SPEAKERS BUREAU

CITIZENS COMMITTEE FOR RAPID TRANSIT

SPEAKER'S KIT

Prepared by William J. Bird, Chairman
Speaker's Bureau

Contact: Gail Steffen, Suite 924, 626 Wilshire Blvd.,
Los Angeles, California 90017 - 624-3233

citizens committee for rapid transit

6380 Wilshire Boulevard, Room 1010, Los Angeles, California 90048, Phone 651-5333

STATUS REPORT

RAPID TRANSIT FOR LOS ANGELES COUNTY

August 22, 1968

High-speed mass transit to move people faster in Los Angeles County is at last within reach. The Southern California Rapid Transit District's five-corridor 89-mile system of rapid rail transit with fast bus feeder lines is designed and engineered and ready to go.

As you know, enabling legislation permitting Los Angeles County to vote for rapid transit was signed by Governor Ronald Reagan in early August. The Southern California Rapid Transit District will put a proposal on the November 5 ballot calling for a 1/2 of 1% sales tax in the county to service the $2.5 billion of bonds needed to build the system which is already completely planned.

A broad-based Citizens Committee for Rapid Transit has been formed representing top-level leadership in every part of the community to encourage the required 60% favorable vote. Time is critical because other ballot proposals and political candidates are competing for media space needed to tell the transit story.

The proposed transit system will increase mobility for everyone, whether he rides the system itself or depends on our streets and freeways. It is designed to take the overload off our excellent but heavily burdened highway network.

Let's keep Los Angeles moving! Vote YES on RAPID TRANSIT

citizens committee for rapid transit

6380 Wilshire Boulevard, Room 1010, Los Angeles, California 90048, Phone 651-5333
General Chairman Ernest J. Loebbecke *Finance Chairman* Earl Clark *Treasurer* M. J. Dahlem

A. D. MacDonald
Ernest J. Loebbecke
Jerry Magnin
Don H. Sheets
Robert L. Gordon
J. P. Hughes
W. Earl Miller
Samuel E. Lunden
George A. Vajna
William J. Bird
Frank G. Gillett
W. O. Lindstrom
Don Belding
Norman B. Houston
Rollin Eckis
John L. Atwood
Dr. Lee DuBridge
Hugo Riemer
Geoffrey Swaebe
Joseph N. Mitchell
Kenneth T. Norris
Henry E. Manker
Nelson Mills
Donald E. Butler
Norman O. Houston
Dr. Jule D. Lamm
T. A. Von der Ahe
Rosemary Westmeyer
Quentin W. Best
Alfred R. Bone, Jr.
Louis B. Lundborg
Mrs. John B. McDonald
Jack T. Cairns
Hugo W. Druehl
Donald Buckingham
Herbert D. Eagle
H. David Crowther
John V. Vaughn
Maurice Dahlem
Stephen C. Bilheimer
Sigmund Arywitz
Harry J. Krusz
Daniel P. Bryant
Judge Carlos M. Teran
W. Morton Jacobs
Wallace E. Dunn
Martin Pollard
Mahlon E. Arnett
Charles F. Bannan
H. C. "Chad" McClellan
Stafford R. Grady
Leslie N. Shaw
Earl Clark
Joseph F. Boyle, M. D.
Thomas E. Smith
Donald R. Hodgman
Mrs. Clarence Cooper
Frank Pine
Frank A. Payne, Sr.
Kai Jorgensen
Warren Driver
Mrs. Merril B. Friend
David B. Heyler, Sr.
Cyril C. Nigg
O. K. Earl, Jr.
Mrs. Valley Knudsen
C. Lemoine Blanchard
Curtis Palmer
Robert S. Fuller
Eddy S. Feldman
Durward Howes, III
Charles F. Horne
John M. Schutt

(Members as of August 19, 1968)

Let's keep Los Angeles moving! Vote YES on RAPID TRANSIT

THE PROPOSED SOUTHERN CALIFORNIA RAPID TRANSIT PLAN

(Capsule facts chiefly drawn from SCRTD Final Report covering first stage development to be voted on by ballot proposition for financing November 5, 1968)

WHAT IS IT? A 5-corridor, 89-mile, double-track network operating on grade-separated exclusive rights-of-way in subway, skyway and ground level with high-speed, air conditioned, computer-controlled electric cars - augmented by 850 additional (new) buses operating over 300 miles of new bus routes providing local and express feeder service throughout district.

WHERE DOES IT GO? Rail lines run from downtown Los Angeles to: Tyler Avenue, El Monte on San Gabriel Valley corridor; Barrington Avenue, West Los Angeles on Wilshire corridor; Ocean Boulevard and Pine Avenue in Long Beach on Long Beach corridor; Sherman Way and Tampa Avenue in Reseda on San Fernando Valley corridor; Aviation and Rosecrans Boulevards in Hawthorne on Southwest-International Airport corridor.

HOW MUCH WILL IT COST? $2½ billion construction cost including initial equipment, this cost estimate including adequate, realistic factors for cost escalation (inflation) and contingencies.

HOW WILL IT BE FINANCED? Through bonds serviced by ½ of 1% sales tax in that part of Los Angeles County which is within the Rapid Transit District. Once built, system will pay all operating and replacement costs from fare box. The tax would not go into effect until Los Angeles' temporary 1% city sales tax ends on March 31, 1969.

WHEN WILL IT BE READY? If ballot proposition gains 60% approval November 5, construction of system starts 1970 with full system in operation 1977.

WHOM WILL IT SERVE? Two-thirds of present Los Angeles County population now lives in residential service area of system, an area generally within 10 minutes travel time of rail routes. 42% of estimated 1980 total employment in county will be employed within one mile of system lines. 1,400,000 daily passengers estimated by 1980, 477,000 on rail system alone.

HOW MANY CAN IT HANDLE? Up to 40,000 persons per hour per corridor in each direction at peak traffic hours.

HOW FREQUENT IS RAIL SERVICE? 90 seconds during rush hours at 7th and Flower Streets; 3 minutes in suburbs during rush hours, and 10 minutes at mid-day. 15 minutes during evening hours.

HOW FAST WILL 2-CAR TO 8-CAR TRAINS MOVE? Maximum speeds of 75 mph with averages including station stops of over 40 mph except in downtown Los Angeles and Wilshire corridor where average is 34 mph.

WHOM WILL IT BENEFIT? Everyone who moves in Los Angeles County, whether a user or not.
BENEFIT TO USERS: Faster, fully reliable, more comfortable rides to jobs, recreation and cultural centers of community. Less need for two cars in family.
BENEFIT TO NON-USERS: System is designed to draw off sufficient traffic from freeways and surface streets to restore them to their maximum efficiency and traffic flow speeds. (California's master highway plan includes no provision for additional freeway traffic capacity from outlying areas to and through the central business district. The existing spoke freeways must be unclogged to remove their present peak-hour overload and provide cushion for future traffic volume growth as population increases.)
Everyone will benefit from any reduction in smog which is automobile produced.

WHAT IS NEEDED NOW? A campaign of public education to entire community to achieve a 60% affirmative vote on ballot proposal November 5.

THE PROJECT DEFINED

A comprehensive plan for improved public transportation designed to meet the needs of this great urban complex for many years to come.

The Master Plan proposes a network of some 300 miles of high capacity rapid transit service to every sector of the District, combined with expanded feeder and local bus service forming a comprehensive public transportation system projected to provide constant mobility in this metropolitan area.

The first stage of the total plan is an 89-mile double track network on which people will ride safely at high speeds in comfort on dependable, computer-controlled, smog-free electric cars; operating on grade-separated, exclusive rights-of-way in subway, skyway and at ground level. . . augmented by 850 additional buses operating over 300 miles of new bus routes providing local and express feeder bus service throughout the District.

NEED FOR RAPID TRANSIT

The Los Angeles Urbanized Area, a metropolitan area including Los Angeles and Orange Counties and extending into Riverside, San Bernardino and Ventura Counties, will have 23 million residents by the year 2000. This will be the second largest urban concentration in the nation, and only 1 million less than that of the New York - New Jersey area.

The Los Angeles area has matured to a point where our citizens now must be given the very best transportation system immediately attainable if we are to continue our extraordinary economic growth and not permit areas of the county to stagnate because of inadequate transportation facilities.

To bring about a total transportation concept for the citizens of Los Angeles County.

Such a concept includes a broadening of the freeway system; better use of existing streets and highways coordinated with a new and dynamic system of mass public rapid transit, including high speed automated electric trains, a network of feeder buses, a system of suburban parking lots -- all working to provide efficient coordination between the pedestrian, the private automobile and public mass transportation.

The metropolitan Los Angeles area must now develop a two-dimensional, flexible, total transportation system to provide the fast and efficient movement of people in and out of the central city.

RAPID TRANSIT IS NECESSARY:

To maintain a healthy, vigorous metropolitan area so that taxable property values may be preserved, thereby escalating the economic benefits to the entire area.

To provide greatly improved transportation for the 17% of Los Angeles households, residents of which are now restricted in their mobility because they own no automobiles.

> One of every six households in Los Angeles County has no auto . . . more than one-half the households have only one car.

To make the major employment centers more accessible to citizens who must depend upon more flexible methods of transportation for daily employment.

To relieve freeway traffic congestion at peak hour periods.

> The Division of Highways estimates that by 1980 during the peak hours thousands of commuters will not be able to enter the freeways serving the job-intensive urban core.

To prepare for the future when a balanced transportation system utilizing both private vehicle and public transit modes must be ready to serve an estimated 23 million residents by the year 2000.

To help reduce smog in the Los Angeles Basin. Every automobile removed from our streets and highways helps reduce smog which has become a major health factor. At least 85% of smog comes from automobile exhaust.

PUBLIC ADVANTAGES:

More than two thirds of the entire population of Los Angeles County live within ten minutes travel time of the recommended rail routes.

42% of the estimated 1980 total employment in Los Angeles County will be employed within one mile of the Rapid Transit System.

Expansive station parking areas and the new feeder bus system, coupled with the District's existing bus fleet, will make public transportation readily accessible to virtually all residents of the District.

More than 1,400,000 passengers will ride public transportation daily in 1980, 477,000 on the rail system alone.

Special express passenger service will provide the key transportation link to air passengers at Los Angeles International Airport where arrivals and departures are projected to increase from 18,125,000 in 1967 to as many as 57,500,000 by 1975, a 217 percent increase.

$109 million annually will accrue to the people in community benefits through reduced unemployment, increased business and government productivity, real estate appreciation, etc.

BENEFIT-COST ANALYSIS:

Stanford Research Institute concluded in its benefit-cost analysis of the project:

The proposed rapid transit development represents a sound public investment relative to accepted standards of expected public benefits and costs.

The total benefits to district residents expected to be generated by the proposed rapid transit project are estimated to be valued at $253 million annually. They are 87 percent greater than the estimated annual costs of the project (for debt repayment), indicating a net annual benefit of $117 million.

Total benefits have been estimated at $85 million per year (in 1968 dollars) in traveler benefits, $109 million per year (in 1968 dollars) in community benefits, plus an annual adjustment of $59 million for inflationary effects. These benefits are compared with an average annual cost (inflated dollars) of $136 million. Both benefits and costs have been properly adjusted toreflect the time value of money.

Benefits to travelers:

Travel time saved valued at $40 million annually.

An expected $46 million savings in automobile operating costs.

A $23 million annual reduction in the cost of parking automobiles.

A cost savings of $3 million per year as some families avoid becoming two-car families or shift from two to one car situations.

A reduction in highway accident costs valued at $5 million annually. In addition, 32 fatalities per year and 1,900 injuries should be avoided.

Benefit-Cost Analysis

An additional benefit, not expressable in dollar terms but perhaps the most important, will be the opportunity that rapid transit will present for the community to regain control of their urban environment, to shape the land use closer to their desires, to reverse the trend of sprawl, sterility, and burdening government costs, to make what appears to be the best, first major step toward a more balanced and diversified community.

ENVIRONMENTAL EFFECTS:

Air pollution is one of the most critical problems of the Los Angeles basin. Motor vehicles are responsible for about 90 per cent of pollutants discharged in the air daily over Los Angeles, or about 12,000 tons.

The proposed, electrically-powered rapid transit system will reduce pollution by diversion of automobile travel and particularly by relieving the stop-and-go congested rush hour traffic that contributes heavily to pollution. It is estimated that the reduction will be on the order of 300 tons per day. Additionally, basic standby mobility is provided in case critical air pollution conditions should require a temporary ban of automobile traffic.

As valuable as this reduction might be, it is only part of the total program for resolving the air pollution problem. The major effort is being focused on the automobile. It has been estimated that current modifications that California requires of new automobiles, if they prove effective, will eliminate about two-thirds of the hydrocarbon and carbon monoxide emissions. This will reduce emissions from automobiles to an estimated 7,700 tons per day in 1980. The only known solution for a third major pollutant, nitrogen oxide, is to reduce automobile travel. Rapid transit will be helpful toward this end.

Although some experts assert that any reduction in air pollution has immeasurable value, the actual economic value relative to the public's health and property is unknown.

COMMENTS ON FINANCING:

Financing methods available in the past offered only property tax to the people for rapid transit financing. However, virtually every segment of the community has rejected property tax for paying bond service costs.

The unique method of financing approved by the State Legislature provides the people with the opportunity to vote on a 1/2 of 1% general sales tax to finance the 5-corridor system without the levy of a property tax. This approach can be supported by a broad cross section of the community, including many of those who heretofore have opposed rapid transit on the basis of an unacceptable financing plan. The present plan therefore represents an opportunity for almost unanimous support.

COSTS:

Construction cost of the recommended five-corridor system including its 66 stations is $1,209,477,000 at 1968 prices.

756 rapid transit cars will cost $161,387,000.

Rights-of-way will cost $160,291,000.

Retirement of MTA Revenue Bonds will cost $31,500,000.

New feeder buses will cost $34,750,000.

Preliminary engineering for second-stage routes under the Master Plan Concept will cost $8,000,000.

Provision for contingencies is $222,343,000.

Provision for escalation of costs over the 8-1/2 year construction period increases the cost by $687,113,000 -- bringing the total project cost to $2,514,861,000.

Maintenance and operating expenses will be met from system revenues.

SUMMARY:

This proposal is only a beginning. There is no doubt that, in order to serve the developing megalopolis, the ultimate system will necessarily cross county boundaries and be much more comprehensive throughout the area.

A beginning must be made as soon as possible.

IDEAS

A LEAD IN . . .

Nationwide, the trend is toward bigger and bigger cities. Southern California's phenomenal growth provides a notable example: the trend has continued unabated for many years. From less than one million in 1920, the population of Los Angeles County grew to nearly three million by 1940, to more than six million by 1960. Today it exceeds seven million. The Regional Planning Commission estimates a further two million growth over the next 13 years. From a predominantly agricultural region, Los Angeles County has evolved into a metropolitan giant second in population only to New York. Topography and transportation have been powerful stimuli.

As Los Angeles became larger . . . then came the automobile -- glamorous solution to California mobility. In a climate far superior to most of the rest of the country and with a well-designed system of arterial highways, it was inevitable that the private car should become a way of life.

With World War II, the Los Angeles urban area almost overnight became an important center of aircraft construction, shipbuilding and other defense industry. Industrial workers were recruited in tremendous numbers from all over the nation. The area's population spurted.

The "ultimate" six-million population estimate fell far short of predicting actual growth, but it was a daring guess for its time. . . 1945. At that same time a projection in the State's freeway financing program stipulated a total California population in 1980 of 14 million. Recent estimates have upped the probable figures to <u>double</u> that number -- 28 million in 1980.

USABLE QUOTES

Remarks by Alan S. Boyd, Secretary of Transportation, Washington, before the American Trial Lawyers Association, July 23, 1968

"The pattern is familiar - congestion in the central business district, rush hour traffic jams, not enough parking space, deteriorating mass transit systems and the conflict between freeways and city residences and parks. One fact underlines the meaning of these problems. In many urban areas, vehicle travel miles are increasing at more than double the rate that the population is increasing."

"The city and its transportation problems are, then, our number one priority."

"But in our biggest cities, all the programs for improving downtown traffic will be of little value without a healthy growing mass transit system. We have been continually emphasizing in the Department of Transportation the necessity to look at transportation problems from a systems approach - from the viewpoint of the total job to be done and what function each of the component parts can serve. From this angle, it is apparent there is no substitute for mass transit."

"President Johnson said it best. 'In the next 40 years, we must completely renew our cities. The alternative is disaster. Gaping needs must be met in health, in education, in job opportunities, in housing. And not a single one of these needs can be fully met until we rebuild our mass transportation systems.' "

" The difficulties and frustrations of the ghetto are many. Transportation is one of them.

In the nation as a whole, 80 percent of all American families owned an automobile in 1966. The proportion is slightly higher today. Yet, half of all Negro households own no car at all. And more than half of these Negro households have two or more wage earners. The Negro worker, then, is dependent on mass transit - and it is not serving him well. For a resident of New York's Harlem to commute by public transportation to an aircraft job in Farmingdale, Long Island, costs $40 a month. South Central Los Angeles is only 16 miles distant from the employment center of Santa Monica. To make the trip by public transportation, however, takes an hour and 50 minutes each way, requires three transfers and costs $33 a month.

Such are the frustrations of the ghetto. "

Quoted from remarks by Transportation Secretary Alan S. Boyd before the American Trial Lawyers Association, July 23, 1968.

SMOG

Sixty members of the UCLA medical faculty recently issued a statement advising everyone who can to move away from the smoggiest parts of Los Angeles, San Bernardino and Riverside counties. Their statement said air pollution is a major health hazard during much of the year and that it is a critical urban problem facing Southern California's metropolitan districts. Following are some excerpts from the statement as printed in the Los Angeles Times on Sunday, August 11, 1968. Dr. William Hildemann, Professor of Microbiology and Immunology, is the spokesman for the group.

"It took many years for the evidence against cigarets to be compelling, and 20 years from now statistics linking smog and respiratory disease may be just as convincing."

"Although some people are optimistic enough to think that Los Angeles' smog program will be solved in 10 years or so, I'm not sure we can wait that long."

"The harmful effects of smog, accumulating over another 10 years, may be physically intolerable."

PROS AND CONS ON RAPID TRANSIT

Objection

We are undertaking a rapid transit system based on steel wheels and steel rails, representing no progress over 19th century systems.

ANSWER

Extensive investigation of current and developing technology has established that no alternative type of system will meet the requirements of the basic high-capacity rapid transit system required by the Los Angeles area as well as the proven steel wheel on steel rail system. The only resemblance between this proposal and old systems lies in the wheels and rails. The cars will be fully automated, electrically driven, air conditioned, and designed for the maximum comfort possible, even under crowded conditions.

Further, this is not simply a "fixed rail" system. It is really dual mode, involving as it does 850 new buses on approximately 300 miles of feeder lines. (Current system - 1482 units - 2392 route miles - 17,000 miles per day.)

Finally, there will be ample provision at all stations for dropping off and picking up passengers by auto, and at most stations for parking. The combination makes the system very flexible indeed.

Objection

It is possible that some new form of rapid transit may become feasible in the next few years. The thing to do is to undertake an intensive study of such systems. It would pay to wait for the results.

ANSWER

Many competent studies have been made over the years. All conceivable future systems have been carefully examined. It

is the conclusion of competent engineering consultants that no system even remotely practical for this job is in the offing. Highly qualified and experienced firms such as Coverdale and Colpitts and Simpson-Curtin have also reached the conclusion that this system is the one best fitting the Los Angeles problem.

Also, for every year of delay, costs escalate at the rate of at least $132 million per year.

Objection

An inflexible series of corridors involving costly road beds will tend to fix areas of development in an unchangeable pattern.

ANSWER

It is true that Los Angeles has grown in an unusual way, and that a number of nearly self-sufficient and highly developed business districts have sprung up throughout the area. However, the central business district and the Wilshire development are both facts of life that cannot be dismissed. They will continue to grow. Satellite business and financial centers will still come into existence to meet local community needs, as will other business centers around the terminus of each corridor. An efficient transportation system will further keep alive the principal urban areas and help to maintain and enhance property values in these major areas.

Objection

The expenditure of $2.5 billion is exorbitant, especially when we consider that this is admittedly only the beginning.

ANSWER

Construction costs annually are escalating rapidly. As John Curtin of Simpson-Curtin points out, 80% of the cost of any system of mass rapid transit lies in construction of the roadway. The earlier we start on this, the less money we spend. (It should be noted that the mode of the rapid transit represents only 20% of the cost, and that the opportunity exists to take advantage of technological breakthroughs as they occur.)

The as-yet unpublished report of the Governor's Commission on Transportation indicates that the bill for our total problem in California will be $50 billion or more. Viewed as a percentage of that figure, $2.5 billion is a relatively small expenditure, considering the magnitude of our local problem.

Finally, the $2.5 billion represents starting with the first shovel of earth. Los Angeles has made no capital investment whatsoever to solve this problem up to now.

Objection

The aerial structures involved on portions of the system will be objectionable to the communities in which they are located.

ANSWER

Any mode of transportation must consider aesthetics if it is to enhance the beauty of an area and if it is to be accepted as a pleasing mode of transportation. Modern engineering design has created aerial structures aesthetically attractive which absorb sounds within themselves and which enhance community design.

In this case, every effort has been made to meet these requirements.

Objection

The system is inadequate even for present needs. It does not serve industrial areas properly.

ANSWER

The basic corridors of the proposed system follow population density. . . and the flow of traffic . . . very closely. Studies made by LARTS, California Division of Highways, the City and County Planning Commissions, and the SCRDT, if super-imposed would very closely align with the proposed five corridors.

In 1967 the Chamber's Industrial Development Committee studied major objections encountered in trying to persuade industry to move into this area. One of the principal problems was our lack of a public transportation system. The proposed system, with its heavy use of feeder bus lines, will go a long way toward answering this objection.

One of the findings of the Stanford Research Institute's feasibility study was that more than one-third of the women of driving age do not have driver's licenses, and that one household out of seven has no car. It is demonstrable that approximately 2.3 million people in this area have either no access or limited access to automobiles. This system will go far toward alleviating the problems encountered by these people in getting around the area.

Objection

This is an expensive means of travel, because the taxpayer will be subsidizing each rapid transit rider about 80¢ per ride.

ANSWER

All forms of transportation are costly whether considered on a per-ride basis or on a basis of the investment necessary in transportation facilities. More than $900 million of gas tax money annually is spent on freeway construction in California. Over and above this, the property taxpayer pays out another $400 million annually to construct and maintain streets and roads. This means that on the average every man, woman and child in Los Angeles County and the rest of the State is paying $26 a year to subsidize the street and road programs for motor vehicles.

But the issue is not the gross cost of system, but whether or not it is a good investment. Stanford Research Institute in its benefit/cost analysis concluded that the proposed rapid transit system is a sound public investment. Each tax dollar invested in the system will return at least $1.87 to the community. The major part of this benefit, the analysis indicates, goes to the community as a whole through increased business and government productivity, reduced unemployment, housing efficiencies and improved life style. A substantial benefit also accrues to those who do not ride the system through relief of demand upon streets and highways.

Furthermore, any cost of subsidy diminishes each year and is eliminated after the last bond of indebtedness is retired.

Objection

There is no need for any system at all. The freeways will be fully able to handle the job when they are completed.

ANSWER

The freeways are more efficient than is generally believed, and the swift completion of the master plan is vital. However, it is inconceivable that we can continue to depend on one mode of transportation.

The Citizens Counsel report pointed out "The major inadequacy of the freeway network, however, has been its inability to handle commuter traffic during the peak hour period. Unfortunately, it does not appear that this inadequacy will be resolved in the future, despite the completion of the 1980 plan. Some form of supplemental transportation, therefore, appears to be required during the peak hour periods."

BACKGROUND INFORMATION

FOR MEMBERS OF

CITIZENS COMMITTEE FOR RAPID TRANSIT

EARLY HISTORY:

From less than 1,000,000 in 1920, the population of Los Angeles County grew to nearly 3,000,000 by 1940, to more than 6,000,000 by 1960. Today it exceeds 7,000,000. The Regional Planning Commission estimates a further 2,000,000 growth by 1980.

Boundaries of the Southern California Rapid Transit District cover approximately one-half of the 4,083 square mile area of Los Angeles County (the portion south of the San Gabriel Mountains). But it includes some 98% of the County's population and business activity.

In the Twenties and Thirties, a combination of the Los Angeles Railway Company's streetcar system and the increasing use of the automobile was able to meet the County's transportation needs. But with World War II, the Los Angeles urban area, almost overnight, became an important center of aircraft construction, shipbuilding, and other defense industry. Industrial workers were recruited in tremendous numbers from all over the nation. The area's population spurted, and the traffic problems began to mount.

LEGISLATIVE ACTION:

In 1945, the City of Los Angeles published a report: "Recommended Program for Improvement of Transportation and Traffic Facilities in the Metropolitan Area," but the nationally reputed consulting firm engaged to conduct the study peered into a clouded crystal ball when it assumed an "ultimate" Los Angeles County population of only 6,000,000 persons. (In a like manner on the state level, the Kennedy Report, submitted to the State Legislature in 1945 as a basis for the state's freeway-financing program, projected a California population of only 14,000,000 in 1980. Recent estimates have upped the probable figures to double that number -- 28,000,000 in 1980).

Under the sponsorship of the Los Angeles Chamber of Commerce, a group of interested civic leaders joined together in 1948 to propose a Rapid Transit Action Program, aimed at meeting projected public transportation needs by providing rapid transit routes within the framework of the intricate freeway system then being designed. The Rapid Transit Action Program was not adopted on account of the enthusiasm for, and the reliance upon, the freeways' ability to solve all mobility problems, alone and unaided. It was not until 1951 that the California Legislature, with the freeway program well under way, took the first significant steps to move forward on public transportation. In that year, the lawmakers

created both MTA (the Metropolitan Transit Authority) and BART (the San Francisco Bay Area Rapid Transit Commission).

MTA's assignment was to construct and operate a monorail line between the San Fernando Valley and Long Beach -- without any financial support whatever. In 1957, the Legislature empowered the MTA to acquire most of the existing private transit facilities, financing the acquisition through the issuance of revenue bonds. It was then to operate the consolidated public transportation system -- and proceed with transit planning on a county-wide basis. The conversion to public ownership and operation under MTA took place in March, 1958.

MTA completed acquisition of the properties of the two principal privately owned mass-transit agencies in Los Angeles County -- Los Angeles Transit Lines and Metropolitan Coach Lines -- on March 3, 1958. The purchase of the properties was financed through the sale of a revenue bond issue totalling $40 million. During the months which followed, the acquired personnel and operations were consolidated to accomplish the efficiencies and economies inherent in a unified mass-transit system. Present operations comprise 116 lines over 2,392 miles of route, on which 1,492 buses operate 54,000,000 miles annually and transport nearly 200,000,000 passengers. Almost unique among the publicly operated transit systems, the agency has, from its inception, had no public subsidy support. All of its obligations for operating expenses, purchase of new equipment and interest and principal payments on its outstanding bonds have come solely from operating revenues. This obligation has been fully met at all times.

In discharge of its responsibility to develop a feasible rapid transit plan, the MTA, in 1958, commissioned expert studies of the needs of rapid transit service within its jurisdiction, the most effective means of meeting the defined demand, and the feasibility of providing the nesessary system and facilities under its granted financing powers. After considerable work by independent firms to survey the need for rapid transit service and to evaluate all existing and proposed types of rapid transit systems in terms of capacity, performance, passenger comfort, and convenience and economics, a four-corridor system was proposed. The preliminary planning cost estimate to construct this system indicated a bond issue of $625 million would be required, based on 1960 cost levels, and included no provisions for price escalation. An estimate of revenues, cost of operation and debt service requirements for the study system was submitted to the MTA by the firm of Coverdale and Colpitts on December 6, 1960. Analysis of financial results of operation, however, indicated that, although the projected system would meet all operating and maintenance costs and equipment replacement expense, it could not produce sufficient net revenue to service a construction bond issue.

In 1962, MTA made a final effort to develop an initial rapid transit line within its limited financing capabilities. A single line -- "backbone route" -- along Wilshire, extending from the City of Beverly Hills on the west to the City of El Monte on the east, was chosen as an alternative.

Efforts were made on behalf of the MTA to secure loans or other assistance from the Federal Government, and legislation was introduced to accomplish this purpose. This bill, as well as an administration proposal for capital grants to aid transit

construction, was considered by the 87th Congress in 1962, but no legilsation was then adopted. Subsequently, Congress passed the Urban Mass Transit Act of 1964, which provides for capital grants of up to two-thirds of net project cost for transit capital improvements, matching one-third share net from local tax funds. But, since no matching funds from local tax sources have been provided, neither the MTA nor the Rapid Transit District has been able to obtain aid for the Los Angeles area from this capital grants program, either for surface transit facilities or for rapid transit. The level of appropriations under the Act has not, in any event, been sufficient to this time to afford a significant measure of aid in rapid transit construction financing, particularly in view of the limitation that not more than 12½% of the available funds may be allocated to any one state.

In the 1964 session of the State Legislature, the Southern California Rapid Transit District Act was passed. This Act created the Rapid Transit District (RTD) as successor to the MTA and authorized the District to propose to the electorate a rapid transit program to be financed by general obligation bonds. The seven-member MTA governing Board, appointed by the Governor, was superseded by an eleven-member Board, appointed by locally elected officials in Los Angeles County. On November 5, 1964, the District succeeded the MTA as operator of the surface transit system and as the agency responsible for rapid transit development.

The District immediately initiated a review of the current status of rapid transit planning and program development, as well as an evaluation of trends of population, employment, and economic activity in the region as they relate to transportation requirements. To form a sound basis for evaluation, the District authorized a professional research of the population, economic, and land-use developments occurring in the area as they affect transportation requirements. The economic, planning, and traffic-engineering specialists on the staff of Daniel, Mann, Johnson and Mendenhall were assigned to provide the expert services required for the investigations. This research revealed trends which supported in strongest terms the necessity for complementing the private-vehicle transportation systems with public transportation services having the capability of meeting the growing demand for fast, dependable, and efficient movement of people.

The most striking fact revealed by the analysis is the centralizing trend of employment opportunity -- in the face of the continuing growth in residential population in suburban areas. This pointed to the fact that the local trend of residential development is not decentralization in the sense of absolute loss of residential population in the core of the region, as some older cities initially over-populated are experiencing. Instead it is the general spread of population growth tending to actually increase density in the core even while converting vacant land to single-family residential densities in other areas. The population growth in the core area is being accomodated by an orderly, second-generation improvement of land in multiple residence use.

DEVELOPMENT OF THE MASTER PLAN CONCEPT:

In contrast to the spread of population growth, there has been an intensification of employment opportunity within the center of the region, within a

five-mile radius of Los Angeles City Hall. In 1960, a net total of 432,000 persons commuted daily to this regional center of employment. This is estimated to increase to 714,000 commuters by 1980. Access to a great number and variety of job opportunities which the regional core provides is essential. The priority system of rapid transit -- together with the District's extensive surface lines in the core area -- will help to assure that access.

An effective, total-transportation system in a metropolitan community requires a properly balanced provision for both private-vehicle and public-transit modes, Within the public-transit mode, a balance is also necessary. Fast, high-capacity rapid transit services meet the need for the dependable transportation of a substantial share of the rush-hour traffic which congests the highways serving major employment centers.

From a review of the trend of transportation demand patterns and the projections of population, employment and land use in the District area, a Master Plan concept of public transportation services was prepared. The Master Plan projects the continuing development of trunk-line rapid transit in a system which will provide for the meeting of major travel demands. The combination of radial routes gives access to major employment centers, and the lateral routes provide high-speed links for major inter-community travel throughout the system. The high-speed routes will be supplemented by additional new and extended surface transit routes to meet public transportation needs where volumes of use may not warrant exclusive facilities and to provide wide access to the high-speed trunk lines.

The Master Plan concept involves a first-state system which includes 89 miles of rapid transit routes, plus approximately 300 miles of new and augmented feeder bus lines. The capital cost of the system, including the feeder buses and the requirement of the District's existing revenue bonds, is $2,514,861,000. This is a five-corridor system, which includes improved access to the Los Angeles International Airport.

Funds to defray the cost of rapid transit planning and engineering were provided by the 1966 session of the State Legislature in an amount approximating $3,600,000. The District subsequently applied to the United States Department of Housing and Urban Development for a technical-studies grant of matching funds. That Department made an initial allocation of $975,600; an allocation of additional funds is currently pending.

PRELIMINARY REPORT:

The Preliminary Report required by Section 30636 of the District Act was adopted and officially transmitted to all municipalities and the County of Los Angeles on October 30, 1967. The Report included the detailed engineering description of 62 miles of route proposed for construction in the four basic corridors, plus the projected alignment and advance estimate of construction cost of the Airport-Southwest Corridor line.

The four-corridor system extended to Fairfax Avenue in the Wilshire corridor, to

Balboa Avenue in the San Fernando Valley, to Peck Road in El Monte and to Ocean Boulevard in Long Beach. The system proposed 21 miles of skyway structure, two miles in open cut, 18 miles in subway, and 21 miles at grade.

In releasing the Preliminary Report, the District requested comment and suggestions from all concerned municipalities. District staff personnel conferred with local agencies to provide information and assistance in review of the Report. Nine well-publicized community meetings were held in various sections of the District, with official and personal comments requested. Subsequent to a 60-day review period, the District advertised and held a public hearing on January 15, 1968, on the plan presented in the Preliminary Report. Representatives of municipalities, citizen organizations and private individuals appeared and offered recommendations and comment. No city disapproved proposed alignments within its borders as being inconsistent with this master or general plan.

The County of Los Angeles found the proposed system, including the Airport-Southwest Corridor line, and subject to certain recommendations, to be a "desirable and necessary adjunct to the overall transportation needs within the Los Angeles metropolitan area and that the proposed system falls within the guidelines of the Policy on Transportation Planning, as recommended by the Regional Planning Commission on November 29, 1966 and endorsed by the Board of Supervisors on January 31, 1967."

SYSTEM EXTENSIONS:

The City of Los Angeles, the County of Los Angeles and many residents of the area recommended extension of the Wilshire Boulevard line to the West Los Angeles area. The City of Beverly Hills, through which the extended line would pass, did not take an official stand on the matter. Both the City and County of Los Angeles urged the inclusion of the Airport-Southwest Corridor line in the first-stage system. The District recognized the desirability of these extensions and has included them in the proposed first stage of construction. Preliminary engineering has been carried forward on these extensions, and construction and operating cost estimates, which include them, have been developed for the Final Report.

FINANCING:

Construction of rapid transit will require support in the form of tax funds sufficient to meet debt service on bonds authorized by the electorate and issued to finance the capital cost of the facilities. In the many meetings and conferences on the Preliminary Report which have been held throughout the area, the District has been repeatedly advised by public officials, civic organizations, and the general public that general property taxes should not be used as a primary source of funds for rapid transit capital financing. The District therefore concluded that some form or forms of tax resource, other than that of the general property tax, must be made available to the public to finance rapid transit construction.

In response to the strong recommendations of both official government agencies

and the general public, the District proposed a first-stage system which includes the 62-mile system presented in the Preliminary Report, modified as described above, plus extensions to Barrington Avenue in the Wilshire Corridor and to Tampa Avenue in the San Fernando Corridor, and the inclusion of the Airport-Southwest Corridor line. The resulting first-stage system therefore includes 89 miles of rapid transit routes plus approximately 300 miles of new and augmented feeder bus lines. The capital cost of the new system, including feeder buses and the retirement of the District's existing revenue bonds, is $2,514,861,000.

Consulting Engineers, Coverdale and Colpitts, found that the estimated passenger revenues of this basic five-corridor rapid transit system and the local and feeder bus system will meet costs of operation and maintenance and provision for the replacement of equipment. No revenues are projected for the payment of debt service.

The firm of Stone and Youngberg, engaged by the District to advise on the development of a financing program, found that the entire 89-mile, five-corridor system could be financed by one-half of one percent general sales tax. (Other forms of tax support which have been suggested, including the sales tax on gasoline or the 1% in lieu tax on motor vehicles, would not alone permit financing of either the five-corridor system demanded by community concensus, or the four-corridor system described in the Preliminary Report.)

RECOMMENDED PLAN:

The Recommended Plan includes rail lines placed in subways, in open cut, above ground level on fill, at grade and on aerial structure, with the specific configuration selected which is most economical and most compatible with adjacent land use and existing major utilities. Subway construction has been proposed in those areas where high property values preclude above-ground construction in private right-of-way. This includes portions of Hollywood and Long Beach, the Wilshire Corridor, and in downtown Los Angeles.

The proposed five-corridor system has been routed with a relatively small amount of private property acquisition. Of the total 89 miles of line: 28 miles will be in subway or tunnel, 17 will be in freeway or street medians, 4 will be in other public rights-of-way, 14 miles will be in easements, allowing joint use of existing railroad property, 11 miles will require acquisition of railroad property that is now receiving only minor use. Only 15 miles, or 17% of the proposed system will require private residential, commercial or industrial property for trackage.

In residential areas where private rights-of-way are used for aerial track structures, the ground areas will be landscaped and, thus, be available for parks, playgrounds, and other appropriate uses. In commercial or industrial districts, ground space can be used for parking. The combined utilization of right-of-way will thus be economical in use of land and meet community needs.

Wherever possible, the District has proposed joint use of rights-of-way now

used for existing railroad operation. This assures most economical use of the land and avoids unnecessary partitioning of the community.

The development of the proposed rapid transit program was based upon the trunk line and feeder system concept. The advantages of high-speed transit can be extended to virtually every part of the metropolitan area by coordinating the trunk line system with existing bus lines and the additional feeder bus lines which will be established specifically to bring the commuter from his home to the nearest rapid transit station. Feeder bus lines will provide two types of service: local bus service within two or three miles of the rapid transit stations, and express buses providing connecting service with the rapid transit lines.

Many communities beyond the convenient limits of local feeder bus service will be able to link into the system through the high-speed express buses, pending extension into their areas of further stages of the fully grade-separated rapid transit lines.

AIRPORT EXPRESS SERVICE:

Access to the Los Angeles International Airport is becoming increasingly critical due to increased traffic congestion. In 1967, there were 17,000,000 air passengers. The estimates of growth vary from airport consultants Landrum and Brown's estimate of 40,000,000 airline passengers by 1975 to the Department of Airports' estimate of 57,500,000 in 1975.

A special study indicated that it is feasible to operate a special Airport Express service in addition to regular rapid transit on the Southwest Corridor line. The Airport Express will provide high-speed travel between the proposed City Airline Passenger Terminal, or Metroport, at Union Station and the Los Angeles International Airport, with only one intermediate stop at Seventh and Flower Streets. It is proposed that the Department of Airports provide the facilities beyond the limits of local service lines at the Metroport and at the airport. The study also found that it will be feasible to provide for the transportation of containerized mail for the United States Post Office on the Airport Express service between the Terminal Annex Post Office, adjacent to the Metroport, and the airport.

DESIGN OBJECTIVES:

Based on the requirements of the system and today's knowledge and probable technological developments within the project schedule, the modern and thoroughly proved dual-rail, flanged-wheel vehicle is the most efficient, safe, comfortable, and reliable of all applicable systems. It is the most widely accepted vehicle concept for rapid transit systems because of its superior operational characteristics in switching, speed, and lower capital and operating costs. In addition, the bottom-supported, dual-rail system is the one most adaptable for modification to accomodate future technological

advancements, such as the air cushion concept.

The following design objectives were established to provide the Los Angeles metropolitan area with the safest, most attractive, and most modern system yet designed:

1. The rapid transit system must provide the highest practical speed consistent with required station spacing.

2. The rapid transit vehicle must provide maximum rider comfort, have a climate-controlled interior, and produce the lowest possible operational sound levels both inside and outside.

3. Train headways must be as close as possible to reduce waiting and transfer time to a minimum during peak hours.

4. The system must provide maximum automation to insure safety and reliability.

5. Structural systems, stations, and vehicles must be safe, maintenance free, and aesthetically pleasing.

6. Stations and station areas must be well-lighted and provided with climate control in subway stations to create a pleasant environment for the passenger.

7. Suburban stations must provide convenient parking areas consistent with land use and anticipated patronage.

8. Interface with buses and automobiles at stations must be convenient.

9. Maximum practical use must be made of existing transportation rights-of-way, including railroads, city streets, and freeways.

SYSTEM DESCRIPTION AND OPERATION:

The transit vehicle will be 75 feet long, with seats for 80 passengers, and it will be propelled by electric motors powering each axle. The vehicles will be connected into trains of 2 to 8 cars to meet varying service requirements. The trains will have adequate power for a top speed of 75 mph, with a design load of 1,000 passengers in an 8-car train. Recently developed, precise and consistent automatic train controls will permit safe operation at these speeds with headways as close as 90 seconds. These operational capabilities will provide a capacity with normal loading conditions of 40,000 passengers per track per hour.

This system will contain 66 stations, 26 in subway, with a total parking capacity of 28,000 spaces at 30 stations. Off-street kiss-and-ride facilities

will be provided at 37 stations and bus interface will be available at all station locations. With the top speed of 75 miles per hour, the average speed in the suburban corridors will approximate 40 mph, including station stops. Due to the close station spacing dictated by service to destination areas along Wilshire Boulevard and in the central business district, the Wilshire Corridor average speed is 34 miles per hour.

In this system, automatic train control will be accomplished by on-board digital computers to electronically start and stop the train, open and close the doors, and maintain safe train separation. A computer in the system control center will manage the overall train operation, maintain a check on each train position against its schedule, and make adjustments for changing conditions. Here are some of the overall travel times:

1. The Airport Express service will operate over the same trackage as as Airport-Southwest local service, and will provide an overall travel time between the Metroport and the Los Angeles International Airport of 18.5 minutes. (Transit cars will be slightly modified to provide a different seating arrangement and space for hand baggage. Each express train will include a special car for transporting containerized baggage and mail.)

2. Burbank to Seventh and Flower (rush hour) -- combination express feeder bus-rail rapid transit -- 35 minutes.

3. Pasadena to Sixth and Broadway (rush hour) -- combination express feeder bus-rail rapid transit -- 24 minutes.

4. Whittier to Los Angeles Civic Center (rush hour) -- combination express feeder bus-rail rapid transit -- 42 minutes.

COST ESTIMATES:

Allowing for a one-year engineering lead time prior to the beginning of construction, the total design and construction period for the recommended five-corridor system will be eight years. Thus, based on the assumption that final engineering design will commence in January, 1969, the recommended five-corridor system will be completed and in full operation by the end of 1976.

Based on current and historical trends, it is anticipated that wages and prices will continue to increase along with other cost factors, such as taxes, interest rates, working conditions and regulations. It is necessary to provide for increases to the 1967 prices used to develop the basic estimated costs. The allowance for escalation has been based on 7% per year. (A delay of one year in the program could add an additional $132 million in construction costs.)

The following are the estimates of costs recommended for the five-corridor system (in thousands of dollars):

1.	Structures and Roadbeds	$ 465,264
2.	Stations	379,882
3.	Electrification	98,765
4.	Control and Communication	53,814
5.	Utility Relocation	23,314
6.	Underpinning	33,494
7.	Yards and Shops	15,801
8.	Project Management, Engineering, Construction Management and District Pre-Operating Expense	139,143
9.	Contingency	181,422
10.	Escalation on Construction	622,741
	Subtotal	$2,013,640
11.	Vehicles (Includes Controls and Escalation)	213,451
	TOTAL	$2,227,091

ESTIMATES OF TRAFFIC, REVENUES, AND EXPENSES:

There are approximately 332 miles of freeway in Los Angeles County, and the 1980 Master Plan provides for a total of 1,029 in the County. While the Freeway system serves an essential function for a large number of daily commuters, peak-period demand already exceeds capacity in many sections and continues to increase.

In order for the area to accomodate the expected population growth of 2,000,000 between now and 1980, it will be necessary that there be sufficient transportation facilities, particularly between homes and jobs. It is believed that the present and planned freeways will not be adequate for this purpose, and additional transportation capacity will be essential, particularly in the urban core area where the provision of more freeways beyond those planned for 1980 would be difficult to accomplish because of the density of development.

The recommended rapid transit system should provide this additional capacity that will not only permit continued orderly growth, but would stimulate further development of both population and employment in its service area.

An analysis of population data shows that 67% of the total population of Los Angeles County lies within the residential service area. This area is generally within 10 minutes travel time of the stations and extends beyond where there is ease of access on freeways and arterial streets. Proximity of rapid transit stations to places of employment is of utmost importance. The system has been planned to serve many areas of high employment concentration in the County. The employment service area has been defined as a band extending approximately 1 mile on either side of the proposed route alignments.

It is estimated that in 1980 the recommended five-corridor rapid transit system will serve 138,000,000 passengers annually. This is equivalent to 477,000 passengers on an average week day. Over 75% of the week-day trips will occur during the two-hour morning peak period and the two-hour afternoon peak period. These passenger estimates do not include the Airport Express service.

A large percentage of passengers who will use the system will be diverted from automobiles. The 1980 annual trips that would be made by automobile in the absence of the rapid transit system amount to 100,000,000, of which 89,000,000 would occur in the morning and evening rush periods. In these peak periods of greatest traffic congestion, the rapid transit system would divert about 20% of the medium and long-haul auto trips traveling along the five corridors.

The proposed rapid transit fare schedule provides for the same minimum fare as on the bus system. Based on the bus fare in effect in March, 1968, this would be a minimum fare of 30¢ and would apply to rides up to five miles in length. Fares for rides of longer distances are determined on a declining rate per mile, to reflect the relative fixed and variable costs per passenger. The fare for the maximum length trip of 47 miles between Long Beach and Tampa stations would be at $1.00 which would be at the rate of 2.1¢ per mile. A moderate discount will be available for multiple-ride tickets. Passengers transferring from one rapid transit line to another will not pay a transfer charge.

Rapid transit passengers will be able to transfer to and from feeder buses without paying an additional 30¢ base fare. They will pay only a transfer charge of 5¢ for bus trips of less than 2 miles and an additional 8¢ for each zone thereafter, in accordance with the bus fare structure in effect in March, 1968. Here are some of the single-ride ticket costs for representative trips:

STATIONS	FARES
Barrington to Civic Center	$0.65
Watts to Olympic	$0.45
Van Nuys to Adams	$0.85
Inglewood to County Hospital	$0.65

The estimated 1980 passenger revenue of the recommended rapid transit system will be $70 million. Other revenues will be generated by the rapid transit system, including parking, concession and advertising revenues. A recommended 25¢ charge for all-day parking (for 5,800 of the 28,000 spaces) would produce $400,000 in annual revenues, which will cover the operating and maintenance expenses associated with the parking lots. Another $200,000 per year is anticipated from the sale of space for appropriate advertising within the cars and restricted areas within the stations plus the leasing of space within many of the stations to concessionaires. In summary, total 1980 rapid transit revenues from passengers and other sources are estimated at $71 million.

THE BONDS:

The District's financing consultants recommended general obligation bonds to

be paid from proceeds of special taxes other than general property taxes as the most feasible and economic method of financing a rapid transit system for the people of the district. The bonds would be secured by the full faith and credit of the District, including the power to levy ad valorem property taxes should there be any deficiency in the amount of funds yielded by the special taxes. General obligation bonds represent the least costly means by which the District can borrow the substantial sums needed to finance the proposed project and, in addition, offer the greatest flexibility in meeting debt service costs through various sources of revenue other than the property tax.

The bonds would be authorized in an amount sufficient to finance all major elements of the project, including rolling stock, with adequate allowance for inflation and contingencies. The bond authorization would not be dependent on the future availability of Federal grants or other funds. If such funds become available, the District will be able to realize corresponding savings in financing requirements, and authorized bonds not needed could be cancelled or reserved for second-stage development.

The bonds are proposed to be sold in series over a period of years as construction funds are required. The bonds would mature in specified amounts in specified years. Bonds would be sold by competitive bidding and the actual interest rates established at the competitive sales. Each series of bonds is to mature over a period of approximately 40 years (although, in practice, they will be tailored to market conditions which might well favor a shorter term). The first series of bonds is to be issued in January 1969, and additional series are to be issued at the beginning of each fiscal year thereafter in the net amount required for the project in that fiscal year.

Assembly Bill 101, as amended on March 6, 1968, permits the District to levy a general sales tax (a "retail transactions and use tax") of up to ½%. The tax would be administered and collected by the state, together with its own sales and use taxes. It could be applied only if approved by the electorate, and only in the amount and for the purposes specified in the transit system bond election. In particular, the purposes of the tax could include payment of the principal and interest of District bonds, as well as payment of costs of construction.

The bonds would be general obligations of the District, expected to be fully self-supported (by the general sales tax), but backed by the unlimited tax on substantially all taxable property in Los Angeles County. As such, they should command an excellent credit rating and receive favorable market acceptance.

CONCLUSIONS:

The Stanford Research Institute analyzed traveler and community effects, both measurable and unmeasurable, in terms of their economic and sociological impacts, and their analysis indicated that the benefits accruing from the proposed project clearly exceed its costs.

The benefits of a rapid transit system fall to many people, not just to the transit user -- the automobile driver finds that freeways are less congested; the businessman finds new potential employees who will commute to his plant site; and the property owner finds that his real estate has gained in value. Thus, it is fitting that others besides the user should pay.

Planning in such cities as New York, San Francisco, Atlanta, Baltimore, and Washington, D. C., has included a major reappraisal of the means of paying for rapid transit. It has been concluded that asking the user of the system to pay the total cost, including the building as well as the operating of the system, is both unrealistic and unfair.

According to SRI, the total benefits to District residents expected to be generated by the proposed rapid transit project are estimated to be valued at $253 million annually. They are 87% greater than the estimated annual costs of the project (for debt repayment), indicating a net annual benefit of $117 million.

Total benefits have been estimated by SRI at $85 million per year (in 1968 dollars) in traveler benefits, $109 million per year (in 1968 dollars) in community benefits, plus an annual adjustment of $59 million for inflationary effects. These benefits are compared with an average annual cost (inflated dollars) of $136 million. Both benefits and costs have been properly adjusted to reflect the time value of money.

Of the total benefits, 44% will accrue to travelers. These benefits, in 1968 dollars, will include:

1. Travel time saved at $40 million annually.

2. An expected $46 million savings in automobile operating costs.

3. A $23 million annual reduction in the cost of parking automobiles.

4. A cost savings of $3 million per year as some families avoid becoming two-car families or shift from two- to one-car situations.

5. A reduction in highway accident costs valued at $5 million annually. In addition, 32 fatalities per year and 1,900 injuries should be avoided.

Travel to and from the airport will be significantly improved to the benefit of businessmen and others who now leave their origins as much as 1½ to 2 hours before the flight departure to guard against the possible delays in surface transportation. It is also becoming increasingly difficult to find a parking space at the airport.

Of the total benefits, 56% -- $109 million in 1968 dollars -- will accrue to the community as a whole. Some of the benefits are decreased structural unemployment, improvements in government productivity, a much wider range of

choices in opportunities for both automobile drivers and non-drivers in residential possibilities, travel habits, and accessibility to the facilities of the community. There will be additional benefits in civil defense improvements, air pollution reduction, highway expenditures, and housing efficiencies.

There will be a major change in real estate values and land uses. The capitalized value of the total benefits is about $3 billion. A sizeable portion of this total will be translated into higher property values and rents, as buyers and renters bid to reap the benefits that can be obtained through the use of certain land parcels with appreciated locational value. This will produce a net increase in the value of the property.

The employer will receive a benefit when he finds his costs of supplying parking are reduced because workers have elected to ride rapid transit rather than drive to work. Rapid transit can benefit the business concern in either of two ways:

1. By reducing the demand for parking space, the company is relieved of the need to acquire additional space. If there is an actual reduction in the need for space at a particular location, the business may be able to put the land made available to better use, such as by extension of facilities on the site. It is estimated that rapid transit may allow a reduction of 117,000 parking spaces. This reduction would represent a $23 million annual savings, a major portion of which would accrue to the business community.

2. Another major benefit to business will come through improvement of labor supply, particularly in areas where this is currently a critical problem. This can allow better matches between workers and jobs, with the employer obtaining better skills at a given wage rate, or similar skills at a lower rate. The garment industry, the banking and insurance activities in the downtown area, and the aero-space industry in the airport vicinity are examples of where such productivity increases should occur. The improved balance between labor supply and employment should result in reduced turnover. (With the reduction in unfilled jobs, there should be a reduction in the turnover rate that normally accompanies chronic labor shortages.) Reduced turnover means reduced hiring costs that can now be as much as $1,500 per new employee, and training costs that can be as much as $1,000 per new employee. (Most of the government employment in the District is centered around the Civic Center in Downtown Los Angeles. This is an area of critical labor supply problems and an area where access will be greatly enhanced, allowing government to improve significantly the quality of the labor force. In a $3 billion government operation, the efficiencies available through a massive improvement in labor supply should be significant. A cost reduction of 1/10 of 1% would produce a $3 million saving annually.)

Air pollution is one of the most critical problems of the Los Angeles Basin. Motor vehicles are responsible for about 90% of pollutants discharged in the air daily over Los Angeles, or about 12,000 tons. The proposed, electrically powered transit system will reduce pollution by diversion of automobile travel and particularly by relieving the stop-and-go- congested rush-hour traffic that contributes heavily to pollution. It is estimated that the reduction will be on the order of 300 tons per day. As valuable as this reduction might be, it is only part of the total program for resolving the air pollution problem. The major effort is being focused on the automobile.

Although Los Angeles has a high rate of automobile ownership (2.4 persons per auto in 1960, to 2.1 anticipated in 1980), there are still many District residents who do not fully participate in today's automobile economy. For example, more than one-third of the women of driving age do not have drivers' licenses; one household out of seven has no car.

In the Los Angeles area, those without automobile mobility are vastly limited in their opportunities to travel to schools, hospitals, sporting events, distant medical or professional offices, and the many social and cultural activities that are spread over the 1,500 square miles of coastal Los Angeles County.

The proposed rapid transit system, with its planned feeder buses, will connect a large portion of the residential areas to most major recreational, social, cultural, and educational attraction centers throughout the District. This will return to many of those in the limited-mobility group greatly improved access to the community.

For a person in need of medical attention who could reach a specialized medical care center that otherwise he could not visit, the value might be immeasurable; for a youth who could attend a government-sponsored university where otherwise he would miss a college education, the gain, both individually and to the community, is large.

THE INFORMATION CONTAINED HEREIN ARE EXCERPTS FROM A FINAL REPORT (MAY 1968) ISSUED BY THE SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT.

Prepared by:
HERBERT D. EAGLE
Vice Chairman, Finance Committee
The Citizens Committee for Rapid Transit
8-9-68

RAPID TRANSIT BASIC DATA

contents

August, 1968

FACTS

Initial Phase

Master Plan Public Transportation Concept

To Be Submitted To Los Angeles County Voters

November 5, 1968

Annual Riders (1980)	418,600,000
Daily Riders (1980)	1,400,000
Daily Riders on Los Angeles - El Monte Line (1980)	135,900
Total Miles of Rapid Transit Service	89
Total Miles of Express Feeder Bus Service	250
Total Miles of Local Feeder Bus Service	300
Cost	2,514,861,000

Rapid Transit Terminals and Corridors

Tyler Avenue, El Monte (San Gabriel Valley Corridor)
Barrington Avenue, West Los Angeles (Wilshire Corridor)
Ocean Boulevard & Pine Avenue, Long Beach (Long Beach Corridor)
Sherman Way & Tampa Avenue, Reseda (San Fernando Valley Corridor)
Aviation & Rosecrans Boulevards, Hawthorne (Southwest-International Airport Corridor)

Frequency of Service	90-seconds during rush hours on 7th Street at Flower 3-minutes in suburbs during rush hours 10-minutes at mid-day 15-minutes during evening hours
Types of Trains	Ultramodern, electrically-propelled, air-conditioned
Type of Tracks	Standard-guage, all-welded, rubber-cushioned, steel dual-rails
Number of cars to a train	2 to 8
Train capacity	80 seats to a car
Maximum speed	75 miles per hour
Average speed	40 miles per hour throughout the system except in downtown Los Angeles and along the Wilshire Corridor, where the average speed will be 34 miles per hour.

Construction commencement following voter approval	1970
System in Full Operation	1977

RAPID TRANSIT AND FEEDER BUS SYSTEM

COSTS

Implementation of the 89-miles of first-phase Rapid Transit service proposed by Southern California Rapid Transit District, along with new and augmented bus services, involves the following costs:

Construction	$1,209,477,000
756 Rapid Transit Cars	161,387,000
Right-of-way	160,291,000
Retiring MTA Bonds	31,500,000
850 Feeder Buses	34,750,000
Preliminary Second-Stage Rapid Transit Engineering	8,000,000
Contingencies	222,343,000
Escalation (to meet inflation over the construction period	687,113,000
TOTAL to be financed	$2,514,861,000

RAPID TRANSIT ECONOMIC IMPACT

For every dollar spent to build the rail and bus network proposed by Southern California Rapid Transit District $1.87 in benefits will be returned to the community.

This was the conclusion reached by Stanford Research Institute, which concluded a year-long benefit-cost analysis, terming the project "a sound public investment."

- Benefits outside the district boundaries to residents throughout the state and nation, such as the improved airport access for visitors and the reduced unemployment compensation costs paid by employers outside the district.

Users of the system will benefit by $85 million in benefits, including:

- Travel time saved valued at $40 million annually.
- An expected $46 million savings in automobile operating costs.
- A $23 million annual reduction in the cost of parking automobiles.
- Benefits to bus riders in service improvements or fare reductions, valued at $15 million.
- A costs savings of $3 million yearly as some families avoid becoming two-car families or shift from two to one-car situations.
- A reduction in highway accident costs valued at $5 million annually.
- An anticipated reduction of 32 auto-related accident deaths and 1,900 injuries every year.
- Travel to and from the airport will be significantly improved at a savings of as much as $3 million annually for businessmen and others who now leave their origins as much as 1-1/2 to 2 hours before flight departure to guard against the possible delays in surface transportation.

System users will pay an annual $50 million in transit fares and transit station parking fees in return for the benefits cited above, leaving a net traveler benefit of $85 million per year.

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT'S

FOUR-COUNTY BUS SYSTEM

Serving

Los Angeles, Orange, Riverside and San Bernardino

Current Operational Statistics

Employees..... Bus Drivers, Mechanics, Clerical, Non-Contract	3,900
Total Passengers Transported on a Typical Weekday..	650,000
Passengers Transported Annually.....	196,000,000
Bus Lines.....	116
Buses Owned.....	1,482
Miles Operated on a Typical Weekday.....	170,000
Miles Operated Annually.....	54,000,000
Miles Comprising Regularly Scheduled Routes.....	2,392
Passenger Stops Throughout the System.....	22,400
Cities and Communities Served.....	180
Counties Served.....	Los Angeles Orange Riverside San Bernardino
Annual Revenue.....	$52,000,000

ROUTES

LONG BEACH CORRIDOR

The route begins in subway at the Seventh and Broadway interchange and proceeds southerly under Broadway to a point beyond Washington Boulevard. There it turns eastward and transitions to an aerial structure in private right-of-way north of 25th Avenue. The route then continues eastward parallel to 25th Street and Central Avenue where it turns southward on private right-of-way east of Central Avenue and continues south to Central Avenue to the vicinity of 91st Street. There the line turns eastward again to reach the median of the proposed Industrial Freeway at about 93rd Street. The route then follows the Industrial Freeway south to Greenleaf Boulevard where it leaves the Freeway median and transitions to an aerial structure and continues southeasterly in an aerial easement along the Southern Pacific Railroad right-of-way crossing the Los Angeles River and turning south along the east side of the river. South of the Long Beach Freeway interchange it turns eastward and transitions to subway under Ocean Boulevard where the line terminates at the Long Beach station near Pine Avenue and Ocean Boulevard.

WILSHIRE CORRIDOR

The Wilshire Corridor route would begin in subway under Macy Street at Union Station. It would continue in subway westward to Broadway where it would proceed south to a major interchange with the Long Beach route at the Sixth Street and Broadway Station. The Wilshire line then would turn and proceed westward under Seventh Street to the westerly end of MacArthur Park, where it would curve

northwesterly to Wilshire Boulevard just east of Vermont Avenue. The route would then continue under Wilshire Boulevard to Spaulding Drive in Beverly Hills, where the line turns westerly and proceeds under Santa Monica Boulevard to Avenue of the Stars in Century City. Leaving Century City the line swings northerly and returns to Wilshire Boulevard near Westholm Avenue. From there the line continues westward to the terminal station located north of Wilshire at Barrington Avenue.

SAN FERNANDO VALLEY CORRIDOR

The San Fernando Valley route starts in subway near Western and Wilshire Avenues at the junction station of this route and the Wilshire Boulevard line.

The route from this station is north via open cut in a private right-of-way along the east side of Ridgewood Place to a point south of Sunset Boulevard.

Near Sunset Boulevard and the Hollywood Freeway the line transitions to a subway and proceeds westward under Selma Avenue to the vicinity of La Brea and Selma Avenues with stations providing close access to both Hollywood and Sunset Boulevards. From Selma and La Brea Avenues the route continues via tunnel through the Hollywood Hills to Universal City.

From Universal City to the route terminus at Tampa Avenue and Sherman Way, the system would transition to an aerial structure.

The portions that parallel Van Nuys Boulevard and Lankershim Boulevard would require the purchase of private right-of-way.

The skyway sections on Sherman Way and Chandler Boulevard would be located in the wide median strips of these thoroughfares to the terminal station.

INTERNATIONAL AIRPORT-SOUTHWEST CORRIDOR

The Airport-Southwest Corridor begins at Union Station, proceeding southerly crossing the Hollywood Freeway on aerial structure, portaling into subway and continuing northwesterly under First Street to north of Hill Street. It then turns southwesterly under the Bunker Hill Urban Renewal Project to Flower Street. It continues in subway under Flower Street transitioning to an aerial structure west of 30th Street. It continues southerly in private right-of-way to Exposition Boulevard where it turns westerly jointly utilizing the street median with the Southern Pacific Railroad. The line enters private right-of-way on the north side of Rodeo Road, turning southerly on the west side of Roxton Avenue in private right-of-way, continuing into the median of Leimert Boulevard. It then turns southerly in the median of Crenshaw Boulevard to 66th Street where it turns westerly along the right-of-way of the Atchinson, Topeka and Santa Fe Railroad, which it follows in a southwesterly and southerly direction to its terminal at Aviation and Rosecrans Boulevards.

SAN GABRIEL VALLEY CORRIDOR

The San Gabriel Valley route begins in subway east of Alameda Street and runs under Macy Street to Mission Road. There it emerges from subway and continues, at grade, in the old Pacific Electric right-of-way, entering the center dividing strip of the San Bernardino Freeway just east of California State College. The route remains in the median strip as far as Baldwin Avenue in El Monte where it leaves the freeway on the Pacific Electric right-of-way and transitions to an aerial structure to the El Monte Terminal station at Tyler Avenue.

STATION LOCATIONS

Sixty five station locations have been proposed by Southern California Rapid Transit District for the recommended first-stage lines of the Rapid Transit system.

The station locations---in San Fernando Valley, Long Beach, International Airport-Southwest, San Gabriel Valley and Wilshire Corridors follow:

SAN FERNANDO VALLEY CORRIDOR

Tampa Avenue and Sherman Way (Reseda)

Lindley Avenue and Sherman Way

Balboa Boulevard and Sherman Way

Sepulveda Boulevard and Sherman Way (Van Nuys)

Sherman Way and Tobias (Van Nuys)

Vesper and Sylvan (Van Nuys)

Fulton and Burbank

Laurel Canyon Boulevard and Chandler (North Hollywood)

Lankershim and Magnolia Boulevards (North Hollywood)

Lankershim Boulevard and Hollywood Freeway (Universal City)

La Brea and Selma Avenue (Hollywood)

Vine Street and Selma Avenue (Hollywood)

Santa Monica Boulevard and Ridgewood Place

Beverly Boulevard and Ridgewood Place

LONG BEACH CORRIDOR

Pine Avenue and Ocean Boulevard (Long Beach)

Pacific Coast Highway and (future) De Forrest Avenue

Wardlow Road and (future) De Forrest Avenue

Del Amo Boulevard and Santa Fe Avenue

Compton Boulevard and Industrial Freeway (Compton)

Imperial Highway and Industrial Freeway (Lynwood)

103rd Street and Industrial Freeway (Watts)

Firestone Boulevard and Central Avenue

Gage and Central Avenues

Vernon and Central Avenues

Adams Boulevard and Central Avenue

Washington Boulevard and Broadway

Olympic Boulevard and Broadway

INTERNATIONAL AIRPORT-SOUTHWEST CORRIDOR

AIRPORT EXPRESS

International Airport

Seventh and Flower Streets

Union Station (Metroport)

LOCAL

Rosecrans-Aviation Boulevards (Hawthorne)

El Segundo and Aviation Boulevards (El Segundo)

Century and Aviation Boulevards

Manchester Boulevard and Florence Avenue (Inglewood)

La Brea and Florence Avenues (Inglewood)

Crenshaw Boulevard and 54th Street (View Park)

Exposition Boulevard and Western Avenue

Exposition Boulevard and Vermont Avenue (Exposition Park)

Pico Boulevard and Flower Street (Convention Center)

Seventh and Flower Streets (Transfer Station)

Third Street and Grand Avenue (Bunker Hill)

First Street and Broadway (Civic Center - Transfer Station)

Union Station (Metroport)

SAN GABRIEL VALLEY CORRIDOR

Tyler Avenue and Ramona Boulevard (El Monte)

Rosemead Boulevard (Rosemead)

San Gabriel Boulevard (Rosemead)

Garfield Avenue (Monterey Park and Alhambra)

Fremont Avenue (Alhambra)

Eastern Avenue (State College - Los Angeles)

State Street (County Hospital - Los Angeles)

WILSHIRE CORRIDOR

Barrington Avenue and Goshen Street (West Los Angeles)

Wilshire and Westwood Boulevards (Westwood)

Avenue of the Stars and Santa Monica Boulevard (Century City)

Wilshire Boulevard and Beverly Drive (Beverly Hills)

Wilshire and La Cienega Boulevards

Wilshire Boulevard and Fairfax Avenue

Wilshire Boulevard and La Brea Avenue

Wilshire Boulevard - Western Avenue (Transfer Station)

Wilshire Boulevard and Normandie Avenue

Wilshire Boulevard and Vermont Avenue

Seventh and Alvarado Streets

Seventh Street and Lucas Avenue

Seventh and Flower Streets

Sixth and Broadway

First Street and Broadway (Civic Center)

Union Station

EXPRESS FEEDER LINES

Nearly 250 miles of express feeder bus lines would link communities beyond the outlying terminals of Southern California Rapid Transit District's recommended 89-mile, five-corridor, Rapid Transit System.

The communities to be served by these fast express lines and the stations they would operate to, follow:

SAN FERNANDO VALLEY CORRIDOR

Community		Station
Chatsworth	To	West Valley Terminal (Tampa Station)
San Fernando		Sepulveda Station
Northridge		Lindley Station
Woodland Hills		Lindley Station
Burbank		Universal City Station
Glendale		Universal City Station

INTERNATIONAL AIRPORT-SOUTHWEST CORRIDOR

Rolling Hills-Rolling Hills Estates	To	Rosecrans Station
Palos Verdes-Redondo Beach		Rosecrans Station
Torrance		Rosecrans Station
Gardena		Rosecrans Station
Hawthorne		Rosecrans Station
Culver City		Crenshaw Station (54th Street)

LONG BEACH CORRIDOR

Community		Station
San Pedro	To	Pacific Coast Highway Station
Wilmington		Pacific Coast Highway Station
Lakewood		Del Amo Station
Bellflower		Compton Station
Downey		Compton Station
La Mirada		Compton Station

WILSHIRE CORRIDOR

Santa Monica	To	Westwood Station

SAN GABRIEL VALLEY CORRIDOR

Pomona	To	El Monte Station
Azusa-Glendora		El Monte Station
Covina-West Covina		El Monte Station
La Puente		El Monte Station
Whittier		El Monte Station
East Whittier		El Monte Station
La Canada-Pasadena		Cal-State Station
Monrovia-Arcadia		Rosemead Station
Santa Fe Springs-Pico-Rivera-Commerce		Cal-State Station

Members of the Board of Directors

Southern California Rapid Transit District

Don C. McMillan (District President)
Retired Pasadena City Manager
Business Administrator, Pasadena Museum

Herbert H. Krauch (District Vice President)
Editor (Retired) Los Angeles Herald Examiner

Kermit M. Bill
Mayor, Huntington Park
Realtor, Conway-Pinnell

Charles E. Compton
Councilman, Burbank
Realtor, Paul White Carnahan Realty Co.

A. J. Eyraud, Jr.
President, Asbury Transportation Company

Leonard S. Gleckman
Mayor, West Covina
Stock Broker, California Investors, Inc.

Gordon R. Hahn
Businessman
Former California State Assemblyman &
Los Angeles City Councilman

David K. Hayward
Councilman, Redondo Beach
Owner, David K. Hayward Insurance Agency

Michael E. Macke
Realtor, Macke, Inc.

Douglas A. Newcomb
Superintendent (Retired)
Long Beach Unified School District

Dr. Norman Topping
President, University of Southern California