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MASTER PLAN OF PARKWAYS



*Received from
Manning March 1941*

LOS ANGELES DEPARTMENT OF CITY PLANNING



HARBOR DISTRICT

CENTRAL DISTRICT

VALLEY DISTRICT

Pacific Ocean



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Department of City Planning
Los Angeles, California
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INTRODUCTION

The most pressing problem confronting the City of Los Angeles today is transportation. A number of proposals and suggestions have been made for the solution of this problem, but the most logical and reasonable presented to date is that proposed by the Transportation Engineering Board in its recent report "A Transit Program for the Los Angeles Metropolitan Area." F. 1

This report concerns itself with those proposals of the Transportation Engineering Board which pertain to the plan of motor vehicle parkways. Other proposals of the Board's report, namely, the rail rapid transit and unification of transit operations, the suggested improvement of the Central Business District, the means for relieving the parking situation and the financing of the plan must be given more study before they can be reported upon.

Sections of the parkway system, the Arroyo Seco and Cahuenga Pass, have already been constructed and have proven their worth. Others are being constructed, and rights-of-way are being acquired for still other sections. In order that these improvements may be made according to an officially adopted plan, it is important that action incorporating these proposals in the master plan of the city be taken as soon as possible. The cooperation of the City with State highway authorities in the execution of this plan will be facilitated and construction of these needed improvements advanced by official recognition and endorsement of those

proposals which qualify for inclusion in the master plan.

Statutes There are several meanings applied to the term "parkway". The parkway is generally understood to be a pleasure drive or a drive through an elongated park. The term as used in this report means a highway in respect to which the owners of abutting lands have no right or easement of access to or from their abutting lands; which is substantially free throughout its length from crossings at grade with other highways, streets and railways; which is designed for the efficient and safe movement of traffic through and between areas heavily congested with traffic; and which, where practicable is located in a broad right-of-way, the borders of which are properly landscaped and planted. The term "parkway" is sometimes used synonymously with "freeway" or "expressway". While the function of each is the same - provision for the rapid and uninterrupted movement of motor vehicular traffic - the difference lies in the character of the development. With broad rights-of-way it is possible to so improve and landscape the parkway that the objectionable features of the narrower freeway are removed. The "parkway" is at once a boon to motorists and advantageous to contiguous and abutting property,

thorough It is the duty and purpose of the City Planning Commission to adopt and establish a master plan for the City of Los Angeles. The parkway system is but one element of this master plan. Authority to prepare, adopt and establish a master plan is specifically granted by the Statutes of the State

of California. The preamble of The Planning Act of the Statutes of 1929 amended by the Statutes of 1937 reads as follows: "An act for the establishment of master and official plans in cities, cities and counties, and counties and for the adoption of ordinances pursuant thereto; prescribing the manner of adoption of such plans, portions thereof, amendments thereto and the composition and effects thereof; providing for the appointment of planning commissions.....,"

Section one of this act makes mandatory the adoption of master plans as follows: "Every city and every county shall adopt and establish as herein provided a master plan of said city or county and official plans based thereon. Such plans are hereby declared to be established to conserve and promote the public health, safety and general welfare."

The elements of the master plan are set forth and described in Section four of the Act. Among the items included in the definition of the master plan are those with which this report is immediately concerned; namely, Streets and Highways Plan and Transportation Plan. Quoting from the Act: "Streets and Highways Plan - Showing the general locations and widths of a comprehensive system of major traffic thoroughfares and other traffic ways and of streets and the recommended treatment thereof"; and "Transportation Plan - Showing a comprehensive transportation system, including locations of rights-of-way, terminals, viaducts and grade separations. Such a plan may also include port, harbor,

aviation and related facilities." streets in the city have been open. It is wholly proper legally that the parkway plan for the Los Angeles Metropolitan Area as prepared by the Transportation Engineering Board should be referred to the City Planning Commission for its consideration and report. The City Planning Commission acts in the nature of a clearing house for all plans which pertain to the development of the city. It is concerned primarily with the master plan and constantly seeks to improve and add to the basic scheme by which the growth and development of the city may be regulated and directed. The commission will review all plans presented to it for analysis in the light of the general public interest, and will determine their adaptability and relation to the master plan. It will adopt in whole or in part such plans as are consistent with its own master plan and the objectives of the Planning Department and the City.

This Commission is fully aware of the significance to the people of Los Angeles of a system of motor vehicle parkways. No other problem of this vast community is quite as vital as that of transportation. This is the consensus of informed opinion today. Transportation has been the subject of a number of surveys and reports during the past fifteen years which have sought in one way or another to discover a solution for this complex problem.

One of the earliest and most comprehensive studies was the 1924 Plan of Major Streets, prepared by Olmsted, Bartholomew and Cheney. This was a far-sighted plan at the

time it was prepared. Many major streets in the city have been opened and widened in accordance with the recommendation of this report. The phenomenal increase in ownership and use of the motor vehicle, however, has necessitated a radical change in the principles governing the design of highways. The surface street with business frontage and innumerable traffic lights as featured in the Olmsted-Bartholomew Report of 1924 is now outmoded as an efficient traffic carrier. The protected, attractive, structurally sound parkway or freeway is now recognized as a basic element of the modern metropolitan plan.

NEW YORK CITY'S TRAFFIC CIRCLE and Grade Elimination at 79th Street and Henry Hudson Parkway presents this picturesque night scene. Parkways, freeways, and all express highways are designed for utility, but usually succeed in creating an environment of beauty over their locale, as witnessed by a flower lined section of Los Angeles' Arroyo Seco Parkway (below).

GERMANY'S REICHAUTOBAHNEN an elaborate 1,330 mile system of express highways expedited that country's early military successes in World War II. Attacks on Poland, the Low Countries, and France were delivered with such fury and suddenness that the world marveled. A complete system of parkways would not only assist in the defense of Los Angeles from a military standpoint, but they would aid in the production of necessary war materials by reducing traffic's waste.



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NEED FOR ACTION

The growth of cities and particularly the growth of great cities and metropolitan areas has been one of the most striking phenomena of modern times. Many of the most acute problems, defects and maladjustments in our cities - physical, economic, governmental and political - are due in no small degree to their rapid growth. The population was permitted to distribute itself in any part of the region without regard to the problems which were being created. As the city grows in population and expands, the most acute of these problems becomes that of transportation - the transportation of people and commodities.

This problem of transportation has grown so serious that it can no longer be ignored. Traffic congestion is causing losses which only drastic action can arrest. Not the least of these losses is the depreciation of property values along heavy traffic streets, particularly residential E. 3 property.

The opening or improvement of each new traffic artery has been the cause of shifting uses of property which have followed almost identical patterns. This process is described by Mr. E. E. East, Engineer, The Automobile Club of Southern California.

"Each new street that is widened for traffic flow destroys certain property values and creates new ones. Owners of property along reconstructed streets are quick to exploit this new opportunity by developing their frontage for business purposes. Traffic moves quickly and easily, rental business comes; then congestion increases rapidly, and business owners demand

signals to slow traffic past their door. They see new, heavy investments jeopardized because traffic moves too quickly to their downtown competitors, or because their patrons do not risk their lives by making left-hand turns or facing difficulties of parking on the busy street.*

Before long, traffic moved no faster than on the older thoroughfares. The street was congested, business was scattered throughout its length, residences became undesirable, the street was ugly and littered with billboards, and less relief had been afforded the traffic situation than originally contemplated.

This shoestring development has appeared after the opening of each new street. Ultimately, every thoroughfare must take on the half-developed, blighted appearance that many of them now have. Obviously, such a situation is not conducive to stability in the use of property or in its value.

Traffic congestion has had many other detrimental effects upon property and upon the welfare of citizens. The speed of all vehicles whether they are individual or mass transportation facilities is being reduced by the congestion of traffic. The cost of traffic delays due to traffic congestion in Los Angeles has never been estimated, but studies in Detroit reveal that delays to traffic there cost the people \$18,000,000.00 per year. In 1939 there were 449,933 vehicles registered in Detroit to the 531,400 registered in the City of Los Angeles. It is reasonable to assume that the annual cost of traffic delays to the people of the City of Los Angeles is considerably greater than \$18,000,000.00. F,4

*Los Angeles - Preface to a Master Plan - Chapter on The Circulatory System

There is also the item of traffic control which represents a substantial cost each year for the installation and maintenance of control devices.

The ever increasing traffic accident rate is also due to traffic congestion and to the almost numberless surface intersections of the present street system. Traffic accidents in Los Angeles have been mounting yearly. In 1920 F.5 there were 128 fatal accidents, 4249 personal injury accidents. In 1940 there were 518 fatal accidents, 16,334 personal injury accidents. This is an increase in fatal accidents of 305%, and the personal injury accidents of 285%. It is impossible to calculate accurately and fully the economic effects of the total loss to the community, but it must be enormous.

1924 - Traffic conditions have produced other problems which are more abstract, but certainly worthy of consideration in the city planning program. One of these is aesthetics which has been discussed in connection with the changing use of property abutting major thoroughfares. Another is the public health. The nervous strain resulting from daily driving on heavily congested streets cannot be dismissed as of no consequence. These factors all enter into the quality of living provided here in Los Angeles.

The seriousness of the traffic problem has been F. 6 appreciated and interest in it is attested by numerous traffic and transportation reports.

It has been estimated that the many volumes of

study in this field have cost over \$500,000.00. These range from the transportation survey made by Bion J. Arnold in 1911 when the region had a population of 500,000 persons to this latest report of the Transportation Engineering Board. The following is a partial list of the studies and reports that have been made of the transportation problem of the Los Angeles Region.

- 1911 - Transportation Problems City of Los Angeles
Bion J. Arnold
- 1920 - Railroad Grade Crossing Elimination and Passenger and Freight Terminals
Railroad Commission
- 1921 - Automobile Club of Southern California
J. B. Lippincott
- 1922 - Los Angeles Plan
Traffic Commission
- 1924 - Major Traffic Street Plan for Los Angeles
Olmsted - Bartholonew - Cheney
- 1925 - Joint Report of the Street Railway Survey
Board of Public Utilities
Railroad Commission and Carriers
- 1925 - Comprehensive Rapid Transit Plan
Kelker - De Leuw & Co.
- 1933 - Rapid Transit System
Donald M. Baker and Stuart M. Bate
- 1929 - Griffith Park Tunnel Plan
Teggart & Webb
- 1935 - A Study of the Feasibility and Desirability of a City Wide Motor Coach System to Replace Existing Local Transportation Systems in the City of Los Angeles.
Board of Public Utilities and Transportation
- 1937 - Traffic Survey - Los Angeles Metropolitan Area
Automobile Club of Southern California
- 1938-1939 Report of Traffic and Transportation Survey
Transportation Engineering Board

1939 - A Transit Program for the Los Angeles Metropolitan Area

Transportation Engineering Board

1934 - A Report of Highway Traffic Survey in the County of Los Angeles

Regional Planning Commission

1937 - A Report of a Highway Traffic Survey in the County of Los Angeles

Regional Planning Commission

1931 - Regional Plan of Highways - Long Beach-Redondo Area
Regional Planning Commission

There is an interesting unanimity of opinion relating to certain aspects of the transportation problems expressed in the reports.

The present street system can be adjusted to meet the needs of motor vehicular traffic only at a tremendous cost.

1. The population pattern is unlike that found in any other large metropolitan center.
2. No large city even approaches the high automobile ownership, nor the widespread use of the automobile that is found in Los Angeles.
3. No mass rail rapid transit system could be financially successful in Los Angeles without a substantial subsidy or increase in fares charged.
4. The present traffic situation is rapidly approaching a state of stagnation.
5. The area of Los Angeles and the topography of the region mark it as an unusual city.
6. Under the circumstances it is impossible to compare Los Angeles with any other American city, or to apply the same standards or criteria that are frequently applied to cities in the design of transportation systems.

The present street system, as people who use it can testify, is becoming increasingly inadequate. It fails at many points to handle the traffic load which it is called upon to carry. While the aggregate of street surface would undoubtedly be sufficient

The need for some new line of action has been emphasized in all the recent reports that have been prepared. The rapid increase in population, the phenomenal increase and use of the motor vehicle, dispersion of residential development throughout the region, the decentralization of business and industry, and the present defense aspect of transportation are all factors which have combined to produce the traffic problems of today. The present street pattern was designed for slow moving traffic which has become extinct. It does not function efficiently when used by vehicles capable of travelling smoothly and with great power at high rates of speed. It was not designed to protect the lives of either the motor car user or the pedestrian.

The present street system can be adjusted to meet the needs of motor vehicular traffic only at a tremendous cost. The process of creating greater pavement widths by setting back curbs has just about reached its limits. Provision of additional roadway in the future must involve widening of the right-of-way. This is a costly process involving huge property and severance damages. And after the additional roadway space has been provided, the problem remains much the same. A few additional lanes are provided which will carry that much more traffic, but traffic can move no faster than before the widening; it is still subjected to the interference from cross streets and abutting property. The cross street traffic interference can be eliminated only by separating the grades of cross streets, and the interference from abutting property can be eliminated only by acquiring all the property within a reasonable distance abutting the street. Obviously, this is a costly process and could be extended to no great number of streets.

The need for some new line of action has been emphasized in all the recent reports that have been prepared. The rapid increase in population, the phenomenal increase and use of the motor vehicle, dispersion of residential development throughout the region, the decentralization of business and industry, and most recently the defense aspect of transportation are all factors which have combined to produce the traffic problems of today.

The rapid increase in population in Los Angeles County is illustrated graphically on Figure 2.

It will be noted that the rate of increase has been .F.8 quite uniform in the past thirty years and that if the present rate of growth is maintained the county will have a population of approximately five million by 1960.* The latest Federal census, 1940, has revealed that most cities have increased in population only slightly during the past decade. In contrast Los Angeles showed a comparatively high rate of increase.

The transportation problem is complicated by the low density of population and wide dispersion of residential development; and by the vast area of the city and region making for long hauls. There is no large city that has a density of population as low as that of the City of Los Angeles. Suburban communities have sprung up in all parts of the metropolitan area, and several, notably Long Beach, Pasadena, Glendale, Beverly Hills, Burbank and Santa Monica have grown to moderately sized cities. All these communities are dependent in some measure upon the parent City of Los Angeles.

*Data furnished by the Los Angeles Regional Planning Commission

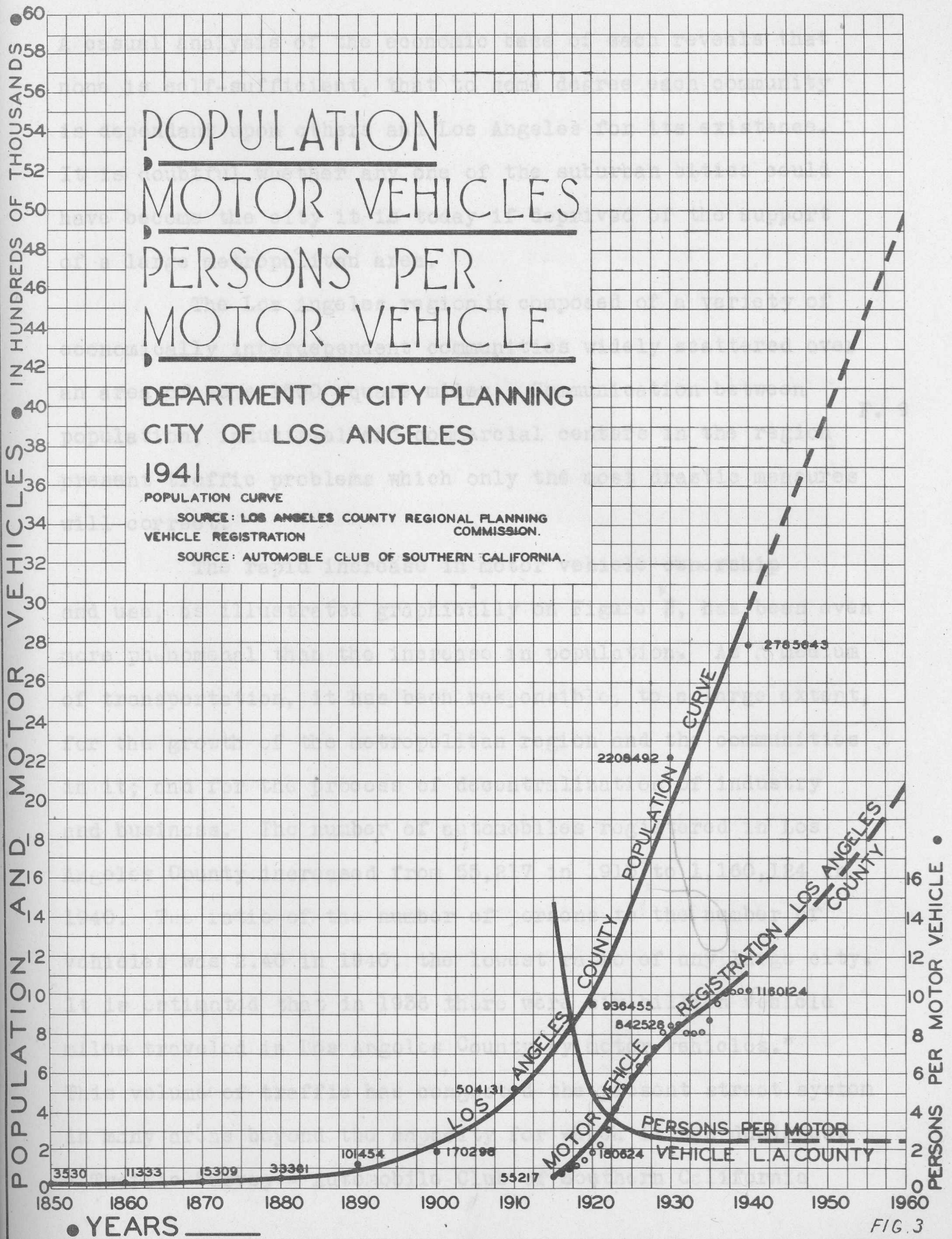


FIG. 3

A casual analysis of the economic base of each reveals that none is self-sufficient, that to some degree each community is dependant upon others and Los Angeles for its existence. It is doubtful whether any one of the suburban cities could have become the city it is today if deprived of the support of a large metropolitan area.

The Los Angeles region is composed of a variety of economically interdependent communities widely scattered over an area of some 1500 square miles. Communication between population, industrial and commercial centers in the region present traffic problems which only the most drastic measures will correct.

The rapid increase in motor vehicle ownership and use, as illustrated graphically on Figure 2, has been even more phenomenal than the increase in population. As a medium of transportation, it has been responsible, to a large extent, for the growth of the metropolitan region and the communities in it; and for the process of decentralization of industry and business. The number of automobiles registered in Los Angeles County increased from 55,217 in 1915 to 1,160,124 in 1940. The ratio of the number of persons to the number of vehicles was 2.40 in 1940, the lowest ratio of any large city. It is estimated that in 1936 there were six billion vehicle miles traveled in Los Angeles County by motor vehicles.* This volume of traffic has congested the present street system in many areas beyond the capacity for which it was designed.

* Traffic Survey - Automobile Club of Southern California

exclusive of the sums spent by other jurisdictions in the

Los Angeles. It has been estimated that by 1960 there will be 2,100,000 vehicles registered in Los Angeles County. This is a 100 per cent increase over the number of vehicles registered in the county in 1937, the year of the last traffic census. If the volume of traffic as of 1937 is subjected to a 100 per cent increase, some rough idea may be had of the great volume of traffic which the future street system may be called upon to handle twenty years hence.

F. 10

An emergency situation, the national defense, has arisen which has aggravated the traffic problem beyond what would be expected by reason of the normal increase in population and motor vehicle ownership. Defense industries have been located throughout the region. The harbor and established industrial areas have assumed, under the program to build up the national defense, an even greater significance than they formerly held. Communication between these centers of industry and between transportation terminals has increased and may be expected to show even greater increases. In an emergency speed is imperative; congestion and delays must be eliminated.

F. 11

The above discussion indicates the need for immediate action to produce a transportation system which will adequately serve Los Angeles. During the past fifteen years or since the Major Traffic Street Plan for Los Angeles was prepared in 1925, the city has made many improvements to the thoroughfare system designed to expedite traffic. To make these improvements the city has spent \$150,000,000.00. This is

F. 12

exclusive of the sums spent by other jurisdictions in the Los Angeles Region which must have totalled many millions more. While each improvement afforded a certain amount of relief no permanent solution to the problem of traffic congestion was accomplished.

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 following is a summary of the subjects which were surveyed:

1. A check to determine the origin and destination of mass transit passengers and other information relating to riding habits and to convenience of existing facilities.
2. Spot landing 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 in typical trips to aid in reaching conclusions concerning types of equipment and the possibilities of traffic control in expediting movement.
4. Checks and analysis of transportation used by industrial employees to determine practicability of providing additional or more direct routes.
5. Checks and analysis 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.
8. Population throughout the study area conducted in such manner that shifts might be evaluated for the period between the 1930 census and January 1, 1932.

RESUME OF THE TRANSPORTATION SURVEY

The factual survey of the Transportation Engineering Board 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 following is a summary of the subjects which were surveyed:

1. A check to determine the origin and destination of mass transit passengers and other information relating to riding habits 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 in typical trips to aid in reaching conclusions concerning types of equipment and the possibilities of traffic control in expediting movement.
4. Checks and analysis of transportation used by industrial employees to determine practicability of providing additional or more direct routes.
5. Checks and analysis of distribution of automobile ownership and relationship of automobile ownership to mass transit use.
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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.
8. 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.

9. Summary of bonded indebtedness of incorporated cities in Los Angeles County (except Avalon) as of January 1, 1939.

The surveys and the investigations into each of the above phases are described in some detail in the factual report of the Transportation Engineering Board. The most significant findings are listed as follows:

1. Percentage of increase in population varied in different sections of the area. Near the central city area there was a moderate increase. Beyond the 5 mile distance zone increases occurred, the largest in the $7\frac{1}{2}$ to 10 mile zone. In the $2\frac{1}{2}$ to 5 mile zone there was only about $1\frac{1}{2}$ per cent.
2. Eighty-five per cent of the patrons of public transportation lines checked walked to the point of boarding. It appears that 80 per cent of the patrons live within two blocks of the lines.
3. More than 70 per cent of the patrons of the Pacific Electric Interurban rail lines and coach lines including Motor Transit, walked less than three blocks. Even in case of those reaching the lines by auto, one-third traveled less than three blocks, and about one-half less than seven blocks.
4. About 99 per cent of all passengers walked from points of alighting to their final destinations. Only 9 per cent traveled by auto, and 0.1 per cent by other public transportation facilities. The average walking distance was less than five blocks in 97 per cent of the cases, and less than seven blocks in 98 per cent of them. Passengers alighting at terminals walked farther.
5. The bulk of patronage is the result of regular daily trips. It was found that 62 per cent ride five or more days per week, 16 per cent ride three or four days per week, and 22 per cent of the trips were made only occasionally.
6. Approximately 33 per cent of inbound patronage of local rail lines of the Los Angeles Railway and Pacific Electric Railway was handled during the 2-hour period between 7:00 and 9:00 A.M., while in excess of 40 per cent of Pacific Electric Interurban and Motor Transit Coach passengers traveled during that period.
7. It was found that 48 per cent of Los Angeles Railway

- passengers transfer in order to get to their destinations on any single rail line. About 33 per cent of coach patrons were found to ride directly to their destinations on one line. Pacific Electric local rail lines show about 71 per cent of all riders as direct. Approximately 50 per cent of the patrons of the Los Angeles Motor Coach Company were found to ride direct.
8. The percentages shown by check of transfers are higher than the operating companies would show. Those who used a second line were included, the companies counting only those presenting transfers issued on originating lines. Los Angeles Railway lines and Los Angeles Motor Coach lines showed 13 and 14 per cent transferring a second time and approximately 1 per cent of them a third time.
 9. A total of 274,400 passengers crossed boundaries of the outer cordon -- Sunset, San Pedro, Washington and Figueroa Streets -- and 267,600 passengers entered the inner cordon -- Sunset, Los Angeles, Pico and Figueroa Streets. About 13,000 boarded between the boundaries of the two. There were 19,800 alighted between the cordons. The figures are for rail and coach lines during a 16-hour period.
 10. Entering by rail, there were 243,800 passengers, and by coach 23,800. Of these, the Los Angeles Railway rail and coach lines accounted for 213,000, and the Pacific Electric lines for 31,500. Changes in the use of the subway terminal were influenced by the results of the survey.
 11. Twenty per cent of the employees of industrial establishments checked used public transportation. Seventy-one and seven-tenths per cent used private automobiles. Seven per cent walked, and one and three-tenths per cent used some other means, or did not state the kind of transportation used. Of the persons traveling by automobile who furnished information, six and one-tenth per cent paid for parking.
 12. While there is an extremely wide distribution of employees, in every instance the greater number resided in the district in which employed, and the next greatest number reside in the immediately surrounding districts.
 13. Automobile ownership has been found to be proportionate to population almost without regard to economic status of the people in the various sections of the study area.
 14. Sixty-three stations at which counts were made of automobiles entering and leaving the Central Business District have been grouped into sections, two

- on each the east and west sides. A total of 259,080 automobiles entered, and 257,922 left the district during the 12-hour period.
15. The per cent of automobiles entering the Central Business District from successive $2\frac{1}{2}$ mile zones about the district decreases as the distance from it increases. There is a high commercial usage of automobiles registered from within the district and the immediately surrounding section.
 16. Examples of origin of vehicles entering show 58 per cent of those entering from the east on Third Street came from --were registered at-- points west of the point of entry; 24 per cent of the eastbound vehicles crossing Figueroa Street on Eighth Street were registered at points east of Figueroa Street; 40 per cent of those entering on Sunset at Figueroa came from the east, and 48 per cent of the northbound vehicles on Figueroa Street at Pico came from the north. This is an indication of extent of through traffic.
 17. There were 5,990 cars containing 8,965 persons from Glendale; 3,600 cars and 5,400 persons from Pasadena; 3,190 cars and 4,785 persons from Beverly Hills; 2,780 cars and 4,170 persons from Alhambra; 2,080 cars and 3,120 persons from Long Beach. The total number of cars from such metropolitan communities was 35,790 and total persons 53,685, the remaining 278,370 persons came from Los Angeles City and unincorporated area, the latter numbering 26,100 persons.
 18. Streets carrying entering automobile traffic are most heavily used in the northwest section of the downtown district. Of the total entering from the west, 64 per cent enter between Wilshire and Sunset and that section accounts for 25 per cent of all entering automobile passengers.
 19. Number of persons per vehicles was found to be slightly different for the different directions and to vary from hour to hour. Average from all directions was 1.49 passengers per automobile. Table showing vehicles entering by hours, persons and average per vehicles is on Page 85 of the Report of Traffic and Transportation Survey.
 20. Persons per car was lowest in the case of those entering at the southeast corner of the downtown district. Average number of passengers per automobile was greatest between 6:00 and 7:00 P.M. About 64 per cent of all private motor vehicles entering the district carried only one person. Vehicles entering from the southeast showed the greatest number of vehicles carrying but one passenger.

Board presents a basic program and recommendations for immediate

RECOMMENDATIONS OF THE TRANSPORTATION ENGINEERING BOARD

In the report "A Transit Program for the Los Angeles Metropolitan Area" are certain broad objectives which the Transportation Engineering Board set as its goal.

1. The development of the most attractive and practicable plan for providing modern urban and suburban transportation for the City of Los Angeles appropriately coordinated with the requirements of the surrounding communities of the Metropolitan Area.
2. The development of a comprehensive plan and program based on and providing for just coordination of the right and interests of all parties including the car and bus rider, the automobile user, the operator of commercial vehicles, the pedestrian, the property owner, and the employee of and investor in the present transportation enterprises.
3. Because the most effective measures will be those which will most radically change the overall speed of transit of private vehicles and mass transportation carriers in moving persons and property over long distances which it is necessary to traverse in the Los Angeles Area, a primary objective of the Board is the goal of reaching, for the greatest number of passengers and for the maximum portion of their journeys, an average speed of the order of twice that now attained in the surface traffic streams.
4. Ordinarily, traffic density grows with the population of a city and the speed of surface vehicles thus tends to become progressively slower, but even if this should not apply to Los Angeles, the scale of possible improvements in surface speeds is relatively limited; therefore, the Board has sought a solution tending to minimize this limitation and its activities have therefore been pointed in the direction of greatest apparent and actual improvement, not only for the mass transportation rider but for the great mass of private car passengers.
5. A major objective has been, of course, the modernization of surface transit facilities but, while certain improvements should be made immediately, it will later be obvious that some phases of this problem are dependent on the coordination of proposals contained in the report.

To accomplish these objectives the Transportation Engineering F-1

Board presents a basic program and recommendations for immediate action on each element of the program.

1. Non-stop arteriales are required with relatively direct routes to permit adequate overall speed for private and public passenger vehicles over long haul and inter-district trips.

For such purposes, the Board recommends a system of express highways and arterial parkways as the framework for a comprehensive transit and transportation system and presents a definite primary express route pattern designed to provide simultaneously for radial and inter-district travel with by-pass and distributing features.

2. The substantial investment incurred in providing grade separated traffic arteriales requires intensive use to justify actual construction.

The Board therefore recommends, as in the public interest, the controlled use of express highways by rapid transit buses under conditions insuring (A) vehicles specially designed for the service to preclude inappropriate speed, braking or similar characteristics, (B) restricted number as occasion may require, (C) bus stops entirely out of the traffic lanes on the main highway, and (D) arrangements designed to liquidate any excess costs of highways due to buses by rental charges to be paid out of revenues of the transportation system.

3. To insure maximum utility and benefits from non-stop arteriales, rapid transit buses operating thereon and surface transit facilities should be well coordinated.

The Board recommends thorough coordination of surface and rapid transit facilities; that stop locations for rapid transit buses on express highways be arranged to facilitate passenger interchange at points of intersection with all important surface rail and bus lines; and that certain rapid transit lines be arranged to provide for through service, without transfer, by running rapid transit buses for part of their route on the surface streets to pick up the passengers conveniently, then on the express highway for high speed over the long haul and then back on the streets again for distribution of their load at the usual street stops.

4. Public convenience, efficiency and simplicity of control require that all transit operations be under a common management in which the public is continuously represented by an active trustee or transit commissioner.

The Board recommends a general policy of unification of management and coordination of all transit operations and the actual carrying out of such policy to the extent which negotiations indicate to be in the public interest.

5. Prospective city growth requires that arrangements, provided in the present, contemplate development into a much higher capacity system appropriate to the future conditions.

The Board does not consider it an appropriate time for recommendations covering immediate construction of substantial elements of a rail rapid transit system.

The Transportation Engineering Board makes the following statement regarding the immediate construction program: "It should be understood that the Board's recommendations for construction do not apply to the entire basic program, the development of which may be expected to extend over a period of years. Although the parkway has proven very popular wherever tried, nevertheless, decision on a vast program in Los Angeles may appropriately follow local acceptance of the essential factors which, in turn, may best be developed through public use of the facilities proposed. Development should not be at a burdensome rate and the Board would therefore urge caution on projects of grand and expensive proportions and all reasonable speed in making available the initial route or routes for public use."

THE PROPOSED PARKWAY PLAN FOR LOS ANGELES

One of the primary purposes of a system of parkways is to produce safe, fast routes between traffic objectives. The traffic objective may be a center of population; a suburban residential community such as Pasadena; an industrial center such as Vernon; a commercial center, such as the Central Business District or Hollywood; a recreational center such as the beaches at Santa Monica or some similar functional center in the metropolitan area. In designing the parkway system as many as possible of the points of traffic origin are connected by means of direct radial routes with the central core of the metropolitan area.

A carefully conceived parkway plan will also provide for a system of circulatory routes which will relieve congested areas. This is accomplished by designing a system of more or less concentric belt or by-pass routes starting with one immediately around the Central Business District. The distance between each successive belt will increase with the distance from the center.

A system of cross-town routes is an integral part of the parkway plan. These routes, in contrast to the radial routes which extend from the outskirts toward the center of the city, are designed to connect suburban centers as directly as possible.

The principal cause of delay to traffic on major thoroughfares is the frequent street grade crossings. All street crossings at grade are eliminated in the parkway plan.

Traffic is permitted to flow without interruption. Ramps facilitate entering and leaving the parkway. Interchange between parkways at crossing points may be made without interference with traffic on either parkway. The whole system is so designed that there will be no obstacles at any point to the safe and speedy movement of through traffic.

There are several considerations entering into the design of a parkway plan which are particularly significant in the Los Angeles region. There are a large number of cities and villages, both incorporated and unincorporated, which are suburbs of Los Angeles. A large volume of traffic originates at each of these suburban centers and has as its destination the central business district of Los Angeles, Hollywood or some other center in the region. Thus traffic originating in Santa Monica travels to the Central Business District in Los Angeles or to Long Beach, Glendale or any other center in the region. The same thing applies to traffic originating in each of the suburban communities or in any part of the City of Los Angeles.

To demonstrate theoretically what actually occurs, a map was prepared showing the location of each suburban community in the Los Angeles Region. In addition to showing the location, the population of each community was shown by size of circle, and the function of each, whether residential, commercial or industrial was indicated in the circle by symbol. Each of these suburban centers was then connected by a line with the Central Business District of Los Angeles. The more

important centers were in turn connected with every other suburban center until a pattern of hypothetical lines of communication was created as shown on the map entitled

"Hypothetical Lines of Communication" . FIGURE 3.

Several observations can be made from a study of the diagram:

1. There are a large number of lines from all directions converging at the most important centers, indicating the need for a system of radial routes emanating from those centers. F.17
2. There are certain more or less well defined routes where there appear a clustering of lines, indicating the need for a direct line of communication.

An east-west line from Santa Monica easterly through the Central Business District and onward to West Covina and Pomona.

An east-west line extending from Van Nuys, through or in the vicinity of Burbank, Glendale, Pasadena, Monrovia, Azusa and Glendora.

A line extending southerly to Long Beach and San Pedro. This line passes through or in the vicinity of several suburban centers and some distance to the east of the Central Business District.

There is a definite line indicated extending from the Central Business District southward to the Long Beach-San Pedro Area.

Another line extends northwestward from the Central Business District through Hollywood to the San Fernando Valley.

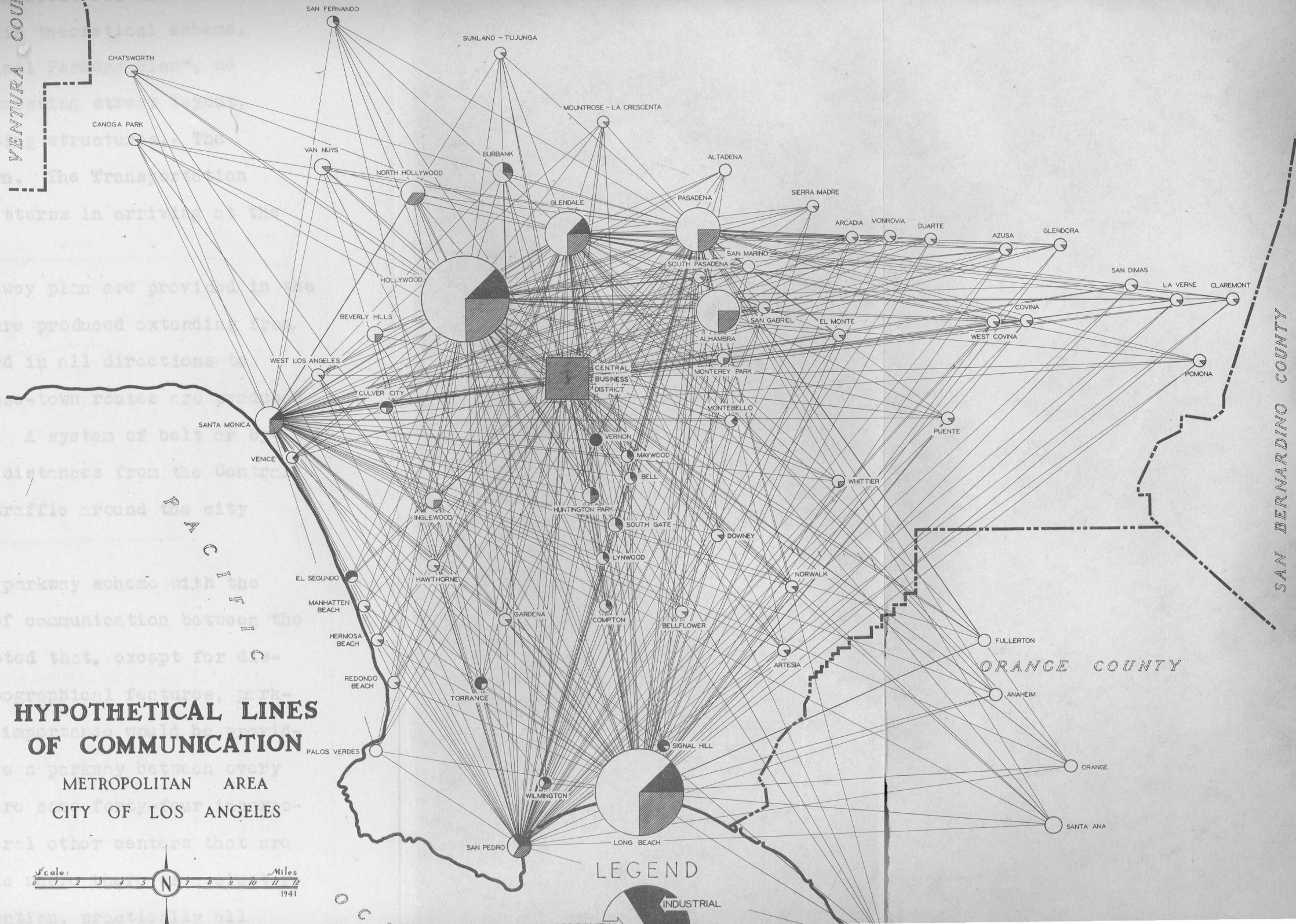
There is also a line indicated following the coast from Santa Monica to San Pedro.

Other less evident lines are indicated extending in all directions through the Los Angeles Region.

A theoretical design for a parkway system was prepared to show a more or less idealistic layout of parkways. F. 18

This scheme was superimposed over the map showing the suburban

VENTURA COUNTY



**HYPOTHETICAL LINES
OF COMMUNICATION**
METROPOLITAN AREA
CITY OF LOS ANGELES

Scale: 0 1 2 3 4 5 6 7 8 9 10 11 12 Miles
1941

LEGEND

INDUSTRIAL

RESIDENTIAL

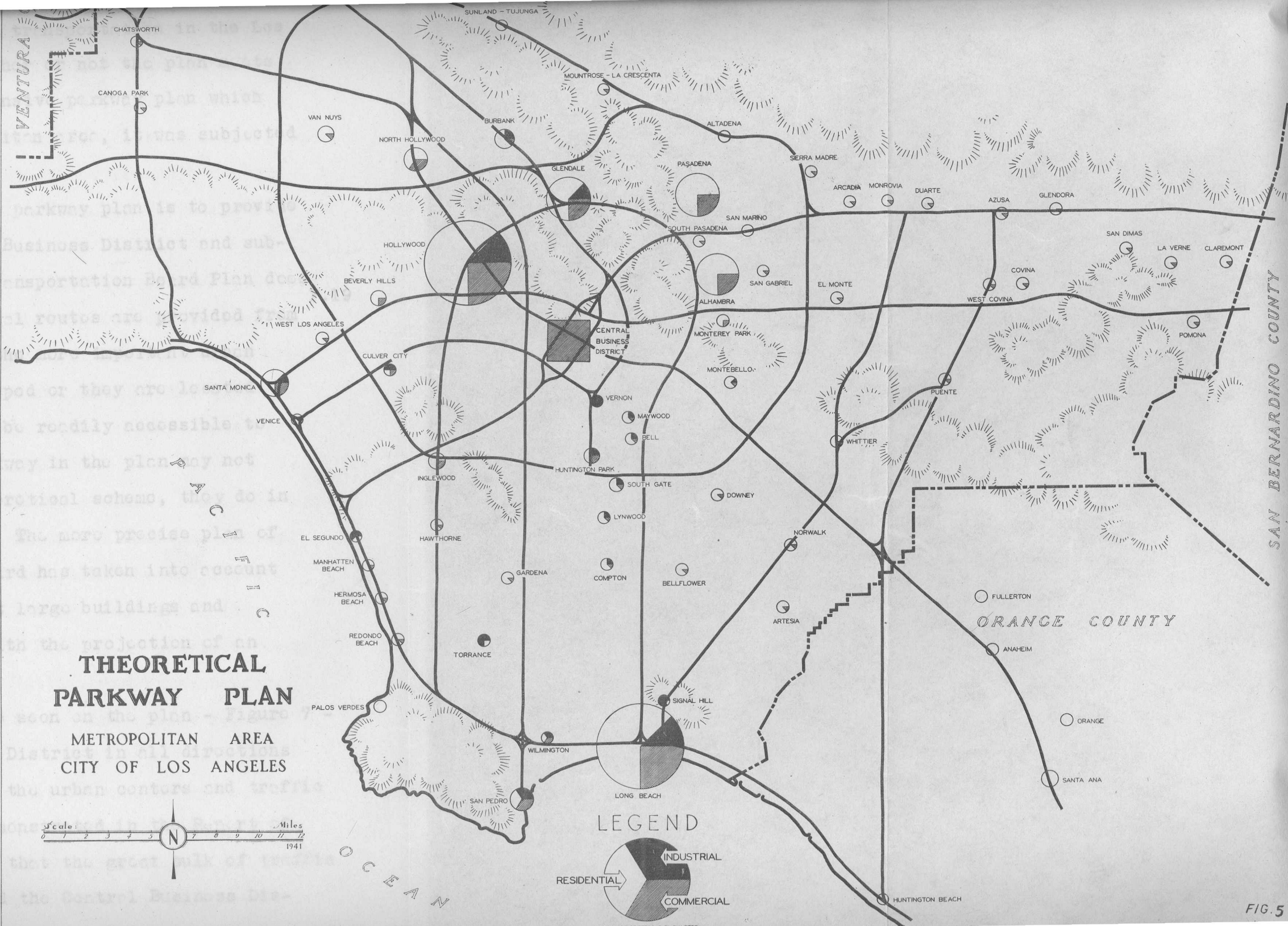
SAN BERNARDINO COUNTY

ORANGE COUNTY

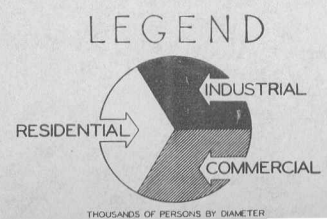
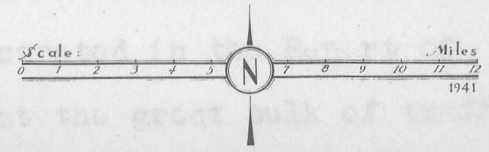
centers located with respect to the Central Business District of the City of Los Angeles and all physical features which constitute natural obstacles. In this theoretical scheme, shown on Figure 4 entitled "Theoretical Parkway Plan", no attempt was made to conform to the existing street layout, to the major street plan or to existing structures. The Plan illustrates one possible pattern. The Transportation Engineering Board drew thirty-two patterns in arriving at the recommended design.

All the elements of a parkway plan are provided in the theoretical scheme. Radial routes are produced extending from the Central Business District outward in all directions to serve the suburban communities. Cross-town routes are produced between the larger suburban centers. A system of belt or bypass routes are designed at various distances from the Central Business District to route through traffic around the city and around the congested center.

Comparing the theoretical parkway scheme with the diagram showing hypothetical lines of communication between the various urban centers, it will be noted that, except for distortions in the routes caused by topographical features, parkway routes between centers of major importance would be provided. It would be impossible to produce a parkway between every urban center in the region. There are some forty-four incorporated suburban communities, and several other centers that are unincorporated. By providing a route where there is a clustering of theoretical lines of communication, practically all centers are tapped, or are located sufficiently close to a



**THEORETICAL
PARKWAY PLAN**
METROPOLITAN AREA
CITY OF LOS ANGELES



parkway to make them readily accessible. The design of the parkway plan, as prepared by the Transportation Engineering Board looked to the satisfaction of the fundamental requirements in transportation in the Los Angeles Region. To determine whether or not the plan meets all the requirements of a comprehensive parkway plan which will adequately serve the metropolitan area, it was subjected to following tests:

The first objective of a parkway plan is to provide direct routes between the Central Business District and suburban centers. The Engineering Transportation Board Plan does meet this requirement in that radial routes are provided from the Central Business District to the more important urban centers, and other centers are tapped or they are located sufficiently near a parkway as to be readily accessible to one. While the lines of each parkway in the plan may not follow precisely those of the theoretical scheme, they do in the main take the same direction. The more precise plan of the Engineering Transportation Board has taken into account not only topographic features, but large buildings and structures that would interfere with the projection of an economic route. Direct routes, as can be seen on the plan - Figure 7 - radiate from the Central Business District in all directions into the metropolitan area to tap the urban centers and traffic objectives. Since it has been demonstrated in the Report of Traffic and Transportation Survey that the great bulk of traffic moves from the outer fringe toward the Central Business Dis-

trict, and from the Central Business District outward it is reasonable that the design should provide an adequate system of routes for this traffic.

The plan provides for parkways radiating in all directions from the center of the region. Thus a motorist wishing to go to Pasadena would use the Arroyo Seco. If he wished to visit any of the communities east of Pasadena, he has the Colorado Parkway which will enable him to reach Arcadia, Sierra Madre, Monrovia, Azusa, Glendora, La Verne or Claremont conveniently and safely.

To the north and northwest there are several possible routes that might be taken. The Riverside Parkway to Burbank, San Fernando, and the northern part of the San Fernando Valley. The Glendale Parkway through the central part of the City of Glendale, and the Alessandro Parkway to the eastern part of Glendale and western part of Pasadena.

The Hollywood Parkway produces a direct route between the rapidly growing Hollywood, its important business center, and the Central Business District, and with Caluenga Pass. Thus it opens up a direct route to the San Fernando Valley. By making connections with Riverside Parkway it provides ready access to the southern part of the Valley, and by connecting with San Fernando Parkway it produces another outlet for the northern part of the Valley.

This vast San Fernando Valley is one of the most rapidly growing sections of the city. It was felt that an additional radial route will be necessary, and therefore Whitnall Parkway has been proposed through the central part

of the Valley. This will give the San Fernando Valley three direct radial routes to the central part of the region. Further, the radials make connection with several cross-town and belt routes which will enable the residents of the Valley to reach any other part of the region without passing through the congested center.

Two direct radials are provided the residents of Santa Monica - Venice, the Santa Monica Parkway and the Olympic - Venice Parkways. These parkways will also enable the residents of the more densely populated sections of the western part of the city to reach the beaches quickly and safely.

A direct radial route, the Inglewood Parkway, is produced between the Central Business District and the airport. The importance of this parkway must be apparent to everyone. There are now no adequate highway facilities between this very important transportation terminal and the central part of the city. The Inglewood Parkway also provides a much needed highway facility to the Cities of Inglewood, Hawthorne, Torrance and Palms Verdes, and is readily accessible to the beaches and the Cities of El Segundo, Manhattan Beach, Hermosa Beach, and Redondo Beach.

Two direct radial routes to the harbor and the communities to the south are provided in the plan. The Harbor Parkway to Wilmington, San Pedro and the harbor, and the Long Beach Parkway to Long Beach and the harbor. The latter route passes through or in the near vicinity of Vernon, Huntington Park, South Gate, Lynwood and Compton.

Monrovia, Azusa, Glendora, La Verne and Claremont.

The Artesia Parkway will extend through the south central part of the region. It will accommodate the east-west cross-town traffic from the beaches and the cities along the ocean front, and will pass through Gardena, Compton and Bellflower.

The Anaheim Parkway through the extreme southern part of the region passes through Torrance, Wilmington and Long Beach.

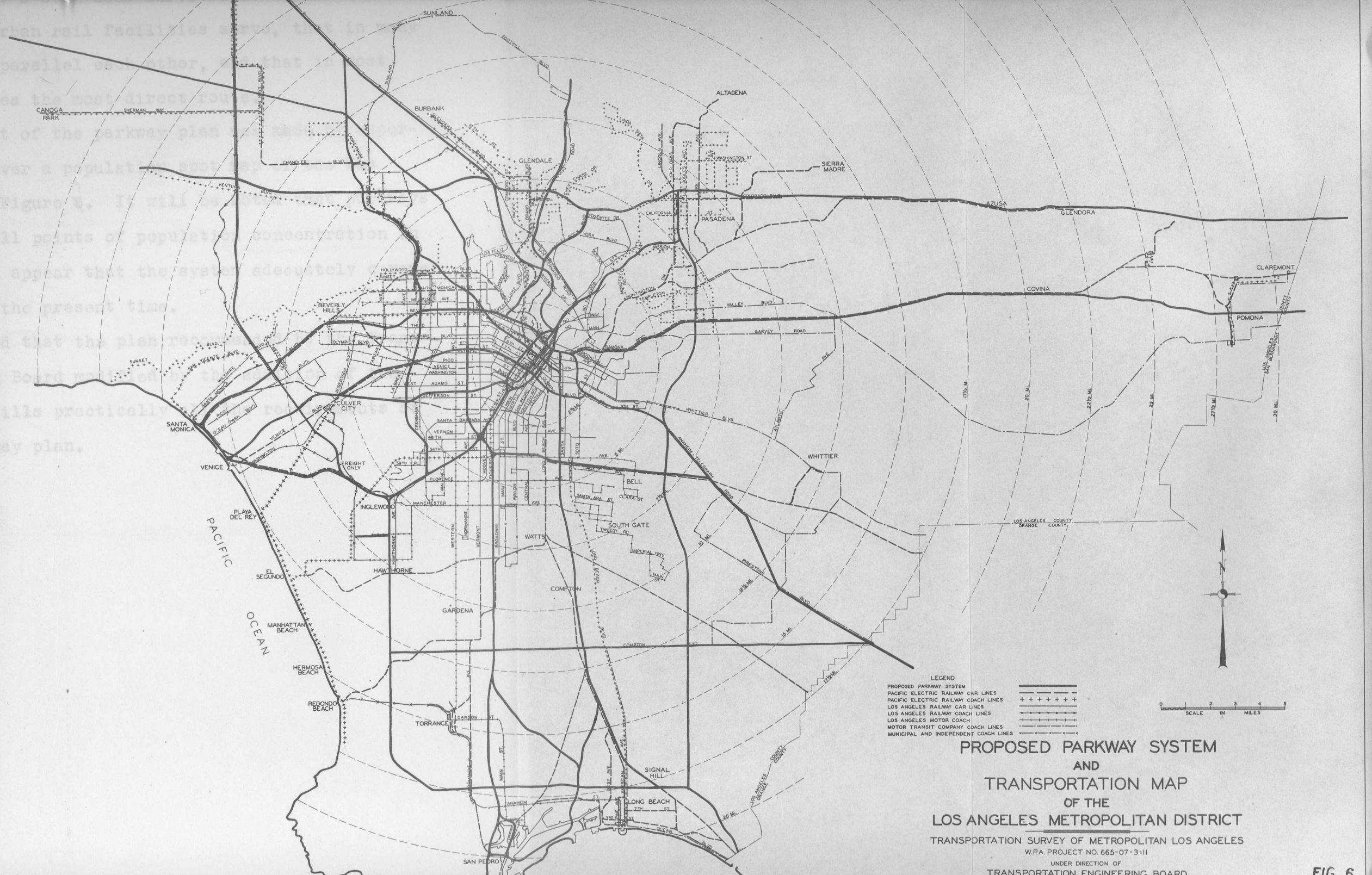
The By-pass and belt routes are designed to by-pass the Central Business District, and are located at various F.21 distances from the center. They will enable through traffic which otherwise filters through the congested center to pass around such centers.

The Central Business District by-pass which is made up of the East By-pass and West By-pass is an example.

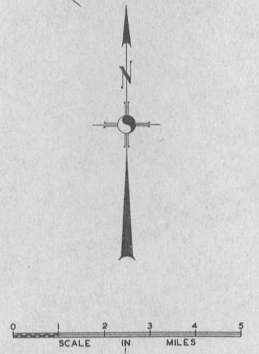
A second By-pass route is made up of sections of the Normandie Parkway, Slauson Parkway, Atlantic Parkway, Colorado Parkway, Riverside Parkway, and Whitnall Parkway.

A third By-pass route is composed of the Sepulveda Parkway, Inglewood Parkway, Artesia Parkway, Atlantic Parkway and the Colorado-Riverside Parkway.

The plan of the Transportation Engineering Board was subjected to a further test by superimposing the parkway system over a plan of the mass transportation facilities of the region. This is shown on Figure 5. The purpose of the test was to determine whether or not the parkway system will serve substantially the same area, the same suburban centers,



LEGEND
 PROPOSED PARKWAY SYSTEM
 PACIFIC ELECTRIC RAILWAY CAR LINES
 PACIFIC ELECTRIC RAILWAY COACH LINES
 LOS ANGELES RAILWAY CAR LINES
 LOS ANGELES RAILWAY COACH LINES
 LOS ANGELES MOTOR COACH
 MOTOR TRANSIT COMPANY COACH LINES
 MUNICIPAL AND INDEPENDENT COACH LINES



**PROPOSED PARKWAY SYSTEM
 AND
 TRANSPORTATION MAP
 OF THE
 LOS ANGELES METROPOLITAN DISTRICT**
 TRANSPORTATION SURVEY OF METROPOLITAN LOS ANGELES
 W.P.A. PROJECT NO. 665-07-3-11
 UNDER DIRECTION OF
 TRANSPORTATION ENGINEERING BOARD

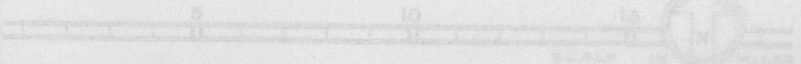
that the mass transportation facilities serve. It will be noted that the parkway system does serve substantially the same areas the interurban rail facilities serve, that in many instances the routes parallel each other, and that in most cases the parkway takes the most direct route.

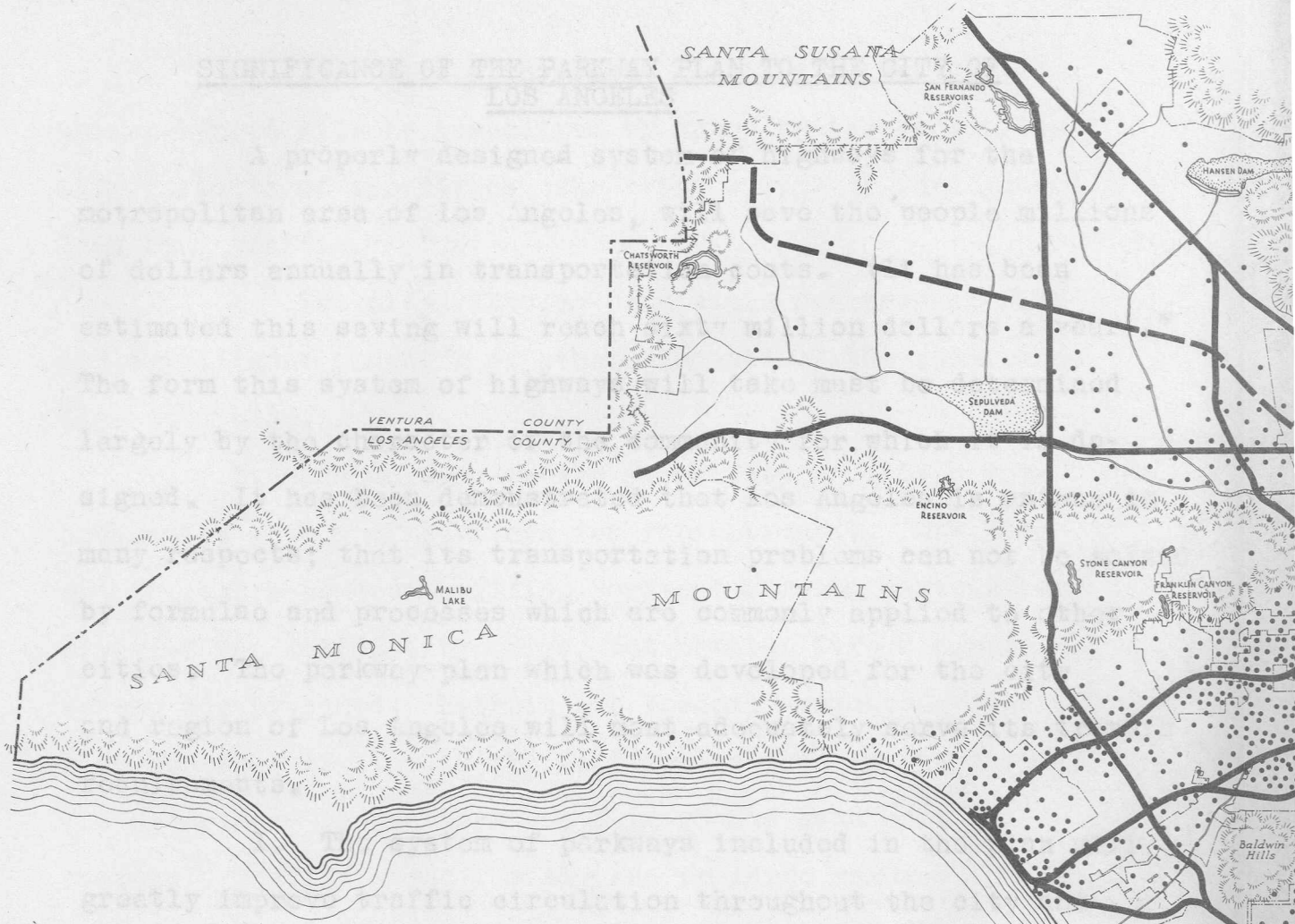
A final test of the parkway plan was made by superimposing the system over a population spot map of the Los Angeles Region. See Figure 6. It will be noted that parkways are proposed to tap all points of population concentration in the region. It would appear that the system adequately covers the entire region at the present time.

It was found that the plan recommended by the Transportation Engineering Board modified by the addition of the Whitnall Parkway fulfills practically all the requirements of a well balanced parkway plan.

PARKWAY
AND
DISTRIBUTION
OF POPULATION
METROPOLITAN AREA

* EACH DOT REPRESENTS





PARKWAY PLAN AND DISTRIBUTION OF POPULATION for 1940

METROPOLITAN AREA-COUNTY OF LOS ANGELES

• EACH DOT REPRESENTS ONE THOUSAND PERSONS

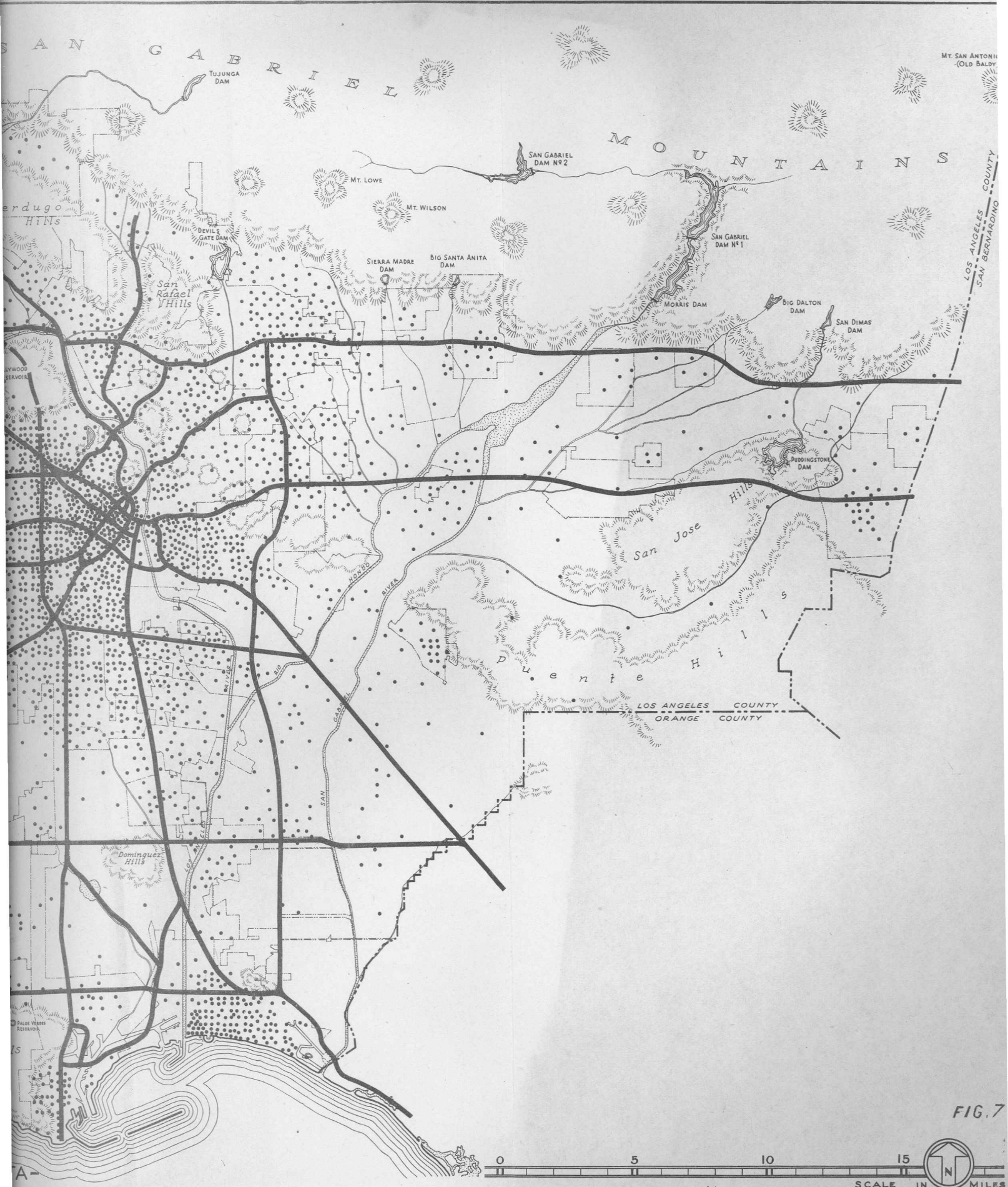
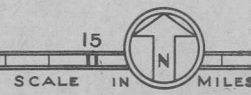


FIG. 7



SIGNIFICANCE OF THE PARKWAY PLAN TO THE CITY OF
LOS ANGELES

A properly designed system of highways for the metropolitan area of Los Angeles, will save the people millions of dollars annually in transportation costs. (It has been estimated this saving will reach sixty million dollars a year).* The form this system of highways will take must be determined largely by the character of the community for which it is designed. It has been demonstrated that Los Angeles is unique in many respects; that its transportation problems can not be solved by formulae and processes which are commonly applied to other cities. The parkway plan which was developed for the city and region of Los Angeles will most adequately serve its transit requirements.

1. The system of parkways included in the plan will greatly improve traffic circulation throughout the city and region. By the very nature of the design all delays and inconveniences of the present street system are eliminated. Traffic safety is assured by removing all points of friction and collision by separating the grades of all crossing and by dividing roadways.

2. The construction of a system of parkways will relieve the pressure on existing streets. Through and long haul traffic will be attracted to the parkways leaving the surface streets to serve the local traffic for which they were designed and for which they are adequate.

* Los Angeles - Preface to a Master Plan - Streets: The Circulatory System. E. E. East, Engineer, Automobile Club of Southern California.

3. The value of property abutting heavy traffic thoroughfares will be stabilized by removing the objectionable features of the street, the large volume of through and long haul traffic.

4. The City Planning Commission can proceed with the intelligent planning of other elements of the comprehensive city plan.

5. Los Angeles is the first city to plan a comprehensive system of parkways for rapid transit. New York and Chicago have been building parkways serving certain sections of the metropolitan area, but nothing like a comprehensive scheme was prepared. Detroit has recently produced a parkway plan somewhat similar to the Los Angeles plan in its scope. The experience in New York and Chicago has been most satisfactory. Traffic moves rapidly and in large volumes. Of interest also is the effect of the construction of the parkways upon adjacent properties in the New York Region. In all cases, there has been a marked appreciation in property values.

6. Parkways, of the type recommended in this report, will stand the test of time. After a sufficiently wide right-of-way has been acquired, the roadways have been constructed, the street grade separations and parkway intersections built and the bordering strips properly landscaped, the improvement is completed for all time except for such repairs and maintenance that may be necessary. The plan is adequate at the present time under present conditions and for the future insofar as the techniques and science of city planning and sound engineering could determine. The routes in the plan are ap-

Traffic Confusion!

proximate locations, subsequent study may influence their precise location.



CAHUENGA BOULEVARD and Highland Ave. Above now speeds flow of extremely heavy traffic from the Hollywood District to the north. This is a view of the proposed Hollywood Parkway, planned to connect Los Angeles with the San Fernando Valley. Aerial view (right) utilized a "compressed cloverleaf" construction designed to meet topographic conditions. California motorists can now testify that this type of seven operating lanes, reduces driving fatigue, increases safety factor.

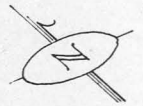


INTERSECTION (above) of the Ramona Parkway and the Santa Ana Freeway under construction. This river span and distribution structure will carry two parkways into Los Angeles Civic Center. Federal housing program planned a housing development adjacent to this intersection. Cooperation between three railroads, the Works Progress Administration, and the County made this project possible.

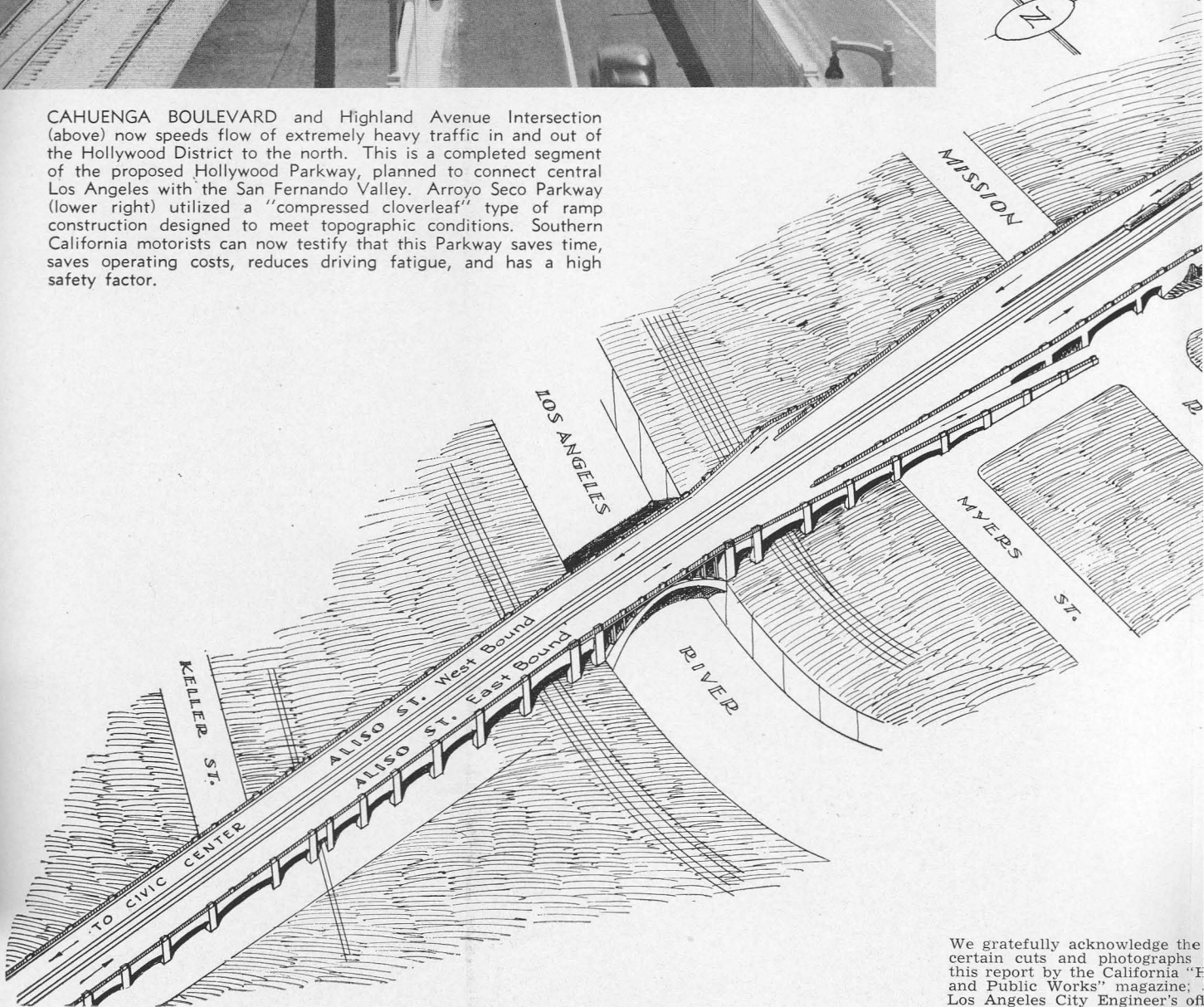


Parkw

Here are Three
Segments of a
Great Parkway
When Will
Los Angeles
Its Fulfillment



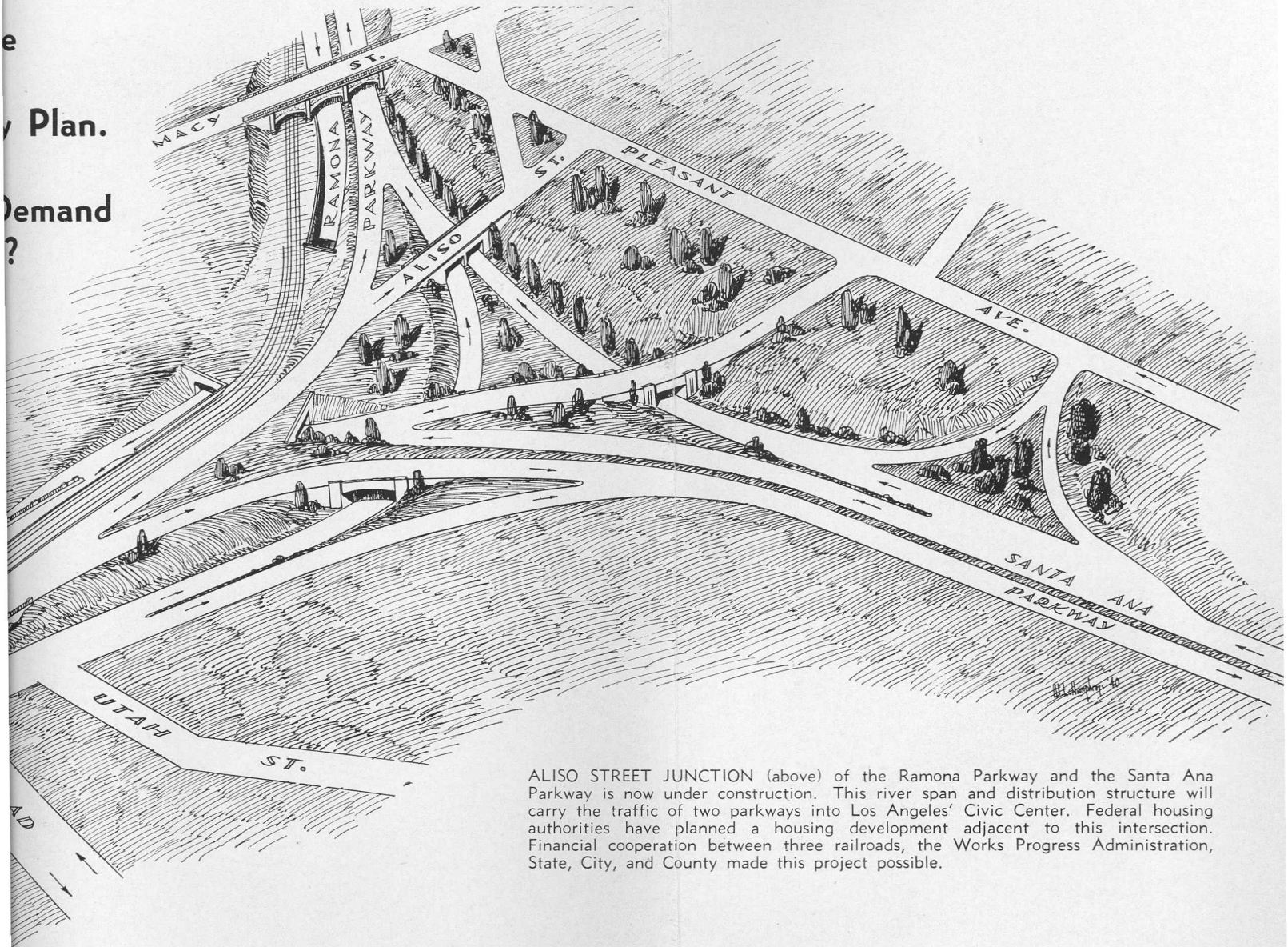
CAHUENGA BOULEVARD and Highland Avenue Intersection (above) now speeds flow of extremely heavy traffic in and out of the Hollywood District to the north. This is a completed segment of the proposed Hollywood Parkway, planned to connect central Los Angeles with the San Fernando Valley. Arroyo Seco Parkway (lower right) utilized a "compressed cloverleaf" type of ramp construction designed to meet topographic conditions. Southern California motorists can now testify that this Parkway saves time, saves operating costs, reduces driving fatigue, and has a high safety factor.



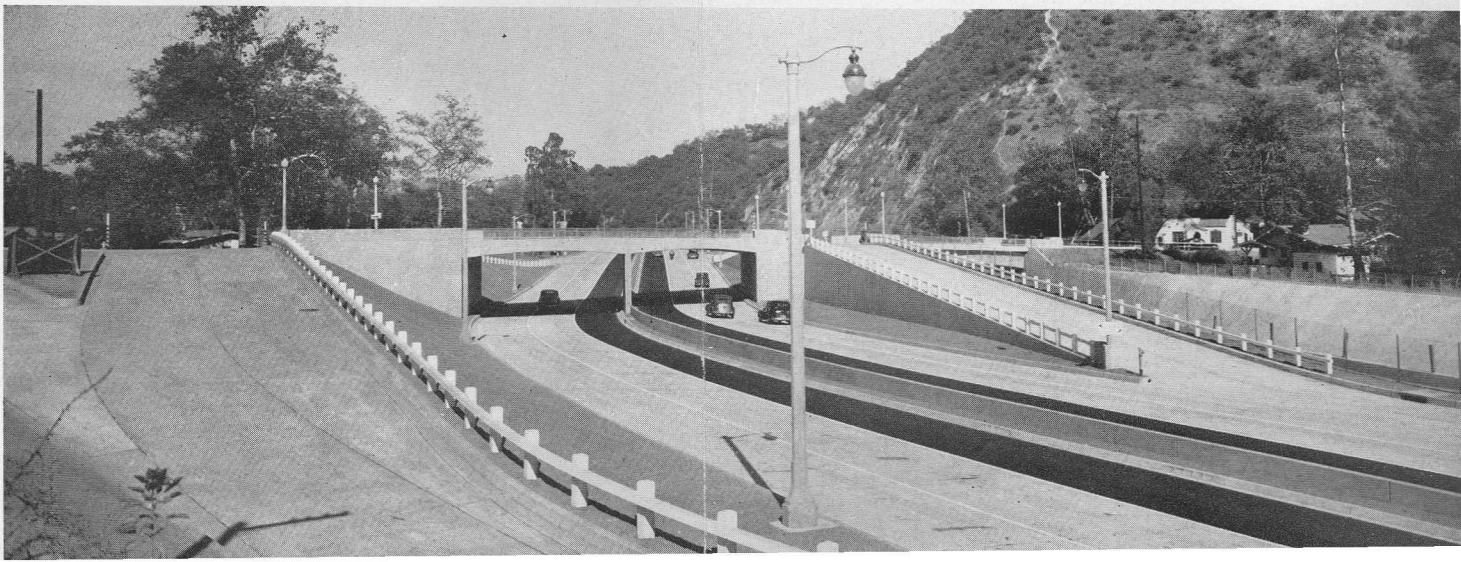
We gratefully acknowledge the certain cuts and photographs in this report by the California "Engineering and Public Works" magazine; Los Angeles City Engineer's office.

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ALISO STREET JUNCTION (above) of the Ramona Parkway and the Santa Ana Parkway is now under construction. This river span and distribution structure will carry the traffic of two parkways into Los Angeles' Civic Center. Federal housing authorities have planned a housing development adjacent to this intersection. Financial cooperation between three railroads, the Works Progress Administration, State, City, and County made this project possible.



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CONCLUSIONS

The mass of surveys relating to transportation which have been conducted in Los Angeles indicate certain characteristics of the city and region all of which prove the soundness of the recommendations of the Transportation Engineering Board that a system of parkways be constructed for the free and rapid transit of motor vehicles. Briefly these characteristics are as follows:

1. The habit of a great mass of the people of the Los Angeles region of using the private automobile as the principal means of transportation.
2. The low density of population and wide dispersion of residential developments, thus tending toward long hauls.
3. High automobile ownership and widespread use of the automobile.
4. Weakness of the present street system, the small proportion of street area to the total area of the city.
5. A moderate climate throughout the year which is conducive to the greater use of the motor vehicle.
6. Inability to operate a financially sound mass rail rapid transit system without material increases in fares or substantial subsidies.
7. The vast area of the city and metropolitan area tending toward long hauls.

The adequacy of the plan has been proved by several tests. The design meets the fundamental requirements of a rapid transit system; sufficient routes are provided between centers of population; adequate by-pass or belt routes are provided; and major population, commercial and industrial centers are directly connected by

parkways.

RECOMMENDATIONS

The parkway plan forms a framework about which the entire structure of the city can be more intelligently planned. Like other elements of the comprehensive city plan, the parkway plan must be studied continually and kept alive. It must be adjusted when necessary to changing conditions.

1. That the plan shown on Figure 7 and in greater detail on Figure 8 except for those aspects of it which deal with rail rapid transit and unification of transit operations, and with the Central Business District, be adopted with the following modifications:

An additional parkway is proposed through the San Fernando Valley to connect with the Normandie Parkway by passing through Griffith Park.

And the amendments to the Parkway Plan as proposed by the Bureau of Engineering are as follows:

The connection between the Venice Parkway and the Sepulveda Parkway extending from the intersection of the Venice and Ocean Parkways to the Sepulveda Parkway at Florence Boulevard.

The re-alignment of the Inglewood Parkway from the Sepulveda Parkway to Anaheim Parkway.

New connection between Long Beach Parkway and Terminal Island.

New parkway on Terminal Island and connections with Harbor Parkway.

New extension of Santa Ana Parkway from Olympic Parkway to Ramona Parkway.

Re-alignment of Olympic Parkway from East By-pass to Santa Ana Parkway.

Extension of Riverside Parkway from Arroyo Seco Parkway to Ramona Parkway.

Artesia Parkway extending from Inglewood Parkway to Santa Ana Parkway.

The re-alignment of the Sepulveda Parkway from Riverside Parkway to Santa Monica Parkway.

RECOMMENDATIONS

The Transportation Engineering Board has presented the most logical and feasible solution to the transportation problem. After a careful study of the factual data upon which the transit program is based, and the final report of the Board entitled, "A Transit Program for the Los Angeles Metropolitan Area," the following recommendations are made:

1. That the plan shown on Figure 7 and in greater detail on Figure 8 except for those aspects of it which deal with rail rapid transit and unification of transit operations, and with the Central Business District, be adopted with the following modifications: F.2

An additional parkway is proposed through the San Fernando Valley to connect with the Normandie Parkway by passing through Griffith Park.

And the amendments to the Parkway Plan as proposed by the Bureau of Engineering are as follows:

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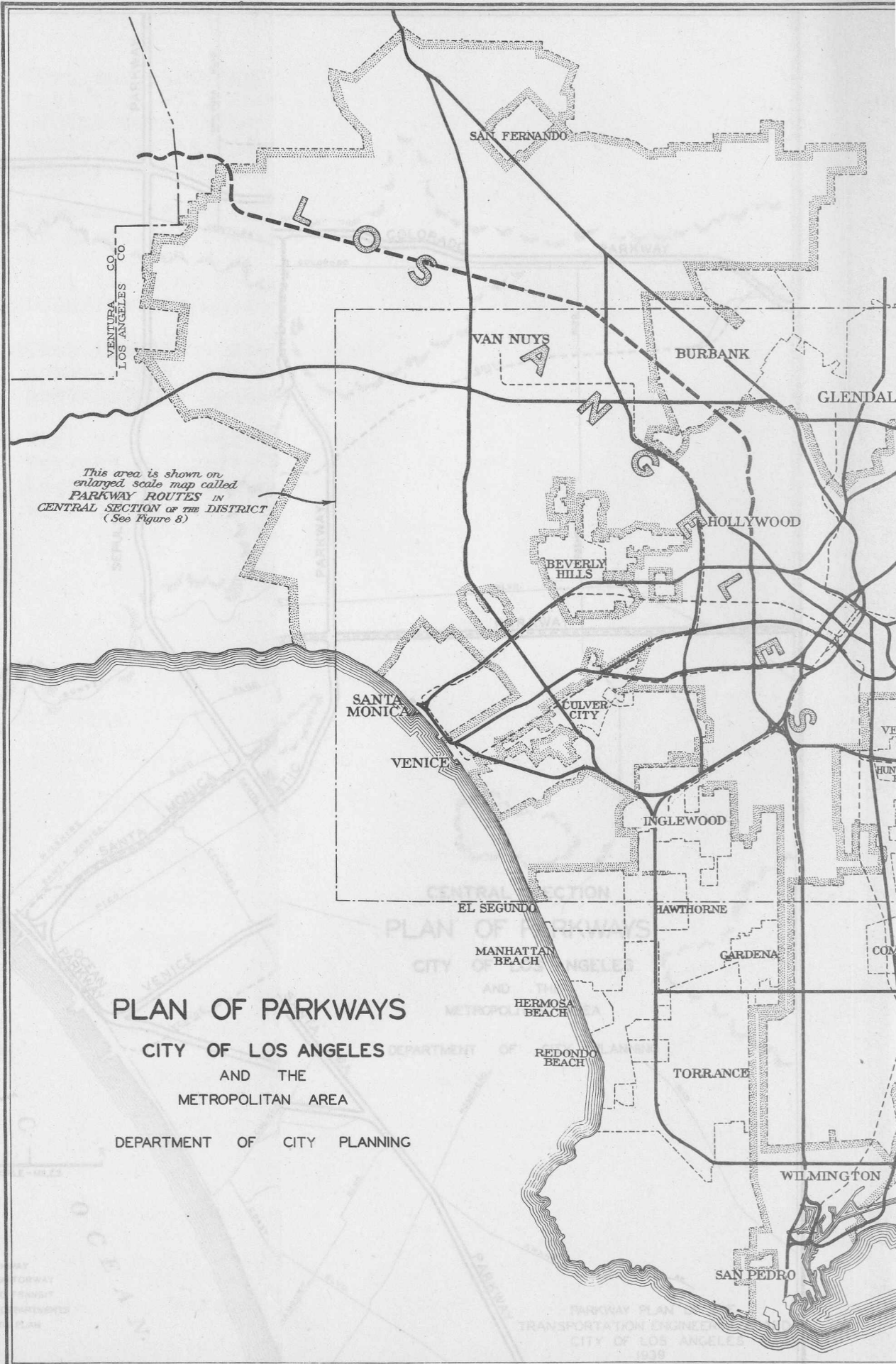
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Artesia Parkway extending from Inglewood Parkway to Santa Ana Parkway.

The re-alignment of the Sepulveda Parkway from Riverside Parkway to Santa Monica Parkway.



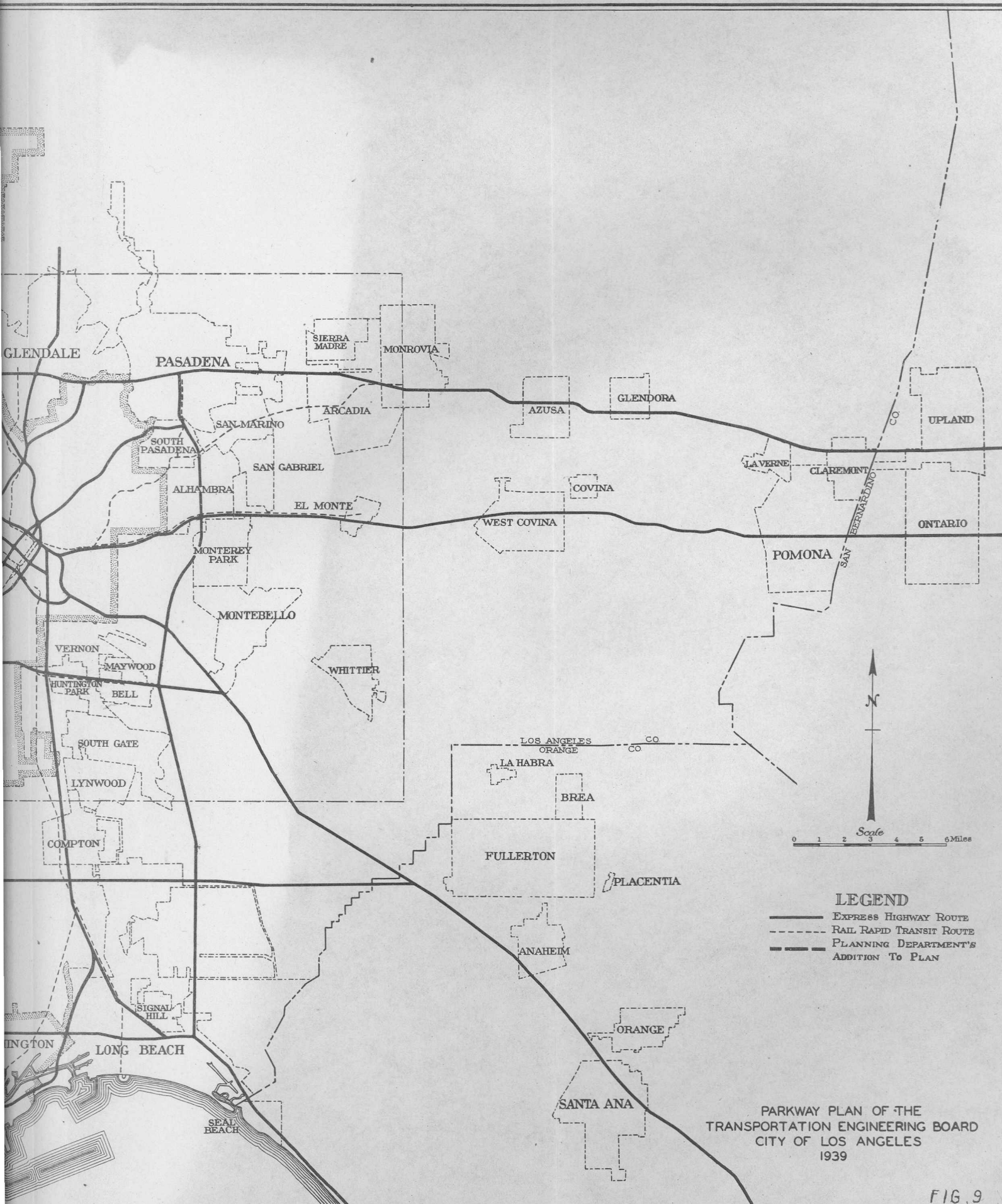
This area is shown on enlarged scale map called PARKWAY ROUTES IN CENTRAL SECTION OF THE DISTRICT (See Figure 8)

PLAN OF PARKWAYS

CITY OF LOS ANGELES
AND THE
METROPOLITAN AREA

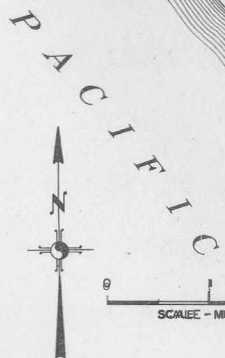
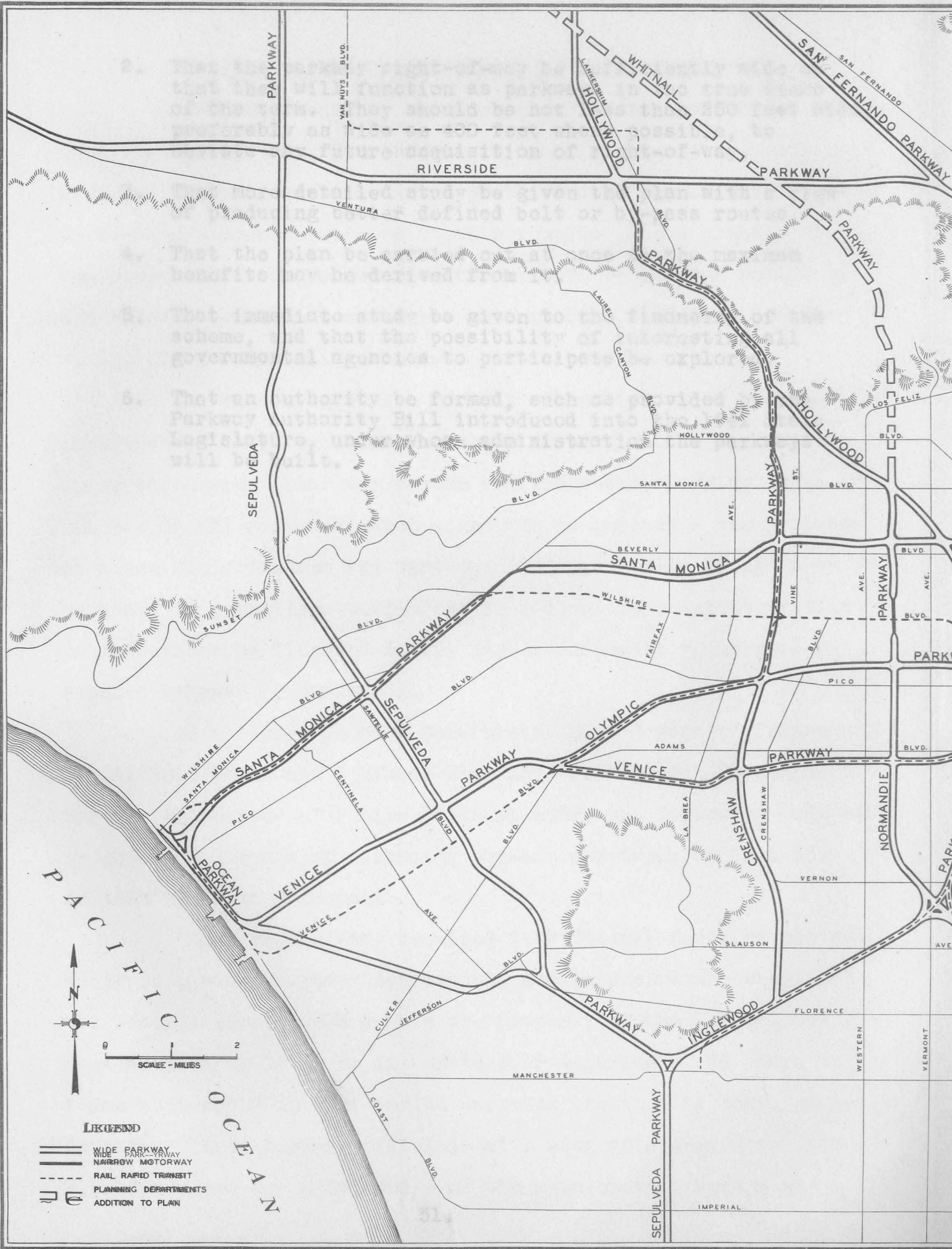
DEPARTMENT OF CITY PLANNING

- LEGEND
- WIDE PARKWAY
 - NARROW PARKWAY
 - RAIL RAPID TRANSIT
 - PLANNING RESERVES
 - SECTION PLAN



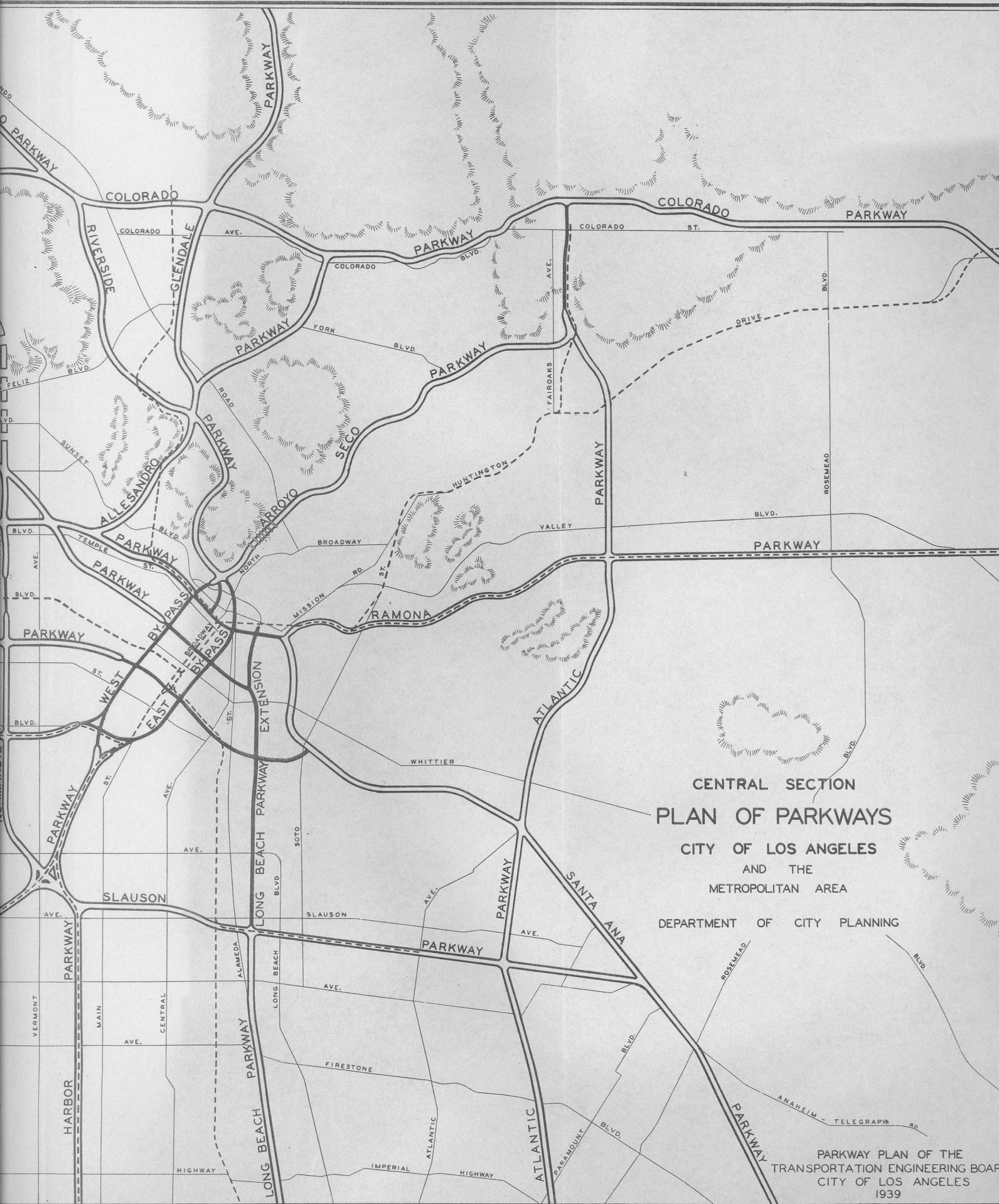
PARKWAY PLAN OF THE
 TRANSPORTATION ENGINEERING BOARD
 CITY OF LOS ANGELES
 1939

FIG. 9



LEGEND

- WIDE PARKWAY
- NARROW MOTORWAY
- RAIL RAPID TRANSIT
- PLANNING DEPARTMENTS
- ADDITION TO PLAN



CENTRAL SECTION
 PLAN OF PARKWAYS
 CITY OF LOS ANGELES
 AND THE
 METROPOLITAN AREA

DEPARTMENT OF CITY PLANNING

PARKWAY PLAN OF THE
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 CITY OF LOS ANGELES
 1939

2. That the parkway right-of-way be sufficiently wide so that they will function as parkways in the true sense of the term. They should be not less than 250 feet wide, preferably as wide as 400 feet where possible, to obviate any future acquisition of right-of-way.
3. That more detailed study be given the plan with a view of producing better defined belt or by-pass routes.
4. That the plan be carried out at once so the maximum benefits may be derived from it.
5. That immediate study be given to the financing of the scheme, and that the possibility of interesting all governmental agencies to participate be explored.
6. That an authority be formed, such as provided by the Parkway Authority Bill introduced into the 1941 State Legislature, under whose administration the parkways will be built.

among which are: that the system be financed by levying tolls for the use of the parkways; that a gas tax be imposed - the proceeds of which would finance the system. It is generally agreed that parkways in quantities sufficient to afford the required traffic relief cannot be financed in the manner customarily employed to finance highway construction.

In a report on "The Feasibility of a System of Transcontinental Toll Roads and a Master Plan for Free Highway Development" made by the Bureau of Public Roads in 1939, the following suggested proposal as a means of financing parkway construction in metropolitan areas is presented:

"Such right-of-way acquired with Federal funds at the request of a state highway department, and in accordance with State and Federal laws, could remain the property of the Federal Government subject to lease by the State over a period of 50 years on terms that would in that period amortize the initial cost. Representative State highway officials with whom this suggestion has been discussed are unanimously of the opinion that such a pro-

PROBLEMS REQUIRING FURTHER STUDY AND REPORT

Only that phase of the report of the Transportation Engineering Board, a Transit Program for the Los Angeles Metropolitan Area, which dealt with the development of a system of motor vehicle parkways has been considered in this report. Final conclusions and recommendations cannot be made relative to several pertinent and related problems until these matters have been given further study. This study will be made in the near future.

The financing of the parkway scheme is one of the most important of these problems. Several proposals have been made, among which are: that the system be financed by levying tolls for the use of the parkways; that a gas tax be imposed - the proceeds of which would finance the system. It is generally agreed that parkways in quantities sufficient to afford the required traffic relief cannot be financed in the manner customarily employed to finance highway construction.

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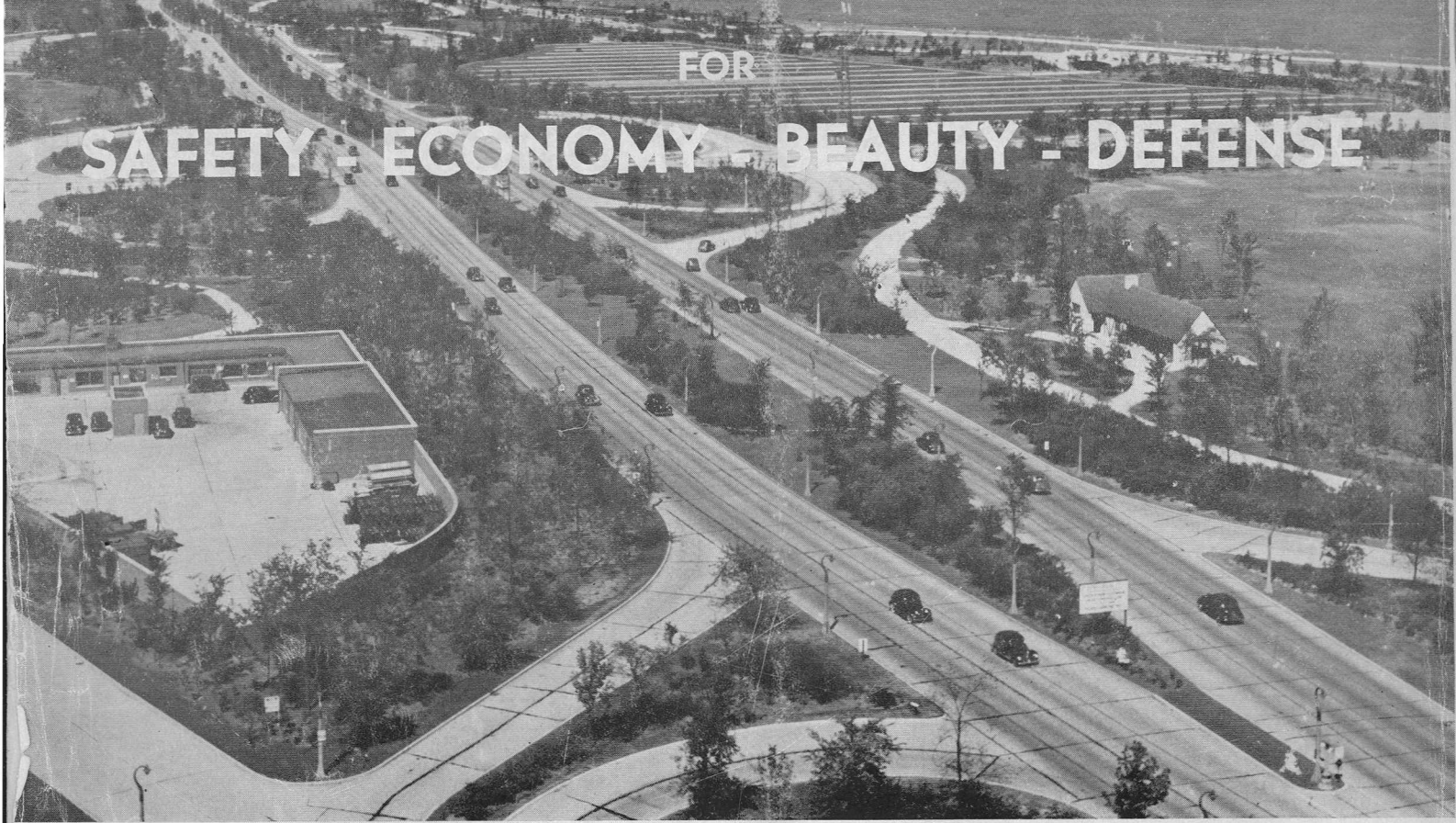
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EXPRESS HIGHWAYS

FOR

SAFETY - ECONOMY - BEAUTY - DEFENSE



OUTER DRIVE, CHICAGO. This 8-lane "perfect mile" has had an average annual traffic of 20 million vehicle-miles for 7 years with only two fatalities. Modern Parkway design results in safety and operating economy.

ARROYO SECO PARKWAY (near Avenue 43) is the West's most notable example of modern freeway design. This six mile parkway constitutes six of the nine mile highway link between the business districts of Los Angeles and Pasadena. Average running time between the two points is reduced from 27 to 12 minutes.

