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INFORMATION

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LOS ANGELES COUNTY TRANSIT SURVEY

UNIVERSITY PRESIDENTS' ADVISORY COMMITTEE ON LOS ANGELES COUNTY
TRANSPORTATION PROBLEMS

February, 1950

Margaret Woodruff

(First Draft)

7687028

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INTRODUCTION

The information contained in this folder relates to past transit and traffic surveys and to other available traffic data. It has been compiled for the benefit of engineering firms interested in the proposed Transit Survey of the Los Angeles Metropolitan Area. Most of the reports described are currently on file in the Committee's office.

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TO
TRAFFIC AND TRANSIT
REPORTS

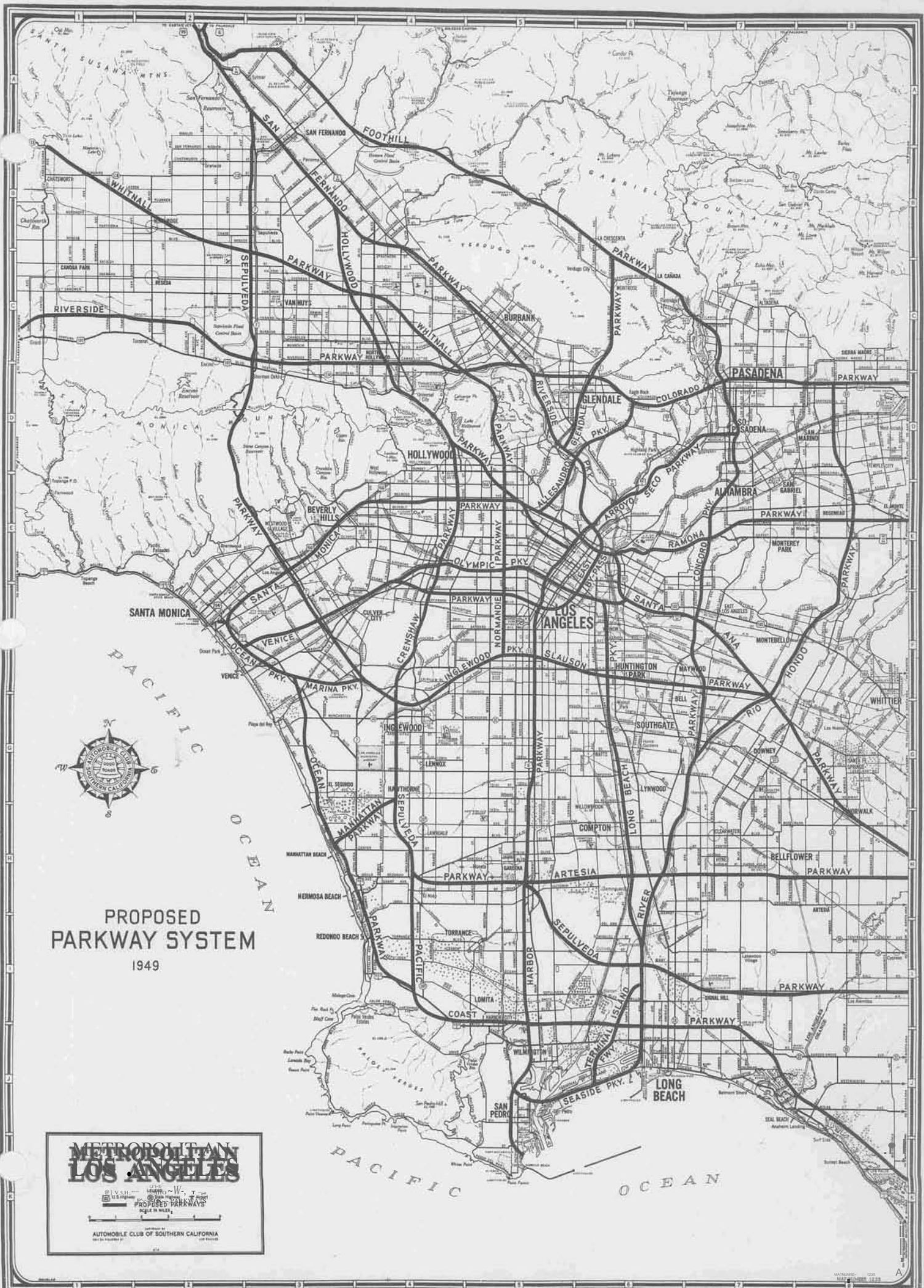
CITY OF LOS ANGELES AND LOS ANGELES METROPOLITAN AREA

1924 - 1949

University Presidents' Advisory Committee on Los Angeles County
Transportation Problems

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1929	Regional Plan of Highways, Section 2-E, San Gabriel Valley	County Regional Planning Commission	County Regional Planning Commission	8	
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1933	A Rapid Transit System for Los Angeles	Donald M. Baker	Central Business District Association	9	8, 40
1934	Report of a Highway Traffic Survey in the County of Los Angeles	County Regional Planning Commission	County Regional Planning Commission	10	

* Summary of Transit Surveys Prepared by Office of the Chief Administrative Officer of the County of Los Angeles (last section of this folder)



**PROPOSED
PARKWAY SYSTEM**
1949

**METROPOLITAN
LOS ANGELES**

U.S. Highway U.S. Engineering U.S. Planning
 U.S. Highway U.S. Engineering U.S. Planning
 U.S. Highway U.S. Engineering U.S. Planning

PROPOSED PARKWAYS

0 1 2 3 4 5 Miles

AUTOMOBILE CLUB OF SOUTHERN CALIFORNIA
 1949

Traffic and Transit Reports

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1939	An Analysis of Proposals to Provide Rapid and Adequate Mass Transportation for the Los Angeles Area	Evan W. Thomas	University of California at Los Angeles	13	
1940	General Conclusions and Recommendations Concerning Mass Transportation in the Los Angeles Area	Board of Public Utilities and Transportation, City of Los Angeles	Board of Public Utilities and Transportation, City of Los Angeles	13	33
1940	Report on Urban Mass Passenger Transportation Facilities and Requirements of Los Angeles	California Railroad Commission	California Railroad Commission	14	35, 43
1941	Master Plan of Highways	County Regional Planning Commission	County Regional Planning Commission	14	
1941	A Parkway Plan for the City of Los Angeles and Metropolitan Area	City Planning Commission	City Planning Commission	14	

Traffic and Transit Reports

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1942	Results of Emergency Transportation Survey	California Railroad Commission	California Railroad Commission	15	
1943	Freeways for the Region	County Regional Planning Commission	County Regional Planning Commission	15	
1944	Business Districts	County Regional Planning Commission	County Regional Planning Commission	16, 24	
1944	Transit Study, Los Angeles Metropolitan Area	Central Business District Association	Central Business District Association	16	31, 43
1944	Parkway Transit Lines in the Los Angeles Central Business District	Central Business District Association	Central Business District Association	16	
1945	Recommended Program For Improvement of Transportation and Traffic Facilities in the Metropolitan Area	DeLew Lewis Ong	City of Los Angeles	16	4, 42
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1947	Report on Engineering Survey of Operations and Facilities of Pacific Electric Railway Company	California Public Utilities Commission**	California Public Utilities Commission**	20	25
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1948	Rail Rapid Transit Now	RTAG	Los Angeles Chamber of Commerce	19	18, 44
1948	Traffic* Traffic Problems in Los Angeles Metropolitan Area	Los Angeles Traffic Association	Los Angeles Traffic Association	19	20
1948	A Report on Statistical Data and Trends Applying to the Transit Industry of the United States	Arthur C. Jenkins	Pacific Electric Railway Company	20	21
1948	Pacific Electric's Modernization Plan	Public Service Survey	Pacific Electric Railway Company	20	23
1948	Passenger Loading Standards--An Analysis of Their Effect Upon Rail and Motor Coach Lines of Pacific Electric	Arthur C. Jenkins	Pacific Electric Railway Company	20	
	Engineering and Economic Features of Passenger Transportation Operations	Arthur C. Jenkins	Pacific Electric Railway Company	20	
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* Newsletter published by Los Angeles Traffic Association

**Formerly California Railroad Commission

Traffic and Transit Reports

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BRIEF SUMMARIES OF LOS ANGELES AND LOS ANGELES METROPOLITAN AREA

TRAFFIC AND TRANSIT REPORTS

1924 to 1949

University Presidents' Advisory Committee
on Los Angeles County Transportation Problems

From 1924 to 1949, approximately forty-five traffic and/or transit reports have been issued by various agencies and organizations. Their recommendations as to the need for rapid transit have, for the large part, been based upon the best judgement of those responsible for preparing them and upon field survey data presented in previous reports. However, there is some information available as to traffic volumes, speed and delay, and origin and destination, although it is now somewhat out of date.

Prior to 1924, there were several reports. These included:

1. "Transportation Problems, City of Los Angeles", by Bion J. Arnold, 1911
2. "Railroad Grade Crossing Elimination and Passenger and Freight Terminals", California Railroad Commission, 1920
3. Automobile Club of Southern California Report, 1921
4. "Los Angeles Plan", Traffic Commission, 1922

1924

A report, A MAJOR TRAFFIC STREET PLAN FOR LOS ANGELES, was prepared by three consultants, F. L. Olmsted, Harland Bartholomew and C. H. Cheney, in 1924, for the Committee on Los Angeles Plan of Major Highways of the Traffic Commission of the City and County of Los Angeles. It analyzed the traffic problem in Los Angeles County, recommended a major street plan and set forth the improvements necessary to effectuate the plan. Rapid transit was not considered in the report, but it did present certain data which was of value in preparing subsequent reports. This included data as to vehicular traffic flow on major streets in 1922 and 1924, flow of transit vehicles and of transit passengers. The vehicular traffic counts were made by Boy Scouts in the Central Business

District and by the consultants in outlying areas. It is interesting to note that there was an appendix discussing the need for grade separations and a recommendation for the Arroyo Seco Parkway and a "River Truck Speedway" to connect the San Fernando Valley with the Harbor Area. The latter was to parallel railroad tracks and utilize the bed of the Los Angeles River, thus tending to eliminate cross traffic.

1925

The first, and one of the most comprehensive reports on rapid transit, was presented in 1925 to the Los Angeles City Council and the Board of Supervisors. It was entitled REPORT AND RECOMMENDATIONS ON A COMPREHENSIVE RAPID TRANSIT PLAN FOR THE CITY AND COUNTY OF LOS ANGELES and was prepared by the consulting firm of Kelker, DeLeuw and Company. It recommended a comprehensive subway and elevated rail rapid transit system with four routes giving through service between outlying areas and passing through the Central Business District. In addition, Pacific Electric Lines not included were to be maintained. The report justified the need for rail rapid transit in Los Angeles upon the basis that it is required in all cities when they become really large. Unification of all transit operations was recommended.

Use was made of traffic and transit volume data presented in the 1924 report and, apparently, the only field study made specifically for the 1925 report was one of the origin and destination of industrial employees.

The cost was estimated to be approximately \$175,000,000, including cars, interest and value of existing properties utilized—for the period 1925-1935. Following this, additional structures were to be built. The financing was to be provided by general bonds of the City of Los Angeles, special assessment districts and operating revenues.

1929

The Regional Planning Commission published the first of a series* of area highway plans in 1929, REGIONAL PLAN OF HIGHWAYS, SECTION 2-E, SAN GABRIEL VALLEY. It does not contain information of particular value to a transit survey.

* This and the 1931 report are the only two of the series which have been published.

1930

A CONFERENCE ON THE RAPID TRANSIT QUESTION was called by the Los Angeles Board of City Planning Commissioners in 1930 in order to give those interested an opportunity to express their views. Thirteen short papers were presented expressing the views of the authors and/or the organizations which they represented. The published report contained these papers, but no conclusions or recommendation of the Conference as a whole.

1930

A report entitled, PARKS, BEACHES AND PLAYGROUNDS, was presented in 1930 by F. W. Olmsted and Harland Bartholomew to the Citizens' Committee on Parks, Beaches and Playgrounds. This report was not related to transit. However, it did recommend a comprehensive plan of "parkways" to connect a large number of regional parks.

1931

REGIONAL PLAN OF HIGHWAYS, SECTION 1, LONG BEACH-REDONDO AREA was published by the Regional Planning Commission in 1931. It contains over 200 pages of maps, tables and text. It would probably not be of value in a transit survey. (It contains data relating to the early history of Los Angeles County.)

1933

A major report on rapid transit was prepared in 1933 by Donald M. Baker, consulting engineer of Los Angeles, entitled, A RAPID TRANSIT SYSTEM FOR LOS ANGELES, CALIFORNIA. This plan proposed the improvement of existing Pacific Electric facilities through grade separations, elevated structures and a downtown subway and connections. The improvements were to cost \$37,200,000 and were to be self-sustaining after a period of nine years. Financing was to be through a federal grant, federal purchase of bonds and assessments.

The report contained considerable analysis of economic factors. No field studies were made specifically for this report. Information contained in previous studies and data supplied by

the transit companies were used. Traffic volume count data prepared in 1931 by the Street Traffic Engineering Department and a survey of parking facilities in the Central Business District by Mr. Baker in 1932, were used. A considerable amount of the preliminary work was done by the Pacific Electric Company and various Company facilities were made available.

1934

REPORT OF A HIGHWAY TRAFFIC SURVEY IN THE COUNTY OF LOS ANGELES was published by the Regional Planning Commission in 1934. The field work was conducted over a considerable period as a relief project. The report contains detailed traffic volume data and a series of recommendations not related to transit.

1935

A REPORT ON THE PUBLIC TRANSPORTATION REQUIREMENTS OF LOS ANGELES was prepared by the California Railroad Commission in 1935. This related to the improvement of the operations of the Los Angeles Railway Company and the Pacific Electric Railway Company. It did not present a plan for rapid transit.

1937

The Regional Planning Commission published a report in 1937 entitled, REPORT OF A HIGHWAY TRAFFIC SURVEY IN THE COUNTY OF LOS ANGELES. It presented extensive traffic volume data, a map showing driving times from the Civic Center, and a series of recommendations relating to highways and parking, but not to transit. This report presents data collected in 1934--as a survey financed by funds from various relief agencies--brought up to date by means of a W. P. A. survey.

1937

In 1937, the Automobile Club of Southern California published a report entitled, TRAFFIC SURVEY, LOS ANGELES METROPOLITAN AREA. It does not include any studies or recommendations as to

rail rapid transit, but does contain field data. Four cordon counts were made at successively greater distances from the center of Los Angeles, the last being at the County limits. A parking study was made by means of aerial photographs of different areas. A check of garages was also made in the Central Business District. Desire lines were drawn by means of limited sampling of automobiles parked throughout the Metropolitan Area to determine origin as indicated by registration address (determined by license number).

1938-39

A W.P.A. survey was made during the years 1938 and 1939. Two reports were issued. The first covered the field studies and was entitled, REPORT ON TRAFFIC AND TRANSPORTATION SURVEY. The project was sponsored by the City of Los Angeles. Supervising personnel, consultants and equipment were financed by the Citizens Transportation Survey Committee. The report was published by the Committee in cooperation with the Haynes Foundation. The 32 members of the Committee represented various parts of the Metropolitan Area and interested groups. Cooperating agencies were the Central Business District Association, the Los Angeles Traffic Association and the Haynes Foundation. Consulting engineers were the Stone and Webster Engineering Corporation. Associates were Donald M. Baker and Madigan-Hyland.

This survey involved more transit studies than has any other and is the only comprehensive transit survey which has been made of Los Angeles.

The report states: "The survey was divided into three principal divisions—one dealing with the use of existing mass transportation facilities, another with the use of private motor vehicles, and a third pertaining to certain statistics of community development affecting transportation matters. Data were so gathered that the three divisions could be coordinated. The Work Projects Administration authorized the use of its personnel on seven phases, or subdivisions, as follows:

1. A check to determine the origin and destination of mass transit passengers and other information relating to riding habit and to convenience of existing facilities.
2. Spot loading checks of passengers boarding and alighting in the Central Business District designed to develop detailed information as to distribution of passengers related to the downtown area.
3. Checks of passengers boarding and alighting, operating speeds, and principal causes of delay on typical trips

to aid in reaching conclusions concerning types of equipment and the possibilities of traffic control in expediting movement.

4. Checks and analyses of transportation used by industrial employees to determine practicability of providing additional or more direct facilities.
5. Checks and analyses of distribution of automobile ownership and relationship of automobile ownership to mass transit use.
6. Counts of motor vehicles and passengers entering and leaving the Central Business District.
7. Check of vehicles in the central area to determine the origin of vehicles, the need for special highways from outer areas to the Central Business District, and the adequacy of storage facilities generally.

"Activities independent of Work Projects Administration were concerned with the part of the work dealing with population and community development, including a study of:

1. Population throughout the study area conducted in such manner that shifts might be evaluated for the period between the 1930 census and January 1, 1938, and
2. Summary of bonded indebtedness of incorporated cities in Los Angeles County (except Avalon) as of January 1, 1939."

1939

The second report based on the W.P.A. survey was, A TRANSIT PROGRAM FOR THE LOS ANGELES METROPOLITAN AREA, published in 1939 by the Transportation Engineering Board (Lloyd Aldrich, Chairman, K. Charles Bean, and Stone and Webster Engineering Corporation and Madigan-Hyland, Associates). It had the following to say about a rail rapid transit system:

"The Board therefore does not consider it an appropriate time for recommendations covering immediate construction of substantial elements of a rail rapid transit system. It presents below specific suggestions covering a rapid transit route pattern and also arrangements in the Central Business District with certain indications to serve as a guide as to when the various measures would be appropriate."

The rail rapid transit routes which it recommended, in addition

to existing Pacific Electric routes, were a subway on Wilshire Boulevard, rail on Crenshaw Parkway connecting with Cahuenga Pass, Santa Monica Parkway and Olympic Parkway, on Venice Parkway, Harbor Parkway and Inglewood Parkway; also on Ramona Parkway and a portion of Slauson Parkway. It also recommended a Broadway subway and a pedestrian subway from the Hill Street Station to Broadway.

The report recommended revenue bonds for construction of the Hollywood Parkway with tolls used to finance bonds. Cost estimates for a transit system were not given. It also recommended transit unification.

This report related primarily to the freeway system and not to transit.

1939

A master's thesis entitled, "AN ANALYSIS OF PROPOSALS TO PROVIDE RAPID AND ADEQUATE MASS TRANSPORTATION FOR THE LOS ANGELES AREA", was prepared by Evan W. Thomas for the University of California at Los Angeles in 1939. It covers the period from 1910 to 1938 and describes all reports in some detail. It also gives magazine and other references bearing on the problem. (A copy is to be found in the Special Collections' Department of the Library of the University of California at Los Angeles.)

1940

The Los Angeles City Board of Public Utilities and Transportation published a report in 1940 entitled, "GENERAL CONCLUSIONS AND RECOMMENDATIONS CONCERNING MASS TRANSPORTATION IN THE LOS ANGELES AREA". This was the Board's report based on the data procured in the 1938-39 W.P.A. survey. It analyzed these findings somewhat in detail as they related to surface and rapid transit. Rail rapid transit recommendations included the immediate extension of the Pacific Electric elevated structure--connecting the Sixth and Main Street Station with Sixth and San Pedro--to the private rights of way to the south and east. It also recommended that a rapid transit plan be developed and that grade separated highways be constructed so as to "permit accomplishment of rail operation at minimum cost when development requires it."

1940

REPORT ON URBAN MASS PASSENGER TRANSPORTATION FACILITIES OF LOS ANGELES was prepared by the California Railroad Commission in 1940. It contained 353 pages of tables and explanatory material. It included "factual information relating to the financial status of the carriers involved (case #4461) and the traffic characteristics of their numerous rail and motor coach lines". It did not have a direct bearing on the rapid transit problem.

1941

MASTER PLAN OF HIGHWAYS, Regional Planning Commission. This related to highways, but not transit. However, it contained information regarding population, land use, automobile registration, driving time and highway capacity.

1941

The Los Angeles Department of City Planning published, in 1941, A PARKWAY PLAN FOR THE CITY OF LOS ANGELES AND THE METROPOLITAN AREA. This was based on the 1939 Transportation Engineering Board report and recommended that it be approved in principal, with some minor changes, as "one of the essential elements of the Master Plan", and that an additional radial route freeway to the San Fernando Valley be added. The report specifically stated that it related to only that phase of the Transportation Engineering Board Report which dealt with "the development of a system of motor vehicle parkways."

(A list of previous reports is given on pages 11 and 12 of this report.)

1941-42

A W.P.A. traffic survey was sponsored by the County Regional Planning Commission. The field and office work was supervised by the Commission staff and Mr. I. S. Shattuck served as consultant. "Freeways for the Region", 1943, and "Business Districts", 1944, were based on and covered the major portion of the studies.

The basic background data is in the files of the Regional Planning Commission and is available. An inventory of this data

is presented on page 47 of "Freeways for the Region".

"At the height of activity, the Work Projects Administration furnished slightly over 200 workers. This force gathered and compiled traffic data at over 750 intersections. The special studies in four business districts included observation of approximately 200,000 automobiles parked at the curb or in garages and lots; pedestrian counts on sidewalks and in and out of buildings; movement of people in and out of districts; mass transportation use; origin and destination data; building heights and predominant uses; and zoning."

1942

MASS TRANSIT FACILITIES AND MASTER PLAN OF PARKWAYS was published by the City Planning Commission in 1942. It reviewed data compiled in the 1938-39 W.P.A. survey. The purpose of the report was to consider the coordination of mass transit facilities with the freeway system. It did not specifically relate to rail rapid transit.

1942

The California Railroad Commission made a study of the riding habits of industrial employees in 1942. A report was published entitled RESULTS OF EMERGENCY TRANSPORTATION SURVEY. This survey did not include Lockheed or California Shipbuilding Corporation. The Regional Planning Commission later combined the Railroad Commission data with that prepared by the two companies above to secure an overall picture. This is not published, but is on file at the Regional Planning Commission.

1943

FREEWAYS FOR THE REGION, Regional Planning Commission, 1943, set forth the need for a system of freeways and included text-- and many illustrations--recommending types and routings.

1944

In 1944, the Regional Planning Commission published a report, BUSINESS DISTRICTS, the purpose of which was to analyze the factors important to the maintenance of healthy business districts. It was based upon the 1940-41 Transportation Planning Survey made with W.P.A. help. Of particular interest was information relating to the origin (registration address) of motor vehicles parked in four business districts, Long Beach, Pomona, Westwood and Los Angeles Central Business District. It also included summaries of cordon counts around the Central Business District including one made by the Regional Planning Commission in 1941. Some information regarding parking was also included.

1944

The Central Business District Association published a report, largely devoted to pictures and maps, entitled, TRANSIT STUDY, 1944, LOS ANGELES METROPOLITAN AREA. No new field data was included, and the transit routes designated apparently contemplated bus but not rail rapid transit.

1944

The same year, 1944, the Central Business District Association published another report entitled, PARKWAY TRANSIT LINES IN THE LOS ANGELES CENTRAL BUSINESS DISTRICT. This report, likewise, related to bus rapid transit. It pointed out the need for terminal facilities in the Central Business District. It presented no new field data.

1945

In 1945, another attempt was made to formulate an acceptable transit program for the Los Angeles Area. Three consultants, DeLuw, Cather and Company, Harold Lewis and Joe R. Ong were employed by the City of Los Angeles to review past reports and make recommendations regarding both transit and highway traffic. Their report, presented in 1945, RECOMMENDED PROGRAM FOR IMPROVEMENT OF TRANSPORTATION AND TRAFFIC FACILITIES IN THE METROPOLITAN AREA, was divided into four parts. The first was a statement of the problem. The second, by DeLuw, Cather, was entitled, "Rapid

Transit Development". The third, by Harold Lewis, related to the freeway program. The fourth, by Joe R. Ong, was entitled, "Local Surface Transportation".

The DeLuw, Cather chapter recommended rail rapid transit on the following parkways: Santa Monica, Hollywood, Olympic, Inglewood and Harbor. Rail rapid transit was recommended for those freeways on which it was anticipated that unacceptable congestion would result from busses and automobiles, if busses were used exclusively for rapid transit. It also recommended rail rapid transit on the Long Beach-San Pedro, Padadena, Glendora and Covina lines of the Pacific Electric. In addition, it made recommendations for bus rapid transit on freeways and a subway on Broadway.

Although the Lewis report dealt largely with freeways, it also considered the terminal problem. He recommended that terminal planning should be considered as an essential part of the freeway program. This should include, (1) off-street bus terminals, (2) coordinated systems of off-street automobile parking facilities, (3) off-street parking for tenants and customers of buildings and (4) adequate off-street loading and unloading space for trucks.

The Ong report recommended a Central Business District subway for street cars and trolley coaches.

1946

During 1946, reports were prepared for the hearings of the "Collier-Burns" Committee of the California Legislature which was investigating the State's highway needs. This Committee's investigations resulted in an increase in the gasoline tax and the freeway program.

INTERREGIONAL, REGIONAL, METROPOLITAN PARKWAYS IN THE LOS ANGELES AREA was presented by the Los Angeles Metropolitan Parkway Engineering Committee to the Collier-Burns Committee in March, 1946. "In 1944, the Los Angeles Metropolitan Parkway Engineering Committee was formed for the purpose of advising the California Major Highway Development Committee. It was composed of city and planning engineers of the City of Los Angeles, the County, and the cities immediately adjoining Los Angeles. The committee compiled a parkway plan from former official plans for the Los Angeles Metropolitan Area which was unanimously adopted by said Committee on October 2, 1944. Early in 1946, this Committee was expanded by invitation to include engineering representatives of all cities within Los Angeles County, and thereafter, on February

7, 1946, the plan adopted in October, 1944 was unanimously approved by the expanded committee." This report recommended freeway routes and gave economic data and estimated cost. There was no reference to rail rapid transit. One of the recommendations was "The parkways should be designed to serve as the basic elements of a rapid transit bus system which it is estimated will increase the economic value of the parkways by 100 percent."

1946

One of the supplements to "Transit Study--1944", was PARKWAY TRANSIT LINES IN THE CENTRAL BUSINESS DISTRICT, published in 1946 by the Central Business District Association.

1946

TRANSIT FACILITY IMPROVEMENTS was presented by the Central Business District Association to "augment the Report made by the Los Angeles Metropolitan Parkway Engineering Committee", to the Collier-Burne Committee. This report stressed the importance of the East By-Pass and the incorporation of rails therein (with connection to the Sixth and Main Street terminal of the Pacific Electric Railway). This report also discussed terminal facilities in the Central Business District.

1946

LOS ANGELES PARKWAY AND TRANSIT SYSTEM, prepared by the Central Business District Association, compared the recommendations of several previous reports and showed, on maps, the routes recommended by each.

1947

A report entitled, THE LOS ANGELES TRAFFIC AND TRANSIT PROBLEM, was prepared in 1947 by the Regional Planning and Development Section of Town Hall.

1947-48

In 1947 and 1948, the Metropolitan Traffic and Transit Committee of the Los Angeles Chamber of Commerce developed a rail rapid transit plan and drafted enabling State legislation-- which was introduced in the Legislature but did not get out of Committee--for the formation of a transit district. The transit plan, according to the Committee, was intended only to be representative of the plans which might be possible and to demonstrate economic feasibility of a rail rapid transit network. It was not intended to be presented as the plan with which a transit district would proceed; however, it was largely so interpreted. This plan was developed by a group of Los Angeles engineers, thoroughly familiar with local conditions, representing various public and private agencies and the transit companies. Two reports were presented, BASIC DATA FOR FORMATION OF RAPID TRANSIT ACTION GROUP and RAIL RAPID TRANSIT. The former dealt with the recommendations of previous reports, set forth the need for rail rapid transit in freeways and outlined the scope of the study of the Rapid Transit Action Group. The latter was a promotional booklet presenting the program. Rail operation was recommended on the following parkways: Santa Monica, Olympic (might be bus), Inglewood, Harbor, Ramona, East By-Pass and portions of Hollywood. The following routes would operate in private right of way: to Long Beach and San Pedro, to Bellflower, to Pasadena and Monrovia and to Burbank and Glendale. For the Central Business District, recommendations were a rail line from Sixth and Main to the East By-Pass, expansion of the Hill Street Subway Station, a Broadway subway, and pedestrian subways connecting the Broadway subway with Hill and Spring Streets at each station.

Estimated total cost, including adjustments to existing operators to cover capital losses caused by the installation of rail rapid transit service, but excluding rolling stock, was estimated to be \$309,685,000.

Gross annual passenger revenue of \$59,150,000 was estimated. This, less \$7,700,000 collected for operators supplying connecting service, left \$51,450,000. This sum equalled the estimated expenses, which included \$12,180,000 taxes.

Financing through Rapid Transit District bonds was recommended, with bond issues to be approved by the people.

1948

The September-October, 1948, issue of TRAFFIC, published by the Los Angeles Traffic Association, "presents some of the results

of a canvass of firms and individuals undertaken in order to obtain data upon specific traffic problems daily encountered by those doing business in the Los Angeles Metropolitan Area.

"Various non-governmental groups and agencies were requested to obtain from their members the principal difficulties of each one brought about by the inability of the present traffic handling facilities to permit vehicles of all types to flow freely and rapidly throughout the area.

"It was not expected that the inquiry would uncover a great amount to expert knowledge or findings related to the overall traffic problem. The aim was to get to the bottom of the constant complaints written or voiced by business interests and professional residents of Los Angeles concerning operation of our traffic facilities of all forms and conditions."

1948-49

The Pacific Electric Railway, a Southern Pacific subsidiary, and the Public Utilities Commission of California have been involved for several years in the problem of improving the company's service. The Commission has ordered major improvements in rail facilities and service, while the company has sought to replace rail passenger service by busses. The situation is complicated by the fact that, whereas the passenger service has been operated at a substantial loss, the freight service (distribution network in this area for Southern Pacific) has been profitable, although not sufficient to show an overall profit.

Out of this situation has come a series of reports dealing with Pacific Electric operations, prepared by: (1) the Public Utilities Commission, (2) a consultant, A. C. Jenkins, for Pacific Electric, and (3) Public Service Survey for the Pacific Electric.

NOTE: Three reports not included--because they were made for private organizations or are essentially local in scope--are:

1. AN ECONOMIC STUDY OF HOLLYWOOD, 1938, University of Southern California, Bureau of Business Research.

2. REPORT ON A CITY-WIDE TRAFFIC SURVEY AND PROPOSED IMPROVEMENT, Glendale, 1939-40, Works Projects Administration.
3. CUSTOMER TRAFFIC CHECK, August, 1947, for Long Beach Realtors, Associated, by American Research Service.

A SUMMARY OF AVAILABLE
ORIGIN AND DESTINATION
INFORMATION

COMPILED BY
REGIONAL PLANNING COMMISSION
COUNTY OF LOS ANGELES
February, 1950

AN
ECONOMIC SURVEY OF HOLLYWOOD

University of Southern California
Bureau of Business Research
1938

As a part of an overall economic survey, the home addresses of automobiles parked off-street were secured and interviews were conducted with a number of shoppers over a period of some ten days. The report does not give the total number of interviews conducted, but does present in graphic form percentage distribution from 1-mile squares in the area, and also an indication in graphic form of the predominant mode of transportation.

This data is valuable from a general pattern relationship only.

TRAFFIC AND TRANSPORTATION SURVEY

City of Los Angeles
1939

An intensive study of origin and destination of mass transit passengers constituted a main part of this study. Questionnaires were completed by some 427,000 users of mass transportation. These were classified into districts as outlined in the report.

Spot maps of origin were developed for the Los Angeles Central Business District, Hollywood Business District and Wilshire-Western Business District, and appear in the report.

Only the principal transit systems were covered in this survey, and areas such as Santa Monica, Culver City, San Pedro, Long Beach, Pasadena and Glendale, where local systems were in operation, are not included.

There was some data collected on industrial employees, but the sample is extremely small and probably not indicative of any pattern, particularly in view of more complete data being available in 1942.

REPORT ON A
CITY-WIDE TRAFFIC SURVEY
and
PROPOSED IMPROVEMENTS

Glendale, California
1939-1940

In August, 1939, records were made of cars parked at the curb in the Central Business District of Glendale and registration addresses were obtained for some 12,864 cars. The distribution of these outside the City of Glendale was by post-office rather than by street address, with the result that exact origin is difficult to obtain and it is not possible to compare this data to other similar data.

A map showing distribution appears on page 108 and supporting tabular data is on pages 140-143 of the report.

BUSINESS DISTRICTS

Regional Planning Commission

In the fall of 1941, the Regional Planning Commission made detailed studies of four typical business districts: Los Angeles, Long Beach, Pomona and Westwood Village. License numbers of cars parked either on-street or off-street were obtained in each area. The California license numbers were processed by the records of the Motor Vehicle Department and registration address assumed as point of origin with the business district the point of destination.

These data were distributed to the same residence zones used in the Railroad Commission Survey of April, 1942. The summary of these data is as follows:

DISTRIBUTION OF ORIGIN OF ALL PARKED VEHICLES

From	LOS ANGELES		LONG BEACH		POMONA		WESTWOOD VILLAGE		TOTAL	
	Number	%	Number	%	Number	%	Number	%	Number	%
Normal Trading Area	110,927	89.5	25,440	89.2	5,088	91.3	9,494	91.9	150,949	89.6
Other California Counties	7,596	10.5	2,031	10.8	329	8.7	412	8.1	10,368	10.4
Out of State	5,431		1,058		156		426		7,071	
Total	123,954		28,529		5,573		10,332		168,388	

VEHICLES FROM METROPOLITAN AREA ONLY

Origin in Miles From Study Area	LOS ANGELES			LONG BEACH		
	Number of Cars	Percentage of Total	Cumulative	Number of Cars	Percentage of Total	Cumulative
0-5	66,519	60.0	60.0	15,720	61.8	61.8
5-10	29,827	26.9	86.9	4,426	17.4	79.2
10-15	9,326	8.4	95.3	1,609	6.3	85.5
15-20	3,760	3.4	98.7	2,134	8.4	93.9
20-30	1,153	1.0	99.7	1,398	5.5	99.4
Over 30	342	0.3	100.0	153	0.6	100.0
Total	110,927			25,440		

Origin in Miles From Study Area	POMONA			WESTWOOD VILLAGE		
	Number of Cars	Percentage of Total	Cumulative	Number of Cars	Percentage of Total	Cumulative
0-5	3,174	62.4	62.4	6,216	65.5	65.5
5-10	1,007	19.8	82.2	1,872	19.7	85.2
10-15	60	1.2	83.4	965	10.2	95.4
15-20	120	2.4	85.8	232	2.4	97.8
20-30	501	9.8	95.6	161	1.7	99.5
Over 30	226	4.4	100.0	48	0.5	100.0
Total	5,088			9,494		

For purposes of studying the use of parking space, the parked vehicles were classified as all-day parkers; i.e., parked before 9:00 A.M. and remaining till after 4:00 P.M., with all others classed as short time parkers. These classes were assumed as separating the employee group and the shopping group. A summary of all-day and short-time parkers by residence zones is available.

Theoretical vehicular traffic flow charts for the four business districts were prepared. These appear on pages 16 and 17 of Business Districts-1944, described on page 16 of this summary.

EMERGENCY TRANSPORTATION SURVEY

California Railroad Commission

April, 1942



This survey was made primarily for a study of the transportation problem of employees in industrial plants which were prime contractors of the armed forces. It was made prior to the time most of the plants reached peak employment.

The survey included place of employment, place of residence, by zone and mode of transportation for approximately 90,000 employees. There were 102 residence zones in Los Angeles County, 10 in Orange County and 15 in Riverside and San Bernardino Counties.

In addition, the place of employment and place of residence by zones were secured on an additional 59,000 employees.

Just prior to the time of this survey, Lockheed Aircraft Company and California Shipbuilding Company had made similar surveys of their employees, covering some 52,014 and 21,285 employees, respectively. While the same residence zones were not used, it was possible to convert the data to the same base used in the Railroad Commission Survey.

A summary of the distribution of a total of approximately 222,000 employees working in 58 industrial districts is available. Detail data on most of the plants is also available.

Where mode of transportation data was available, the average loading per automobile was 1.5, and the auto was used by approximately 85% of those reporting.

While some of the data reflect wartime conditions, the general pattern of distribution of the residence of employees as related to place of employment is still applicable.

CUSTOMER TRAFFIC CHECK

Conducted for
Long Beach Retailers, Associated

August, 1947

A report prepared by the American Research Service, 4014 West Olympic Blvd., Los Angeles 6, entitled, "Customer Traffic Check Conducted for Long Beach Retailers' Associated" contains pure

origin and destination data that will be very useful. This survey, made in the Long Beach retail district for three days during August, 1947, contains the following data for 30,000 shoppers:

- a. Zones in and around Long Beach used as points of origin of the 30,000 shoppers answering interview questions.
- b. Total shoppers from each zone for the 3-day period.
- c. Zone of origin of shoppers by shopping days.
- d. Mode of transportation used by shoppers by zones and days.
- e. Origin of shoppers at 27 major stores.
- f. Origin, mode of transportation of shoppers by days, in detail, for each of the 27 major stores.

SUMMARY OF DATA AVAILABLE
FROM
TRANSIT COMPANIES AND SCHOOLS

Twenty-eight transit companies serving almost all of the metropolitan area of Los Angeles County were contacted in order to ascertain what data they had which could be used in an origin and destination study.

Practically no origin and destination data as such exists and where it is to be had, the information will only cover a period of one or two days and will be for one or two lines rather than for the whole system. However, nearly every company has line load data, usually given for each route by months. Maps and schedules are available for all lines contacted although revisions are made continuously.

The following table gives the name of each company contacted and shows what data they have sent to the Regional Planning Commission where it is available for study.

<u>Name of Company</u>	<u>Maps</u>	<u>Schedules</u>	<u>Line Load Data Each Route by Months</u>
1. Asbury Rapid Transit	X	X	X
2. Bay Cities Transit		X	
3. Belvedere Transit Inc.			
4. Benton Bus Lines		X	

<u>Name of Company</u>	<u>Maps</u>	<u>Schedules</u>	<u>Line Load Data Each Route by Months</u>
5. Crosstown Bus Lines			
6. Culver City Municipal Bus Lines	X	X	
7. Foster Transit Company	X	X	X
8. Gardena Municipal Bus			
9. Glendale City Lines			X
10. Highland Transit			
11. Holbrook Transit Company			
12. Inglewood City Lines	X	X	
13. Landier Transit Company		X	X
14. Los Angeles Transit Co.			
15. Long Beach City Lines	X	X	X
16. Montebello Municipal Bus Lines			X
17. Pacific Electric			
18. Pasadena City Lines, Inc.	X	X	X
19. Santa Monica Municipal Bus Lines	X		X
20. Southern Cities Transit			
21. South Los Angeles Transit Company			
22. San Pedro Motor Bus Co.			
23. Shoreline Transit Inc.			
24. Sunset Stages			
25. Terminal Island Transit Company			X
26. Torrance Municipal Bus Lines			
27. Valley Transit Lines			
28. Whittier Municipal Bus Lines			

The Pacific Electric has made some origin and destination studies on four of their lines, namely: Oak Knoll, Venice Short Line, Monrovia, and the Santa Ana Line. The questions were such that a detailed picture would not be too reliable. Unfortunately, the information was left in its original state and has not been summarized except as line load data. Maximum load data is available on every line for every trip made each day. This consists of a passenger count at certain fixed locations where, it is believed, will be found the maximum number of riders on each trip. In addition to this information, there are numerous spot checks made for particular studies.

The Los Angeles Transit Company has not made any origin and destination studies. Line load data is available for each route in the system and it is compiled on a monthly and, sometimes, on a weekly basis. As has been done on the Pacific Electric, there are also spot checks made for individual studies in connection with scheduling or rate increases.

In addition to information that can be found in the various transit companies, there is available a certain amount of data in some

of the junior colleges and universities which might be used. Generally, it consists of the students' home address classified by either postal zones or high school districts.

Where trip data is not available at the Regional Planning Commission, it can generally be picked up from work records of the transit companies or schools, although this will entail quite a bit of work.

OTHER AVAILABLE
TRAFFIC SURVEY DATA

A. TRAFFIC VOLUMES

1. California Division of Highways
 - a. Annual traffic count in mid-July--Sunday and Monday-- at approximately 80 stations
 - b. 16-hour counts for seven days in January and July at two stations
 - c. 16-hour counts on mid-Monday of each month at 6 stations
 - d. Spot traffic counts
2. Regional Planning Commission, County of Los Angeles
 - a. Scattered traffic counts, 1938-39
 - b. (See previously listed traffic surveys)
3. Traffic Engineering Department, City of Los Angeles
 - a. Annual cordon count, Central Business District
 - b. Annual traffic counts at three stations
 - c. Spot traffic counts
4. City Engineering Department, Burbank
 - a. Volume counts available in numerical form from which flow chart for major streets could be developed.
5. City of Beverly Hills
 - a. The 1948 report by Harland Bartholomew and Associates, "A Report Upon Streets, Parking, Zoning, City of Beverly Hills", contains considerable traffic volume data.

B. SPEED AND DELAY

1. Traffic Engineering Department, City of Los Angeles
 - a. A two-man crew is continuously in the field obtaining this type of information.
2. Department of Public Utilities and Transportation, City of Los Angeles
 - a. Data relating to transit vehicle running times.

C. PARKING SURVEYS

1. City of Pasadena
2. City of Alhambra
3. City of Glendale
4. Downtown Businessmen's Association
5. City of Beverly Hills
6. Automobile Club of Southern California
 - a. 1949 parking survey--no published report, but article appears in "Civil Engineering".

D. SURVEYS WHICH CONTAIN SOME TRAFFIC SURVEY DATA, FOR INDIVIDUAL COMMUNITIES OR PARTICULAR TYPES OF AREAS

1. Automobile Club of Southern California
 - a. Culver City
 - b. Huntington Park
 - c. Maywood
 - d. Monrovia
 - e. South Pasadena
 - f. Whittier
2. City of Los Angeles
 - a. The report entitled, RECREATIONAL DEVELOPMENT OF THE LOS ANGELES AREA SHORELINE, by Madigan-Ryland, consulting engineers of New York, contains traffic volume and origin-destination information relating to beach visitors.

SUMMARY OF TRANSIT SURVEYS
PREPARED BY
OFFICE OF THE CHIEF ADMINISTRATIVE OFFICER
OF THE
COUNTY OF LOS ANGELES

There have been innumerable surveys made at the cost of the taxpayers as well as of private business interests. In the following pages appear summaries of each such survey. These surveys all tend to come up with the same answer: practically all the firms, groups of firms, the California Public Utilities Commission, consultants, and others appear to be in agreement that there should be rail rapid transit as well as bus service and the utilization of freeways.

In the selection of an engineering or other concern to make another transit survey, it is believed that weight should be given to the data which have already been collected.

There is a belief also that the study of origin and destination, if required in order to determine a plan, should be made by government and not be a part of the cost of the survey.

While \$300,000 has been appropriated by the Board of Supervisors for surveys, engineering or otherwise, it has not been appropriated solely for the transit survey. It is the opinion of the office of the Chief Administrative Officer that the scope of the transit survey and plan should be presented to the University Presidents' Committee so as to enable consideration of the amount of the fee to be justified.

The office of the Chief Administrative Officer has followed this custom in the past, particularly with regard to audits, suggesting that the various concerns indicate the scope. This method has saved the taxpayers vast sums in the past. As the Chief Administrative Officer sees this problem, there is the need to have a report and recommendation on a plan, and any engineering concern will have made available to it the reports of the City of Los Angeles as well as the detailed reports and data obtained at much cost by the California Public Utilities Commission.

Title of Report: Basic Data for Formation of Rapid Transit
Action Group (Colt Report).
By Whom Made: Mass Transportation Subcommittee, Metropolitan
Traffic and Transit Committee, Los Angeles
Chamber of Commerce.
Date of Report: August 22, 1947.
Area Reported On: Metropolitan Area

This report recommends in brief that a rapid rail transportation system be established in the center of expressways and that a full-time action group composed of all parties interested be established.

The reasons for the recommendations are:

- (1) Rail rapid transit (the movement of people over substantial distances within a metropolitan area in cars or trains on rails free from any intersecting traffic) would:
 - (A) Move more people in one center of an expressway than a 10-lane expressway for autos or two 4-lane expressways for busses.
 - (B) Eliminate congestion in downtown streets. If busses or street cars alone are used, twice as many are needed as at present. (1,300 as compared to 760.)
 - (C) Be cheaper to construct than subway, elevated or expressway devoted entirely to autos.
 - (i) The initial cost of a center strip rail line is cheaper than an elevated, open cut or subway. (\$1,165,000 per mile as compared to \$9,000,000, \$3,650,000, and \$2,500,000 per mile respectively.)
 - (ii) The cost per passenger mile is \$135 for rail rapid transit in a center strip as compared to busses (\$250 per passenger mile) and private autos (\$565 per passenger mile.)
- (2) Rapid rail transportation has been installed in most all large cities and is necessary to prevent the disintegration of the metropolitan area.
- (3) Rapid rail transportation has been recommended by all past studies.

The subcommittee recommends development of plans for rapid rail transit immediately on the following expressways: The Santa Monica-Hollywood Parkway, the East By-Pass, the Santa Monica Parkway west of the intersection with the Hollywood Parkway, the Inglewood Parkway, the Harbor Parkway to 116th Street, and the Olympic Parkway. Several downtown subways would be used for distribution of passengers. The Traffic Clinic recommended: (1) a subway under Broadway for trains from the Olympic, Inglewood and Harbor Parkways; (2) A subway under Spring Street for the following street car lines: Nos. 5, 7, 8, 9, W, F, and P; (3) Trains from the valley: Santa Monica, and Hollywood would use the present Hill Street Terminal, and (4) All northern and

southern Pacific Electric trains would use the East By-pass into the 6th Street Main Terminal.

Immediate action is necessary on rapid rail transit on the Hollywood Parkway and East By-pass because the State is acquiring land and building them now.

The committee points out the high cost of private financing due to risk and interest rates and the lower cost of public financing. They point out that public financing has been used in part in New York, Chicago, Philadelphia, and Boston where private financing was used at the beginning, but public financing was necessary later for expansion. They suggest bond issues to be amortized over 40 years as the method of financing the capital investment, but point out that the urgency of the situation requires immediate action so a loan from the City of Los Angeles is necessary in the interim before a bond issue can be approved. They believe the rapid transit would attract enough riders to be self-supporting.

The balance of the report outlines the duties of the rapid transit group to: (1) recommend a master plan, (2) recommend feeder lines (busses) and terminal facilities, and (3) develop the costs and financing.

Title of Report: City of Los Angeles, Recommended Program for Improvement of Transportation and Traffic Facilities in the Metropolitan Area.
By Whom Made: Consultants: De Leuw, Cather & Co., Chicago; Harold M. Lewis, New York; Joe R. Ong, Cincinnati.
To Whom Made: Mayor and City Council of Los Angeles.
Date of Report: December, 1945.
Area Reported On: Los Angeles Metropolitan Area.

This report specifically recommends that provision be made for rapid transit by rail as well as motor coach; that modernization of motor equipment on local transit lines be made promptly; that off-street parking facilities be augmented and improved; and that unification of operation and of the fare structure be accomplished. Only the first relates directly to the problem of rapid transit.

The survey anticipates an ultimate population of 6,000,000 persons for Los Angeles County and proposes a ten-year program for providing adequate transportation facilities to suburban areas consistent with their expected rate of growth.

Rail Rapid Transit: Was recommended on the Hollywood, Santa Monica Olympic, Inglewood, and Harbor Parkways. Also recommended continuation of existing railroad operation on private right of ways, now partially grade separated, on the Long Beach, Pasadena, Glendora, and Covina routes to the southeast, northeast, and east and the Glendale route on the north.

Express Bus Operation: Has been recommended on several radial as well as cross-town existing and proposed freeway routes where their use would not be burdensome to vehicular traffic. Suggested ramp layouts are indicated to provide adequate passenger loading facilities. The routes proposed on which traffic is now sufficient to warrant express operation include the following: Allesandro Parkway, Crenshaw Parkway, Glendale Parkway, Normandie Parkway, Santa Ana Parkway, Slauson Parkway and Whitnall Parkway. Ten additional express routes are proposed to be developed as population needs warrant.

The survey further treats related problems to rapid transit with special emphasis on expressway design; connections with the central business district, traffic movement within the central business district, and one-way street routing.

The authors concurred that the actual problem and its solution had been well treated in a 1939 report of the Transportation Engineering Board, and the 1944 transit study of the Central Business District Association, summarized as follows: "There is need for a vastly improved transit and this should be brought about by: modernization of equipment; development of a limited number of rapid transit trunk-lines; the use of sections of the parkway system for transit, and gradual reduction of radial local lines accompanied by the installation of additional crosstown service to provide a comprehensive network of transit lines serving the important outlying commercial centers and also functioning as feeders to the rapid transit trunk-lines."

City of L.A., Recom. Program for Improvement of
Transportation and Traffic Facilities in the Metropolitan Area (cont.)
Page 5

1. Report by De Leuw, Cather and Company, Chicago--
Recommendations for Immediate Action.
 - (1) Purchase and operation of modern equipment on the entire transit system regardless of present ownership.
 - (2) Development of a master plan for rapid transit as required by the City Charter.
 - (3) Preparation of plans for the development of transit facilities from time to time to keep pace with planning of parkways.
 - (4) The planning and negotiation of an agreement for transit unification.
 - (5) Preparation of a specific plan for financing rapid transit and other necessary transportation improvements.
 - (6) Planning and zoning new residential, commercial and industrial developments throughout the area so as to provide adequate facilities for transit parking, delivery and shipment of goods, and free movement of passenger vehicles.

2. Report by Harold M. Lewis, New York--
Conclusions and Recommendations.
 - (1) The proposed parkway system is well planned and a start on its construction is urgently needed.
 - (2) Parts of the system should be designed to serve public transportation. (Example: Hollywood Freeway.)
 - (3) Construction program should give priority to those routes which will relieve pressure in the downtown district.
 - (4) Through-traffic will benefit directly from the proposed routes, and local business and residential areas will benefit indirectly by reduction of congestion.
 - (5) Expressways should be designed for moderate capacities (comfortable and safe driving conditions) rather than maximum capacities that occur under extreme pressures.
 - (6) Proposed loops around the central business district will double capacity of north and south routes and increase capacity of east and west routes 63%.
 - (7) The terminal problem is part of the expressway problem and must be planned with it.
 - (8) Parks, playgrounds, and air fields ought to be located along expressway rights-of-way.
 - (9) Map legislation should be adopted to keep large buildings out of rights-of-way.

3. Report by Joe R. Ong, Cincinnati--
Summary.
 - (1) Los Angeles has need for all three types of local transit vehicles: street car, trolley coach, and motor bus.
 - (2) The task is to coordinate them into an effective system.

- (3) Steps need to be taken to relieve downtown congestion:
 - (a) Underground street car terminal
 - (b) Restriction of turning movements
 - (c) Elimination of street parking
 - (d) Offset lanes
 - (e) Development of one-way streets
- (4) Criterion of any solution should be number of people benefitted rather than number of vehicles involved.
- (5) To be a big city Los Angeles must be prepared to spend big money.

Title of Report: A Transit Program for the Los Angeles Metropolitan Area
By Whom Made: Transportation Engineering Board, City of Los Angeles
(Lloyd Aldrich, Chairman; K. Charles Bean; Stone and
Webster Engineering Corp.; Madigan-Hyland, Consulting
Engineers)
To Whom Made: Mayor Bowron
Date of Report: December 7, 1939
Area Reported On: Entire Los Angeles Metropolitan Area

BASIC PROGRAM AND RECOMMENDATIONS

- (1) Non-stop express highways are required for private and public passenger vehicles.
- (2) Grade separations to be constructed only where intensive use justifies high cost.
- (3) Rapid transit busses and surface transit facilities should be well coordinated.
- (4) All transit operations to be under common management in which the public interest is continuously represented.
- (5) Rapid rail transit will be necessary for the heaviest lines of travel.

CONCLUSIONS

- (1) "As far as mass transportation is concerned, the ultimate solution of the rapid transit problem in a large and densely populated area can be found only in rail rapid transit, and there is no doubt but that such a solution will eventually be necessary in portions of the Los Angeles Metropolitan area."
- (2) "In the intermediate stage . . . a satisfactory alternative is available, because the provision of express highways and the operation of suitable busses thereon makes it possible to provide the desired rapid transit simultaneously for both private and public types of transportation."

Title of Report: A Rapid Transit System for Los Angeles, California
By Whom Made: Donald M. Baker, Consulting Engineer
To Whom Made: Central Business District Association
(J. F. Lartori, President; Fred L. Mowder, Secretary)
Date of Report: November 15, 1933
Area Reported on: City of Los Angeles and surrounding area

This is considered an important study. It includes much basic data and many recommendations used subsequently. Although 16 years old, many of the basic concepts of the report are still applicable.

Need for Further Transit Development Including Rapid Transit

The vicious spiral, rail riders to autos, more autos, more congestion, slower rail schedules, and again more rail riders to autos, eventually leads to grade separations and elevated, or subway transit.

Plan of Initial Rapid Transit Routes Proposed

Initial development is for immediate (1933) needs and will serve as framework for future development through grade separations, subways, and elevated structures.

Plan consists of four routes from Los Angeles:

- (1) Pasadena and San Gabriel Valley
- (2) Southeastern and southern portion of the Metropolitan area (Whittier to San Pedro).
- (3) West Los Angeles and Santa Monica Bay region (Redondo to Santa Monica).
- (4) San Fernando Valley, Burbank and Glendale.

Effect of Proposed Rapid Transit Lines

- (1) Use of autos to and from the central area will be reduced.
- (2) Use of downtown streets by P.E. R.R. will be reduced with resulting better service.
- (3) Combining streetcar lines with rapid transit lines will increase riding because of faster service.
- (4) Crowding on lines now fed by certain bus lines will be reduced and the short haul riders will be increased.
- (5) Bus lines competing with streetcars should be used as feeders to the rapid transit lines.
- (6) The use of steam railway lines by busses is only remotely possible.

Method of Financing

Combination of (a) federal grant under the National Industrial Recovery Act, and (b) bond issue. Bond issue would be retired in 40 years (1935-1974). Total cost of project was estimated (1933) at \$37,200,000. Whether application for federal grant and loan is to be made by City of Los Angeles or some other public agency is a matter of public policy.

Title of Report: "Report on Engineering and Economic features of Passenger transportation Operations, Service and facilities on the: Pasadena Short Line, Pasadena Oak Knoll Line, Monrovia-Glendora Line, Sierra Madre Line, Sierra Vista Local Line, and the Baldwin Park Line of Pacific Electric Railway Company"

By Whom Made: Arthur C. Jenkins, Consulting Engineer

To Whom Made: Mr. O. A. Smith, President, Pacific Electric Railway Company

Date of Report: January 15, 1949

Area Reported On: Los Angeles Metropolitan Area

GENERAL

This report compares present rail operations with: (a) rail operations with one-man P.C.C. cars and (b) with modernized motor coach operations.

Salient Conclusions

- (1) The greatest measure of benefit in the aggregate to both the public and the Company will be possible through substitution of motor coaches for rail cars on the Northern District Line.
- (2) There is no hope that development in the area served will ever produce sufficient revenue to justify continued rail passenger operation on the lines involved.
- (3) The traffic stimulating possibilities, if any, of new P.C.C. type cars would probably not surpass those of modern motor coaches.
- (4) The shorter service life of motor coaches will make it possible to provide the public with new equipment of most late design or more frequent intervals than would be possible if rail cars with much longer service lines were to be used.
- (5) Neither this carrier nor any other can reasonably be expected to preserve rail lines that are persistently operated at heavy deficits for the purpose of insuring the public of the availability of right-of-ways for rail rapid transit line that may never materialize. If such preservation is to be effected by public desire then it should be accomplished through expenditure of public funds.

Recommendations

Made in pursuance of the afore-mentioned conclusion.

Title of Report: Report on Engineering and Economic Features of Passenger Transportation Operations, Service and Facilities of the Western District, P.E. Rail Lines Subway - Santa Monica Blvd. - W. Hollywood - San Fernando Valley Subway - Hollywood Blvd. - San Vicente Blvd. - Glendale - Burbank and San Fernando Valley Motor Coach Line of Pacific Electric Railway Company

By Whom Made: Arthur C. Jenkins, Consulting Engineer

To Whom Made: Mr. O. A. Smith, President, Pacific Electric Railway Company

Date of Report: January 31, 1949

Area Reported On: Los Angeles Metropolitan Area

The recommendations as made in the report provide for modernization of operations through rearrangement of rail service in part, replacement of rail service by motor coaches in part and transfer of San Fernando Valley local motor coach lines to another carrier.

Salient Conclusions

- (1) Due to the substantial financial losses incurred on the Western District passenger lines of Pacific Electric, it is essential that immediate steps be taken to reverse these losses by establishing a type of service that can be operated on a profitable basis.
- (2) Under the proposed plan the necessary expenditures for track reconstruction will be reduced by \$2,217,000.
- (3) In view of present earning conditions, the Company should not be expected to retain rail facilities in the expectation of their possible future use in connection with rail rapid transit. Preservation of rail lines for such purposes, if considered to be necessary, should be the responsibility of the public and not the company.
- (4) In view of the industry-wide trend in mass transportation away from transit vehicles to the private automobile, there is no probability that San Fernando Valley will even be in a position to support rail passenger transportation on an enduring and profitable basis beyond North Hollywood.

Recommendations

Specific recommendations in pursuance of foregoing conclusions.

TITLE OF REPORT: ENGINEERING AND ECONOMIC FEATURES OF PASSENGER TRANSPORTATION OPERATIONS, SERVICE, AND FACILITIES ON THE SANTA ANA LINE OF THE PACIFIC ELECTRIC RAILROAD.

BY WHOM MADE: ARTHUR C. JENKINS, CONSULTING ENGINEER
TO WHOM MADE: MR. O. A. SMITH, PRESIDENT OF PACIFIC ELECTRIC

DATE OF REPORT: JANUARY 31, 1949

AREA REPORTED UPON: LOS ANGELES CITY TO SANTA ANA

RECOMMENDATIONS

- (1) THAT RAIL PASSENGER SERVICE BE DISCONTINUED ENTIRELY ON THE SANTA ANA LINE.
- (2) THAT "EXPEDITED PEAK-HOUR LIMITED-SCHEDULE SERVICE" BE ESTABLISHED BY MOTOR COACH BETWEEN LOS ANGELES AND SANTA ANA.

REASONS

- (1) PROFITABLE OPERATION OF RAIL SERVICE NOT POSSIBLE ON THIS LINE.
- (2) MOTOR COACH SUBSTITUTIONS WOULD MEAN A NET FINANCIAL IMPROVEMENT OF \$206,000 ANNUALLY.

TITLE OF REPORT: TRAFFIC--CONSTRUCTION UNDER WAY IN
DISTRICT V11 OF STATE DIVISION OF HIGH-
WAYS DURING 1948.
BY WHOM MADE: LOS ANGELES TRAFFIC ASSOCIATION
TO WHOM MADE: MEMBERS OF L.A. TRAFFIC ASSOCIATION
DATE OF REPORT: JAN., FEB., 1949
AREA REPORTED ON: DISTRICT V11, STATE DIVISION OF HIGHWAYS.

SUMMARY

SANTA ANA PARKWAY	\$3,483,200
HOLLYWOOD PARKWAY	9,804,400
ARROYO SECO PARKWAY	808,800
TERMINAL ISLAND	2,574,900
FEDERAL AID SECONDARY PROJECTS	699,700
RIDGE ROUTE	4,522,000
HARBOR PARKWAY	392,000
OTHER PROJECTS	<u>8,834,000</u>
TOTAL	\$31,209,000

Title of Report: Operations, Facilities, Organization, Financial Status and Modernization Program of Pacific Electric Railway Company - Los Angeles, Calif.
By Whom Made: Arthur C. Jenkins, Consulting Engineer, San Francisco, California
To Whom Made: O. A. Smith, President of Pacific Electric R. R. Co.
Date of Report: February 28, 1949
Area Reported On: Los Angeles & Adjoining counties.

Single issue in eyes of Pacific Electric is replacement of money-losing rail passenger service with profitable motor coaches, and if such is not done, service must be curtailed to outlying communities.

Freight rates would have required 32% increase in 1947 to offset passenger losses, and 49.5% to net a reasonable profit.

Gross annual combined revenue for 1948 was \$34,300,000, and total operating expenses approximated \$31,000,000, not including \$2,400,000 taxes. Approximately 124,000,000 passengers are carried annually over 433 r.r. miles and 853 miles of motor coach routes. About 8,800,000 car miles are operated annually in freight service, 20,900,000 motor coach, and 14,500,000 miles electric passenger car service. Company operates 412 coaches, 125 passenger rail cars, 1,384 freight cars, 51 freight locomotives, and employs approximately 5,460 persons.

Net loss of \$218,879 in 1946 caused application for increased passenger fares, granted July 31, 1946. Net loss of \$1,760,000 in 1947 caused second application for passenger rate increase, granted effective Feb. 1, 1948.

Three motivating forces behind company's projected modernization program are (1) losses from passenger transportation, (2) large reconstruction costs for continued rail operation, (3) impossibility of profits from passenger rail service in future. Company should not feel obligated to continue operating at loss in order to insure the public of transportation service.

Study regarding major rehabilitation program indicates that annual losses of \$2,017,500 can be converted to \$750,000 profit, with required facilities investment of \$4,500,000. Continued rail service would incur annual losses of \$2,000,000 and involve \$11,000,000 facilities improvements as ordered by Public Utilities Commission.

In 1937 and 1938 the company applied for increased rates and P.U.C. engineers made a thorough analysis of company's operations, after which P.E. began a comprehensive modernization program, dealing mainly with railway passenger lines.

P.U.C. made another thorough investigation of company in 1947-48, and set down certain recommended improvements in facilities and service, after which company began a major systemwide modernization and rehabilitation study early in 1948. This report dealt with the following factors:

- (1) Service standards and load factor
- (2) Service standards and traffic volume

(Cont.)

Title of Report: Operations, Facilities, Organization, Financial Status
and Modernization Program of P. E. Railway Co., L. A.,
Calif.

Page 2

- (3) Revision of schedule bureau
- (4) Field supervision and dispatching
- (5) Division superintendence
- (6) Shop personnel
- (7) Operational personnel
- (8) Executive personnel
- (9) Labor time and cost studies
- (10) Account elements
- (11) Public relations
- (12) Economies through personnel reduction
- (13) Substitution of motor coaches for rail cars (Not one rail line is now operated at a profit).
- (14) One-man car operation, (Company favors this technique)
- (15) Rail feeder lines from downtown L. A. were considered unsatisfactory and costly.
- (16) Off-street terminals--to prevent congestion by their added number in downtown L. A. for motor coaches, company would use existing rail routing and facilities
- (17) Abandonment of non-profitable lines--with one exception, no existing services would be abandoned
- (18) Rearrangement of motor coach routes--a study should be made of this problem as soon as possible
- (19) Consolidation and relocation of shops--motor coaches would require less shop area.
- (20) Maintenance and painting of equipment and facilities
- (21) Operating procedure at L. A. terminals--much improvement needed
- (22) Rail equipment assignment--wooden body cars are being eliminated; intend to use three types of rail cars
- (23) Application for increase in fares--common practice to apply for increased rates when company operates at loss.
- (24) Eliminate inter-company transfers
- (25) Eliminate inter-carrier affiliations
- (26) Eliminate commission agents and station agencies
- (27) Possible consolidation of local and interurban rail service at night.
- (28) Sale of P.E.'s L. A. local lines--so company could concentrate on urban and interurban service

Summary

Main emphasis thus far has been study of individual rail lines with view to replacements with motor coaches. San Fernando rail and local motor coach lines are now operated at loss of \$2,017,504 per year. Elimination of rail lines for motor coaches and sale of local coach lines will give annual profit of \$750,000. Currently 330 rail cars and 94 motor coaches are used; proposed to operate only 96 rail cars and 293 motor coaches.

In defense of replacing rail lines with motor coaches, report cites a dozen more cities where coaches are operating successfully, and contend that motor coaches will not aggravate traffic congestion. They cite San Francisco, Oakland and Los Angeles where transit vehicles are 2.4, 9.0 and 13.0% of total vehicles in downtown areas, respectively.

TITLE OF REPORT: TRAFFIC MAGAZINE
 BY WHOM MADE: LOS ANGELES TRAFFIC ASSOCIATION
 TO WHOM MADE: LOS ANGELES TRAFFIC ASSOCIATION
 DATE OF REPORT: MARCH-APRIL, 1949
 AREA REPORTED ON: LOS ANGELES METROPOLITAN, L.A. COUNTY,
 ORANGE COUNTY, VENTURA COUNTY.

SUMMARY

- (1) THIS REPORT PRESENTS INFORMATION ON THE PROGRESS OF STATE HIGHWAY CONSTRUCTION PROGRAM IN DISTRICT V11 AND THE HOLLYWOOD PARKWAY ESPECIALLY.
- (2) TOTALS FOR CONSTRUCTION IN THE 1949-50 FISCAL YEAR ARE:
- | | | |
|-----|-------------------------------|--------------|
| (A) | TOTAL CONSTRUCTION IN STATE - | \$69,703,000 |
| (B) | FOR RIGHT OF WAY | 17,701,500 |
- (3) CONSTRUCTION PROPOSED IN DISTRICT V11 DURING FISCAL YEAR 1949-50.
- | | | |
|-----|-----------------------------|---------------|
| (A) | SANTA ANA PARKWAY (L.A.Co.) | 1,960,000 |
| | (ORANGE Co.) | 2,016,000 |
| (B) | HOLLYWOOD PARKWAY | 9,626,000 |
| (C) | RAMONA PARKWAY | 1,496,000 |
| (D) | HARBOR PARKWAY | 616,000 |
| (E) | RIGHT OF WAY ACQUISITIONS | |
| | (L.A.Co.) | 8,635,000 |
| | (ORANGE Co.) | 200,000 |
| | (VENTURA Co.) | 915,000 |
| (F) | OTHER PROJECTS | |
| | (1) LOS ANGELES Co. | 6,913,000 |
| | (2) ORANGE COUNTY | 17,000 |
| | (3) VENTURA COUNTY | 1,279,000 |
| | | <hr/> |
| | TOTAL | \$ 33,673,000 |

TITLE OF REPORT: NON PRODUCTIVE USE OF INVESTMENT, SCHEDULE
MAN-HOUR ANALYSIS AND TRAFFIC DATA
BY WHOM MADE: ARTHUR C. JENKINS, CONSULTING ENGINEER
TO WHOM MADE: PACIFIC ELECTRIC RAILWAY COMPANY
DATE OF REPORT: MAY 9, 1949

THIS IS A GRAPHICAL PRESENTATION IN ITS ENTIRETY AND IS NOT PARTICULARLY RELATED TO THE TRANSIT PLANNING PROBLEM. IT SURVEYS THE NON PRODUCTIVE USE OF EQUIPMENT, PROJECTS AGGREGATE PORTION OF TWENTY-FOUR HOURS VEHICLES ARE IN REVENUE SERVICE AND ANALYZES DIRECT AND INDIRECT OPERATOR TIME.

THE STUDY APPEARS TO HAVE BEEN DEVELOPED TO SUBSTANTIATE AN EXISTING OR INCREASED FARE STRUCTURE.

TITLE OF REPORT: TRAFFIC - PROGRESS OF STATE HIGHWAY
CONSTRUCTION PROGRAM IN DISTRICT V11
BY WHOM MADE: LOS ANGELES TRAFFIC ASSOCIATION
TO WHOM MADE: MEMBERS OF L.A. TRAFFIC ASSOCIATION
DATE OF REPORT: JANUARY-FEBRUARY, 1948
AREA REPORTED ON: STATE DIV. OF HIGHWAYS, DISTRICT V11

HIGHWAY CONSTRUCTION UNDER WAY IN DISTRICT V11 DURING
1947.

SUMMARY

SANTA ANA PARKWAY	\$4,243,300
HOLLYWOOD PARKWAY	4,227,800
ARROYO SECO PARKWAY	1,155,700
HARBOR PARKWAY	392,000
TERMINAL ISLAND	5,585,000
FEDERAL AID SECONDARY PROJECTS	1,119,400
OTHER PROJECTS	<u>6,999,000</u>
TOTAL	\$23,722,200

Title of Report: Rail Rapid Transit
 By Whom Made: The Rapid Transit Action Group, L. A. Chamber of
 Commerce-Coordinator
 Date of Report: February, 1948
 Area Reported On: Los Angeles County

Recommendations:

- (1) Rail Rapid Transit is a necessity because more people can be moved by rail than by any other means.
- (2) Center strip of planned freeways is best because of economy.
- (3) Rail Operation recommended on following freeways.
 - A. Santa Monica Parkway
 - B. Olympic Parkway
 - C. Inglewood Parkway
 - D. Harbor Parkway
 - E. Ramona Parkway
 - F. East By-Pass
 - G. Portions of Hollywood Parkway
- (4) Bus lines to act as feeders.
- (5) Private right-of-way routes
 - A. To Long Beach and San Pedro
 - B. To Bellflower via Santa Ana Line
 - C. To Pasadena and Monrovia
 - D. To Burbank and Glendale, operating into Hill St. Subway.
- (6) Downtown Los Angeles
 - A. Rail line in the East By-Pass to 6th and Main Terminal from Aliso St. to Washington Bd.
 - B. Subway in Broadway from Ord St. to 14th St. with connections into East 1st St., Main St. via Broadway Pl., and to Harbor and Inglewood Parkways and possibly Olympic Parkway.
 - C. Expand Hill St. Subway Terminal for additional capacity.
 - D. Pedestrian subways to connect the Broadway subway to Hill and Spring Sts. at each Station.
- (7) Rail cars to be designed for 50 mi. per hr. speed.

Findings:

(1)	Estimated Costs	
	A. Right of way	\$ 49,379,000
	B. Construction, other than track, including stations	222,414,000
	C. Track, roading, and signals	27,892,000
	D. Capital adjustment	10,000,000
	TOTAL	<u>\$309,685,000</u>
(2)	Estimated annual Patronage -	220,500,000
(3)	Estimated annual net revenue	\$151,450,000
(4)	Estimated annual operation costs	51,450,000

Organization and Financing:

A district should be set-up with power to levy a tax of not more than 5 cents on \$100.00 of assessed value. Financing should be by bonds.

TITLE OF REPORT: RAIL RAPID TRANSIT
 BY WHOM MADE: RAPID TRANSIT ACTION GROUP
 TO WHOM MADE: LOS ANGELES CHAMBER OF COMMERCE
 DATE OF REPORT: FEBRUARY, 1948
 AREA REPORTED: LOS ANGELES METROPOLITAN

RECOMMENDATIONS

- (1) THAT A METROPOLITAN RAPID TRANSIT DISTRICT BE ESTABLISHED TO CONSTRUCT AND OPERATE A RAIL RAPID TRANSIT SYSTEM IN THE LOS ANGELES AREA.
- (2) THAT CONSTRUCTION BE FINANCED FROM A BOND ISSUE
- (3) THAT THE DISTRICT SHOULD BE ORGANIZED UPON THE INITIATIVE OF CITIZEN PETITIONERS OR THE BOARD OF SUPERVISORS.
- (4) THAT THE DISTRICT BE EMPOWERED TO REQUIRE PROPERTY BY LEASE, PURCHASE OR CONDEMNATION; AND TO LEVY A TAX FOR ADMINISTRATIVE EXPENSE, NOT TO EXCEED 5¢ IN EACH \$100.00 OF ASSESSED VALUE
- (5) THAT THE RAIL LINES BE CONSTRUCTED WITHIN THE CENTER STRIP

DATA ON COSTS OF THE FREEWAYS

(1) RIGHT OF WAY	\$ 49,379,000
(2) CONSTRUCTION, OTHER THAN TRACK	222,414,000
(3) TRACK, ROADWAY SIGNALS	27,892,000
(4) CAPITAL ADJUSTMENT	<u>10,000,000</u>

TOTAL \$309,685,000

ANTICIPATED ANNUAL OPERATING STATEMENT
 INCOME

GROSS PASSENGER REVENUE	\$ 59,150,000
LESS CONNECTING SERVICE REV.	7,700,000

\$ 51,450,000

OUTGO

TRACK MAINTENANCE	\$ 2,159,000
EQUIPMENT	2,766,000
POWER	1,750,000
TRAFFIC	191,000
TRANSPORTATION	8,430,000
ADMINISTRATION & INSURANCE	5,232,000
DEPRECIATION & AMORTIZATION	11,092,000
TAXES	12,180,000
OPERATING RENTS (NET)	2,000,000
INTEREST	<u>5,650,000</u>

\$ 51,450,000

Title of Report: Traffic - Traffic Problems in Los Angeles
Metropolitan Area
By Whom Made: Los Angeles Traffic Association
To Whom Made: Members of L.A. Traffic Association and Central
Business District Association
Date of Report: Sept.-Oct., 1948
Area Reported On: Los Angeles Metropolitan Area

Results of a canvass of firms and individuals to obtain data on traffic problems.

Also included are the suggestions of the firms and persons complying with the request.

Provision of the area with rail rapid transit was the most common suggestion. It was generally considered to be the most serious problem facing the community. Both subways and over-head systems were suggested as well as high-speed surface interurban railways.

One-way streets were also suggested by a great many of the replies.

More off-street parking spaces was another recommendation.

A Pershing Square garage was suggested by many.

Title of Report: A Report on Statistical Data and Trends Applying
to the Transit Industry of the United States
By Whom Made: Pacific Electric Railway Company, Arthur C. Jenkins
Consulting Engineer
To Whom Made: Public Utilities Commission of California
Date of Report: October 13, 1948
Area Reported On: United States

This report presents the trend of mass transportation in the United States. The most significant facts presented are:

- (1) Public transportation is almost entirely used by workers, whereas before the advent of the automobile recreation seekers also used public transportation.
- (2) This change has concentrated the largest number of riders in two daily peak periods, and has caused considerable trouble for transportation companies who are faced with employing drivers on straight 8-hour shifts.
- (3) The number of riders is declining proportionate to the population. Revenue is also declining.
- (4) In order to avoid heavy fixed charges with a declining revenue, transit companies have refinanced. When that did not give them sufficient relief, they have abandoned tracks and put in motor coaches which bring in more revenue in relation to their initial investment.
- (5) Rail transportation is very important in war time when gasoline and tires are hard to get. However the trend is toward more busses and less rail transportation.
- (6) There has been heavy public investment in freeways which aid motorists. Such a development has the effect of reducing public transportation consumption. At the same time motorists are being subsidized, while users of mass rail transportation must pay for the cost of tracks.
- (7) Operating income was lower in 1947 than in any year since 1932 studied. Costs in the meantime were at the highest level.

This report is primarily statistical. It contains charts and graphs showing the trend in the industry for several years.

TITLE OF REPORT: ENGINEERING AND ECONOMIC FEATURES OF
PASSENGER TRANSPORTATION OPERATIONS,
SERVICE AND FACILITIES ON THE VENICE
SHORT LINE OF THE PACIFIC ELECTRIC
R.R.Co.
BY WHOM MADE: ARTHUR C. JENKINS, CONSULTING ENGINEER
TO WHOM MADE: MR. O. A. SMITH, PRESIDENT OF THE P.E.
DATE OF REPORT: NOVEMBER 30, 1948
AREA REPORTED UPON: LOS ANGELES METROPOLITAN AREA

THIS REPORT SURVEYS THE ENGINEERING AND ECONOMIC ASPECTS
OF PROVIDING PASSENGER TRANSPORTATION SERVICE BETWEEN LOS
ANGELES AND BEACH CITIES BY COMPARISON OF THESE METHODS:

- (1) VENICE SHORT LINE RAIL AS AT PRESENT
- (2) NEW TYPE ONE-MAN CARS
- (3) MOTOR COACHES

RECOMMENDATIONS

- (1) THAT MOTOR COACHES BE SUBSTITUTED FOR RAIL SERVICE
AT THE EARLIEST POSSIBLE TIME.

REASONS

- (1) TO REALIZE A NET FINANCIAL IMPROVEMENT OF
\$268,000 ANNUALLY AT PRESENT LOAD FACTORS.

Title of Report: Pacific Electric's Modernization Plan
By Whom Made: Public Service Survey, Los Angeles, California
Date of Report: 1948
Area Reported On: Metropolitan Los Angeles

This report supports the case of a private utility for immediate transit modernization through bus transportation rather than improve and expand existing rail facilities. The reasons advanced by Pacific Electric may be outlined briefly as follows:

- (A) The Pacific Electric is losing money.
The company has had only five profitable years since 1916. During the year 1947, for example, Pacific Electric's total operations resulted in a net loss, after taxes, of \$837,607. It is the opinion of the company that their interurban rail passenger operations cannot be converted to a profitable basis even if completely rebuilt and equipped with modern cars.
- (B) Total cost to Pacific Electric to rehabilitate rails, provide new track facilities, and replace rail equipment would approximate \$22,000,000. Conversion to busses to assure comparable service would require an outlay of only \$4,500,000.
- (C) The Nation-Wide Trend is to Busses.
In 1927, 87% of total transit passengers were carried by rail--13% by motor coach. In 1947, 48% were carried by rail and 52% by rubber-tired vehicles.
- (D) Causes of Traffic Congestion.
Of total vehicles entering downtown Los Angeles, by recent check, 87% were automobiles and 13% were transit vehicles. One bus will carry as many passengers as 30 private motor cars (basis is 1.44 average passengers per car by recent test) Busses are not major contributors to the congestion problem.
- (E) Pacific Electric willing to abandon \$8,000,000 rail investment for the sake of modernization.

The matter of rapid rail transit as it relates to Pacific Electric's modernization plan:

Pacific Electric's modernization program reportedly will not in any way interfere with the development of publicly owned rail rapid transit. Problems, however, which confront rail rapid transit were outlined as follows:

- (1) Estimates of cost range from \$300,000,000 to \$500,000,000.
- (2) No plan for financing such an expenditure and operating such lines at a profit has been advanced.
- (3) Rail rapid transit lines in New York City, where the nation's highest population density exists, have consistently operated at a loss. The sprawling Los Angeles area would reduce passengers per mile operated to make a profitable operation more improbable.
- (4) There is strong opposition to rapid rail transit from many quarters including Los Angeles Realty Board, Gilmore Enterprises, etc.
- (5) The Rail Project is of considerable magnitude and is opposed by many as a "step toward socialism".
- (6) Rapid rail transit, if authorized, could not be put into operation for from 10 to 12 years.

Title of Report: The Los Angeles Traffic and Transit Problem.
By Whom Made: The Regional Planning and Development Section.
To Whom Made: (Town Hall).
Date of Report: February, 1947.
Area Reported On: Primarily City of Los Angeles

Permanent solution not possible until Los Angeles stops growing and changing.

Effective Use of Present Streets.

Eliminate on-street parking in downtown areas, one-way streets, moving dividing lines on boulevards during peak traffic hours, eliminating left-hand turns at some intersections, re-routing some transit lines, staggering work hours.

Off-Street Parking

Deficiency of 10,000 to 12,000 off-street parking spaces in downtown area.

Private corporation to provide 10,000 more parking spaces south of 2nd Street; to buy, lease, and operate parking lots and garages.

Pershing Square Garage to be built by a separate corporation. Patterned after San Francisco's Union Square Garage.

Zoning Ordinance of 1946 requires new buildings provide minimum parking areas.

Creation of a Parking District Authority is possible. City may condemn needed land as last resort.

Freeways

System of by-passes around downtown area.

MASS TRANSPORTATION

Addition of 15% to cost of freeway program would provide for right of way necessary for rail lines in dividing strip.

Gasoline taxes cannot be used for this.

Probable necessity of one or more subways in downtown area.

FINANCING OF FREEWAYS

Proceeds of any added taxes for this purpose should be earmarked solely for the proposed program.

Provision should be made for allocation of proceeds within counties in proportion to their auto registrations.

Should be modifications of present restrictions against use of funds for necessary mass transportation facilities.

Mass transportation facilities, part rail and part bus, must be planned in conjunction with freeway program.

Title of Report: Case No. 4843: Report on Engineering Survey or Operations and Facilities of Pacific Electric Railway Company.
 By Whom Made: Public Utilities Commission of California.
 To Whom Made: To Commission for use in the Pacific Electric Railroad case No. 4843.
 Date of Report: June 16, 1947.
 Area Reported On: Los Angeles and adjoining counties.

Situation surrounding this study indicates that while rates of fare have risen, service and facility standards of Pacific Electric have not been improved; present services offer no attractive competition to private auto; much of traffic now transported by company follows from necessity.

Study involved the contract with 31 communities served by Pacific Electric for discussion of their transportation problems.

Year	Revenue	Passenger	Vehicle	Rev. per	Revenue Passengers			
	Passengers (1,000's)	Revenue (1,000's)	Miles (1,000's)	Passenger (cents)	Rail	Bus	Total	% Bus
1927	88,170	\$11,807	30,230	13.4	79,824	8,346	88,170	9
1939	55,594	6,304	21,469	11.3	44,439	11,155	55,594	20
1946	138,184	18,802	33,783	13.6	94,904	43,280	138,184	31

Ninety-two pages of report are devoted to describing the route characteristics, operation and service, operating statistics and maximum point load check of the company's interurban rail lines, local rail lines, interurban motor coach lines and local motor coach lines.

As of April 1947 Pacific Electric had 460 passenger rail cars in operation, comprising 12 different types, of which 68 cars were wood and the rest steel. Only 205 cars are considered entirely adaptable for the type of service used. Most cars are too heavy and acceleration speeds are too low, causing congestion. Heavy cars cause more track maintenance. Steel interurban cars are also inconvenient for passengers with landing platforms too high. Maintenance of cars has been fairly good.

Much track repair is needed, but company has done little to remedy the situation. Grade crossing protection is poor in many instances as outdated signals cease working as soon as locomotives with several freight cars pass crossing. Power supplies are dangerously low on certain lines, specifically the Sierra Madre line, which has resulted in serious automobile accidents.

Report recommends extensive use of one-man cars.

There have been several instances of freight being hauled over passenger lines, causing delay and inconveniences to a great number of passengers. Numerous complaints have been received by cities served, that freight has been given preference over passenger travel even though operating franchises were granted for passenger service.

(cont.)

Conclusions

1. A fertile field for mass transportation exists in metropolitan Los Angeles.
2. It is to interest of Pacific Electric that adequate transportation be provided.
3. Pacific Electric is not keeping abreast of transportation needs.
4. Pacific Electric management should be clothed with adequate authority for improved transportation service.
5. Pacific Electric's operations should be revised to take advantage of improved transportation facilities.
6. Present transportation problem served by Pacific Electric is not without solution.
7. Further fare increases should take into account that the company is taking full advantage of all possible economies.
8. If Los Angeles metropolitan area is to have rail rapid transit service, this must be provided on facilities in the freeways.
9. Pacific Electric should be one of the prime movers in the effort to provide rapid rail transit service in the metropolitan area.

Recommendations

1. Give Pacific Electric management adequate authority to improve company facilities.
2. More consideration for recruiting young, trained men in responsible offices.
3. Establish an efficient schedule department.
4. Establish an extensive program of supervising operations and service.
5. Institute educational program for bus operators and trainmen.
6. Operate additional equipment to conform with loading standards.
7. Establish express service wherever practicable.
8. Eliminate passenger delays by freight service.
9. Speed up service by improvement of safety devices at grade crossings.
10. Relocate, wherever possible, all passenger landings along tracks in private right of way at highway crossings to far side of said crossings.
11. Install proper control circuits at all existing grade crossings.
12. Install electrically-operated switches at certain locations.
13. Effect rail and motor coach service at certain locations.
14. Effect proposed power improvement program.
15. Establish one-man cars on certain lines.
16. Assign ground loaders at points of heavy traffic concentration.
17. & 18. Purchase new and convert present passenger rail cars.
19. Abandon all wooden-bodied passenger rail cars as soon as possible.
20. Install modern equipment on certain classes of cars.
21. Replace kerosene lighted lanterns with electric lanterns.
22. Replace box motor operations with motor trucks.
23. Eliminate safety stops at certain signalized street intersections.
24. Carry out a program of track rehabilitation.
25. to 40. Recommending track, storage, terminal, shop improvements for specified lines and service locations.
41. Encourage installation of rail facilities on Hollywood freeway.

Title of Report: In publication "Traffic"-Historical Summary of Development of the parkway System Plan and Rapid Transit Thereon in the Los Angeles Metropolitan Area.
By Whom Made: Los Angeles Traffic Association.
To Whom Made: To Members of Los Angeles Traffic Association.
Date of Report: July, August, 1947
Area Reported On: Los Angeles Metropolitan Area

- 1924 - City and public spirited citizens prepared a "Major Traffic Street Plan." This plan adopted and Los Angeles Traffic Commission organized. Result - A high percentage of this plan has been accomplished, the City now having an excellent system of surface arteries and highways. Costs of effectuating this plan computed at more than 300 million dollars.
- 1925 - "Rapid Transit Plan for Los Angeles" - by R. F. Kelker, Jr. and C. E. De Leuw, consulting engineers of Chicago. Rapid transit under this plan was composed of subway and elevated rail lines. Report supplied much data but has never been carried out in any respect.
- 1933 - "Rapid Transit System for Los Angeles" by Donald M. Baker and Stuart M. Bate for the Central Business District Association. It proposed four rail lines radiating from the Central area. No definite action was taken and the plan was not realized.
- 1937 - "Traffic Survey", Los Angeles Metropolitan Area, by Automobile Club of Southern California. Included map and discussion of various motorway proposals. Many of the routes on this plan are coincidental with those developed later by other plans.
- 1937 - Citizens Transportation and Survey Committee organized and sponsored an exhaustive survey of traffic and transportation. Financial support was obtained from Los Angeles City and the W.P.A. Los Angeles City and surrounding adjacent areas covered. Study resulted in two reports early in 1940 - a "Report of Traffic and Transportation Survey," and "A Transit Program for the Los Angeles Metropolitan Area." The former was a factual summary, the latter known as the "Program" influenced and directed transportation thinking for many years. It presented recommendations on private and public transportation. The City Planning Commission approved and adopted the Parkway Plan in 1941. In 1943 the Los Angeles Regional Planning Commission issued a plan for "Freeways for the Region". 1940 saw initial units of parkways system, the Arroyo Seco Parkway, and the Hollywood Parkway and since then there has been continued parkway construction, and land acquisition for that purpose, with the State Division of Highways actively engaged.
- 1944 - "Transit Study-1944" by Central Business District Association, a summary of that agencies activities.
- (1945 - "Parkway Transit Lines in the Central Business District"
(1946 - "Parkway and Parkway Lighting"
Above two reports were special studies made by the Central Business District Association.
- 1945 - A review of all plans and proposals concerned with transit made by De Leuw, Cather and Co., Harold M. Lewis and Joe R. Ong. This report was presented to City officials on December 17, 18, and 19, 1945.
- There has been practically complete agreement on the parkway system plans and the use of parkways by rapid transit lines including questions of routes, financing and construction.

Title of Report: Transit Study - Los Angeles Metropolitan Area
By Whom Made: Central Business District Association
To Whom Made: Governmental agencies concerned.
Date of Report: 1944
Area Reported On: Los Angeles area

Summary

Recommendations

1. Center strip reservation on planted area between main parkway for future use
 - a. Provide room for expansion
 - b. Exclusive use by busses and commercial vehicles
2. Specially designed coaches for parkway use
3. Cross town feeder lines to avoid additional uneconomical radial transit routes.
4. Some rail lines have been abandoned, others probably will be. Some should be continued to be used for transportation.
5. Rapid transit planning should include areas of future residential and recreational development.

Outline of Contents

1. Drawing of Aliso St. viaduct and connections.
2. Map-initial parkway routes - east-west (Hollywood-Santa Ana) North-South (Arroyo-Harbor)
3. Map-first priorities of parkway construction
4. Map-composite parkway plan
5. Drawing-cross sections of parkway construction
6. Map-transit routes suggested in 1942 progress reports.
7. Map-major traffic street plan
8. Map-through routes versus transfers.
9. Map-cross town and feeder service
10. Map-transit lines to Pacific Coast Beaches
11. Map-time and distance factors
12. Map-Los Angeles points of interest
13. Map-rail lines rights-of-way conversions to highway use.
14. Map-parkways and cities and towns in L.A. area.
15. Drawing-Operating method of busses on parkways.

Title of Report: Mass Transit Facilities and the Master Plan of
Parkways
By Whom Made: Milton Breivogel, Principal City Planner
Stuart M. Bate, Transportation Consultant
To Whom Made: City Planning Commission
Date of Report: 1942
Area Reported On: Los Angeles Metropolitan Area

This report was made to determine if mass transit facilities could be coordinated with transit facilities of existing and proposed parkways.

Transportation characteristics of Los Angeles in August and September 1938 were as follows:

- (1) 61.7% of the persons entering the Central Business District between 7 A.M. and 7 P.M. used mass transit facilities.
- (2) Of these, 37.7% came from the west side, 28% from the east side, 24% from the south side, and 10.3% from the north side.
- (3) Of the total motor vehicle passengers entering the Central area, 38.9% came from the west, 27.9% the east, 20.2% the south, and 13% from the north.
- (4) Of the mass transit passengers, 43.5% came from areas within a $2\frac{1}{2}$ to 5-mile radius of the Central area, and 87.5% came from within a $7\frac{1}{2}$ mile radius.
- (5) In the area beyond a $7\frac{1}{2}$ mile radius, the largest number of passengers came from Beverly Hills and vicinity, with Inglewood, Lynwood, Pasadena, South Pasadena, Santa Monica, Compton and Culver City following in the order named.

The report concluded that no detailed plan for the comprehensive coordination of the mass transportation system and the parkway system was feasible at that time.

It definitely recommended that provision be made in all cases for the operation of rapid transit facilities over the parkways.

Title of Report: General Conclusions and Recommendation concerning
mass transportation in the Los Angeles area.
By Whom Made: Board of Public Utilities and transportation,
City of Los Angeles
Date of Report: July 1940
Area Reported On: City of Los Angeles extended area

This report deals primarily with the problems and possible improvements of present surface transportation facilities.

Recommendations:

- (1) Consideration should be given to construction of grade separated highways to provide rapid transit buses.
- (2) Construct a grade separated rail facility from 6th St. and San Pedro to provide right-of-way at Olympic and Long Beach Avenue and near Aliso and Mission Road.
- (3) Improve handling of motor vehicle traffic.
- (4) Modernize equipment.
- (5) Establish cross-town route on Washington Blvd.

Findings:

- (1) Existing facilities will still be necessary.
- (2) Under existing conditions in this area it does not appear possible to finance rail rapid transit providing general coverage.

TITLE of Report: Report on Urban Mass Passenger Transportation
Facilities and Requirements of Los Angeles:
Vol. II, Analytical Survey of Existing Facilities
By Whom Made: California Railroad Commission
To Whom Made: Director of Transportation Commission
Date of Report: October 17, 1940
Area Reported On: Metropolitan Area

This volume is factual only and contains information relating to the financial status and traffic characteristics of the carriers in 1940. Analysis of the facts "indicates that much of the financial relief sought by the Los Angeles Railway Corporation may be realized through the inauguration of a modernization program." Vol. I contains the recommendations.

This volume (353 pages) contains so much detailed factual information that only a summary of the topics covered can be given in a brief report. The report covers the history, corporate structure, previous cases, financial status including revenue, operating expenses, profit or loss, depreciation, organization and management, rate base and physical properties of the Los Angeles Railway Corporation; the history, financial status, organization and properties of the Los Angeles Motor Coach Company; and a brief discussion of the same factors relating to the Pacific Electric Railway Company.

Title of Report: "An analysis of proposals to provide rapid and adequate mass transportation for the Los Angeles area."
By Whom Made: Evan W. Thomas
To Whom Made: A. U.C.L.A. masters thesis
Date of Report: June 1939
Area reported on: Primarily Los Angeles with some consideration to other cities.

SUMMARY

Recommendations

- (1) A Metropolitan Transportation Authority to assume responsibility for the problem in the whole metropolitan area and to reconcile the differences of various groups involved.
- (2) The bus and superhighway should carry most of traffic burdens. Rapid transit by rail and subways are artificial stimulants to congestion. Los Angeles must encourage decentralization if it is to be a garden type of city.
- (3) Financing through grants and loans from the federal government. Further financing on the basis of who would profit most commuters, the community as a whole, or business interests which stand to benefit.
- (4) Full utilization of available street space by new ordinances.
 - A. Parking on busy thoroughfares
 - B. Conflicting usage (autos, buses, streetcars, trucks)

General Outline

- (1) Analysis of problem.
- (2) Historical treatment of traffic surveys.
- (3) Street car proposals.
- (4) Subway and elevated line proposals.
- (5) Bus and motorway proposals.
- (6) Major obstacles to 3, 4, and 5.
- (7) Current situation in other cities.
- (8) Summary and conclusions.

Title of Report: Report on the Public Transportation Requirements
of Los Angeles
By Whom Made: Railroad Commission of the State of California,
E. F. McNaughton, Director of Research
To Whom Made: W. K. Brown, Director of Transportation,
Railroad Commission
Date of Report : December 16, 1935
Area Reported On: Metropolitan Area

This report was made in order to evaluate the facts in the suit brought by the City of Los Angeles against the Los Angeles Railway Corporation and the Pacific Electric Railway Company. The report reviews the complete financial standing of the companies, the service offered and rates as existing in 1935 and makes the following recommendations:

- (1) In order to provide minimum service requirements it is necessary to add not less than 200 modern street cars to replace obsolescent equipment and to modernize 300 additional cars on the Los Angeles Railway.
- (2) One-man cars should be used as much as possible.
- (3) Certain extensions of service on specified lines are suggested.
- (4) A combined pass good on both lines is desirable.
- (5) Unification of operation was considered but not recommended because of the difference in gauge of the tracks.
- (6) Noise generated by the street cars should be reduced.

Title of Report: Conference on the Rapid Transit Question
By Whom Made: Board of City Planning Commissioners
Date of Report: January 21, 1930
Area Reported on: Metropolitan Area of Los Angeles

This conference was made up of reports from various interested and affected groups. No specific recommendations were made.

FINDINGS:

- (1) Burden of financing should fall on the city as a whole, the users of the transit system, and the property owners most benefited by the rapid transit lines. Proportion to be borne by each undecided.
- (2) Maximum speed of a rapid transit system would be 25 miles per hour. A few short lines might possibly be faster.
- (3) Express service could raise the speed but would require special tracks and facilities at greatly increased costs.
- (4) Decentralization of city would probably continue regardless of rapid transit system.
- (5) Present congestion would probably still remain, costs would be higher, and great majority would not be affected.

Appendix I

REPORT MADE BY MR. H. P. MASON, CHAMBER OF COMMERCE
TO NEIL PETREE, 9-1-49, SUMMARIZING VARIOUS TRAFFIC REPORTS

GROUP I

Summaries of Major Transportation Surveys For Los Angeles 1925 - 1948

Report on a Comprehensive Rapid Transit Plan for the City and County of Los Angeles. 1925

Kelker-DeLeuw and Company, Consulting Engineers

Cost, approximately \$150,000.

The report contains a comprehensive rapid transit plan for a unified transportation system to meet the needs when Los Angeles' population reached three million. It is divided into two parts: 1) For immediate construction to meet present needs; and 2) For future construction to cover the later development of the system.

In general, the recommendations were:

1. Construction of a rail rapid transit system, employing both elevated and subway design, to be the backbone of a metropolitan transportation system. Essentially, four main lines were proposed for immediate construction on a radial basis from the center of the City.
2. A feeder system and cross-town service was provided by immediate construction of streetcar line extensions and installation of new bus lines.
3. Future construction dealt with expansion of the basic plan subject to modification for changing conditions.

Recommendations were based upon the conclusion that streetcar and bus service could not adequately serve the city's needs.

Estimates of cost of the recommended plan involved \$133,385,000 for the immediate construction and \$190,000,000 for the future construction.

Financing was to be shared by the rider, general public and property owners by raising the fare one cent, issuing bonds, and assessing property.

A Rapid Transit System for Los Angeles, California. 1933

A report to the Central Business District Association

Donald M. Baker, Consulting Engineer

The report recommended a rail rapid transit system as the only solution to the mass transportation problem of the metropolitan area. The system involved a combination of elevated, subway and private right-of-way construction.

The proposed system was not as extensive as the program recommended in 1925, but comprised four lines radiating outward from central Los Angeles in four directions to connect the main population areas with the Central Business District. The system proposed was so located that it could, in the future, be extended by grade separations and extensions of subway and/or elevated structures to meet development and population growth.

The total cost of the system proposed was estimated at \$37,200,000. Suggested financing involved a thirty million dollar bond issue with the balance of the money to be derived through the National Industrial Recovery Act then in effect. The act authorized a maximum 30% government grant on comprehensive public works programs. In this case, the grant would have amounted to \$10,700,000, and of the total, \$7,200,000 was for construction and the balance of \$3,500,000 was for payment of debt service during the early years of the operation.

Transit Program for the Los Angeles Metropolitan Area. 1939
Transportation Engineering Board
Stone and Webster, Engineering Corporation, Member.
Madigan-Hyland, Consulting Engineers, Associates.

The Board recommended a system of express highways and arterial parkways as the framework for a comprehensive transit and transportation system. There was a definite primary express route pattern designed to provide simultaneously for radial and inter-district travel with by-pass and distributing features. In this, parkway design was favored over elevated construction.

Rapid transit buses on grade-separated highways were proposed as the mass transportation system for the Los Angeles metropolitan area. Stop locations were to be arranged in separate bus lanes with passenger interchange at points of intersection with all important surface rail and bus line services. Other lines were to be arranged to provide through service, without transfer, by running rapid transit buses on surface streets to pick up passengers and on the express highway for the long-haul, returning to surface streets for passenger distribution.

It was pointed out that heavy electric traction was universally used in handling concentrated passenger movements in densely populated metropolitan areas. Rail rapid transit would be necessary on the heaviest lines of travel when population reached the accepted probable estimates. Construction of the express highways would be planned, therefore, to permit accomplishment of rail operation at minimum cost when developments required it.

Mass Transit Facilities and the Master Plan of Parkways. 1942
City Planning Commission.

The report recommended adequate provision for operation of rapid transit facilities on parkways. Studies made were to determine the feasibility of coordinating mass transit facilities on the Master Plan Parkways by operation of rapid transit motor coaches over all or a portion of the parkway. Accordingly, right-of-way should be of sufficient width to accommodate bus rapid transit operation without interfering with automobiles.

On the basis of the studies, rapid transit bus operation would be provided on the Arroyo Seco, Hollywood, Ramona, Santa Monica, and Santa Ana Parkways when completed.

Recommended Program for Improvement of Transportation and Traffic Facilities in the Metropolitan Area. December, 1945.

City of Los Angeles. Consultants: De-Leuw-Cather and Company, Chicago, Illinois; Harold M. Lewis, New York, New York; Joe R. Ong, Cincinnati, Ohio.

The report contained the recommendations of three consultants employed by the city and, as such, summarized what is referred to as the Mayor's Traffic and Transportation Clinic. The assignment covered consideration in working out an adequate plan for freeways on expressways, a master transportation system and automotive traffic control and regulation.

General agreement was reached upon two points: 1) a freeway program was vital to the city; and 2) there was a need for rapid transit facilities.

Divergent opinions were expressed on the type of service needed. One consultant recommended predominately a rail rapid transit system with mass transportation, using both freeway and private right-of-way. Another consultant proposed bus rapid transit on express rights-of-way utilizing certain of the freeways in the master plan. The third consultant reviewed the general direction transit should take but did not work out details of operation or design.

GROUP II

Summaries of Other Transportation Surveys

Conference on Rapid Transit Question. 1930
Board of City Planning Commissioners.

This is a publication of the presentations made in response to the question. Purpose of the conference was fivefold:

1. Assist the Planning Commission in making the proper approach to the problem.
2. Bring together those who had been giving thought to the matter, ascertain their views and experience, and make the same available to those who were interested.
3. Briefly sum up the present situation.
4. Define the various factors which enter into the problem.
5. Present to the public, through publication of the proceedings, the information and views expressed.

Report on Local Transportation Requirements of Los Angeles. 1935
California Railroad Commission.

The report is the result of an application by one of the public carriers to the Commission for operation changes. In connection with Case No. 4002 before the Commission, examination was made of local passenger transportation situated in and around Los Angeles as rendered by the Los Angeles Railway, Pacific Electric, and Los Angeles Motor Coach.

Report on Traffic and Transportation Survey. 1938-1939
Works Project Administration
Survey Supervised by the Transportation Engineering Board, City of
Los Angeles.

The report presents summaries of field, office and derived data relating to transportation in the Los Angeles metropolitan area. It is a compilation of data on a factual survey concerned with riding habits, passenger movements, origin and destination studies, distribution of automobile ownership and like information.

Report on Urban Mass Passenger Transportation Facilities and Requirements of Los Angeles. 1940
California Railroad Commission.

The report was prompted by the Los Angeles Railway Corporation application for financial relief and is in connection with Case No. 4461 before the Commission.

It related to the financial status of carriers and traffic characteristics of rail and motor coach lines comprising the Los Angeles urban passenger transportation system. Recommendations were concerned principally with details of modernization in the existing operations of the Los Angeles Railway.

Transit Studies, Los Angeles Metropolitan Area. 1944
Central Business District Association.

The report proposed utilization of mass transit facilities to meet present and prospective needs on the overall parkway system planned for the Los Angeles metropolitan area. The rapid transit facilities to be furnished were exclusively parkway coach service. The report presents pictorial and diagrammatical proposals without analyses or discussions.

Rail lines already abandoned and those to be abandoned in the future would permit development for other transportation use, mainly conversion to highways. Where use of abandonments for other transportation was not warranted at that time, they would be reserved for future use.

GROUP III

Mass Transportation Reports Developed by the
Metropolitan Traffic and Transit Committee

Basic Data for Formation of Rapid Transit Action Group

(The Colt Report)

Mass Transportation Subcommittee

August 22, 1947

A report prepared and presented by the Mass Transportation Subcommittee stated that mass transportation was an immediate need to alleviate untenable traffic congestion in the metropolitan area. Such rail rapid transit installation was a necessity in order to keep pace with the growth of the area and to preserve its integration and forestall imminent unplanned decentralization.

It recommended that a Rapid Transit Action Group with full-time representatives be formed to develop a master plan for rail rapid transit, with such plan to include all forms of mass transportation.

Rail Rapid Transit Now

Rapid Transit Action Group Report: February, 1948.

The facts developed by the RTAG as to choice of routes, in both surface and subway transit, including pertinent information on capital investment, operating cost, patronage and net operating revenues were presented in the report. The ultimate purpose of the group was to prepare a pilot plan based upon studies which were made of population densities, revenue passengers, fares, and cost of construction.

Analyses of the studies by the RTAG indicated that savings in cost of construction could be effected in the metropolitan area where rail rapid transit was built in conjunction with planned freeways. The report illustrated the rails-in-freeway design and proposed that steps be taken to secure the necessary financing in order to permit simultaneous rail rapid transit construction with planned freeway construction.

The RTAG was comprised of financial advisors; city and county and private transportation engineers; construction engineers; state, county and private planners and researchers, and specialists in the field of transportation.

HPM;amn
September 1, 1949

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