for relief were made through a plan of rerouting several important lines. The Board subsequently issued an order to the Los Angeles Railway Corporation to reroute its cars to conform with the findings of the report. The opposition to this rerouting was so severe, however, that the order was rescinded and the plan of rerouting postponed.[12] The objections were set forth by the Business Men's Cooperative Association, who maintained that the rerouting would impede the business transactions of their members. Thus the group who was most anxious to stabilize the central business district through the means of more rapid transportation was the prime objector to a step in that direction.

Two years later an even more comprehensive program of rerouting was ordered by the State Railroad Commission. Considered the most extensive in the history of the Los Angeles Railway Corporation, the plan eliminated many curves and provided direct routes across the city. The cost of this program to the local company was to be $500,000, but the Commission had

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11 Board of Public Utilities, Ninth Annual Report (1919), p. 59.

12 Ibid., p. 60.

estimated a saving of thirteen per cent in operating costs each year.[13] Important locations were disturbed. No more turns at Seventh and Broadway were to be allowed. Twenty-five per cent of all curves were eliminated in the plan.

In view of the importance of the agencies backing the plan, the program was placed in effect with little opposition. The Los Angeles Railway publicity department conducted a campaign of education of the public which helped allay opposition.[14]

Reroutings have continued to take place from time to time. The Traffic Bureau of the Police Department has taken the lead in this method of bettering transportation. It has made many recommendations, some of which have gone into effect, but not without opposition from downtown merchants.[15] According to Mr. Dorsey there is still much to be done toward straightening out car routes.

Skip-stops has been another recommendation made. Investigations in other cities had shown that by eliminating one-half

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13 Unsigned, "Electric Railway News," Electric Railway Journal, Vol. 55 (May 22, 1920). p. 1077. The Los Angeles Railway Corporation had requested a study of their operations due to higher operating costs. The Railroad Commission and the Board of Public Utilities made the investigation. Five months were spent, and the assistance of thirty leading enginners and traffic experts was utilized. See also Board of Public Utilities, Eleventh Annual Report, pp. 61-92.

14 Idem.

15 Mr. Prettyman, Chief of the Research Department, Los Angeles Railway Corporation, states that the City and the rail company were in favor of eliminating the curve at Second and Broadway on their "P" line, but that opposition was so strong from various groups that the proposal had to be abandoned. (Personal interview, July 25, 1938.) See also Mr. Dorsey's report, Relief of Traffic Congestion, Feb. 15, 1938. He states: "In Los Angeles advertisements of the new routes were published, and folders explaining why the recommendations had been made, plus many newspaper articles, were helpful in creating a favorable attitude by the public.

of the stops a saving of one-fourth in time could be secured. In 1913 the Board of Public Utilities ordered the Pacific Electric Railway Company to try this idea on its local lines. This plan also was soon under fire by the opposition. The Board of Public Utilities reports that, ". . . property owners and real estate interests considered themselves aggrieved, and filed numerous protests against the change."[16]

In 1918, as a result of the national drive for economy, skip-stops were used considerably, and they were successful in speeding up transportation.[17]

With the development of the traffic-signal, the value of the method was lessened, as street cars were forced to stop at many intersections for traffic. The Railroad Commission in its 1920 joint survey recommended the abandonment of the skip-stop plan of operation. Since that time this method has not been pushed.[18]

Traffic Regulations to Aid Street Cars

The street car companies have had the cooperation of public officials in the attempt to provide better service. This fact is seen particularly in the efforts made to better traffic conditions so as to favor street cars. Many of the recommendations have dealt with all types of traffic

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16 Board of Public Utilities and Transportation, Fourth Annual Report (1914). pp. 84-85.

17 Board of Public Utilities and Transportation, Tenth Annual Report (1918). p. 55.

18 This plan is still somewhat effective in outlying districts.

regulations. Outstanding has been the effort to provide less congestion by automobiles so that the flow of street car traffic might be facilitated. In their joint report the Board of Public Utilities and the Railroad Commission, working in close cooperation with the Traffic Bureau of the Police Department, made specific proposals in this respect. The major emphasis was placed on the attempt to eliminate parking of automobiles in the congested district. The elimination of left-hand turns by automobiles, the regulation of pedestrian traffic, the loading and unloading of commercial vehicles in the second parking lane, were embodied in their recommendations.[19] The result of the recommendations was the drafting of a city ordinance. This adopted the general principles for traffic regulation as proposed.[20] Some opposition developed from the downtown merchants against the no-parking plan. Thus the original plan of no-parking was modified to allow parking for 45 minutes between ten A. M. and four P.M., and to eliminate all parking between four and six P. M.[21]

The Los Angeles Traffic Commission was another organization which made an effort to promote rapid surface transportation through placing emphasis on more stringent motor vehicle

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19 Board of Public Utilities and Transportation, Eleventh Annual Report (1929). p. 89.

20 Ibid., p. 90.

21 Idem.

regulation.[22] Recommendations made to the City Council in 1922 asked that: (1) exclusive curb space be alloted for loading and unloading purposes; (2) left-hand turns of motor vehicles be prohibited and left-hand turns of street cars be reduced to a bare minimum; (3) no vehicles be allowed to turn in the middle of the block; (4) no taxicabs or sight-seeing buses be permitted to stand on the street in congested areas while awaiting employment.[23] As a consequence of these recommendations, the City Council adopted an ordinance in which loading zones were authorized, second-lane parking prohibited, left hand turns declared illegal, and jay-walking curbed.

The Kelker, De Leuw and Company report in 1925 did not center much attention upon expediting street car transportation. Their recommendations did stress, however, the need of rerouting cars so that left-hand turns could be eliminated. They also made the proposal that the Los Angeles Railway Corporation utilize the Broadway Tunnel.[24] This proposal was realized two years later when in April, 1926, street cars began to use the tunnel.[25]

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22 The Traffic Commission originated in 1912 during a conference of representatives of a number of civic groups in the city, concerned with traffic problems, and was authorized by the Board of Public Utilities and the Chamber of Commerce. For many years it was a medium through which the Board of Public Utilities could work in close contact with business interests.

23 Unsigned, "Plan for Altering Traffic Rules In Los Angeles," Electric Railway Journal, 54 (1922). p. 951.

24 Kelker, De Leuw and Company, op. cit., pp. 42-43.

25 The Los Angeles Railway had been forded to find new lines for its Spring Street cars due to the construction of the City Hall. Cost to the company for this work was $70,000. See Two Bells, II, (Los Angeles Railway Company Magazine, February 1936). p. 1.

Los Angeles Railway Corporation

Proposals

The emphasis continued for the next few years on mechanical rearrangements and the passing of ordinances to control automobile traffic in the downtown area, so as to free the flow of the mass transportation units. The Los Angeles Railway Corporation's attitude was in harmony with these recommendations. Mr. George Anderson, Manager of Transportation, Los Angeles Railway Corporation, recommended thirteen remedial measures for the expediting of mass transportation. His recommendations stressed the need for regulation of automobile traffic in order to favor the street car. He asked that portions of the street be set aside for the exclusive use of automobiles and of street cars so that there would be no unnecessary interference between the two. In Anderson's opinion this would provide an important measure of relief in the congested district. He also suggested that in the outer districts automobiles, as far as possible, be kept from streets equipped with tracks. The prohibition of commercial vehicles during hours of heavy mass transportation, and the prohibition of parades within congested areas should also be enforced. All streets used by electric railways should be main thoroughfares with the right of way. Boulevard stops should be demanded of motor vehicles crossing this thoroughfare. He advocated a drastic parking law which would stop parking of automobiles in the congested district from seven A. M. to seven P. M. every day except Sundays and holidays. Left turns

by all automobiles were to be prohibited. Commercial vehicles were to be routed outside of congested districts if no pick-up or delivery had to be made. Particular emphasis was to be placed on enacting statutory enactments providing for examination of applicants for driver's licences.[26]

This attitude of the local railway company had been stated before by a traffic engineer who conducted a survey for the Los Angeles Railway Corporation. Traffic congestion was shown to have developed from the heavy increase in automobile registration, consequently, "it is a matter largely beyond the control of the street railways."[27] In that report Mr. Ong devoted most of the space on remedies to such proposals as: non-parking, staggering of office hours, and ordinances restricting use of tracks by motor vehicles.[28] He brought out clearly, however, that street car riders have the right to first consideration by reason of the fact that they constitute by far the bulk of travelers in the downtown area. He showed that though 668 automobiles crossed Seventh and Broadway Streets between five and six P. M. to 191 street cars, the automobiles carried but 1,169 riders and the street cars carried 14,325. He then

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26 George Baker Anderson, Traffic Relief in Los Angeles, passim (March 4, 1924).

27 Joe R. Ong, A Report on Some of the Problems of Operation of the Los Angeles Railway (1923).

28 Ibid., passim. Mr. Ong in this report to the Railway Company stressed the need of constant traffic checks so that economical but adequate schedules could be maintained.

posed the question whether 14,325 street car riders should have the preference over 1,169 automobile riders.[29]

In 1930 a memorandum of the Los Angeles Railway Corporation to the Board of City Planning Commissioners set forth the general attitude of the company in regard to the general transportation problem.[30] This paper again stressed the need of traffic regulation if maximum speed were to be secured. It did not comment on the adequacy or inadequacy of equipment of the company at that time, although it mentioned that the electric railway industry was developing types of cars which could compete with the automobile. Mr. Sachse, in bringing out the point regarding external causes of low speed said:

> Even if we had the highest speed equipment at the present time we would still be unable to lower our running time materially in the congested districts under the present traffic conditions. In other words, the limitations with regard to speed are to a very large extent beyond the control of the transportation agency.[31]

His proposals for speeding service coincided with previous statements made by officials of the company when he said:

> It has been universally found that mass transportation can be materially speeded up. . . by means of traffic regulation. . . . Among the most obvious and most important means of expediting mass transportation in the urban congested areas is a better control of parking on important traffic arteries; the installment and extension of coordinated progressive stop signals; the extension

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29 Ibid., p. 16.

30 Richard Sachse, The Objective of Adequate Transportation Service and Present Obstacles to Creating Such Service (January 11, 1930).

31 Ibid., p. 3. Underscoring is the writer's.

> of the stop-skip system; the giving of the right-of-way to the mass transportation vehicle in preference to the private vehicle, particularly during rush hours; the clearing of car tracks on certain streets during certain hours by the establishment of traffic "lanes."[32]

In this statement by the company engineer, recommendations go beyond the elimination of physical obstacles. The fact that technical skill in the industry could produce a modern, superior electric trolley was recognized. However, unless the railway company was in financial shape to obtain new equipment as needed and to maintain modern facilities in every respect, this advantage would be lost. For many years past the company had not purchased new up-to-date equipment. Reconstruction and repair of old equipment had been the theme. While not detailing this situation, Mr. Sachse did discuss the financial obstacle to improved transportation, i.e,, increased costs of labor and materials, while fare rates had remained stationary long after this depreciation in the value of the dollar had cut earnings materially. The increase in automobiles as well as the development of bus transportation also had reduced profits.

In addition there is the greater financial burden placed upon the company by taxation and franchise requirements. Paving requirements, called for in the franchise, cost the company over $500,000 a year. This requirement, according to Mr. Sachse, is considered the worst type of discrimination against the street

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32 Richard Sachse, op. cit., p. 4. Mr. Sachse, formerly chief enginner of the Railroad Commission, was Consulting Engineer for the Los Angeles Railway at the time he wrote the report.

car owners and riders. Franchise taxes constitute an additional burden. Approximately $750,000 a year must go to the state from the fares collected. Five and a quarter cents out of every dollar collected is used for the state tax. Thus, it is that paving taxes, franchise taxes, and state taxes amount to about one and one-half millions of dollars each year. This sum prevents the company from either lowering fares or providing up-to-date equipment.[33]

The attitude of the Los Angeles Railway Corporation has been that adequate and rapid transportation could only come about as physical obstacles imposed by competing elements of transportation were demolished, and that the financial burdens of the company be reduced through the reduction of fixed overhead charges imposed by the governing bodies. As Mr. Sachse pointed out, the local officials were doing everything possible to aid the company in furnishing more rapid service through regulation of traffic. The most recent survey of traffic conditions by an official city department shows evidence that this cooperation is continuing. Mr. Dorsey devotes the bulk of his report to discussion and recommendations regarding such matters as: rerouting of traffic flows, parking restrictions, regulations for loading and unloading of commercial vehicles, staggering of hours of dismissal, one-way streets, offset traffic lanes, elimination of turning movements, and separation of types of traffic.[34]

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33 Richard Sachse, op. cit., passim.

34 R. T. Dorsey, Traffic Survey (1938). p. 3.

Recent Recommendations

Efforts of Public Officials

However, the attitude of Los Angeles City officials was distinctly opposed to the idea that the Los Angeles Railway Corporation was unable to finance needed improvements. Within a few years after this official presentation of its position by the Los Angeles Railway Corporation, the City of Los Angeles attacked the validity of this position. The result of this attack brought about accomplishments that aided materially the movement for speedier mass transportation units in the city.

In 1933 a "Joint Committee of Transportation" had been formed from a conference called by the Railroad Commission to consider transportation problems in Los Angeles.[35] Not satisfied with progress being made to secure from the Los Angeles Railway Corporation plans for modernization of its equipment, the Board of Public Utilities, through the City Attorney's office, filed a complaint with the State Railroad Commission.[36]

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35 This "Joint Conference Committee" functioned for several years as an active group. Members were from two local rail lines, the Railroad Commission, the Board of Public Utilities, the Los Angeles City Attorney's office, and others, bodies such as Los Angeles Traffic Association and Business Men's associations. Through informal discussion it considered aspects of transportation in Los Angeles. One result of the efforts of this group was the remodeling of twenty-three yellow cars.

36 Known as Case #3915, this complaint was a significant milepost in the parade of proposals and studies seeking to bring about adequate and rapid urban transportation.

This complaint represented the spearhead of the public demand for modern surface transportation. In it the City went into great detail to describe the condition of the equipment of the local carrier.[37] In part the complaint said:

> Of the units of street railway rolling equipment owned by defendants . . . sixty-four (64) per cent are more than twenty years old. Only fifteen per cent are less than ten years old."[38]

The defendant was to be required to purchase not less than three hundred modern street cars and to rebuild to modern standards the other cars in its system capable of such rebuilding. "Such acquisition and rebuilding of street cars is necessary . . . to render minimum amount . . . of service."[39]

As to the manner of financing the cost of this new equipment, the complainant alleged that funds set up for depreciation of rolling stock had been diverted to other investments rather than for replacement of outworn cars. This amount of not less than $400,000 a year, would be sufficient to finance a new equipment program if defendant were unable to secure new capital.[40]

The Corporation answered the complaint in which they denied a majority of the allegations made by the city. The answer alleged that the company:

> is now, and at all times has been, willing and prepared to carry forward, on its own initiative, such reasonable,

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38 Idem.

39 The City of Los Angeles v. The Los Angeles Railway Corporation, op. cit., p. 7.

40 Ibid., p. 9, paragraphs XV, XVI, XVII.

sensible, and modern equipment programs as may be required for the needs of its service provided the necessary income can be obtained to meet its existing and new obligations. . .[41]

The effort of the city to secure the development of a program by the Company, looking to the rehabilitation of obsolete equipment and the purchase of modern equipment was successful. Agreement was made to expend, during the years 1935, 1936, and 1937, the sum of $500,000 each year for new passenger equipment and modernization of existing equipment. Agreement was further made to place an "initial order" for construction of thirty (30) new street cars of the type designed by the President's Conference Committee of the American Transit Association. The carrying out of the equipment renewal program after 1937, it was agreed, would be in accordance with a plan to be worked out with the City and the Commission. The Company stated they would continue to press for a loan from the Federal Emergency Administration of Public Works, such loan having been applied for in 1935.[42]

As a consequence of this program, the complaint of the City was dismissed by the Railroad Commission as of March 4, 1935.

The City, however, was not content to allow the matter to rest without specific results. The Public Utilities Board

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41 Answer of Defendant Los Angeles Railway Corporation before the Railroad Commission of the State of California, January, 1935, Case #3915. p. 3.

42 Proposal of Los Angeles Railway Corporation for rehabilitation of its equipment, Feb. 14, 1935, Exhibit "A" of Decision Number 27790, The City of Los Angeles v. The Los Angeles Railway Corporation. Case #3915, 39. Rail Road Commission of California (March 4, 1935). p. 786.

was anxious to bring about the elimination of other serious impediments to adequate mass transportation in such matters as fare structure and service as well as old equipment. The "Joint Conference Committee" had failed to achieve the results it sought from the Pacific Electric and the Los Angeles Railway. Also, no action had been taken by the latter Company to fulfill the terms of its agreement relative to new equipment; therefore, the City again deemed it advisable to present the entire situation to the Commission in a formal proceeding. A complaint was filed on April 11, 1936, asking the Commission to investigate all phases of the defendant's local mass-transportation operations. Included in this complaint was the request that the Commission authorize the City to issue an order directing the Los Angeles Railway Corporation:

> To set aside and pay into a separate depreciation fund monthly, the sum of not less than $33,333 on account of the depreciation of street cars and the electrical equipment of street cars . . . this fund shall not be used in whole or in part exdept for such capital addition to account covering street cars . . . as may be specifically approved by the Commission.[43]

The City, in conjunction with the filing of the complaint, had allotted five thousand dollars to the Railroad Commission for the purpose of making an impartial exhaustive study and report on all phases of the local transportation problem, in order that recommendations fitting to the transportation requirements of Los Angeles could be made. This report was to be the basis of the case of the City against the railway companies.

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43 Memorandum of Complainant City of Los Angeles in Response to Request of Presiding Commissioner for Certain Data, (May 6, 1936), Case Number 4002, The City of Los Angeles v. The Los Angeles Railway Corporation (Decision pending).

The question of new equipment was one of the many subjects investigated by the Railroad Commission engineers. In this respect, the report stated:

> The most serious situation and one which must be remedied lies in the character of a substantial part of the older street car equipment of the Los Angeles Railway. The minimum requirement to put the company in a state of reasonable operating effeciency is at least two hundred modern, up-to-date street cars . . . It is believed the purchase of new equipment is fully justified by operating economies and increased traffic and that the Los Angeles Railway should exert every effort to acquire such new rail equipment at the earliest possible date.[44]

This case, famous in the annals of local transportation history, is still pending. According to the City Attorney's office, it is likely that eventually the case will be dismissed if results satisfactory to the complainant are secured.

Purchase of New Equipment

The Los Angeles Railway Corporation, in the years of 1936, 1937, and 1938, purchased approximately $1,425,000 worth of modern street cars. Ninety-five of the so-called "President's Conference Cars"[45] have been purchased and placed in operation.

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44 Railroad Commission of the State of California, Case Number 4002, "Report on the Local Public Transportation Requirements of Los Angeles," (December 16, 1935). p. 299.

45 The "President's Conference Car," as it is known, was the result of research done by the American Transit Association in conjunction with its members. It is stream-lined, and ultra-modern in design and operating efficiency. It is of great value in expediting transit on surface lines, due to its remarkable acceleration and braking capacities. These qualities, plus noiselessness, a speed of 43 miles an hour, safety, and general comfort, make it an ideal street car to facilitate mass transportation.

As the company was not in a position to buy these new cars on a cash basis, it utilized the time payment method.

In 1938, future plans for purchase of additional equipment depended upon the refinancing of bond maturities due that year in an amount of slightly over $4,000,000.[46] With the permission of the California Railway Commission this financial difficulty was adjusted by the refunding of these bond maturities in September, 1938.

The attitude of the officials of the Los Angeles Railway toward equipment expansion has changed as a direct result of the successful operation of the new type cars.[47] Increased riding habit has resulted, operation costs have been lowered, and accidents have been lowered. Because of these favorable results, the officials are eager to introduce additional President's Conference Car equipment as fast as possible. The immediate future calls for another three-year expansion program of approximately thirty cars a year.[48]

However, such annual volume of line rehabilitation is inadequate to meet the needs of the community. The attitude today of the traction company is more favorable toward equipment expansion, but the problem of private financing is of such a difficult nature that real good cannot be accomplished.

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46 Personal Interview, Mr. J. R. Prettyman, Director of Research, Los Angeles Railway Corporation; see also Transit Journal News, II (August 6, 1938). p. 256.

47 Personal Interview, Mr. Woodward Taylor, Attorney for Los Angeles Railway Corporation, January 6, 1939.

48 Mr. Taylor advises that credit for this expansion should be easier to obtain as a result of the successful refunding of debt maturities this fall (1938).

Summary

There is much that can be done to facilitate mass transportation by means of surface units through a continual development of such actions as have been taken in the past. Mechanical rearrangements and control of automobile traffic in favor of the units can still be pushed. The major problem, however, has been and remains today the financing of a large-scale new-equipment program. It is doubtful whether the local rail line can meet this need adequately. Street car service remains the cornerstone of the local transportation system, and until such service is thoroughly revamped in the light of modern needs, the whole problem continues unsolved.

CHAPTER IV

ANALYSIS OF PROPOSALS WHICH PERTAIN TO ELEVATED RAILWAYS AND SUBWAYS

Bion J. Arnold, in his 1911 report, was the first to make specific and detailed recommendations relative to the use of subways and elevated railroads in Los Angeles. A few years prior to Mr. Arnold's report a tunnel had been proposed for the area west and south of Sixth Street in the hills adjacent to the central business district. However, due to the depression of 1908, nothing had come of it.[1]

Proposals of Bion J. Arnold

There were two aspects of the problem of securing rapid transit through elevated railways and subways to which the report paid attention and to which it devoted its recommendations. The first of these was the dire need to expedite the heavy interurban traffic. Excessive congestion existed on Main Street because a great portion of the interurban service used this thoroughfare. Reference in the previous chapter was given to the proposal for temporary relief through the use of other thoroughfares. For a more permanent method of relief from congestion, the proposal was made to build an elevated structure. This would run from the rear of the Sixth and Main Street terminal across the Los Angeles river to connect with tracks running north and south.[2]

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1 First proposed in 1904 by the Pacific Electric Company.

2 Bion J. Arnold, The Transportation Problem of Los Angeles, passim.

The second recommendation proposed to speed transportation to the towns west of Los Angeles, such as Santa Monica. The Hollywood and San Fernando districts, which were developing at the time, were to have been aided by this particular proposal also.[3] It called for construction of a double track outlet through the hills west of Hill Street and south of Sixth Street at about Fourth Street. Furthermore, it was proposed that this western tunnel should be designed to connect with the Pacific Electric terminal at Main and Sixth Streets by another subway under the streets of downtown Los Angeles.

These two proposals were considered necessary to solve the difficulties of the immediate future years. Nevertheless, Mr. Arnold foresaw a continued rapid growth of the city with the eventual need of additional sub-surface lines if the problem of high speed transportation between Los Angeles and its satellite towns were to be satisfactorily solved. For future years, he recommended the construction of a four-track subway running under the central business district from Twelfth Street to the Plaza.[4] At each of these locations there would be a terminal which would receive interurban travelers from the north and from the south, and would allow through connections to these communities on both sides of the city.

The second aspect of the rapid transit idea is mentioned to some extent in his proposed "ultimate plan." This deals

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3 Ibid., p. 11.

4 In his report, Mr. Arnold stressed the need for a union depot to be located at the plaza site.

with the need of moving local traffic through the congested downtown area by subways. At that time, the thought, as expressed in the report, was that local transit would be well taken care of by the removal of the suburban trains from the local tracks. Notwithstanding, Mr. Arnold did recommend the use of a four-track subway along a north and south axis with the two outer tracks being utilized by local cars.[5] Little attention was given to this aspect.

As regards the cost of these various proposals, the report did not make any estimates of either a detailed or general nature. It did discuss briefly the method of financing. The general tone of the report indicated that municipal ownership should be the ultimate goal of the city for its far-reaching subway plan. Transit bonds should be sold by the city, who would then build the needed facilities. Operation of the subways would be on a lease basis to the Pacific Electric Company, which would pay to the City a rental sufficient to cover the interest on the cost of construction and provide a sinking fund to retire the bonds.[6] The immediate building of the elevated east from the Sixth and Main Street terminal was to be financed by the Pacific Electric, with the "city's aid, credit or money." The only aid given by the city toward this enterprise would be to give to the company a long-term franchise."[7]

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5 Arnold, op. cit., p. 12.

6 Ibid., p. 19.

7 Ibid., p. 6.

In discussing the matter of franchises, the report favored the indeterminate form for the local railways. However, in view of the heavy investments required for the subway and elevated projects, it was considered the wise course to provide long-term franchises for the interurban company. This would facilitate the procuring of funds.

Proposals of the Railroad Commission

Considerable discussion and activity of a verbal nature followed upon the publication of this report.[8] The matter was still alive during the two-year period of 1917-1918 when the Railroad Commission was conducting its elaborate and scientific survey on grade crossing elimination, the necessity for a Union Depot, and other phases of the general transportation problem of Los Angeles. This particular investigation was in charge of Mr. Richard Sachse, and was the first major attack in the long-waged battle for the Union Depot which is just now being realized. Although not receiving the main emphasis, the question of rapid transit by means of subways and elevateds was studied and definite recommendations were made.

Before making specific recommendations, the author laid down thirteen general principles which should be followed

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8 Los Angeles. Board of Public Utilities and Transportation, Fourth Annual Report (1913). pp. 113-115; Fifth Annual Report (1914). pp. 115-120.

in the development of a rapid transit system.[9] Principle Number Five was that subways should be for the use of interurban cars only, and that local cars should continue to use the surface as at present. The only recommendation made, contrary to this principle, was that a subway be constructed under the Broadway Tunnel for the use of street cars; the purpose being to provide two outlets to the north instead of just the one on Main Street, and to allow direct routing of Broadway cars to the north.[10]

In regard to subways and elevated lines for the use of interurban trains, Mr. Sachse followed along the recommendations which had been made in the Arnold report. He suggested Main Street for the first subway, listing several advantages which this street had over streets parallel to it.[11] As a first step, he thought the line from the north should stop at Sixth and Main Streets with extension south on Main Street at a later

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9 These principles dealt with need of an elongated terminal rather than a stub-end terminal; through routes rather than loops; no grade crossings; undesirability of elevated lines in commercial and residential districts; justification for subways based on other factors besides density of population along the route, such as safety, speed, regularity, capacity; the advantages of open-cut construction over elevateds in residential districts.

10 Richard Sachse, Report on Railroad Grade Crossing Elimination and Passenger and Freight Terminals in Los Angeles for California Railroad Commission (1920). passim.

11 Ibid., p. 113. These advantages stressed the fact that Main Street bisected a broader belt of business territory; that Main Street was a through street; that there were fewer underground obstructions on Main Street; the Pacific Electric Station was located on Main at Sixth. . .

date to connect with the Pacific Electric line coming in from the southwest. The proposed subway, west from the Pacific Electric station on Hill Street to Vermont, with continuance from there to Vineyard Junction, either by elevated or opencut, was considered desirable and construction recommended. The report also recommended the connection of this latter subway with the Main Street station in order that through routing to all parts of the city could be maintained. This connection was to extend under Pershing Square, cutting diagonally under the Park. The report did not favor the idea that the Pacific Electric extend the Sixth Street elevated east to its southbound tracks, because this would retard the construction of the north Main Street subway. This latter subway was to be the outlet for uptown passengers coming from the Union Depot located at the Plaza. Eastward the subway was to extend under the station, changing to an elevated railway along Ramirez Street and across the Aliso Street Bridge to Brooklyn Avenue.

Little realizing the long drawn out struggle which was to ensue relative to the location of the Union Depot, the report asked that the Main Street subway be built within the next five years. The Pacific Electric Company, in its testimony on the case before the Railroad Commission, had acknowledged the necessity for some drastic changes in its downtown Los Angeles lines, and were contemplating such changes.[12] The report

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12 Mr. Shoup, in his testimony, had stated that present conditions could not be tolerated much longer. Plans had already been made for the elevated line east from the Main Street station by the Pacific Electric. See Sachse, op. cit., p. 35.

considered the heavy initial expenditure but thought the need paramount to the objection. Costs for the elevated line leading from the Pacific Electric eastward were estimated to be $1,671,590, while the Main street subway to run south from Sixth street was estimated to cost $3,880,816. It was assumed that the Pacific Electric would construct the line leading from their station east, but the double track subway on Main street could best be constructed by the city and leased for operation on a rental basis.

As regards financing, no general principles were laid down. The thought did predominate, however, that the city should build and own the lines owing to the heavy initial costs involved. It was also assumed that the financial measure advocated by Mr. Arnold, which called for the sale of transit bonds, was satisfactory.

At that time the Los Angeles City charter contained a clause which prohibited the granting of a franchise for an elevated railway or a subway along any street running in a longitudinal direction.[13] In calling attention to this obstacle to rapid transit improvements it was recommended that the charter be amended, if construction were to become effective.

These, then, were the main proposals devoted to the expediting of interurban traffic within the city limits. While those in charge of this remarkably comprehensive survey were concerned with other aspects of transportation, there was this

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13 Los Angeles. City Charter (As amended to 1919), Article I, section 43, n. 29.

definite attempt to solve the local mass transportation problem. Before the solution of the union passenger depot could be had, it was believed essential that location of interurban terminals and lines be completed so that the most efficient distribution of passengers could be secured.[14]

The Kelker, De Leuw Report

The next major step in the attempt to bring rapid transit to Los Angeles by these means took place in 1925 when the Kelker, De Leuw report was published. Immediately preceding that study the Board of Public Utilities had dispatched a commission to the east to investigate how other prominent cities were solving their transportation problems. Upon their return, they submitted to the Board a report which tended to see the problem of transportation in a comprehensive manner and advocated a definite plan to be worked out. This plan, when completed, was to take care of the needs of the city for the next twenty years.[15] The Board of Public Utilities

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14 Following the completion of this survey, hearings were held by the Commission. Due to the comprehensive nature of the survey a Committee of Engineers representing all interests was formed, September 14, 1920, to study the report and make recommendations. Sub-committees were formed to facilitate study. The sub-committee on Rapid Transit was unanimous in its conclusions which approved the plan for a subway extending in a northerly and southerly direction. Board of Public Utilities and Transportation, Twelfth Annual Report (1921). pp. 114-119.

15 This report to the Board was later transmitted to the City Council. It recommended that the Pacific Electric should supply the rapid transit service in Los Angeles; it proposed that the Hollywood subway unit be completed; that the terminal be located under Pershing Square rather than the old depot on Hill; that a subway and depressed track should (continued)

investigation served as a significant introductory step to the Kelker, De Leuw report, particularly as it stressed the need of an overall viewpoint if real progress were to be made.

Among the very many proposals which have been made from time to time with the purpose of solving the growing transportation difficulties in Los Angeles, the Kelker, De Leuw investigation stands out with particular significance. This $40,000 study with its all-inclusive recommendations was to be the basis for much controversy lasting several years.

As in the Arnold and Sachse reports, this one laid down a number of fundamental principles which should underlie the building of a comprehensive rapid transit system. The first of these stated:

> The future orderly development of Los Angeles requires the construction of rapid transit lines and the extension and expansion of other transportation facilities.[16]

Another principle was to the effect that:

> Only by the adoption of a comprehensive plan can a [17] sound and economical construction program be prepared.

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15 (continued) radiate from Pershing Square southwest to Vineyard Junction to supply the west beach district; that the then existing elevated from the rear of the Pacific Electric station on Main Street be extended across the Los Angeles River and north to a private right-of-way; that the tracks on Long Beach Boulevard should be depressed or elevated as far south as Slauson Avenue. The report stated that if the City built these lines they should be leased to the operating company on a rental basis. Subways were to be built only in the congested district and expanded as necessary. Board of Public Utilities and Transportation, Fourteenth Annual Report (1923). pp. 40-50.

16 Kelker, De Leuw & Co., Report on a Comprehensive Rapid Transit Plan for the City and County of Los Angeles (1925). p.6.

17 Idem.

In this plan, then, there is found for the first time a greater stress on the need of urban rapid transit, as well as interurban rapid transit, and the viewpoint that all types of transportation units must be considered and coordinated.

In making recommendations for rapid transit lines the engineer justified their need by tracing the growth of such factors as population, industrial activity, and street traffic, thus showing that the tremendous increases in these factors made necessary their proposals. Both the interurban and the local car lines were experiencing more and more difficulties in getting through the business district. The solution lay in a separation of traffic planes whereby both types of surface transit might achieve complete freedom without interruption from vehicular or pedestrian traffic.[18]

Recommendations. The physical plan proposed was divided into two parts. The first gave the requirements needed for immediate construction. The second gave the requirements for future work. The rapid transit units recommended went far beyond previous proposals. Plans were recommended for a system which would fit the needs of a city population of three million persons. It was anticipated that in 1950 Los Angeles would contain a minimum of two million four hundred thousand inhabitants.

Four rapid transit lines were proposed for immediate construction. The first was to be known as the Moneta-Broadway

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18 Kelker, De Leuw & Co., op. cit., p. 7.

Pasadena Avenue line, and was to extend through the heart of the business district from Manchester Avenue on the south to Avenue 64 on the north. A subway was to be employed on this line between Washington Street on the south and Sunset Boulevard on the north. Elevated railroads would extend from these points north and south to the points mentioned.

Line number two was to extend in a westerly direction along two routes, for the purpose of connecting the north and northwest with the south and southwest portions of the city. The route consisted of (1) an elevated and subway on Pico, (2) the Broadway subway, (3) the Hollywood tunnel west through the hills, (4) an elevated line northwest on Glendale Boulevard and Sunset, and (5) a subway under Hollywood Boulevard.

A third elevated was to be built between Glendale Boulevard and Los Feliz Boulevard to connect with a rapid transit line at grade extending to Lankersheim and with elevated construction at all important street crossings. In this way San Fernando Valley would be linked with the business district of Los Angeles.

A direct, through east-and-west line was proposed. This was to extend from Larchmont Boulevard on the west to Indiana Street on the east via Third Street, Seventh Street, and Whittier Boulevard. The western portion of this line was to consist of a subway, crossing under the central business district to Stanford Street, several blocks east of the business district, and thence via an elevated along Whittier.[19]

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19 Kelker, De Leuw & Co., op. cit., p. 101.

Inasmuch as the aforementioned lines were considered to be but the framework of a greater rapid transit system which would be needed as Los Angeles became one of the world's largest metropolitan centers, the report set up other extensions and additions to be built in the indefinite future. The Broadway-Pasadena elevated line was to be extended to a terminal in Pasadena. The south division of this line was to extend the elevated to 118th Street. A connection with this line was to be made at Santa Barbara Street. Eventually, a three-track elevated along this thoroughfare to the heart of Inglewood would be needed.

The Hollywood-Vineyard system was to be expanded by a subway in Olive Street. An elevated line from the Olive Street subway along Sunset Boulevard connecting with the line farther west was to be built. The elimination of all grade crossings on the Pacific Electric lines to the west beaches was likewise suggested.

In these future plans an elevated road would be extended from the Sunset Boulevard line north on Glendale Boulevard to Fargo Street. From that point a third track would be located along the San Fernando line to the junction just west of the Los Angeles River. Another elevated line would run directly north from the junction through Glendale to Arden Junction. Elevated lines would also run directly into the towns of Lankershim and Van Nuys, while within the limits of San Fernando an elevated railroad would be constructed from Webb Street to Porter Street. To complete the system of rapid transit for

the San Fernando Valley, additional trackage from Van Nuys Junction to Etiwanda Avenue was suggested. This line was to connect with an elevated railroad between Etiwanda Avenue and Vanalden Avenue, thence it was to operate by surface line to Hermosa Avenue in Owensmouth, where it would meet another elevated line running from Hermosa Avenue to Topango Road in Owensmouth.

The fourth section of the future comprehensive rapid transit system dealing with the Third-Seventh-Whittier Boulevard line was to be expanded by building a third track in the Third Street Subway from Larchmont to Burlington west to La Brea Avenue. Along the Whittier Boulevard elevated railroad, a third track was to be built from Boyle Avenue to Indiana Street, and then to extend the two track elevated from Indiana Street to First Street in Montebello via Whittier Boulevard.

A Beverly Hills elevated was also proposed. It would extend from La Brea Avenue to Wilshire Boulevard in Beverly Hills. From that point the line would come to grade, but all crossings would be eliminated between Beverly Hills and Sawtelle, where an elevated line would begin and run through Santa Monica.[20]

Such was the nature of the recommendations made in this particular study. There can be no question of the comprehensive and all-inclusive quality of this plan for rapid transit. Both local and nearby interurban centers were to be furnished with a complete system of rapid transit which would afford transportation into and out of the heart of Los Angeles with a minimum of

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20 Kelker, De Leuw & Co., passim. No date was forecast as to when these additional rapid transit facilities might be built, but it was considered inevitable that the need would arise.

delay. Subways, elevated lines, and the elimination of all grade crossings on rapid transit surface lines to outlying centers were the means to be employed in furnishing the population rapid transit. Feeder lines serviced by buses and local street cars would complete the scheme.[21]

The actual number of miles of rapid transit lines to be built consisted of forty-one and one-half miles of subways and tunnels and two hundred and forty and one-third miles of elevated and depressed track lines. Feeder lines operating local surface cars were to be constructed to the amount of one hundred and four and one-third miles. Total mileage for the complete system amounted to three hundred and eighty-six and one-tenth miles.[22]

Cost and Method of Financing. If such rapid transit system were to be built over such a widely dispersed area, accurate knowledge of the cost of construction would be vitally important. The Kelker, De Leuw study made detailed estimates of the cost and proposed method of financing the program. In giving the estimations, several alternates were shown to meet emergency modifications which might arise owing to financial restrictions or other causes. The costs of recommended types of construction for subways and elevateds, and equipment,

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21 Infra, Chapter V, for recommendations pertaining to bus lines.

22 Kelker, De Leuw & Co., op. cit., p. 16.

were shown in Table VI.[23]

In view of the huge sum necessary to realize this plan, the study devoted much time and thought to methods of financing. Certain definite principles were laid down.[24] It was stated that there are four principal beneficiaries when a large scale rapid transit system is constructed. Each of these groups is benefitted in many ways, and the benefits accrue in varying degrees to each group. The first group of citizens of the community who benefit are, of course, the car riders. The second group is the community as a whole. Third, the property holders along the lines of construction benefit. Fourth, the private transportation companies gain in the event the system is not municipally owned.[25]

In the survey these benefitted groups were considered as the ones who should bear the financial burdens incident to the building of the proposals. The community's share was limited by state laws which fix the amount of revenue and non-revenue bonds that can be issued. However, it was definitely recommended in the report that Los Angeles, and possibly adjacent

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23 Ibid., p. 118. A comparison of this figure with the sum of approximately five and a half million which was estimated as the cost of the proposed rapid transit lines in the Railroad Commission report illustrates the comprehensive nature of the report under discussion. The ratio is close to 23-1. The figures given above are those for immediate construction only.

24 Infra, Chapters VII and VIII.

25 Kelker, De Leuw, & Co., op. cit., p. 123.

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25 Kelker, De Leuw, & Co., op. cit., p. 123.

communities, should contribute.[26] The main emphasis as to who should bear the cost was placed upon the property holders adjoining the subway or elevated railway lines. Extensive arguments were put forth to prove that this group was the main beneficiary, and recommendations were made that special assessment districts be set up so as to carry three-fourths of the cost of the structures.[27]

The car riders were to be assessed a rate of fare amounting to approximately six cents. It was thought this fare would produce the largest number of riders. It was also thought that the receipts over a ten-year period would furnish sufficient funds to "carry the investments in street railway and bus lines, as well as the tracks and cars, with necessary appurtenances, required for all the rapid transit lines."[28] The Pacific Electric Company was to pay some thirteen millions of dollars for the purpose of extending its facilities for moving freight on its northeast and southeast systems and for additions to its properties in the urban area.[29] Neither the Los Angeles Railway

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26 The report showed that at that time Los Angeles had $85,310,000 in general bonds which could be still issued on the existing assessed evaluation. Because of so many other demands upon the City's financial resources it was not considered likely that the city could handle more than a portion of the total cost.

27 These proposals for special assessment districts produced a storm of protests. Infra, Chapter IV.

28 Kelker, De Leuw, & Co., op. cit., p. 171.

29 The sum of $13,148,000 had been allotted to the Pacific Electric for its share of the construction program. This share was for the purpose of building an extension of its existing Main Street Station elevated east to connect with the Pasadena Short Line; to elevate its existing Watts line to an average of 12 feet above grade by means of a fill; to provide two additional tracks on its Pasadena Short Line.

TABLE VI

COST OF CONSTRUCTION OF
PROPOSED ELEVATED AND SUBWAY PROGRAM FOR LOS ANGELES

LINES	COST
A. Rapid Transit Lines	
1. Moneta-Broadway-Pasadena Avenue	$33,043,000.00
2. Hollywood-Vineyard Line	31,359,000.00
3. San Fernando Valley Line	4,678,000.00
4. Third-Seventh-Whittier Boulevard Line	28,951,000.00
B. Feeder lines on surface.	4,006,000.00
C. Equipment	18,200,000.00
Total Cost.	$120,237,000.00

SOURCE: Kelker, De Leuw and Company, survey.

Corporation nor the Pacific Electric was allotted a share of the construction cost of any of the proposed lines.

Legal Difficulties. There were several questions of a legal nature which arose during the course of this investigation. Such questions were submitted to the City Attorney and the County Counsel.[30] There were three legal points upon which both offices gave separate written opinions. These dealt with:

1. Can rapid transit structures be legally constructed within the corporate limits of Los Angeles?
2. Can special assessment districts be formed to bear all or a portion of the cost of construction of rapid transit structures?[31]
3. Would the construction of such subways or elevated structures constitute a public improvement for the use and benefit of the public?[32]

Both offices gave an affirmative answer to each of these questions, and pointed out that the new Los Angeles Charter had made legal the construction of such structures.[33]

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30 Kelker, De Leuw & Co., op. cit., Appendix A. Mr. Jess E. Stevens was City Attorney. Mr. Edward Bishop was then County Counsel.

31 Ibid., p. 183.

32 Ibid., p. 187.

33 Sec. 2 The City of Los Angeles, in addition to any other rights and powers now held by it, or that hereafter may be granted to it under the constitution or laws of the state, shall have the right and power, subject to the restrictions in this charter contained.
. . . . . .
(11) Among the rights and powers which may be exercised by the City of Los Angeles are the following, this enumeration being partial enumeration and in no sense a restriction or limitation upon the rights and powers of the city: (continued)

While the charter legalized the building of such structures for rapid transit, such could not be built until the City had adopted a comprehensive elevated and subway plan for the development of rapid transit.[34]

Point number two pertaining to the right to form spedial assessment districts was confirmed on the basis of the fact that the construction of either elevated or subways was legally tantamount to increasing the capacity of the street in a vertical manner instead of a horizontal manner.[35] However, in establishing this right, the decisions handed down by the State Supreme Court were all to the effect that it must be shown that there would be a resulting benefit to the property included within the districts.

The third opinion was likewise in the affirmative with citations from Larsen v. San Francisco, 182, Cal., to show that the Supreme Court had acknowledged the fact of this benefit.[36]

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33 (continued)
. . . . . .
to provide for the acquisition, construction, improvement or alteration, maintenance, use and control of streets, tunnels, subways . . . and other public or local improvements on, above, or below the surface of the land or water. Los Angeles City Charter, Section 2, subsection 11 and subdivision (m) of the 1925 charter, as quoted in Kelker, De Leuw & Co., op. cit., pp. 183-4. Opinion of the City Attorney, Appendix A.

34 Idem.

35 Opinion of City Attorney, as quoted in Kelker De Leuw, Ibid., p. 184.

36 Opinion of County Counsel, as quoted in Ibid., p. 187.

These opinions established the fact that the recommendations in the report could not be forestalled through legal obstacles.

The Kelker, De Leuw report has remained the core around which further discussion and proposals regarding rapid transit in Los Angeles have centered. It was the great effort to bring to Los Angeles a wide-scale system of rapid transit, but while it had the support of many, there also arose substantial opposition. This opposition and other factors contrived to keep the proposals from ever being realized.[37] The engineers in charge of the survey had suggested that the plan be studied by parties interested, modified as thought desirable, and then adopted in accordance with the provisions of the new city charter. Following that proceedure a Transit Committee of representatives of important bodies could be organized to report upon matters which still remained to be settled, including a definite construction program.

For the next several years little action of any kind was taken. Toward the end of the 'twenties, because of the ever increasing use of the automobile and consequent congestion, interest revivied. Several important conferences were held by the City Planning Commission during the first part of 1930.

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37 Mr. Donald M. Baker, prominent consulting engineer, in discussing why no action was taken on the Kelker, De Leuw reports, mentioned that in the first place, the report was done in large part by eastern engineers who saw the solution of the problem in the light of their past experience with transportation problems of eastern cities, whereas there were certain factors operating in this area which completely differentiated the situations; that the plan was so extensive even for immediate construction that the cost became prohibitive; also, that there was no following agitation for action by a particularly interested group. Interview with Mr. Baker, August 6, 1938.

These conferences stimulated action and a committee was formed to consider the matter. But at the time the depression was setting in with riding habit falling off in street cars and automobiles. This decreased congestion, and as business men were concerned with other affairs, the effort was not fruitful.

The Baker Report

In 1933, interest was again aroused as the possibility of getting funds for a rapid transit system from the Federal Government at a low rate of interest came into existence with PWA. Downtown business men decided Los Angeles city should apply for a loan and grant from PWA. Accordingly, Mr. Donald Baker was retained to make a preliminary report upon the subject of rapid transit.[38] The study, the first large scale one since the Kelker, De Leuw study, was hurriedly compiled, and it used in large part existing data. This was necessary in order to have the study ready to send in to Washington with the application.

In view of the report's purpose, considerable emphasis was placed on the social and economic necessity of a rapid transit system in Los Angeles. The plan did, however, make definite recommendations for certain developments which were considered necessary for immediate needs. A framework of rapid transit should be constructed at this time as economic considerations did not allow for a comprehensive system. An extended

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38 Donald M. Baker, The Transportation Problem in the Los Angeles Area (An address before the Los Angeles section of the American Society of Engineers, September 15, 1937.) This preliminary report was to accompany the city application for the loan and grant.

system could be built up through additions as time and circumstances warranted.[39]

Four routes for rapid transit lines were suggested. These lines were to be used by the interurban lines only, as it was believed that the situation did not warrant taking the surface cars off the surface at that time. The first subway proposed was one running from Tenth Street on the south to the Civic Center, through the Union Station, and then east across the Los Angeles River to come to grade at Mission Street. This line would serve the north and northeasterly lines of the Pacific Electric to such points as Pasadena and the San Gabriel Valley.

It was further proposed that an elevated railway line be extended east from the Pacific Electric Terminal at Sixth and Main Streets to the Long Beach right-of-way, and then south as far as necessary to give the Long Beach-San Pedro line a high-speed transit through the Los Angeles area. As this line would traverse the industrial area it would obviate the objections usually accompanying the building of an elevated line.

The third route proposed was the Vineyard Line. This was to be an extension of the Pasadena route, which was to be ended at Tenth and Figueroa Streets. A three-track subway would be constructed along Tenth to Hoover Street, thence to Eighth Street, meeting the Pacific Electric right-of-way near

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39 Donald M. Baker, A Rapid Transit System for Los Angeles, California (Vide), (1933). pp. 68-69.

Harvard Boulevard and continuing along this right-of-way by subway and open cut until it comes to the surface near Pico Street.

To connect Glendale and San Fernando Valley the plan was to utilize the existing tunnel to Beverly Boulevard. From there extend the subway under Beverly Boulevard coming to grade shortly beyond this point, or extend the subway under both Beverly and Temple Streets and come to the surface a short distance beyond Temple Street on Glendale Boulevard. This line would then run at grade with the exception that an elevated would be built over San Fernando Road to a connection with the Burbank line. The line would again be elevated through Burbank.[40]

These were the main recommendations for immediate construction, and were not to be compared with the comprehensive immediate construction plans of the Kelker, De Leuw report. They were solely for the purpose of getting started on a scheme of rapid transit at a minimum cost. This cost as estimated was, likewise, considerably less than had been estimated previously. Table VII shows this cost to be approximately $37,200,000, which figure is approximately $90,000,000 short of the Kelker, De Leuw estimate.

Method of Financing. A new source of funds for the financing of rapid transit was possible as a result of the passage of the National Industrial Recovery Act. This possibility was

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40 It will be remembered that these proposals were of a preliminary nature for the sole purpose of securing funds for a much more detailed study before actual construction took place.

the basis of the proposed method of financing. Under the terms of the "Emergency Administration of Public Works," the President was empowered to make grants and loans to public bodies to carry out the purpose of this act. Said grants were not to exceed thirty per cent of the total cost for labor and materials.

The Baker plan proposed a total cost for the project of $37,200,000 of which $35,650,000 was for labor and materials. The amount of $10,700,000 would represent the sum of the grant and the remaining 70 per cent of $26,500,000 was to be secured as a loan from the government.

It was anticipated that revehue from operations would not be sufficient during the first years to cover interest payments. Accordingly, it was planned to borrow from the Government a total of $30,000,000, of which $3,500,000 would be used for the debt service. The balance of the deficit in the debt service during the first nine years would be met by establishing assessment districts. These districts would be taxed at a progressively reduced amount until after the ninth year, when no assessment would be required. Payment of the principle as well as interest would commence in the seventh year, and complete amortization would take place at the end of forty years.[41]

It will be seen that in this report the basis of sharing the cost of the system is not as inclusive as the method outlined in the Kelker, De Leuw investigation. Neither the railroad company nor the general public is asked to share in the expenses

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41 Vide, 83-90.

involved; only the property holders along the line of the routes to be built, and the car riders are to pay. The Pacific Electric Company, which is expected to benefit materially from the construction of such a system, is to have no capital outlay, nor is the general public. This fact is possibly ascribable to the lowered rate of interest for government funds, and to the skeleton nature of the project as compared with previous recommendations.[42]

After the investigation was completed, there occurred some delay in sending it to Washington with the formal application for the grant and loan. The consequent result was that notice came that there were no additional funds available. Thus the Baker report was not used for the purpose for which it was compiled, and it joined the ranks of other reports as references for future committees to investigate.

The Airtram System

One other proposal coming under the category of elevated railroads should be mentioned. For several years prior to 1937, Mr. Joseph B. Strauss, nationally famous engineer who was Chief Engineer in charge of design and construction of the Golden Gate Bridge at San Francisco, had been working on a streamlined elevated system which he called the Airtram.[43] It was his

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42 Property Associations had in the past bitterly attacked the idea of assessment districts formed to pay the cost of such a system as it was stated that the railway company was getting a maximum benefit without sharing the cost in an equitable manner.

43 Joseph B. Strauss, The Airtram System (San Francisco, 1937), p. 7.

belief that this modern design of the suspended monorail was the answer to the rapid transit problem for the large cities. His system called for the suspended car travelling below supporting dual rails. These are supported by carrying structures mounted on steel posts along the curb where they are supposed to present "little more interference than the customary lamp standards." High speeds, no noise, attractive overhead structures, coupled with low initial costs and operating expense made this system the ideal rapid transit means for modern America, according to Mr. Strauss, who had spent some twelve years in the study of the rapid transit problem.

Mr. Strauss attempted to get the city of San Francisco to adopt his proposal as a solution of their problems, but up to the time of his recent death he was not successful. In Los Angeles, however, Mr. George Rowan, a member of the Rowan Real Estate firm in downtown Los Angeles, became interested in the idea while he was chairman of the Traffic Committee of the Los Angeles Junior Chamber of Commerce. During the spring of 1936, several meetings were held by the Chamber of Commerce, and on one occasion Mr. Strauss came down from San Francisco to talk to the Junior Chamber. Later, Mr. Rowan formed the Los Angeles Transportation Committee with the idea in mind of pushing this plan. After the death of Mr. Strauss the activity surrounding this solution came to a standstill.

This particular idea of elevated railroad is not a new one as it has been in use in Germany for a number of years, and

has had several advocates among the engineering profession in this country.[44] As far as Los Angeles is concerned, the idea can be considered as of small importance in the development of rapid transit for this city.

Sponsors of Elevated Railways and Subways

Generally speaking, there have been several factions which have shown much interest in these means of rapid transit for Los Angeles. By and large they are the same interests which have fostered the idea in other large cities. There is, first of all, the group which may be termed the "Downtown Interests." They consist of the downtown merchants and business men, and the downtown real estate firms. This group has quite naturally a deep interest in getting as many people into the central business district as is possible. They realize that rapid transit is the needed factor to enhance this movement. Retail business conditions as well as the stabilization and increase of downtown property values are the two incentives behind their desire. Such incentives are very strong and account for the active interest taken through the years.

There are several organizations which coordinate and promote the rapid transit idea for these interests. The one

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44 In 1927 Mr. John F. Stevens, former President of the A.S.C.E. and Chief Engineer of the Panama Canal, spoke with favor of the idea of the Suspended monorail in a letter to Mr. J. W. Colt of Hitchcock and Tinkler, Railway Contractors, New York City. He said in part, "From every utilitarian view, I believe that with the possible exception of the subway, it is superior to any other method of land transport, and it costs much less for construction and operation than the subway."

which is more fundamentally concerned is the Los Angeles Traffic Association, established in the year 1922. This association usually has been a co-sponsor of efforts to bring subways and elevated transit to Los Angeles as its membership is, in the main, made up of downtown business men. It was intimately concerned with the Kelker, De Leuw report; it was an important force behind the Baker study of 1933; and is now very active in the latest move in this direction.[45] The two other organizations which represent the business men are the Central Business District Association and the Downtown Business Men's Association. Both of these associations, while not fundamentally interested in the question of transportation, have assisted in sponsoring efforts to bring rapid transit to downtown Los Angeles. The former group was the organization which engaged the services of the consulting engineer, Mr. Donald Baker, to make his study. Both organizations have been working hand in hand with the Los Angeles Traffic Association in the effort to bring about the current survey.[46]

One other organization should be mentioned as a sponsor: the Junior Chamber of Commerce. This organization contains a Traffic Committee, which committee has exhibited much concern and activity relative to the whole question of transportation.

Another group of interests who have the same strong incentive as the previously mentioned groups are the Real Estate

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45 Infra, Chapter VI.

46 Los Angeles Traffic Association, Annual Report of the President (1937), p. 8.

Improvement Associations operating in the undeveloped suburban area. There is the difference that the downtown interests are usually struggling to maintain their property values and to retain retail business already established, while this group is usually on the threshold of speculative profits, and needs a system of rapid transit to realize these anticipated profits. The most aggressive representative of this faction in the Los Angeles area has been the San Fernando Valley Improvement Association. This region some years ago represented much promise for real estate promoters, and it was realized that if rapid transit to and from the downtown area could be secured, their promotional problems would be solved. The manager of the Major Development Association of San Fernando, speaking in 1930, stated, "A modern up-to-date rapid transit system is the only factor needed to feed into San Fernando Valley a teeming population."[47] This group has since been active in the promotion of rapid transit by means of subways and elevated railways and grade crossings as well as express service over private-right-of-ways.

The third group which has acted as sponsor may be termed the public. It is necessary when considering this group to

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47 Charles L. Wood, "Would the San Fernando Valley Be Fed or Drained by Rapid Transit Connection with the Metropolitan Center?", Conference on the Rapid Transit Question (January, 1930), p. 49. Sponsorship of the elevated and subway to any degree comes only from an undeveloped suburban region. The developed regions are to say the least: apathetical in their reactions. See "What Kind of Traffic Connection do Neighboring Cities Need and Want with the Metropolitan Center," by C. J. S. Williamson, Member of the Santa Monica Planning Commission; R. B. Taplin, Planning Engineer of Long Beach; John M. Kemmerer, Secretary, Whittier Planning Commission; Carl Bush, Executive Secretary, Hollywood Chamber of Commerce, Conference on Rapid Transit (January, 1930).

differentiate sharply between an honest public demand and a pseudo-public demand. It has been said that "What is called public demand is often the result of propaganda of selfish property interests who are in reality concerned only with store rentals and other real estate values."[48] This is not always possible to do, but support from such civic agencies as the City Counsel, the Board of Public Utilities, the City Planning Commission, and private civic clubs, represent this demand more or less genuinely.

In 1911, the sponsor of the survey by Bion J. Arnold was the Board of Harbor Commissioners. In 1920 recommendations for elevated and subways came from the Railroad Commission in their consideration of the Union Depot problem. This agency, a public body, did concern itself with the problem as a result of public demand.

The Kelker, De Leuw report was also actively sponsored by the public. The Board of Public Utilities was very active in the movement for this survey.[49] The City of Los Angeles and Los Angeles County supplied the funds for the survey in the amount of $20,000 each. Both of these governmental agencies received considerable urging from small groups of citizens connected with civic organizations who urged the City Council

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48 H. M. Brinkerhoff, "Possibilities of Elevated Not Recognized," Transit Journal, 79:331-332 (September 14, 1935).

49 Los Angeles Board of Public Utilities and Transportation, Tenth Annual Report (1924), passim.

and the Board of Supervisors to join in defraying expenses of a comprehensive survey.[50]

From the above brief review, it can be seen that several interested groups have attempted to bring elevated and subways to Los Angeles, with perhaps the most insistent group consisting of those business men who stand to suffer economic loss if their interests are not protected. Up to this time there has not been a large-scale public demand for an up-to-date rapid transit plan for Los Angeles and its environs. Is it time that some reputable civic organization adopt this program for a continuous struggle as was done in the case of the Union Depot?

Objections to Elevated Railways and Subways

Naturally, as a consequence of these various proposals, objections of various shades have been raised. Public opinion in Los Angeles never has been very warm towards this method of solving the mass transportation problem of the City. There is no record of any strong public movement which favored it. There has been some united action against; particularly, the elevated railroad proposals and also a good bit of apathy.

This latter was first evidenced in some of the earlier statements of the Public Utility Board, which debated the merits of subways and elevated lines and urged caution before the city committed itself to such undertakings. In fact, it may be said that in the years immediately prior to 1915 the Board was

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50 This same group were successful in getting the Freeholders to place in the new city charter the provision requiring the adoption of a comprehensive plan of public transportation by the City Council before any elevated railroads or subways could be built in the City.

definitely not in favor of such proposals.[51] Since that time, however, this public agency has usually coopdrated with those who have investigated the problem.

At about that same time the Los Angeles Railway had a report drawn up which made an exhaustive study of the feasibility of subways and elevated lines from the standpoint of the company.[52] The conclusion was that Los Angeles did not need elevated roads or subways for the reason that Los Angeles was a radiating type of city. This type of city allows for the expansion of the business district whenever the saturation point in one district is reached. By being able to do this the city is always in a position to relieve congestion, and, thus, there is no necessity for subsurface transit. The report traced the slow south and westerly movement of the business district to substantiate this point. The radiating type of city which allows this means of relief from congestion was contrasted with the peninsular type, such as New York City or San Francisco, and the valley type of city, such as Cincinatti or Pittsburgh. Both of these latter types prevent this freedom of business movement which acts as a solution to the problem of congestion.

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51 Los Angeles Board of Public Utilities and Transportation, Fourth Annual Report (1913), pp. 113-115; Fifth Annual Report (1914), p. 120.

52 E. W. Bannister, Study of Street Traffic Conditions in the City of Los Angeles and the Practicability of Subsurface or Elevated Construction for Urban and Interurban Transit Facilities (1915). This report was later forwarded to Harry Carr, Assistant Managing Editor of the Los Angeles Times, by G. H. Kubits, who later became President of the Los Angeles Railway Corporation. It was sent in answer to Mr. Carr's letter to the Los Angeles Railway Corporation requesting their opinion on the matter.

This geographical factor, plus light population density, prohibit the investment of the huge funds needed for the construction of these types of rapid transit. As regards this type of solution for congestion the report does admit that in later years the:

> Population area may become so extensive that the inhabitants will be unable to reach the business district from their places of residence by surface roads without undue loss of time, or conversely, until the congested area surrounding the business district has become sufficiently extensive in any one direction to approximate the conditions of population obtaining in a city of restricted boundaries.[53]

While it was admitted that this hypothesis was subject to alteration through changing population conditions in the future, the report served to crystallize the objections of the Los Angeles Railway Corporation to rapid transit.

In view of the nature of the Kelker De Leuw report, it was logical that objections by different interests should develop followihg the publishing of that study. Many groups became alert to the proposals, and reactions were set forth from time to time. The Los Angeles City Club[54] issued a report on the proposed plan in which the majority report of the committee of investigation disagreed "completely with many arguments which are being made on all sides . . . to secure the adoption of the 'Kelker Plan' . . ."[55] In their fundamental considerations the City Club

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53 E. W. Bannister, op. cit., p. 20.

54 Mr. C. A. Dykstra, now President of the University of Wisconsin, was secretary of the Club at that time and was actively interested in the subject of transportation. Infra, Chapter VI.

55 Los Angeles City Club, Bulletin, Supplement (January 30, 1926), p. 2.

report commented on the fact that Los Angeles is basically a "single family dwelling" city. This unique factor in the City of Los Angeles makes for lack of density of population. Thus the financing of either elevated lines or subways is a remote possibility in Los Angeles.[56] Further, rapid transit does not relieve congestion but promotes it by adding to the number of persons using the downtown area. Even if the surface cars were taken off the streets vehicular traffic would increase accordingly, and the saturation point would again be reached immediately. Therefore, the answer is not to build subways or elevated lines for local surface cars, but (1) to take the suburban cars off the streets, (2) to eliminate all grade crossings for these cars, (3) to utilize to the fullest extent the existing services by using private right-of-ways wherever possible, (4) to re-route local car lines around the congested districts, and to eliminate parking and other physical obstacles to transit on the downtown streets. In conclusion, the report points out that the Kelker report for Los Angeles calls for an expenditure of over $125,000,000, while Philadelphia with over twice the number of people to the acre contemplates a rapid transit program not exceeding $57,000,000. In other words, the expenditures are entirely out of line with the conditions existing in Los Angeles.[57] The exhorbitant expense involved was the main

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56 Ibid., p. 3.

57 Vide, pp. 3-9. The minority report submitted by Mr. A. F. Southwick supported the Kelker plan and in addition advocated immediate purchase of the "Yellow Car Lines" with control of operation by the City.

objection advanced, although the thought that such measures of rapid transit would not solve the problem was also given importance.[58]

In the conferences called to discuss the problem of rapid transit in the spring of 1930, there occurred a crystallization of arguments against subways and elevated roads. The Kelker plan was still the center of discussion and the main objections to the plan were publicized at these conferences, particularly, at the second one held in May of that year.

At the first conference, statements were made by officials of both of the local electric companies. President Pontius, speaking for the Pacific Electric, spoke in favor of the idea of downtown subways and advanced no objections except that certain interests of the Pacific Electric Company must be protected in any movement of this kind.[59]

Mr. Richard Sachse represented the Los Angeles Railway Corporation, and made an official statement in which the viewpoint of this company was expressed. The substance was to the effect that any plan for rapid transit should be analysed with

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58 Infra, Chapter VI. Centralization vs. Decentralization as an obstacle to achievement.

59 D. W. Pontius, "Possibilities of Rapid Transit to Meet the Requirements of Metropolitan Business District of Los Angeles," Conference on the Rapid Transit Question (1930), pp. 21-22. The Pacific Electric has never attempted to stop the movement for subways or elevateds, but have been mildly encouraging in their attitude. As regards their interest in the Kelker plan, it was stated: "The officers of the Pacific Electric and the Los Angeles Railway had nothing to do with initiating this program, but were gradually won over to give their support to the project on the theory that such a study could do them no harm and might benefit." Municipal League Bulletin (June 6, 1928).

great care. The experience of cities has shown that rapid transit costs a tremendous sum of money; that it might be better to free the Los Angeles Railway from the onerous financial burden of taxes for franchises, paving, and state taxes so that the company could utilize these savings to build up their system to give first-class service. Such an approach would cost but a small portion of the necessary outlay for elevated lines and subways.[60] The viewpoint here is one of caution and lacks direct approval of such a system of elevated lines and subways. Yet, the statement does not oppose the idea. It simply suggests that if funds are to be spent, why not make the company the beneficiary of these funds? Then they can modernize their system and begin to give adequate service. This, in general, has been the attitude of the Los Angeles Railway Corporation. Cooperation is usually given in any study made, but no active support or encouragement is ever indicated.

It was at the second conference that strenuous objections were set forth. Mr. J. E. Lambert, President of the Affiliated Improvement Associations, made a direct attack, first on the "Kelker" proposals for elevated lines and, secondly, on the method of financing through setting up special assessment districts. His objections were:

1. Elevated structures depreciate property values within their immediate vicinity.

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60 Richard Sachse, "The Objectives of Adequate Transportation Service and Present Obstacles to Creating Such Service," Conference on the Rapid Transit Question, pp. 23-33.

2. It will drain the close-in districts of the home owner, who will move to the suburbs. This will result in depreciation of property values close to.

3. Business communities in the outlying centers will stand to lose as business activities will concentrate in a confined area downtown.

4. The method of financing through the district assessment plan is unfair to the small home owner as he will have to stand the burden of the cost to too great an extent.[61]

Additional objections to the method of financing through the assessment plan were voiced vigorously by several other representatives of different associations. Charges were made that the new city charter included a provision providing that assessment districts could be created for the erection of subways and elevateds as well as for storm drains, sewers, or the improvement of streets, and that this was a "little joker" that had been slipped into the charter by certain interested groups. Moreover, that this same powerful clique had been the ones responsible for getting the Kelker, De Leuw report financed by the city and county. They charged that this report had leaned over backwards to stress this method of financing. Also, they asserted that the Well Law, which gives state sanction to this financial method, was also sponsored by this same group, which included the Pacific Eledtric Railway Company and the downtown business organizations and real estate firms.[62] Further

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61 J. E. Lambert, "Financing by a Bond Issue to Cover the Entire Cost," Second Conference of the Mass Transportation Question (1930), pp. 8-10.

62 A. J. Samish, "Public Ownership of Future Systems"; Greely Kolts, "Elevated or Subways Shall Never Be Built by Assessment Districts or Out of the General Tax Fund," Second Conference on the Mass Transportation Question, passim (1930). Mr. Samish represented the Anti-Elevated Association and Mr. Kolts, the Northwest Civic League.

objections stated that the need of rapid transit had been built up artificially. This was true because the local railways were more interested in running lines to their suburban real estate holdings than in furnishing adequate transportation:

> ...companies that were more in the real estate business than in the transportation business, and that, therefore, instead of embarking upon a rapid transit arrangement with these street car companies and getting more hopelessly involved than ever, now is the time to plan for municipal ownership.[63]

Great stress was laid on the fact that the true beneficiaries of such a plan of rapid transit would be the local railway companies. These companies would enjoy a saving in operation of hundreds of thousands of dollars a year through the building of subways and elevated lines. Thus it was asked, why should the property holders in Los Angeles be made to pay the cost of these means of rapid transit, when such means would primarily add to the profits of these companies?

> We maintain . . . that there is no more reason why the property owners of a district should subsidize a street railway than there is for contributing to the erection of a department store or for any other line of corporation welfare. A public carrier is in the business of transportation for the purpose of making money not for any philanthropic purpose.[64]

In other words, allow the street car companies to bear the burden of such expenditures, just as any other private corporation does when it anticipates decreased operating expenses through some major improvement.

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63 Samish, op. cit., p. 13.

64 Greely Kolts, op. cit., pp. 16-17.

It will be seen that the main objections are: (1) the idea of elevated lines in residential districts, (2) the proposed method of financing through the special assessment districts, (3) that the rail lines should share in the expenditures inasmuch as they would share in the benefits. The objection against the elevated appears to be a legitimate one in view of the current trend. As to the other objections, they bring forward the extremely important aspect of financing in general, and just how cost can be distributed in an equitable manner among those who will benefit. This subject has been studied at length by authorities and will be referred to in a later chapter.[65]

Summary

The use of elevated railways and subways as a means of expediting mass transportation in LosAngeles has been the occasion of much study and investigation during the past years. Specific achievements have been minor. The much-discussed Hill Street subway was completed in 1925, and the one-eighth of a mile of elevated from the Sixth and Main Street Station to San Pedro street level was completed in 1916.[66] These two constructions represent the total achievements during the past thirty years of thought in this direction. What the future holds in

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65 Infra, Chapter VI.

66 Cost of the Hill Street Subway was $4,000,000 for a length of 4,225 feet of trackage and 5,000 feet of tunnel. The subway is 28½ feet wide and 21¼ feet high.

this respect for Los Angeles will depend on the solution of such major problems as: financing, the resolving of the conflict between advocates of centralization and decentralization, and current trends in urban transportation. Perhaps by the time a plan for such means of rapid transit has been made and accepted a more modern method of rapid transit may be receiving the enthusiasm of the populace.[67]

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67 Infra., Chapter V. Such a new means of rapid transit is already being fostered by the automobile interests. Buses on super speedways are in the minds of many.

CHAPTER V

ANALYSIS OF PROPOSALS WHICH PERTAIN TO BUSES

In the endeavor to obtain adequate and rapid mass transportation in Los Angeles, the idea of bus transportation has been a prominent one. Coincident with the rapid rise of the gas motor vehicle for private individual use, there has developed a definite trend in the United States toward the use of the bus for rapid mass transportation.[1] Sponsors of this method of solving the problem have kept the subject before the public through several determined efforts. Controversy has waxed warm and the advisability of such means of transportation has been given wide publicity, as have the numerous objections. As a result of a number of proposals along this line, there has occurred a definite advance in the use of the bus in Los Angeles.

Jitney Buses

The early advent of the mode of bus transportation in Los Angeles was totally unplanned. It was unrelated to any definite proposal for the solution of transportation problems, and first started to grow in a decidedly hit or miss fashion. The spread of the general use of the automobile led to the specific use of it as a jitney bus. Individual drivers of these

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1 The trend is especially noticeable in cities below one million population, although such cities as Detroit, New York, and Chicago show evidences of this trend.

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jitney buses sprang up like mushrooms, and from their beginning in July 1914, to the end of 1915, over 1,300 buses appeared on the streets of Los Angeles. Lack of regulation led to many serious abuses which in turn led to drastic regulation.[2]

In 1917, an ordinance sponsored by the local railway companies was approved by the people of Los Angeles. This prohibited the use of the jitney bus in the business district, bounded by First, Main, Eighth, and Hill Streets. The ordinance sounded the death knell of the jitney bus in Los Angeles. By June 1918, there were but 32 jitneys in operation,[3] and by July 1, 1918, there were but two jitney bus routes being operated in the city proper.[4] These two lines were subsequently ordered off the street by the Board of Public Utilities as they involved duplication of transportation service.[5] This was in line with the request of the War Industries Board of the Federal Government that municipalities co-operate in the conservation of men and materials.

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2 Los Angeles. Board of Public Utilities and Transportation, Eighth Annual Report (1916), pp. 166-177.

3 Board of Public Utilities and Transportation, Ninth Annual Report (1917), p. 84.

4 Ibid., Tenth Annual Report (1918-1919), p. 75.

5 As an expedient to force the Los Angeles Railway Company to extend its Western Avenue line into the Hollywood District, a temporary permit was granted for a jitney bus line along the route in 1920.

Hollywood Bus Proposals

During the year 1923, the movement for enlarged bus service as a means of partially solving the problems of transportation was advanced noticeably. Toward the latter part of 1922, applications had been filed by two individuals and the Hollywood Motor Bus Company for permits to run a bus service from downtown Los Angeles to Hollywood. Recommendations to reject these pleas were made by the Chief Engineer of the Board of Public Utilities, who advocated that the two electric rail lines establish fuller service.[6] The permits of the individual applicants were rejected, but the Hollywood Motor Bus Company's application was not denied at the time.[7] This latter application was withdrawn and superseded by an application from the People's Motorbus Company on January 22, 1923.

This application, in the form of a petition to the Los Angeles City Council, asked for permission to establish a network of buses throughout the entire city, including the district from downtown Los Angeles to Hollywood. Thirteen routes over sixty miles of street by means of one hundred twenty-five double-deck buses were proposed. A ten cent fare with universal transfers was to be used. A two-million dollar expenditure was to be made if the city would grant a guaranteed fifteen-year franchise, allowing the city three per cent of the gross revenue in

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6 "Many Applications to Serve Hollywood District," Bus Transportation, II (Feb., 1923), p. 108.

7 E. F. Bogardus, a member of the company, was appointed to the Board of Public Utilities Commission in December, 1922.

exchange. The privilege of selling the system to the city within a five-year period was also asked. Evidence of good faith on the part of the company would be assured by bonds deposited with the city. While the bus system would run in direct competition with the local rail lines, this was justified on the basis of the advantage of the bus over the street car. These included flexibility, which allows complete freedom of movement, such as being able to establish rerouting as necessary, modern equipment, express service, curb loading and unloading, and effective rapid transit at low cost. The system planned by the People's Bus Company was indeed comprehensive in its scope and was intended to replace rather than supplement existing street car transportation.

Competetive Bus Proposals 1923-1935

Shortly after receiving the application of the People's Motorbus Company, another application was received by the Board from a C. D. Gubik, of Glendale. This application was filed in behalf of the Glendale Motor Bus Company and the Southern Pacific Bus Company, which asked for a permit to operate buses between Glendale and Los Angeles and over fifteen routes covering various sections of the city of Los Angeles. In many instances the proposed routes would parallel the existing street car lines, similar to the proposed routes of the People's Motorbus Company.[8]

Upon learning of the filing of these applications, the Los Angeles Railway and the Pacific Electric immediately presented

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8 Unsigned, "Titanic Struggle Being Waged for Los Angeles Franchise," Bus Transportation, II (1923), pp. 153-154.

an application of the Los Angeles Motor Bus Company, in which they offered to duplicate and enlarge upon any of the plans proposed by the other interests. This application called specifically for a motor bus service on Western Avenue between Hollywood Boulevard and Santa Barbara Street, transfers between the buses and the street cars of the two street railways, and the use of buses as feeders to the existing rail lines. Universal transfers were to be available between buses and street cars. While the Los Angeles Railway Corporation stated its willingness to parallel its own lines with buses if the public demanded it, the essential idea of the Los Angeles Motor Bus Company was to supplement the present service.[9]

The sponsors of these three proposals to develop bus service in Los Angeles were all backed by large financial interests who sought to enter the field from a purely business standpoint. Apparently, the opportune time was at hand to enter a field of transportation as yet unexploited. The People's Motorbus Company, represented locally by W. G. MacAdoo, was formed by eastern capitalists who were conscious of an apparent excellent opportunity to gain control of the Los Angeles transportation through interpenetration of the local system by the bus. Although The People's Motorbus Company was formulated under the laws of California, the stockholders were mainly from New York.[10]

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9 Statement of G. J. Kents, General Manager, at Board of Public Utilities Hearing on Transportation, February 9, 1923. See Electric Railroad Journal, Vol. 61 (Mar. 1923), p. 542.

10 Besides MacAdoo, there were interested: Mr. E. J. Simms and a former Congressman Rhenock of New York, and Mr. Richard Meade, for many years head of the Fifth Avenue Coach Company of New York City.

The Gubik application likewise was backed by business men but of a local character, being from Los Angeles and Glendale.

When the two local lines saw their local rail monopolies threatened by these potential competitors, they attempted to forestall such action. They immediately incorporated the Los Angeles Motor Bus Company, and made their bid to retain control of the transportation field by proposing to enter the bus business.

The Board of Public Utilities, during that same spring of 1923, may be said to have sponsored the idea of bus transportation for Los Angeles. In their report of March 20, 1923, they recommended that the two railway companies install twenty-four motor bus lines, totaling eighty-two miles in length to serve portions of the city which did not have adequate transportation services. These new routes would require the purchase of at least fifty buses, costing from $6,000 to $8,000 each.[11]

This recommendation by the Board of Public Utilities emphasized an equipment cost for the local rail companies of a possible $400,000. The MacAdoo concern, envisioning a far more extensive use of the bus, had stated in their application that they intended to use 125 buses at a $1,000,000 cost. Incorporated for two million dollars, it was anticipated that such an expenditure would be necessary for the complete system

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11 Unsigned, "Use of Buses Recommended in Los Angeles," Bus Transportation, II (May, 1923), p. 232; also "Los Angeles Board for Extension, Subways and Buses," Electric Railway Journal, IX (April 1923), pp. 641-642. The report in favor of buses was not unanimous, as President Leeds opposed the idea.

planned. The Glendale Motor Bus Company also anticipated an expenditure close to one million.[12]

Unlike the proposals for rapid transit by means of subways and elevated rail lines, financing was to be handled entirely by the company itself. No demand was, of course, laid upon the taxpayers, although it was anticipated that the riders, by paying slightly higher fare, not to exceed ten cents, would cover the cost of operation, depreciation and upkeep.[13] The costs being not excessive, the problem of financing was not a difficult one, particularly because such a bus system was considered as a business proposition, which would yield a good return and therefore was attractive to private capital. This was the case of the two private concerns. The railway co mpanies were, of course, not entering the field primarily because of anticipated profit. Competition forced them to take such action.

During the early spring two petitions filed by individuals were placed on the ballot at the city election of May first. One petition asked that the voters sanction the amending of the present bus ordinance so as to permit the granting of a long time franchise to bus lines. The second asked amendment of the ordinance to permit the bus to enter the central business district. A strenuous campaign took place with objections from

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12 It is interesting to compare at this point the proposed financial outlay for a city-wide bus system of $2,000,000 with the estimate of the Kelker De Leuw rapid transit system of subways and elevated lines of well over $100,000,000.

13 Considerable agitation for a publicly owned bus transportation system was also being made at the time, but no specific proposals were made.

many sources.

The President of the Board of Public Utilities, in his dissenting opinion to their report of March 20, had stated his arguments against the use of buses in competition with street cars:[14]

(a) Motor Buses as substitutes for street cars in heavy traffic areas are not satisfactory;

(b) Motor Buses competing with the street cars generally result in inferior service on the car lines with increased fares, which causes public readtion against such competition;

(c) Motor Buses where operated as feeders by rail carriers in new territory not yet able to support street car service, are found to be satisfactory; and

(d) Motor Buses are most economical where traffic is comparatively light.

These statements opposed the use of the bus in competition with the rail lines, and stood by the railroad companies in their opposition.

Two organizations, the Los Angeles Traffic Betterment Association and the Los Angeles Chamber of Commerce, also supported the rail lines, stressing the fact that additional motor buses would add to the badly congested streets, and recommending that the street car companies be given time to make good. The Automobile Club of Southern California issued a resolution pro-

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14 Walter R. Leeds, "Comments on Bus Proposal," Electric Railway Journal, Vol. 61 (April 14, 1923), p. 641.

testing the "invasion of Los Angeles by the bus."[15] The Los Angeles Development League opposed the McAdoo project on the ground that it would mean a loss of millions of dollars to the local street car companies.

These organizations in conjunction with the railway companies were strong enough to sway the tide against the propositions and both were defeated.[16] The two individuals immediately withdrew their applications for permits after their defeat in the election. The Los Angeles Motor Bus Company, on May 7, 1923, received a permit from the Board of Public Utilities granting permission to operate buses in connection with street cars. On May 26, an order was placed by that company for $750,000 worth of buses to operate over routes covering approximately 70 miles.[17] Lines were in operation on Western Avenue across town by August of that year, and the Hollywood unit was under way by November 1st.

The result of this movement for better transportation was largely of a supplementary nature for the existing lines. However, it rounded out the service, furnishing up-to-date fast service in many directions, heretofore with inadequate service.

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15 Unsigned, "Railway and Bus Companies Apply for Rights," Electric Railway Journal, Vol. 61 (1923), pp. 698, 735.

16 Proposition #5 lost by more than 12,000 votes; #6 lost by 4,000 votes.

17 Unsigned, "Traffic and Transportation," Electric Railway Journal, II (May 9, 1923), p. 985. The longest line to be operated was the line from downtown Los Angeles at 8th and Olive Streets through Hollywood to Laurel Canyon and Sunset Boulevard.

By focusing the attention of the community upon the problem and by threatening competition to the existing monopolies, definite achievements were registered. The motivations of the proposals were purely from the standpoint of private business, but the placing of the proposition on the ballot made it a community movement, although totally unplanned from a city-wide need.

Between 1923 and 1935 there were no further major proposals for city-wide bus transportation.[18] It was largely a period of expansion of the lines owned and operated by the local railway companies. In 1935, however, a strong effort was again made to establish mass transportation by means of the motorbus.

Municipal Buses Proposed 1935-1936

On the ballot of the General Municipal Election of May 7, 1935, there were two propositions as a result of initiative petitions. Proposition number one proposed to repeal the jitney bus ordinance which prohibited the operation of motor buses on certain downtown streets, thus freeing the streets for the use of jitney buses as in 1918.

The second proposition dealt with the proposed drafting of an ordinance:

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18 In November of 1928, a Mr. Charles A. Palmer of Los Angeles had written to the Mayor asking for a twenty-year franchise to operate buses throughout the City of Los Angeles on a 5-cent fare basis. The request was referred to the Board of Public Utilities, which pointed out that the Board was without power to grant other than a yearly permit; and that also there was a certain area down town in which buses are not permitted and that a similar request had been voted upon by the people and rejected in 1923, therefore, the Board could not grant the permit.

be furnished the citizens of Los Angeles through modern city-owned buses.[23] The Municipal League, although an entirely separate organization, endorsed the proposition and supported it wholeheartedly; some of its members being members of the Municipal Bus League.[24]

Opposition to both these propositions was widespread and vigorous, although the bulk of the objections were launched against the second proposition. The Independent Review, local political paper of the City Hall group, was the spearhead of the attack. This paper featured articles by such men as: W. H. Anderson, President of the Municipal Power and Light Defense League; H. W. Keller, Vice-President of the Southern California Automobile Club; Franklin Donnel, Secretary of the Los Angeles Tax Payers League; Arthur J. Mullin, Commissioner Department of Water and Power; and A. P. Entenza, labor attorney, who though supporting proposition number one, was resolute in his opposition to number two.[25] In addition, all the daily local papers fought against both propositions. The Times, the Daily News, The Hollywood Citizen News, and the two Hearst papers devoted considerable space to propaganda against them. The League of

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23 A. J. Samish; Dr. H. Gale Atwater, local dentist, Victor Wilson, local attorney; Albert F. Southurst, former city water and power commissioner; J. T. Carrol, short-time city council appointee, were some of the active members of the League who were determined to adjust the transportation needs of Los Angeles through bus transportation. See Independent Review, III (April 1939), pp. 19-21.

24 Municipal League Bulletin (April, 1935).

25 Independent Review, II (April-May, 1935), No. 55, 56, 57, passim.

Women Voters and the Los Angeles Chamber of Commerce were but two of many organizations opposed.

Two rather detailed studies were made of the plan for a municipal bus system. The Los Angeles City Council in a resolution had asked the Board of Public Utilities to make a thorough investigation and furnish them with recommendations as to the feasibility of the plan. The Downtown Business Men's Association, Central Business District Association, and the Los Angeles Traffic Association secured the services of Mr. Donald Baker to make an analysis of the proposal.[26] Both of these reports concluded that the proposal was not feasible for the best interests of those concerned, and recommended that the proposition be turned down.

Both studies arrived at the same conclusion that the contemplated original investment for buses and plant equipment was far too low. The Board of Public Utilities estimated a figure of approximately twenty-four and a half million dollars as compared with the Bus League's estimate of $12,286,890.[27] Also, it was believed that there would occur an annual deficit of close to four million dollars a year if the five cent fare were adhered to. Moreover, that intolerable confusion and congestion of traffic would result if 2,883 buses were added to the already

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26 Board of Public Utilities and Transportation, A Study of the Feasibility and Desirability of a City Wide Motor Coach System to replace Existing Local Transportation Systems in the City of Los Angeles (April, 1935); Donald Baker, An Analysis of the Proposal to Establish a Municipal Bus System in the City of Los Angeles (April, 1935).

27 Board of Public Utilities, Ibid., p. 58.

badly congested downtown area.[28] The idea of a hastily conceived municipal bus system was considered detrimental and damaging to the welfare of the citizens of Los Angeles. What was needed was a more fundamental approach to the whole problem of transportation.[29]

In view of the widespread opposition to both of these proposals and particularly the second proposition, it was remarkable that they polled as many votes as they did. The final vote showed both propositions losing with a tally as follows:[30]

Proposition No. 1	Yes:	101,411
	No :	160,010
Proposition No. 2	Yes:	106,160
	No :	150,843

The Municipal Bus League, nevertheless, did not accept this verdict at the polls as final. They began immediately to agitate for another opportunity for the people of Los Angeles to express themselves regarding the proposition on the ballot at the spring election of 1936, and at the fall election. They did succeed in having it placed on the ballot again at the May election of 1937. Numerous objections were made to the placing of the proposal on the ballot anew. Letters of protest were written to the City Council from the Central Voters Council, the Los Angeles Traffic Association, the Citizens Welfare Coordinating Council, the California Civic-News publisher.[31]

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28 Ibid., passim.

29 Mr. Baker, of course, emphasized the need in reference to the downtown business district. The Public Utility Board report avoided this appeal.

30 Los Angeles Times, May 9, 1935.

31 Correspondence on Municipal Bus League Proposal, Los Angeles City Clerk, Files for 1935, 1936.

These pleas were unavailing. At the election, opposition was just as vigorous as before, and largely from the same sources. The proposal (Number Four) was once again defeated by a vote of 185,809 against and 99,347 votes for.[32] Since that time to the present, there have been no additional proposals to utilize the motor bus as a solution for the mass transportation problem of Los Angeles.

The effort of the Municipal Bus League differs from the attempt in 1923 by the McAdoo interests in that it was not promoted by a group of men contemplating entering the bus business for profit. This time the sponsors, although accused widely of being political promoters, were mainly a group of men who were disgusted with the present transportation facilities, who believed firmly in the theory of municipal ownership, and who believed just as firmly in the superiority of the motorbus over the electric street car as a means of providing mass transportation. It was a determined attempt of a group of laymen to solve transportation problems in Los Angeles. In view of its meager backing, it is not strange that the plan was considered ill-advised by many sources.

The outstanding cause in the defeat of both of these efforts was one which both plans had in common. This had to do with the fact that each proposal was a direct attack upon the vested interests of the local railway companies. Each proposed to destroy the existing street car line through vigorous competition. It was not a question of supplementary action. Naturally,

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32 Los Angeles Times, May 6, 1937.

such attacks served to arouse those interested in the existing means of transportation to a high pitch. There was too much of a financial investment involved to expect anything but a bitter struggle. This fact, plus the further fact that public opinion was marshalled against the propositions by a wide variety of agencies, insured the defeat of the proposal.

Motorways

During the years which have seen the development of so many plans and proposals for the solution of the transportation and traffic difficulties of Los Angeles, none was of an unorthodox nature. But this continuity was broken in 1938 when the Automobile Club of Southern California published its report. For the first time, a proposal was made which was, indeed, a startling innovation among the large number of remedies suggested.

The proposal suggested a comprehensive network of superhighways on which autos and motorbuses would handle all transportation.[33] The plan was for a system of motorways elevated over the present highway system and criss-crossing business areas at upper levels by means of special motorway buildings through which the motorways would pass, with bridges over the intersecting ground level streets. These motorway buildings would provide several floors for ample parking space while the remainder of the floors would be used for office and store space. In the business centers ramps in the buildings would lead to upper or lower parking floors, and elevators would give access to offices in the

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33 Automobile Club of Southern California, Traffic Survey for the Los Angeles Metropolitan Area (1938), passim.

building and to stores below. Rights-of-way in the business district would be 100 feet wide, but in the residence districts these would be not less than 360 feet wide. Access to major intersecting street highways in the residential districts would be by means of the cloverleaf. Motorbus operation would be permitted, but all loading and unloading would be off the highways. The elevated roads would go through land of low value. The 360-foot motorways in the residential districts would allow for two separate lanes of traffic separated by a physical barrier with land on the outside planted to shrubs and trees.

Other recommendations called for the complete elimination of curb parking of streets and highways on the surface level; the complete elimination of all street cars by gradual means; and the establishment of a metropolitan bus system as the sole means of mass transportation for the metropolitan area. These last two recommendations are simply stated, and no details are mentioned.

As regards the cost, it was stated that per mile figures for the motorways outside of the business district would be $2,000,000 per mile, while the cost of the motorway buildings in the business district would be $4.50 per square foot.[34] As the system would network the entire metropolitan area an enormous mileage of motorways would be needed. No exact mileage figures are given in the proposal, but approximate mileage considered necessary is about 400 miles. Such an estimate runs the cost close to a billion dollars and if half of this mileage were

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34 Automobile Club of Southern California, op. cit., p. 32.

contemplated in the near future the cost would run to half a billion.[35]

The report justifies this huge financial outlay, however, not only because it will eliminate all congestion within the area and allow the automobile to be used to somewhere near its maximum capacity; but also because it would save untold sums in the expense of driving automobiles. These savings would result from elimination of wear and tear owing to incessant stoppage and starting of cars, the elimination of thousands of accidents with their huge losses in property values and life, and the stabilizing of property values in downtown and residential districts.

No particular method of financing is proposed beyond stating that the fundamental principle of financing public benefits would be used: the distribution of cost equitably among all parties benefitting, whether directly or indirectly. The reason no specific method of financing is stated is, the "Club" is desirous of securing the reaction of the public to the proposals; if this is at all favorable, a plan will be submitted.[36]

The Automobile Club reckons the feasibility of this proposal on a basis of anticipated population growth for this area by 1950. Making a study of past population growth in this area, they project the curve forward on this same basis until 1950

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35 This cost includes cost of construction plus the cost of purchasing the real estate frontage on each side of the road to provide the right-of-way.

36 Mr. East, sponsor of the plan for the Automobile Club, thinks that special assessment districts will be set up to share a good portion of the cost.

and assume a population in this area at that time of six and one-half million people with a corresponding ratio of automobile ownership. As regards the administration of this network it is proposed that a Metropolitan Motorway Authority be established for the district, whose authority would be supreme in working out the plan.

As stated previously, the idea of motorways is not an entirely new one to the American transportation scene. Dr. Miller McClintock, the famed traffic expert, has publicized the idea for a number of years,[37] and here and there in a great metropolis some construction has been realized. The unique aspect of the Automobile Club proposal was in its comprehensive nature and in the idea of construction of motor highways through downtown buildings with the consequent staggering cost. The huge cost, plus the proposal to eliminate street cars called up determined opposition.

Objections. The downtown business organizations have opposed this proposal, not alone because they think it is too costly a project, but because it emphasizes decentralization. In contrast to the subway plan for interurban lines which would furnish rapid transit into the city from the surrounding area, this plan would work for a more even distribution of both

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37 In the summer of 1937, Dr. McClintock addressed a large meeting of business men at the Los Angeles Biltmore Hotel at which he explained in detail his proposal for the solution of American traffic and transportation difficulties by means of super-highways or motor ways.

business and residential inhabitants.[38] This is not what these interests consider the best plan for them, thus they are arrayed against it.

As the proposal provides for the gradual elimination of the street railway lines throughout the metropolitan area, it is natural that both the Pacific Electric and the "Yellow Car" lines are opposed until some arrangement is made to protect their position.[39] In view of the great amount involved, it would appear to be the discreet move to provide for the financial reimbursement of these groups. Another thirty or forty millions of dollars could probably be arranged for in the financing program. If the rail companies did not show a willingness to deal at a fair price, then would be the time for such competition which would bring them to terms.

Another important local traffic agency, while not opposing the plan outright, stressed the idea that before such an elaborate construction be built, every step should be taken to do those things which can be done at small cost. This agency is the Bureau of Street Traffic Engineering, under the jurisdiction of the Police Department. This department did admit, however, that there is a need of providing express highways into the outlying

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38 Interview with Chief Engineer East of the Automobile Club. Mr. East intimated that if the downtown groups refused to come in and support it the "Club" would push the idea and attempt to carry forth the plan in an area excluding the central business district.

39 In an interview with a very prominent transportation engineer of this vicinity, the writer was informed that no plan of transportation could succeed in Los Angeles which did not propose to take care of the existing facilities.

sections of the city, and that eventually elevated highways may be the answer.[40]

As to the future of the motorway proposal, it is the intention of the Automobile Club to continue to win public approval. This is to be done by establishing a steering committee of a small group of men to be appointed in the near future. As the movement goes forward, a committee at large will be set up with representatives from the entire area and specific plans will be made. One thing is certain, the Automobile Club believes that their scheme is in tune with the present needs of the community, and everything possible will be done to bring the plan to fruition.

Summary

The motorcoach has not been neglected by those who would change and improve the transportation facilities of Los Angeles. In 1923, 1935, and 1937, opportunities have been given the people to decide if they wished such means of transportation on a city-wide basis. Currently, a prominent local organization has seen the future of Los Angeles in mass transportation as motor coach dominated.

Sponsors of these movements have been in one case private business interests seeking to enter the field as a source of commercial income and profit. In another, a group of lay citizens who believed the need of Los Angeles could be adequately served

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40 R. T. Dorsey, Report of Street Traffic (1938), pp. 13-14. In an interview with one member of this department the impression was received that the Automobile Club plan was considered to be beyond reason due to the financial sum needed to realize it.

through a municipal bus system. The third projection of the idea of the bus was made by an organization whose entire commercial life is bound up with the motor vehicle, and who, very naturally, sees the solution along such lines.

Financially, the figures for such a city-wide system have ranged from $2,000,000 to $17,000,000. Financing was thought to be a matter which could be amply taken care of by operating revenue.

The objections to these proposals have been of a vigorous nature, coming from the street car interests and those downtown groups who believe that subways are the best answer to their particular needs. The citizens of Los Angeles have found it difficult to obtain an objective view of the proposals due to the heavy barrage of propaganda aimed at them by both opponents and exponents of the proposals.

Los Angeles does have at this time a system of bus service, but such service is largely supplementary to the local street car lines.

CHAPTER VI

MAJOR OBSTACLES TO THE REALIZATION OF PROPOSALS

Preceding chapters have set forth the numerous efforts which have been made to provide adequate and rapid mass transportation facilities in the Los Angeles area. These efforts have extended over a long period of time, and have been of a diverse character embracing the various possibilities of solution. Yet, when one reckons the achievements which have come about as a result of these proposals such achievements are found to be of a meager character. A small percentage of the existing local transportation units have been modernized. Buses are operating with reasonably good service on the streets of Los Angeles, but this bus service is purely supplementary to the main transportation system and leaves the original situation largely unchanged. The mileage for subways and elevated lines within the city still remains, in the regular meaning of these terms, negligible; motorways and airtrams still are ideas for future realization, as far as Los Angeles is concerned. In view of this situation, it becomes necessary to bring to the fore the few major obstacles which have prevented progress. There is a variety factors which have operated in this respect, but this chapter will consider briefly the two most important ones,

Financing as an Obstacle

The chief difficulty which Los Angeles has faced in an attempt to solve her urban transportation problem has been that of financing. The estimated costs of the various plans proposed have called for exorbitant sums, although there has been a wide variation of costs among the types of transportation facilities recommended. Table VII shows the relationship of these costs.

The problem of securing the necessary capital outlay has been a major stumbling block in each of these proposals, with the exception of the McAdoo plan for a city-wide bus system. This latter proposal was advanced by private interests who were able to attract sufficient capital on the basis of prospective speculative profits. This, however, was the only occasion when private initiative ventured forth desirous of building a revised transportation system.

As to the difficulties of private financing of modernized street railway transportation, certainly the Los Angeles Railway Corporation is not alone. It has long been recognized that

> since 1918 this industry has been one of the sick industries of the nation. Because of meager earnings the credit position has been very weak and new capital has not been attracted. The results have been that antiquated and obsolete cars have not been scrapped and track extensions and rerouting of track locations . . . have not been made.[1]

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1 Paul Blanshard and Henry J. Rosner, "Municipal Transit," Encyclopedia of Social Science, XI (1933), p. 119; See also William B. Munro, "Urban Transportation," in Municipal Government (1934).

TABLE VII

PROPOSED COSTS OF PROPOSALS TO FACILITATE MASS TRANSPORTATION IN LOS ANGELES

Type		Proposal	Cost
Street Cars	1.	Modernization of equipment of Los Angeles Railway Corporation 750 Street cars* $15,000 a unit	$ 12,250,000
Subways and Elevateds	1.	Estimated cost of immediate needs, Kelker, De Leuw proposal	$133,000,000
	2.	Baker estimate, 1933	37,180,525
Buses	1.	MacAdoo Proposal, 1923-24	$ 2,000,000
	2.	Municipal Bus League, 1935, 1937	17,485,196
Motorways	1.	Automobile Club of Southern California - 400 miles of Motorways, at $2,000,000 a mile.	$800,000,000

* The Los Angeles Railway Corporation at the end of the year 1936 owned 1,081 street cars exclusive of P.C.C. cars, Annual Report (1936).

The addition of 750 cars to the 60 new P.C.C. cars in service would achieve close to 90 per cent modernization.

Authorities ascribed this condition originally to an inflexible fare rate, which blocked adequate revenue. Fare increases, though, when they came did not remedy the situation greatly, as in many cases a falling off of car rider habit occurred. Higher operating costs due to decrease in riders resulting in financial weakness soon discouraged investors from the field of electric street railway bonds. Their bonds have sold off as much as seventy per cent during the depression, which shows the lack of confidence in the street car company's ability to meet fixed charges.[2]

Increased operating expenses and decline of patronage cannot be considered the sole causes of financial difficulties. Unsound financial practices often resulted in high stock watering of capital structures. Little of the bonded debt was retired, with the consequent result that interest payments accumulated to top-heavy proportions. Deflationary methods were vigorously opposed by bondholders and companies attempted a solution of their financial difficulties by forced wage cuts. Resistance to this effort was also vigorous. Although but thirty per cent organized in unions, the employees have been fairly successful in combatting large-scale wage cuts.[3]

The Los Angeles Railway Corporation has repeatedly offered the excuse of "no finances" when requested to modernize their

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2 Blanshard and Rosner, op. cit., p. 119. Los Angeles Railway Corporation bonds at this time are selling 40 per cent under par value (1937).

3 Ibid., passim.

equipment.[4] Statements have been made to the effect that it was the unfair proportion of state, paving, and franchise taxes which prevented the corporation from providing adequate service.[5] Regardless of the reason for the financial weakness, the fact remains that the rail line furnishing the bulk of local transportation has been in such a precarious financial condition as to be unable to provide the service needed by local citizens. As already referred to, the city officials refused to allow this excuse to forestall modernization. Pressure by the public officials resulted in an agreement to purchase some thirty P.C.C. cars annually. Sixty new cars have been purchased, thirty more have been ordered. The cost of sixty of these cars ($1,500,000) has had to be financed by the sale of $750,000 worth of equipment bonds.[6] Further additions to the new car fleet will necessitate considerable delicate refinancing in order to secure funds to enable the company to purchase thirty P.C.C. cars annually.[7] The point involved, however, is that thirty new street cars a year is taxing the financial ingenuity of this organization to the limit. Thirty new street cars each year will take thirty years to completely modernize their fleet. But this procedure

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4 The Los Angeles Railway Corporation vs. the City of Los Angeles, Case No. 3915 and Case No. 4002 before the Railroad Commission of the State of California, Answer of the Defendant, Los Angeles Railway Corporation.

5 Ibid.; see also Richard Sachse "The Objectives of Transportation Service," Conference on Rapid Transportation Question (1933).

6 Los Angeles Railway Corporation, Annual Report (1936).

7 Supra, Chapter III.

would still result in obsolete equipment.[8] The Los Angeles Railway Corporation is apparently making a real financial effort to obey the demands of public bodies. Even this effort, however, is insufficient to bring about adequate mass transportation in Los Angeles. As the company cannot stand greater outlay, apparently, Los Angeles must take other action.[9]

The financial obstacle is present in a greater degree in the proposals to provide mass rapid transit by means of subways and elevated railways. As has been shown, estimates run from approximately forty million to well over a hundred million dollars. These sums are indeed colossal, and serve notice that such transportation facilities are tremendously costly. An example of modern subway cost is seen in the recent construction of the Eighth Avenue Subway in New York City, which ran to a cost figure of $11,500,000 per mile.[10] Such a figure is not out of proportion, as shown in estimates of from six million to eighteen million dollars for four-track subways, published by the American Electric Railway Association.[11]

Because of the tremendous capital outlay necessary, and the long period of construction which allows for no return on the investment until years later, private funds have not, as a

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8 The life of the P.C.C. car is estimated at 18 years.

9 Infra, Chapter VII. In reference to what other cities are doing to solve the transportation problem.

10 Blanchard, op. cit., p. 5.

11 Committee on Rapid Transit, Economics of Rapid Transit (1929) p. 24. New York, which operates 80 per cent of all subway mileage and 62 per cent of the elevated lines, has close to one billion dollars invested in rapid transit.

rule, invaded this field of enterprise. This leaves the financing of such projects to the municipality which is interested, and unless there is an acute need no construction takes place.

But even where the need exists, the cost has been prohibitive for many other cities. Chicago has no subways and only about half the elevated mileage of New York City; Boston has thirty miles and twenty-five miles respectively; Philadelphia, ten miles of subways and thirty-two miles of elevated lines.[12] No other cities in the United States have any mileage of consequence in subways or elevated systems, the problem of financing being too severe.

The Kelker, De Leuw Report of 1926 made definite proposals as to how the financing of a rapid transit system should be handled. If the cost was placed entirely upon the car rider the burden would be so great as to discourage the riding habit, and consequently would reduce revenue disastrously. Therefore, the principle should be employed wherein the burden of cost should be equitably distributed among those groups which would benefit. Such groups are: the car riders, the community as a whole, the property owners adjacent to the construction. The "Kelker Plan" apportioned this prospective cost as follows: seventy-five per cent by special assessment districts and the balance from the city through the issuance of general bonds. The car rider's share of the cost was to be advanced by the city, as it would take a number of years for this amount to come in.[13]

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12 Blanchard, op. cit., p. 124.

13 Kelker, De Leuw Report, op. cit., p. 177.

This plan of public construction with the sharing of costs had become the recognized principle of financing such projects until the last few years. Detroit, New York, and St. Louis have at various times proposed this method.[14] However, in most instances, the cost proportioned to the real estate owners along the right of way has been of a lesser percentage. The average apportionments have generally been one-third to the general taxpayer, one-third to the especially benefitted taxpayer, and one-third to the rider.[15]

The experiences of Los Angeles have shown that there were two obstacles to this method of financing. The first was that the city had so used up its credit limitations that it was unable seriously to consider borrowing funds for the purpose. Secondly, that the reaction of those localities which would constitute the special assessment districts was so strenuous that the matter was not pushed.[16]

A new source of funds to help provide for the cost of construction was made available in 1933 when the Federal Government established the W.P.A. and the P.W.A. Loans and grants up to thirty per cent were made available to localities which met the requirements of the acts. The lower interest rates obtainable

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14 American Electric Railway Association, Economics of Rapid Transit, pp. 18-19.

15 Blanchard, op. cit., p. 125.

16 Los Angeles Planning Commission, Second Conference on Rapid Transit (1930). As of June 30, 1938, the remaining bonding capacity of the City of Los Angeles as to general bonds was $2,512,319.71; revenue producing bonds $41,186,754.31. Statement as of June 30, 1938.

also provided some encouragement toward a solution of the problem of financing.[17]

Because Los Angeles is at this time close to the limitation of her credit, it would still mean, even with Federal Government support, that the special assessment district would bear the main burden of the cost of construction of rapid transit structures. From past experience with such attempts, it would seem that opposition might arise which would discourage success.[18]

Cost of Motorways

From the standpoint of expense involved for construction, the proposal to build a network of motorways throughout the metropolitan area of Los Angeles stands first, if the complete mileage suggested is considered. Four hundred miles of motorways at two million dollars a mile is, indeed, a colossal contemplation, even in this age of vast expenditures. As a matter of fact, no such complete program is sought by the Autumobile Club for the immediate future. It is conscious of the needto make a practical approach. If one-fourth of the proposal could be executed during the immediate years to come, the Club would consider the situation satisfactory.[19]

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17 The City of Chicago has recently secured funds up to 35 million for subway construction, Los Angeles Times, September 5, 1938.

18 A recent proposal to completely revise and modernize the entire local transportation system of Chicago calls for expenditure of approximately $60,000,000 by the public (exclusive of approximately $98,000,000 by private interests). This expenditure will require no levying of taxes or special assessments. Sources of public funds available for the improvements are: Federal and State Road funds, Cook County Road funds, Public Works Administration, Works Progress Administration, City Traction Fund, Compensation from Unified Company, Motor Fuel and Vehicle Tax funds. Chicago, Mayor Kelly's Plan for a Comprehensive Transportation System (1937).

19 Interview with Chief Engineer East of the Automobile Club of Southern California.

As to financing, private investment is not considered; public funds would have to be responsible for all construction. Details of this financing are still somewhat hazy, but the general principle of equitable distribution of costs would be adhered to. Funds from the city, the county, the state, and the Federal Government would be secured from the road funds of these respective agencies. In addition, the general taxpayer of the city, as a beneficiary, would be asked to share. The major cost, however, would again be levied on the property owner adjacent to the motorway by means of special assessment districts.

This particular group of citizens stands to benefit most because of the stabilization and enhancement of property values which will occur. Beautiful, modern, permanent, and convenient transportation facilities will, according to the Automobile Club, be a permanent answer to this problem of property values. Consequently, the adjacent district should stand the largest portion of the cost.

Toll charges are not to be considered as the Automobile Club does not think the public will pay for them.

Is the plan feasible economically? Naturally, the Automobile Club thinks it is. Competent national authorities such as Dr. Miller McClintock, of the Yale Bureau of Traffic Research, believes likewise. He states that:[20]

> . . . the cost great as it is may be only a fraction of the sum needed for simple street widening. On the other hand, the public in 1937 suffered an economic loss of $1,700,000,000 in traffic accidents, not counting 30,500 deaths and

20 Unsigned, "The Traffic Problem," [illegible], 7 (July 4, 1938), p. 51.

1,360,000 personal injuries. It paid big insurance premiums because accident rates are high, and in cities it paid large sums to have a police officer and signals at every intersection, lost much time and gasoline in traffic jams.

Motoring costs per mile are no greater and in most cases less expensive than those of subway construction. If a practical approach is made to the idea, the financial possibilities of meeting the huge capital outlay are slightly better than for the other means of rapid transit. This is attributable to the availability of road funds from four branches of government. If rapid transit can be financed at all, the idea of motorways cannot be cast aside on this basis. But there are other objections which will be brought out later in this chapter.

Cost of Buses

There is a large contrast between the sums required to finance subway or motorway proposals and the sums required to finance bus proposals. The figure of $2,000,000 as anticipated by the McAdoo proposal in 1924 is mild in comparison. Even the recent financial estimate by the Municipal Bus League of $17,000,000 does not seem overly large if considered in relation with other costs for rapid transit.

Nevertheless, seventeen, possibly twenty-four million dollars,[21] is a huge sum for a locality to finance, but not impossible. The advocates of the city-owned bus system had as one of their slogans: "Buses Without Bonds.". In other words,

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21 Estimate of Board of Public Utilities for a city-wide bus system. See report on Feasibility and Desirability of a Municipal Bus System, p. 17.

no funds would be required by means of the sale of securities. Neither would it be necessary to set up special assessment districts. The immediate capital outlay was to be furnished by the city out of general expenditures--the sum not to exceed $250,000.

Such a small outlay was based on two facts; in the first place, it was proposed to purchase the bases on a "deferred payment plan" which called for a ten per cent down payment, the balance to be paid from revenue in equal installments over periods of from five to seven years.[22] The second cause of the low capital outlay was that the scheme called for a minimum number of buses to be placed in use in order that experimentation through trial and error experience might be had. Had the entire fleet of buses been proposed for purchase, the initial cost would have been between $17,000,000 and $24,000,000.[23]

There appears to be nothing beyond the realm of financial possibility in the proposal to spend an initial outlay of from $1,500,000 to $3,000,000 for a city-wide bus service. It is highly questionable whether general expenditures could stand such an outlay, but a moderate bond issue could cover the expense and could probably secure the support of the citizens.

Nothwithstanding this apparent ease of financing a bus system, it is only a delusion for the reason that such a city-wide

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22 Initiative petition Proposition No. 1, Los Angeles City Election, May 7, 1935.

23 Kelly, op. cit., p. 16. Mayor Kelly of Chicago estimated a cost of $60,000,000 for buses at $12,000 per unit, with a required down payment of $5,000,000. Thus, Chicago was planning to use this method also.

bus system cannot be set in operation without some means of compensation to the local rail company. Opposition, as heretofore shown, is entirely too substantial to believe that such an event could transpire.

Mr. John Bauer, Director, American Public Utilities Bureau of New York, who is highly sympathetic to the city-wide use of the bus as a means of providing adequate mass transportation service, has discussed this aspect of the problem.[24] The financial arrangement with the existing street car company, which he deemed wise, was one which could effect a systematic transformation from street cars to buses with reasonable financial protection for the rail lines. An agreement should be made between the city and the company, guaranteeing a fair net return during the period of transition. This return is to be based on an evaluation of existing properties, and the returns possible. The factor of "system obsolescence" would be given major concern in this evaluation. As a result of this agreement, which would guarantee income to the company, conversion to buses could proceed as fast or as slow as experience justified. In the event the street car company was too demanding, then the city should enter into open competition with them by operating a bus system parallel to the street car lines. In this manner the company could quickly be brought to terms.[25]

Such arrangements would add to the cost of introducing bus transportation, but not excessively so. It would appear to be

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24 John Bauer, "Readjusting Mass Transportation Facilities," Public Management, XX (June and July, 1938), pp. 6-7, 167-171.

25 Vide, pp. 195-198.

cheaper in the long run to avoid a strenuous conflict in this manner.

The problem of financing adequate or rapid mass transit is, indeed a major one. Regardless of the sort or nature of the proposal, the prospective cost is huge, but not impossible to handle if the community is united behind the proposition.

Centralization vs. Decentralization

This matter of united support for an up-to-date rapid transportation system brings to the fore another exceedingly important obstacle to achievement, one which is nearly as vital as the financial problem. Even if this latter handicap were eliminated, it is certain that attainment will be retarded as long as a basic conflict exists. That such a conflict of theories regarding the solution of the problem does exist, there is no question.

The nature of this discord is of multiple character, in that there are various elements who strenuously advocate and promote their own cherished solution, and just as strenuously oppose others. The Automobile Club of Southern California, the Municipal Bus League of Los Angeles, the Downtown Business Men's Association, the Anti-Elevated League, and the City Planning Commission, the Public Officials, the Assessment Associations, the Suburban Chambers of Commerce, all represent varied hues and shades of thought as to how to solve the problem. These components of society must be reconciled before accomplishment can take place. This writer does not have the space to trace each of these differences to its source and evaluate the merit of each. Instead, the fundamental

disagreement will be considered. This clash of theories is known as Decentralization vs. Centralization, and reaches into the innermost regions of all city planning.

Those who advocate centralization believe that business can best be carried on in a large city by means of the concentration of business activities in a central location in the heart of a big city. As far as possible, efforts would be made to foster this concentration within the limited area. The outstanding means of accomplishment is to provide excellent and rapid mass transportation of citizens to this district from every area of the city and, in fact, from the entire metropolitan district. Rapid transit lines would be made available to the citizens of all the surrounding satellite towns so that facility of transportation to this district could be had. Suburban districts would exist for residences and neighborhood stores to meet local needs of food, and so forth.

The nature of the decentralization theory is, obviously, just the reverse of this. These advocates believe that concentration is the father of congestion. They believe that congestion is wasteful economically and physically; that it creates a vicious circle of ever more and more congestion with consequent increasing inefficiency and waste.

In Los Angeles, each principle has had its adherents. Mr. Donald Baker has consistently presented the side of the centralization forces. In an address to the Downtown Business Men's Association of Los Angeles, in March of 1936, he asked the question: "What Will We do With our Next Million People?" There was no consideration of the desirability of a decentralized pattern of

development. The statement was made that the chief reason for a downtown district in the city is that it is the most efficient place in which business can be carried on. This being a truth, the problem is to anchor this district. One way is to build huge apartment houses close to the district for the millions of inhabitants, which will guarantee patronage. Another way is to allow the inhabitants of Los Angeles to continue to live in single dwellings with ample space in suburban areas. If the first plan is chosen, the crowded living conditions will discourage population growth. Therefore, the people must be allowed to move out; but to insure the downtown district continued life, low cost transportation must be afforded.[26]

At the conclusion of the Baker address, Mr. J. J. Buell, President stated:[27]

> The very life of the commercial and industrial district of this city is at stake unless a mode of rapid transit is established. . . . It is not for us to sit idly by while the volume of business decreases because of the present inadequate and antiquated mode of transportation. As an organized body, it is our duty to take constructive measures for the continuance of business and the creation of jobs for the downtown commercial and industrial Los Angeles.

Mr. Robert S. Breyer, President of the Los Angeles Traffic Association, has also taken the position that the best interests of the downtown business men are served by building a centralized district:[28]

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26 Donald M. Baker, "What Will We Do With Our Next Million People," p. 4.

27 Baker, op. cit., p. 7.

28 Robert S. Breyer, "The Need of Improved Mass Transportation in Metropolitan Los Angeles, "Second Conference on Rapid Transit, (1930), p. 5.

> Business activity . . . has tended to concentrate its operations more closely to the old center of business activity.. . . Where normal freedom exists, this is a natural principle of commercial development. There are obvious economic reasons and advantages to firms of a like character in being located near their competitors. Such proximity makes interchange of commodities and patrons easy. Nearness to banking facilities and similar services which every business requires makes for the efficiency of a compact business district. . . . We cannot overlook the fact that business growth and stability of growth are dependent on facilities . . , of rapid transportation.

Another prominent downtown merchant spoke of the need of rapid transit to guarantee centralization of business with its resulting values to real estate dealers and merchants. Mr. John G. Bullock stated:[29]

> Property values downtown depend upon profitable use of this property for business purposes. Business activity largely depends upon having adequate transportation. That expresses briefly why property owners and business men in the downtown district are concerned in Rapid Transit.

These statements express succinctly the position of the sponsors of centralization. To them, rapid transit is a dire necessity. The need is an economic one. If their businesses and their propertyare to expand and increase in value, then the entire metropolitan throngs must converge upon this limited business district.[30]

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29 "Wherein the Question of Rapid Transit is of interest to Downtown Business and Property," Proceedings, First Conference on Rapid Transit (1930), p. 30.

30 Cf. Donald Baker, "The Transportation Problem in the Los Angeles Area," Los Angeles Committee to Accomplish Mass Transportation;" Henry A Babcock, "City Growth and Population," Los Angeles Committee to Accomplish Mass Transportation; George D. Rowan, "Need for a Rapid Transit System in Los Angeles (1936); Egerton Shore, "Downtown," (1935).

The modern age of structural steel has worked for this centripetal movement in many other large cities of the United States. It encourages the moving together of thousands and thousands ofpeople in skyscrapers and massive apartment houses and hotels. Geographical limitations have also aided this movement in cities like Boston, New York, Philadelphia, and Chicago. Will the 150-foot height limit for buildings in Los Angeles be cast aside? Is it best tojam millions of citizens into crowded quarters that business may be centralized and property values soar? If so, then rapid transit must be furnished, as it is the life blood of this drive. Swift, comfortable mass transportation is the negation of decentralization.

But there are those who think otherwise. In Los Angeles, during the years in which this conflict of theories has been to the fore, there have been individuals and groups who have seriously believed that decentralization is the greater need if community welfare is to be preserved and enhanced.

Mr. C. A. Dysktra,[31] in 1926, after the "Kelker Plan" had been published, wrote an article in which he discussed the question. Mr. Dysktra's thesis was that: first, congestion in cities is harmful, it slows up transportation and ties up traffic, it creates severe social problems pertaining to health, fire prevention, and loss of life due to accidence. Secondly, that congestion largely results from a "business psychology" which promotes stabilization of the business district. This psychology

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31 "Congestion Deluxe-Do We Want It?", National Municipal Review, XV (1926), pp. 394-398.

derives from "a centralization complex" which sees nothing but more retail business, higher real estate values and rentals with massive skyscrapers to cap this centralization. Further, it was his belief that the natural tendency of city population is to spread out into sub-centers, to decentralize its various activities so as to escape the harmful effects of congestion and yet receive the advantages of moderate concentration. This natural movement is thwarted by ballyhoo of downtown interests, and thus the citizens of a community are led to disaster in their municipal life as a result of artificial stimulation. As congestion on the streets increases, anxiety is felt by the riders in different transportation vehicles. Accordingly, the business interests sieze upon this restlessness of the people to demand rapid transit and these citizens accept the idea as the solution.

Mr. Dysktra questioned the assumption that a rapid transit plan of subways and elevateds as proposed by the Kelker survey is the answer to transportation and traffic congestion for Los Angeles. The trend of the times is not in this direction. Business is itself endeavoring to break away from downtown restrictions, as witness branch banks, neighborhood theaters, chain stores, and so forth. Studies made by the Los Angeles City Club prove that congestion is increased by rapid transit; that rapid transit is not self-supporting, and the public is called on to stand the costs of increasing its own congestion. The conclusion he drew was that subways should not be built, as they are an artificial stimulant to congestion. Rapid transit creates a never ending source of congestion. The first subway starts an incurable desire for vicious congestion. If Los Angeles is to continue to see the

sunshine, then centralization must be avoided and the way to do that is to defeat subway rapid transit construction.[32]

This statement represents a most able expression upon the problem as it pertained to Los Angeles. It was the view of the Los Angeles City Club, of which Mr. Dykstra was secretary. In their report on their study of the Kelker plan, similar conclusions were reached. Decentralization should be encouraged by means of bus transportation and private automobiles, so that Los Angeles can become a "garden city."[33]

At a conference held in Los Angeles in 1930, representatives of several community organizations spoke against centralization.[34] Here the same theme ran through the addresses: that rapid transit would harm outlying developments; would seriously increase congestion in the downtown area; and would result at best in speculative real estate profiteering at the expense of the whole community.[35]

Mr. Gordon Whitnall, City Planning Commissioner of Los Angeles between 1920 and 1930, has been a spokesman for decentralization. He emphasized the fact that Los Angeles has physical flexibility due to the very wide use of the automobile. This condition has brought about a decentralization process resulting in the

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32 C. A. Dykstra, op. cit., pp. 394-398.

33 Los Angeles City Club, Bulletin (Supplement) (1926), pp.1-19.

34 See remarks of Bruce Allington, Chairman, Board of Governors, San Fernando Branch of the Los Angeles Chamber of Commerce; S. A. Jubb, Los Angeles City Club; Greely Kolts, President, Northwest Civic League; M. J. Samish, Anti-Elevated Association.

35 Ibid., passim.

great number of residential and business centers beyond the immediate downtown district. The movement of population to these areas has been a natural one, as people have, because of the automobile, been able to search out and locate in more desirable places. This fact, plus the additional fact that Los Angeles topography allows for a scattered population in contrast with New York or Philadelphia, makes for the conclusion that any artificial process which attempts to make rigid the local population cannot succeed. The transportation policy which strives to converge the populace of all outlying areas toward a limited restricted area in the center of the city is such an artificial process. Therefore, the building of elevated lines, subways, or motorways, to act as spokes of a wheel emerging or converging upon the downtown hub is not advisable. A policy of transportation which augments the existing natural process of movement is the one most likely to succeed.

Moreover, the economic interests of those not located in the central business district are so powerful as to demand a solution based on a measure of decentralization. Mr. Whitnall thinks these interests will not subscribe to any solution which weakens their own position. As these outer interests are more powerful economically than the downtown interests, they will likely dominate the picture.

Mr. Whitnall also believes that those groups who advocate centralization can be reconciled to another policy. This can best be accomplished by showing them that in New York City where conditions are ideal for converging units of mass transportation

there have occurred huge financial deficits. These must be made up by the taxpayers and the amount is so large that the gains to the business men as a result of centralization are offset by the additional tax burden.[36]

It will be noted that the sponsors of decentralization represent objectively minded individuals who see the problem of rapid transit from a sociological viewpoint. Not having economic interests at stake, except the real estate promoters in developed suburban areas, they envision the community picture more nearly from a panoramic viewpoint. From this view they reach the conclusion that the best interests of the city lie in avoiding the difficulties other cities have gotten into from over-centralization. The Automobile Club proposal of a network of superhighways has received their favor, as it represents a plan which will tend to spread population fairly evenly throughout the metropolitan area.[37] This particular plan is, therefore, frowned upon by the downtown group because its highways do not radiate from the central business district as spokes from the hub of a wheel.[38]

These two obstacles to progress in transportation are of a serious nature. They have been so for many years. To achieve modern, adequate and rapid service, they must be adjusted and reconciled.

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36 Interview with Mr. Gordon Whitnall, November 10, 1938.

37 Interview with Chief Engineer East of the Automobile Club of Southern California, October, 1935.

38 Idem.

CHAPTER VII

THE CURRENT SITUATION IN OTHER CITIES AND LOS ANGELES

The problem of securing adequate and rapid transportation facilities still remains unsettled in LosAngeles; consequently, the efforts to find a solution still proceed. As this paper is being written, the most elaborate survey, from a financial point at least, is under way. This chapter will present material pertaining to the background of this investigation as well as the form of activity up to this time. Before doing so, it is necessary to review briefly the transportation situation as it exists in a few other cities of the United States. Chicago and San Francisco represent two cities in the United States wherein the problem looms large, and activity toward a solution is going forward. Detroit, a city comparable to Los Angeles in area and size of population, and Toronto, Canada, will be considered as cities which have in some measure solved the problem.

Chicago

In Chicago, there exist three separate units of mass transportation: The Chicago Surface Lines; the Chicago Rapid Transit Company; and the Chicago Motor Coach Company. Of these three lines the rapid transit system and the surface lines are both in receivership, and the motor coach company, while solvent, is not burdened with excessive financial resources. According to Mayor Kelly, the Rapid Transit System furnishes service to 15 per cent

of the population by means of elevated transit.[1] No important extensions have been made since 1908, with equipment from 12 to 40 years old. The surface line system went into receivership in 1927, although furnishing service to 80 per cent of the citizens. It has equipment which averages 25 years of age. The motor coach system, while recently adding some modern buses, is too small to affect the scene seriously.[2]

For some years past, the city has attempted to secure from the private companies a program or plan for financing and constructing a modern unified transportation system. Such a program has not been forthcoming and Mayor Kelly recently asserted that, "further delay is inexcusable and intolerable."[3]

Following these statements, the city engaged the services of prominent transportation engineers to make a survey of the needs of Chicago. The result was a very elaborate and detailed survey of the situation with the publication of a report in November, 1937.[4]

Several plans were detailed, of which one known as "Plan A" was recommended for acceptance by the city. The recommendations of this latter plan called for:

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1 Chicago has not had subways. All rapid transit facilities have been elevated railways.

2 City of Chicago, Mayor Kelly's Plan for a Comprehensive Transportation System for the City of Chicago (1937), p. 4.

3 Idem.

4 Harrington, Kelker, and De Leuw, A Comprehensive Local Transportation Plan for the City of Chicago (November 1931).

1. Unification of the three separate systems.

2. Administrative control under a local transportation board.

3. The building of two subways from the west side of the city to downtown. Total mileage 4.43 miles.

4. Modernize three major elevated rapid transit lines running to the center of the city.

5. Convert all elevated rail structures on the west side of the city to elevated superhighways for the sole use of express bus service and private automobiles. High-speed double-decked buses to run in outside lanes, with stations each half mile where widening of the highways would allow buses to unload and load at these stations. Downtown terminals to be on street surface. Downtown storage terminals to store surplus buses during slack hours. 20 miles of these superelevated highways to begin with. The average speed to be 36 miles per hour. Cost of conversion $28,160,000.

6. Convert one-third of the present street car surface lines to bus use. Express mileage of buses to be 170 miles and 130 miles extension of the motor coach system for buses.

7. New equipment to be purchased by the private companies to consist of the following:[5]

	P.C.C. cars	Motor Coaches
Surface lines: during next 8 years	1881	1072
Motor Coach Co.: during next 3 years		225

This is a short picture of the recommendations made to bring about a modern, rapid mass transportation plan for Chicago. They include, as can be seen, each type of transportation unit and facility, not excepting the new facility of super-elevated motorways.

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5 The Motor Coach Company has recently modernized 53 per cent of their equipment; The Surface lines have purchased, prior to this report, 83 P.C.C. cars.

The cost of this comprehensive program is to be borne by the private companies and the public. The amount of the total outlay is estimated at $160,908,100, of which $62,180,000 is to be furnished from public capital and $98,728,100 from private funds. Of the latter figure, the amount of cash outlay immediately necessary will be something over 25 million dollars; the balance to be spread over a period of nine years. The cost alloted to the public is to cover the construction of the superhighways and the subways. The private capital outlay is to cover the cost of all needed equipment and modernization necessary.

Funds for the public outlay of capital are to be secured from a variety of sources which include: (1) city, county, state and federal road funds; (2) a local traction fund consisting supposedly of 68 million dollars;[6] (3) the Public Works Administration and the Works Progress Administration; (4) the Fuel and Vehicle Taxes. It is assumed that financial reorganization of the private companies will enable them to make the required outlay.

At the present time Chicago is experiencing difficulties in the realization of this program. It appears that subway construction will start in the near future. The City has applied to the Federal Government for a P.W.A. grant of $22,500,000 and a loan from thesame source of $27,000,000; of this amount, it has been stipulated that $31,000,000 will go toward subway

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6 It has been questioned whether this "Traction Fund" has not been materially depleted during the years of financial stress which Chicago has undergone. According to Mayor Kelly, this is not so. See Mayor Kelly's Plan for a Comprehensive Transportation System for the City of Chicago, p. 9.

construction.[7] It is believed that this loan and grant will be authorized. Recently, members of a city council committee and the engineers who made the survey went to New York to study its subway system.[8] As the terms of the loan and the grant demand that construction begin on or before January 1, 1939, it is probable that Chicago will be digging subways by the end of 1938.

The attempt to achieve the modernization program assigned to the private companies is meeting with less success. At this time, the City of Chicago has refused to renew for a longer period the franchise of the local surface lines. This franchise ran out recently after several temporary extensions. Unification is the first obstacle to be overcome and a complete evaluation of properties must be made before this can be accomplished. According to later information, this revaluation is to be undertaken by local traction experts in the near future.[9] There are so many complexities involved in dealing with private companies which are in receivership that delays are bound to occur. However, it appears that the City is determined to bring about this comprehensive plan. Delays may be expected but it does seem that Chicago is on the way to an adjustment of her transportation difficulties.

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7 Transit Journal News II (May 21, 1938), p. 151.

8 Ibid., (July 9, 1938), p. 219.

9 Ibid., (August 20, 1938), p. 272.

San Francisco

The sister city of Los Angeles on the west coast, San Francisco, similarly to Los Angeles, has been engaging in efforts to solve their transportation problem. Numerous proposals have been made and submitted. During the past year there have been two important developments which indicate trends.

The first was an important survey undertaken through the use of P. W. A. funds to the amount of $140,000, plus a contribution from the city and county of San Francisco of $20,000. This sum of $160,000 was used to engage the services of Dr. Miller Mc Clintock as consulting engineer, and to pay the additional costs of making a thorough traffic survey of that region.[10]

Recommendations of this survey were that 64.61 miles of limited ways[11] should be constructed. Of this total number of miles, construction would consist of:

Elevated Limited ways	32.
Limited ways at Grade	29.
Depressed Limited ways	3.
Tunnel	.61

The total cost of these limited ways would come to $26,120,000. They would be so constructed as to distribute the mileage over a city-wide basis rather than converge on radial lines to the center of the business community, thus contributing more to a decentralization movement than to centralization.

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10 Miller McClintock, Traffic Survey for the City and County of San Francisco (1937), passim.

11 The terms limited ways, superhighways, motorways are used interchangeably throughout this paper to designate express highways with the complete elimination of intersections, parking, and all traffic except buses and private automobiles.

This survey has occasioned little controversy. The report is a particularly scientific piece of work and must mark a valuable contribution to knowledge of the traffic situation in San Francisco. The recommendations embodied in the report diverge from the traditional proposals for subways and elevated lines, and perhaps are too much of an innovation to be accepted with understanding at this time.

More controversy was engendered, however, by the proposal sponsored by Mayor Rossi to build a subway under Market Street. This proposal was voted upon in the fall of 1937. The voters were asked to sanction a bond issue of $49,000,000, so that such a rapid transit facility could be constructed by the city. This proposal was defeated owing to opposition of the Market Street Railway Company.[12]

Mayor Rossi, in his annual message, insisted that the subway and feeder bus line proposal rejected by the voters is the most effective and permanent solution of the local transit system yet submitted. He also asked for unification of the two local systems, and that a comprehensive transit plan be worked out by engineers.[13]

Shortly thereafter, he appointed a citizen's committee of 150 local business leaders to make a six months' survey of the problem of rapid transit by means of subways.[14] In May of this

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12 See Annual Message of Mayor Rossi in Transit Journal News, II (January 29, 1938), p. 38.

13 Idem.

14 Transit Journal News, II (May 28, 1938), p. 172.

year it was reported that this group was considering the advisability of constructing a short subway line of 2.3 miles under Market Street in the downtown area, and financing the cost in large part through the use of the grant and loan procedure of the P.W.A.[15]

Since that time the matter of the subway has not been the main consideration of those interested in the transportation problem of San Francisco. In May, 1938, the California Railroad Commission authorized an increase of fare on the Market Street Railway to seven cents. This fact immediately stimulated the movement which sought to purchase this line for the city. Thus the line might be consolidated with the Municipal Railway. Samuel Kahn, President of the Market Street Railway, offered to recommend to his stockholders that the line be sold to the city for the sum of $12,000,000.[16] This proposal of the local line to sell for this figure is to be accepted by the city if the voters sanction it. The Board of Supervision ordered that the city should vote on September 27, 1938, at a special election on the proposal for a $24,480,000 bond issue. The funds from this issue are to be used to purchase the Market Street Railway. The balance of the funds are to be used to modernize the plant and equipment of both lines. All mass transportation will be fused into a single system with a maximum five cent fare, universal transfers and feeder bus service in the outlying areas.[17]

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15 Transit Journal News, II (March 19, 1938), p. 91.

16 Ibid. (August 13, 1938), p. 264.

17 Ibid. (August 20, 1938), p. 265.

If this bond issue is accepted, San Francisco will attempt to solve its problem through municipal ownership and operation. Buses, subways, motorways, while all being considered more or less seriously, are taking a subordinate emphasis to local surface transportation.

Detroit

The City of Detroit is considered to have successfully solved its transit problem.[18] Consequently, the experience of Detroit is of particular interest to students of the transportation problem of Los Angeles. Furthermore, Detroit is similar to Los Angeles in that population of both cities is reasonably close, and in that the area of the city is largely widely-scattered.

Detroit has no subways or elevated railways; it has as yet no motorways. It has confined its solution to local surface transportation, and has brought this solution about by providing "one of the best-equipped and most efficient transit systems of the country."[19] The average fare throughout the United States is seven and seven-eighths cents; in Detroit the average fare is six and a quarter cents. Wage rates are considered higher than the prevailing wage in other cities. In spite of huge taxes of over $800,000 for the year of 1932, there was a net surplus of $31,183.[20]

The 1937 annual report showed that this financial soundness was continuing. Net bonded and contractual debt was reduced by

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18 Blanchard, loc. cit., p. 120.

19 Ibid., p. 121.

20 Idem.

almost two million dollars. An increase in wage rates was given the employees to the amount of $468,000.[21] Fare structure on eighteen of the coach lines was reduced to five cents. Taxes paid for that fiscal year were again over $800,000. And in spite of heavy outlays for equipment there resulted a surplus account as of June 30, 1937, of $5,099,180.57.[22]

New equipment of both surface cars and motor coaches has been added materially. During the year 1937, five hundred motor coaches of the 25-passenger type were added to the service. As of June 30, 1937, the average age of the 1,020 motor coaches was 2 years and 3 months. Between the years of 1934 and 1937 motor coaches increased from 502 to 1,020.[23]

Thus it can be seen that Detroit is not only operating on a sound financial basis, but also that the city has been able to pay higher wages and maintain and expand modern equipment.

The reason behind the successful operation of the Detroit transportation system is attributed to the fact of municipal ownership and operation of all facilities.[24] All trolley lines were acquired by the city in 1922 for a cost of $5,000,000. Since that date, well over $35,000,000 has been spent in giving efficient and modern service. Buses have been put on the service wherever the traffic was not heavy enough to warrant street car transportation.

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21 Detroit, Department of Street Railways, Annual Report (1937), p.4.

22 Ibid., p. 9.

23 Ibid., p. 4.

24 Graeme O'Geran, A History of Detroit Railways (1931), pp. 373-385.

The administration of this municipal enterprise has been under a Department of Street Railways, which is headed by two commissioners appointed by the Mayor. A general manager is given complete responsibility for executive administration.

Toronto

One other city can be mentioned as exemplifying successful solution of transportation difficulties, and this success has, like Detroit's been obtained through municipal ownership and operation.[25] The city, Toronto, with a population almost the same as that of San Francisco, has provided adequate modern transportation to its inhabitants for some time past.

In 1921 the city purchased the local units for the sum of $12,000,000 and since that time has spent, up to 1930, $35,000,000 in modernization and extensions. The average fare in 1935 was six and one-sixth cents; the 1931 surplus was $13,605.[26] In 1936, financial operations showed a surplus of $8,417, while in 1937, a net surplus of $35,883.41.[27]

Equipment has been kept up to the most modern standards. One hundred and forty of the P.C.C. cars have been ordered delivered to Toronto not later than August, 1938. This is the largest single order yet made for this new type of street car.[28]

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25 Blanchard, op. cit., p. 121. "A number of cities in the United States and Canada, notably Detroit, Seattle, and Toronto, have successfully solved their transit problem through municipal ownership."

26 Idem.

27 Toronto. Transportation Commission, Sixteenth Annual Report (1937). In May, 1938, the net operating loss of the Los Angeles Railway Corporation was $142,986.

28 Transit Journal News (April 16,1938), p. 121. The three million dollar cost of these cars was financed without the securing of any additional capital. They were paid for out of reserves.

Buses are used widely throughout the city and "every important bus route is equipped for normal service with the latest-type bus. . ."[29]

From the foregoing information, it can be seen that two of the great cities of the nation, San Francisco and Chicago, are still struggling with the problem of providing adequate mass transportation fitted to the needs of their city. Similarly to Los Angeles, large sums are being spent and have been spent in the attempt to solve the problem. Neither city has as yet a new program in operation.

On the other hand, Detroit and Toronto are examples of two cities which have apparently found a solution to their transportation problems, and today are providing excellent transportation on a sound financial basis. In neither of the latter cities has the solution been found in so-called rapid transit by means of subways or elevated rail lines. The financing of modernized buses and surface cars through municipal ownership has been the means by which these two cities have made their progress, and possibly San Francisco is to enter that field in the near future. In three of the cities mentioned, the use of buses on a large scale is part of the functioning program or of the contemplated program, as in Chicago.

The Current Transit Survey

As this paper is being written, there is being undertaken in Los Angeles the most ambitious transportation survey made up

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29 Sixteenth Annual Report, op. cit., p. 7.

to this time. It is the result of several years of effort by downtown interests to bring about a modern investigation of the mass transportation problem.

The Los Angeles Traffic Association, and the Central Business District Association, in conjunction with Mr. Donald Baker, were conscious of the valuable opportunity to secure funds through the Works Progress Administration.[30] The Baker report of 1933 was made for the express purpose of expediting the securing of such funds, but that attempt failed. Since that time, efforts have been made through the cooperation of city officials to secure a work project from Washington.[31] In 1937, it was evident that the Federal Government was willing to supply funds necessary for labor and supplies, but that additional funds would be needed to cover the expenses of the engineers who would direct the survey. In May of that year, Mr. Lloyd Aldrich had written to the city council asking that this body appropriate $20,000 for the payment of such salaries, as it was expected that the Federal Government would supply $90,000 to cover other expense.[32] The City Council subsequently turned this proposal down, and the Los Angeles Traffic Association and the Central Business District Association proceeded to

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30 Interview with Mr. Donald Baker (October, 1938).

31 Los Angeles Traffic Association, Annual Report (1937), pp. 5-6.

32 Letter from Mr. Lloyd Aldrich, City Engineer, to the Los Angeles City Council, May 1937, Annual Report (1937), p. 6. This letter was also supported by a letter from Mayor Shaw who asked that the city appropriate this amount as the share of the city, Idem.

to secure the salary funds from the business men of the downtown area.[33]

OnAugust 10, 1938, the Works Progress Administration officials of Los Angeles received authorization to conduct a six month's survey of traffic and transportation for the purpose of recommending needed changes in the local system. The sum alloted for labor cost and supplies was not as much as was requested--amounting to $68,284.[34] This sum, plus the $20,000 contributed by the downtown business men, made a total of $88,284 available.[35]

The engineering firm of Stone and Webster, of New York City, has been selected to supervise the investigation. The W. P. A. will supply the man power for all the labor involved. A local engineering board, consisting of Mr. Lloyd Aldrich, City Engineer, Major Bean, Chief Engineer of the Board of Public Utilities, and Mr. Donald Baker, consulting engineer, is working in conjunction with the New York engineers making the survey. Mr. Lloyd Aldrich is the chairman of this transportation survey committee.

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33 According to Mr. Baker, the securing of funds from private interests is a good method of assuring that some results will come about after the survey has been completed. As long as they have a financial interest in the matter, there will be driving force toward achievement. Interview with Mr. Baker (October, 1938).

34 Los Angeles Times, August 10, 1938, p. 18.

35 The Kelker, De Leuw report of 1925 cost $40,000. Additional funds are being secured from other interested groups to help promote the recommendations after they are made. The Los Angeles Clearing Association has contributed $10,000.

In addition to this engineering board there is also a citizen's committee whose members are being appointed by Mr. Mowder, of the Central Business District Association. On this committee are men who represent certain outlying communities, as well as downtown business men. Mr. B. G. Winant, President of Bullock's Department Store is the chairman of this citizen's committee. The function of this group will be to make the plan effective after the recommendations have been made.[36]

No financial contributions have been made toward the survey by either of the local railways. However, these companies are cooperating with the survey to the extent of supplying data relative to the operations of their lines.

The investigation is expected to occupy nine or ten months and should be ready for publication in April or May of 1939.

The scope of the survey is to be very wide. It is to cover traffic conditions in the entire metropolitan area. It will avail itself of all the data assembled by all the various agencies which have been close to the problem during the past few years. In brief, the project proposes to:

1. Study the riding habits of the present users of all transportation facilities.

2. Study the development of trends and factors determining and contributing to these riding habits.

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36 Interview with Mr. Mowder, Secretary, Central Business District Association, November, 1938. It is interesting to note that the Automobile Club of Southern California is not represented on either the engineering board or the Citizen's Committee.

3. Estimate future developments of transportation to meet anticipated population growth.

4. Determine future changes in movement of population and commerce and the effect such changes might have on the utilization of property in their relation to transportation.

5. Study and analyse the types of transportation facilities necessary to meet the anticipated needs of the city's growth and development.

6. Develop and formulate a concrete program.[37]

As to what the survey might recommend, it is not possible to state at this time. Mr. Mowder did state that Los Angeles would be advised to build the best transportation that the city could afford.[38] However, it is probable that subways will be recommended for suburban trains in order to bring in citizens from the length and breadth of the metropolitan area.[39]

The attempt to solve transportation difficulties is one of national proportion. Some few cities have found solutions; many, including Los Angeles, are still exploring the situation. Current activities grow ever larger in scope. The situation is as alive today as it was some twenty-seven years ago.

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37 The Los Angeles Traffic Association, op. cit., p. 7.

38 Mr. Mowder, op. cit.

39 The Los Angeles Times, in commenting upon the survey, states that "It may even point the way to the eventual use of subways or elevated railways for Los Angeles." August 10, 1938.

CHAPTER VIII

CONCLUSIONS

In 1910 the problem of providing adequate and rapid mass transportation for Los Angeles was a bothersome one. Twenty-eight years later it was still present. Grown more acute, more complex, more disturbing to wider elements of the city population, the problem in 1938 remains a major unsolved municipal difficulty.

Considerable human effort and money have been expended during this long period of time by a variety of interests who have sought to find a solution. Proposals of almost every type have been set forth and yet little has actually been accomplished in providing the citizens with modern mass transportation. The bulk of surface equipment utilized by the people for their local transportation needs remains outmoded; there is no comprehensive modernized bus system to meet the needs of the day; subways or elevated rail lines are confined to an area of such an extent as to be negligible; no superways providing rapid facilities for either private or mass motor transportation have as yet been built. Traffic congestion and inadequate units stifle free-flowing transportation. It can be said that actual achievement lags far behind efforts made to find a solution.

However, even though the problem remains unsolved, it must not be thought that there are not certain compensating factors which have arisen from this situation. The years of research in

this field have naturally clarified the picture so that those who press forward at this time in search of the proper answer have a firm foundation upon which to proceed. Intelligent investigations of the past will simplify the work of the future.

Los Angeles is now in a position to survey the effects of various programs carried out in other large cities of the United States. A consideration of the successes and failures of those cities which have made an attempt to carry out a program will immeasurably aid Los Angeles when her plans are ready to be acted upon.

In Chicago, Mayor Kelly recently asked that funds be spent to rebuild the elevated rail facilities so that they could be used as elevated motorways.[1] The old routes already constructed must be remodeled to serve a new purpose. At least, Los Angeles does not have to bother with that aspect of the problem. If superways are to be built, they may be built wherever the need arises and along the route deemed most expedient.

Some authorities believe that the use of the subway tends to increase congestion rather than to lessen it. This has been the experience of cities such as New York and Philadelphia.[2] If this is true, then Los Angeles is fortunate that the citizens have not been burdened with this questionable solution.

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1 Mayor Kelly's Plan for a Comprehensive Transportation System for the City of Chicago (1937), p. 9.

2 Daniel L. Turner, "Is There a Vicious Circle of Transit Development and City Congestion?", National Municipal Review, XV (June, 1921), pp. 321-326.

The conclusions may then be stated that the long years of constant effort without noticeable achievement, while to be regretted, have brought a few compensations. Los Angeles is better fitted to proceed intelligently than heretofore.

Finances

Even though Los Angeles is in a more advantageous position to make progress in the field of mass transportation, the financing of a program is of paramount importance. The experience of other cities, as well as that of Los Angeles, has been that it is futile to consider private capital as a source for the necessary funds. The last occasion in which private capital initiated a program for the solution of the problem in Los Angeles was in 1923 when ex-Senator MacAdoo and his eastern associates were willing to invest two million dollars in their city-wide bus scheme.[3] Since that time the amount of funds deemed necessary for a comprehensive program is so large that no private group has considered the matter. The local rail line has been in such a weak financial condition that it has on no occasion voluntarily promoted any new plan. Only after continued prodding has it been possible to get this corporation to expend funds for new and modern equipment--and this expansion has been on a minor scale.

If private capital is not available for a modernized program, involving as it does enormous sums, then another source must be found. Because of the drastic change in national policy which has occurred in the Federal Government during the past

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3 Infra, Chapter III.

few years, it is possible to assume that funds can be secured on a grant and loan basis from this source. This new condition changes the complexion of the entire problem, as it eliminates a most serious obstacle to achievement. Those who have taken the lead in solving the local problem have recognized this new source of funds and are planning accordingly.[4]

As regards repayment to the national government, it is likely that the principle of division of cost among riders, community taxpayers, and those property owners adjacent to the rights-of-way will be adhered to.[5] If the proportion of cost alloted to the assessment district is not considered equitable by the property owners composing the district it is likely that this method of securing revenue to repay the Federal Government will meet serious resistance.[6]

Conflict of Interests

Apparently, Los Angeles, by postponing action has in part solved the problem of financial difficulties. However, there still remains the grave difficulty of reconciling those interests who strive for different solutions to the problem. Is it possible to adjust the differences which exist between those who see the essential problem as centralization and those who see the need

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4 Donald Baker, A Rapid Transit System for Los Angeles (1933), p. 83.

5 The principle established in the Kelker, De Leuw report of 1926.

6 Supra, Chapter IV. The past opposition to special assessment districts has been very strong. If the burden of cost placed on this group is too great the resistance engendered may make the proposal ineffective.

of a decentralization solution? The extremely important question to be answered is for whose benefit should a solution be carried out? Should it be in the interests of that large body of commercial men who see the absolute necessity of anchoring the downtown district if they are to maintain their central business interests? To hold their position in retail trade the downtown merchant must find a way to facilitate traffic to that area. To maintain and enhance real estate values an ever-increasing concentration of population must occur within that limited area; the district must be made easily accessible to the mass of people who live in the outlying areas of the community. If such a solution to the problem of mass transportation is not soon forthcoming, then the process of decentralization will work havoc upon the financial interests of this group. Consequently, they have been particularly interested in such a solution. The present $90,000 survey which is under way is engineered in large part by these interests.[7] If from the current survey a plan is made effective, then it will be evident that the solution will be one largely favorable to the downtown interests.

On the other hand, it has been asked if the wider interests of the community as a whole should not be the determining factor. Community planners and objective minded individuals seeking the welfare of the city reject a solution which tends to concentrate huge proportions of the citizens within a restricted area. These authorities see the solution as one which must attempt to

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7 Infra, Chapter VII.

provide adequate and rapid mass transportation to all sections of the metropolitan area; as one which when worked out will tend to distribute population more or less equally throughout the numerous centers of residence and business which have grown up in the Los Angeles area. In this manner the people will be furnished modern transportation without the evil of jamming multitudes into skyscrapers, an evil considered to be a major cause of congestion.

If the interests of the community as a whole are to be considered paramount, then the solution must come from the representatives of the entire city and its environs. In the past there has been no united movement representative of the city as a whole. From time to time efforts have been made by special groups of all types, but as yet no major movement of this representative type has emerged. Considering the twenty-eight years of past experience, it seems logical to conclude that until a body of representative citizens, detached from personal considerations, are willing to urge an enlightened program little good can be accomplished. It is more than likely that the present survey, notwithstanding its scale, will be as unsuccessful as others in the past, because of its unrepresentative nature.

If such a community movement developed, a Metropolitan Transportation Authority should be set up as the agency which would assume responsibility. In the recent proposals which have been made, it has been evident that the problem is one which carries beyond the city limits. Just as the problem of bringing

water to the community was one which concerned the larger area, so the question of mass transportation must be considered from this comprehensive viewpoint.

The Metropolitan Authority or Commission should have full power to survey the situation with regard to the needs of the community as a whole. Whether or not this authority should direct the carrying out of whatever plan is deemed most feasible, and should then have the responsibility for administering the system which is constructed, is a matter for further consideration.

The sole criterion for establishing the modernized system should be the needs of the community, within the financial limits possible. A Metropolitan Authority seeking to promote the interests of the entire Los Angeles area will reconcile personal differences and thus assure the needed community support.

In view of the experience of other cities of the nation, it is believed advisable that the new system should be owned and controlled by the Metropolitan Area. Also, that the definite trend in the country toward the use of the bus on superways should be thoroughly considered. This does not imply, however, that the bus can completely serve the needs of the citizens. As pointed out by a prominent local engineer, an adequate system must in all probability utilize all facilities; the bus, the modernized surface car, the superway, the elevated, and, perhaps, even the subway.[8] A plan integrated to the interests of the community as a whole will need to be provided. However, it

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8 Interview with Richard Sachse (September, 1938).

seems likely that the bus, the new P.C.C. street car and the motorway can provide adequate and rapid mass transportation in a fitting manner.

In any program recognition must be given to the peculiarities of the Los Angeles situation; otherwise it can hardly succeed. The significance of the automobile as a means of transportation and how this has been such a major influence in directing the growth of Los Angeles must be understood. It is possible that if engineers from such cities as New York or Chicago formulate plans for Los Angeles in the light of their eastern experiences, such plans will not meet the unique needs of this area. Only if the place of the automobile in the Los Angeles transportation scene is given its proper emphasis, can a successful proposal be obtained.

Climate, topography, density of population, distribution of population, surface area of the region, mode of transportation, must be evaluated in the light of local conditions. It is doubtful if a proposal by an eastern engineer can be any more successful than the Kelker, De Leuw plan. The major policy must be determined by those who know and understand fully the peculiarities of Los Angeles.

Unquestionably, Los Angeles will take some action to adjust her problem of transportation within the near future. Her continued welfare as a great urban center is dependent on the solution accepted. It is believed that the experience of the past will serve to throw sufficient light on future action so that serious errors may be avoided.

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