A Plan for Los Angeles County

Transportation for the 21st Century

LOS ANGELES COUNTY
METROPOLITAN
TRANSPORTATION
AUTHORITY

Adopted March 1995

PP-111.4/95.TMc

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PREFACE

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The mission of the Los Angeles County Metropolitan Transportation Authority (MTA) is clear and has guided the development of the Long Range Transportation Plan from the outset:

> ***"The mission of the Los Angeles County Metropolitan Transportation Authority is to design, construct, operate and maintain a safe, reliable, affordable and efficient transportation system that increases mobility, relieves congestion, and improves air quality to meet the needs of all Los Angeles County residents."***

This Long Range Transportation Plan for Los Angeles County is intended to fulfill this mission despite the difficult financial times in which Los Angeles County finds itself.

In accordance with the MTA's mission, the Plan is intended to promote economic opportunity, improve environmental quality, and provide greater mobility.

ECONOMIC OPPORTUNITY

The Long Range Plan recognizes that congestion costs money and degrades the region's economic competitive edge. Hours of delay in the transportation system equate to lost productivity. By 2015, the strategies proposed in the Plan would save over two million person hours a day. This is roughly the equivalent of $8 billion a year which would otherwise be lost to the economy of Los Angeles County.

ENVIRONMENTAL QUALITY

All projects in the Long Range Plan were evaluated for their contribution to improving air quality. The Plan strongly advocates fuel cell technology, the development of the zero emission Advanced Technology Transit Bus (ATTB), and promoting telecommuting strategies to take people off of the transportation network. By 2015, the strategies proposed in the Plan will remove 2600 metric tons of pollutants each day.

GREATER MOBILITY

By expanding the bus fleet, reallocating buses to the highest demand corridors, building rail only where densely populated urban corridors require this investment, and creating a true High Occupancy Vehicle (HOV) system, better transportation opportunities are provided for the residents of Los

Angeles County. Through a mobility allowance program, people will be provided with a wide array of transit options to better meet their needs. By 2015, the strategies in the Long Range Plan will actually increase the number and percentage of people using transit for work trips.

COST EFFICIENCY

The Long Range Plan projects $72.4 billion in revenues over the next 20 years and is financially constrained. Given the magnitude of the mobility challenge facing Los Angeles County, the program envisioned in the Long Range Plan must be delivered as cost effectively and efficiently as possible. To that end, the MTA has undertaken an aggressive cost containment program. To the extent that significant cost reductions can be achieved in the Long Range Plan, additional projects and programs could be added to the Plan.

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

The Los Angeles County Metropolitan Transportation Authority (MTA) was created by the California State Legislature to administer and plan transportation services for Los Angeles County. The MTA Board adopted a statement of the agency's mission in February 1994:

> ***"The mission of the Los Angeles County Metropolitan Transportation Authority is to design, construct, operate and maintain a safe, reliable, affordable and efficient transportation system that increases mobility, relieves congestion, and improves air quality to meet the needs of all Los Angeles County residents."***

This Transportation Plan for Los Angeles County, known as the Long Range Plan, is the strategic plan of the MTA and establishes the framework that will guide the MTA in fulfilling its mission. The Long Range Plan takes into account economic realities and offers reasonable, workable and achievable solutions to the transportation problems facing Los Angeles County.

The basic premise of the Long Range Plan is that Los Angeles County residents will use public transportation if it is safe, convenient, clean, on time, and affordable. The MTA intends to make sure that the Los Angeles County transportation system is all of these.

This Executive Summary will cover the **Resolutions** adopted by the MTA Board and will also highlight:

- The Mobility Challenge facing Los Angeles County
- Development Process of the Long Range Plan
- Major Project and Program Elements of the Long Range Plan
- Financial Elements of the Long Range Plan

These items are covered in greater detail in the appropriate chapters of this Plan document.

RESOLUTION

RESOLVED, that the Board of Directors of the Los Angeles County Metropolitan Transportation Authority adopts, at its March 22, 1995 meeting, the Long Range Transportation Plan which includes:

a. a report back on an implementation plan for a demonstration program of the **Mobility Allowance Concept** in FY 1995-96;

b. a report back on a study of the feasibility of using **Diesel Multiple Unit (DMU) technology** on the MTA owned rights-of-way;

c. a report back on potential **cost savings measures** in areas of the construction program;

d. requiring **specific action** for approval of each project and program in the Long Range Plan;

e. establishing a **formal review and readoption** of the Long Range Plan every two years;

f. establishing an **annual financial review** of the Long Range Plan; and

g. utilization of the Long Range Transportation Plan as a **strategic planning tool** to assist in the development of other plans;

and amended to include:

RESOLVED FURTHER, that:

a. no MTA funds be allocated to the Alameda Corridor Project until either the Third Amendment is repealed and full power is restored to the Governing Board on which the MTA is represented, or MTA has a seat on the Finance Committee;

b. the CEO work with the Alameda Corridor Transportation Authority on a value engineering review to identify potential cost savings opportunities;

c. the CEO direct affected project area teams to meet with corridor cities and report back to the Board within 90 days with a range of options for lessening the deleterious effects of the increased freight traffic associated with the Alameda Corridor Project; and

d. any local contributions to the Alameda Corridor be applied to meet the minimum local match requirements to all future phases in Los Angeles County.

RESOLVED FURTHER, that:

a. a cost containment plan be developed by staff for Board approval within the next 90 days which includes a report on design and construction savings, potential new revenue as well as a forecast of operational costs for the next 20 years;

b. a 5-year implementation plan be developed for Board approval within 180 days, which would incorporate the cost constraints presented in the Cost Containment Plan, by detailing timeline, actions, criteria, and projects to be pursued;

c. staff develop within 180 days an implementation strategy for the Mobility Allowance Program detailing its target population, funding, criteria, and resource deployment; and

d. coordinate staff efforts with SCAG to ensure that the Long Range Transportation Plan is in conformance with the Regional Mobility Element;

RESOLVED FURTHER, that the second phase of the East-West Valley rail line, from the 405 Freeway to the Warner Center, be included as part of the group of five rail lines scheduled for inclusion in the Long Range Plan should funds become available in the 2nd decade of the Plan;

RESOLVED FURTHER, that the MTA continue to work with the Los Angeles County Department of Airports and any other agency or entity that may be appropriate in an effort to secure the construction of a rail connection between the Metro Green Line and the LAX Central Terminal Area, and report back on a quarterly basis beginning July 1, 1995, the progress of the effort;

RESOLVED FURTHER, that Caltrans present their 1995-1996 and long-range soundwall programs within 60 days to the MTA's Planning and Programming Committee; which shall include alternate funding scenarios to accelerate the program in Los Angeles County with notice of the presentation to be given to all affected jurisdictions within Los Angeles County;

RESOLVED FURTHER, that the Board reaffirms its policy to only support projects that are environmentally addressed. With regard to the 710 Gap Closure project, the funds programmed in the Long Range Transportation Plan shall not be released until the environmental issues raised by El Sereno and other cities are fully addressed; and

RESOLVED FURTHER, that the Canoga right-of-way from the Chatsworth Metrolink Station to Warner Center is included as a candidate corridor in the DMU-Rail-Bus Option Element, during the development of the plans to implement the DMU technology in various areas; and

RESOLVED FURTHER, that Director Alatorre's motion regarding the Pasadena Blue Line, Director Fasana's motion regarding Pasadena Rail Line and HOV lanes, and Director Cragin's motion regarding extension of the Green Line into the Galleria Shopping Mall, are referred to a Cost Containment Workshop for further review and analysis.

THE MOBILITY CHALLENGE

Based on demographic forecasts prepared by the Southern California Association of Governments (SCAG), population and employment in Los Angeles County, in terms of both growth and density, will increase dramatically in the next two decades.

- Los Angeles County population will increase by almost 3 million people by the year 2015. This is an increase of over 35% from the 1990 population and is equivalent to adding a city the size of Los Angeles to the County population.

- Los Angeles County employment will increase by over 1.3 million jobs by the year 2015. This is an increase of almost 29% from the 1990 employment base.

Without improvements to our current transportation system or changes in the behavior of the traveling public, the projected increase in population and employment would reduce average countywide morning peak period speeds from a current level of 30 to 40 miles per hour to 15 miles per hour or, in some rapidly growing outlying areas, to less than 10 miles per hour.

While demands on the transportation system continue to grow, the amount of funding projected to be available during the next 20 years to improve the system is limited. This is mainly due to the prolonged recession which has led to structural changes in the Los Angeles County economy. These changes will result in a reduction in anticipated future sales tax revenues.

With significant population and employment growth, and given constrained financial resources, the region must judiciously focus its resources on maximizing the use of the existing transportation system and implementing new projects, programs and strategies that most effectively improve transit capacity and speed. This strategy will provide viable alternatives to the single occupant automobile trip.

DEVELOPMENT OF THE LONG RANGE PLAN

The Long Range Plan is the end-product of an intensive six month planning process during which the MTA analyzed and considered various planning and financial scenarios. It was an open process in which the MTA Board, interested parties, and the public were invited to review and comment on the results of planning and financial analyses conducted up to that point and to provide direction for future steps.

The development process for the Long Range Plan included a number of key steps:

- **Establish the Baseline** - A baseline list of projects and programs which were either under construction or fully funded was developed as the starting point for the Long Range Plan.

- **Determine MTA Financial Capacity** - An analysis was completed to estimate the amount of revenues available to fund additional projects and programs beyond the Baseline.

- **Establish List of Additional Projects and Programs** - A list was created of additional projects and programs that would enhance the Baseline transportation system.

- **Analyze the Impacts of Projects and Programs** - Using a computer simulation model, a rigorous technical analysis was conducted to determine mobility, air quality, and cost-effectiveness contributions of the Baseline system, and each individual new project and program, to projected year 2015 conditions.

- **Establish Planning Scenarios** - Financially constrained scenarios were developed which included different combinations of bus, rail and highway projects and programs.

- **Analyze Impacts of Scenarios** - Each of the planning scenarios were analyzed to determine their mobility, air quality, and cost-effectiveness impacts along with their impacts on transit mode share.

- **Develop Adopted Long Range Plan** - The Adopted Long Range Plan was developed based on the analysis and process described above.

- **Evaluate and Implement Cost Savings** - The MTA Board established a Board committee that will evaluate existing and planned construction projects for potential cost savings.

In part, the Long Range Plan is being developed to provide a strategic planning tool for use in developing other planning and programming documents. These include plans developed by the Southern California Association of Governments (SCAG), the officially designated regional planning agency.

The Long Range Plan was developed in consultation with SCAG to ensure that it was consistent with

the existing Regional Mobility Element (RME) as well as in compliance with federal ISTEA planning and air quality requirements. The RME of the Regional Comprehensive Plan is SCAG's major policy and planning statement on the region's transportation issues and goals. The Long Range Plan will also be an important building block in the regional planning process and will assist SCAG in preparing for future updates of the RME. The Plan is not a substitute for the adopted RME or regional planning process, rather, it is an input to the process.

MAJOR ELEMENTS OF THE LONG RANGE PLAN

The Long Range Plan vision is to develop a multimodal system that better serves the needs of transit dependent riders, while also providing a network that will attract solo drivers out of their cars, primarily through faster transit speeds, improved quality of service and more commute choices.

The Long Range Plan sets forth major policy directions which will guide the MTA in accomplishing its mission to construct and operate a safe, reliable, affordable and efficient transportation system:

- **Maintain existing revenue sources** and aggressively pursue new transportation revenues for Los Angeles County. In particular, seek to maintain a 50% federal contribution to current and future rail lines. This Plan assumes that approximately 50% of the funding for Red Line Segments 2 and 3 will come from federal contributions to the projects, as consistent with the Full Funding Grant Agreement. The assumption of a 50% federal contribution is carried forward for the funding of three future rail lines: San Fernando Valley East/West and the Eastern and Western extensions of the Metro Red Line. ***If the federal contribution, either on an annual or a total basis, is lower than anticipated, the timing and delivery of the above projects will be impacted.***

- **Improve bus transit service** by targeting highly transit dependent areas with better, more frequent service. Create financial allowances, through the Mobility Allowance program, to fund flexible transit options such as smart shuttles, vans, community based transit, neighborhood collectors, shared taxis for off-peak service and other alternative service delivery strategies. Add 300 buses to the total countywide peak bus fleet to improve service quality in high demand areas and, as rail lines open, eliminate duplicate bus routes and thereby reallocate up to 140 additional buses for other needed services.

  The development of the Advanced Technology Transit Bus (ATTB) is a key component of the MTA's strategy to improve the comfort, convenience, cost efficiency, and operating quality of bus service throughout Los Angeles County. In conjunction with the ATTB development, a Fuel Cell Buyers' Consortium has also been formed to achieve the rapid and successful transition to zero emission buses. This conversion will help to improve air quality and will support defense conversion efforts and the creation of new advanced technology jobs in Los Angeles County.

- **Continue developing Los Angeles County's rail network** by opening the Metro Green Line system, building the Pasadena Line, building a rail line in the San Fernando Valley and completing the Eastern and Western extensions of the Metro Red Line. Six additional projects that performed well are still under consideration in the second decade of the Plan **if additional funds become available.** These projects are Crenshaw Corridor; Downtown Connector; Exposition Line (Downtown to USC); Glendale/ Burbank Line; San Fernando Valley East-West (405 Fwy to Warner Center); and the 10/60 Corridor. Certain other projects had lower overall performance; however, future funding changes (such as creation of special programs at the State or Federal level) may warrant special consideration of these projects. For example, if a special funding source for intermodal connections becomes available, the Green Line eastern extension to Norwalk might become a viable project.

- **Improve highway transit speeds and service** by constructing 279 miles of HOV lanes and gap closures on freeways and major streets, adding 130 miles of arterial bus lanes on surface streets and increasing traffic signal synchronization efforts throughout the county.

- **Promote and implement innovative strategies** that encourage mass transit usage by identifying customer needs and providing a system that meets those needs. These strategies include methods of optimizing the current system by making it more efficient and reliable, as well as methods that make transit easier to use through market research of both transit users and non-transit users and implementation of transit-related advancements such as improved passenger information systems and smart fare cards.

- **Make use of existing rights-of-way** by enhancing commuter rail service and exploring the option of using railbus (DMU) technology to provide a lower cost alternative to light rail systems in corridors such as Glendale/Burbank, and the extension to the Pasadena Line.

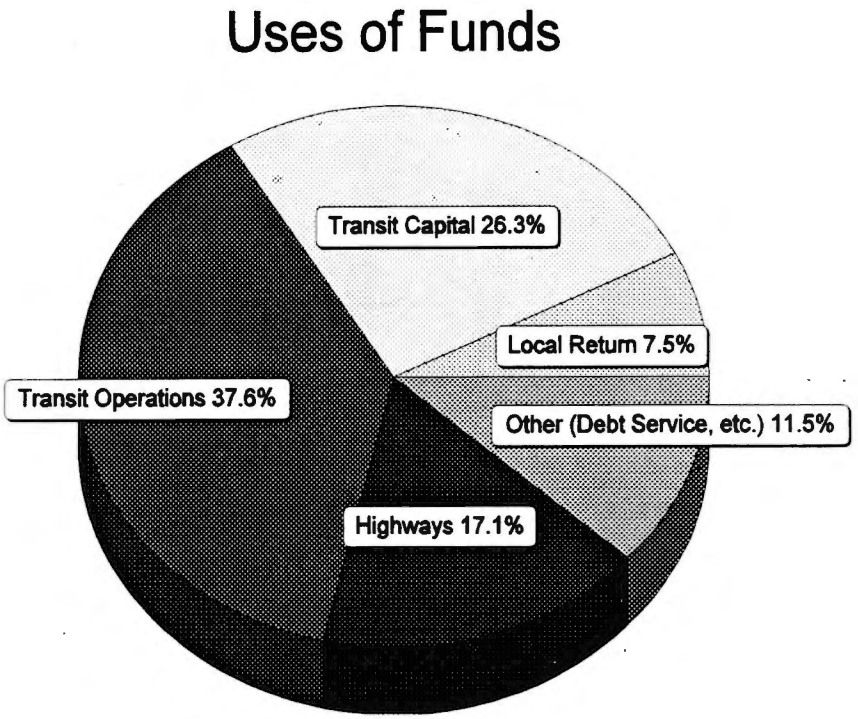
- **Participate as a financial partner in the Alameda Corridor project** to help to ensure the economic success of the region by facilitating the efficient movement of goods.

- **Promote changes in behaviors of the commuting public** by exploring and advancing policies that discourage single occupancy vehicle travel and encourage greater reliance on transit, ridesharing, and innovative alternatives such as telecommuting. These policy changes will also encourage local jurisdictions to implement parking management and land use strategies that are favorable to public transportation.

- **Implement cost savings measures** to increase the cost efficient delivery of both transit services and capital projects.

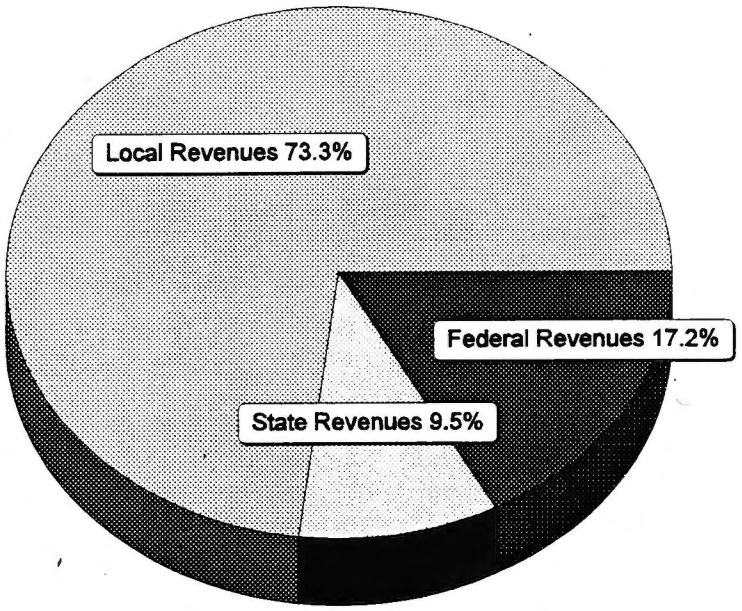
FINANCIAL ELEMENTS OF THE LONG RANGE PLAN

The Long Range Plan proposes a $72 billion investment in Los Angeles County's transportation future. The following chart shows the percentage of funds devoted to the various types of projects and programs:



The $72 billion investment will be funded with a variety of local, state, and federal revenues. he majority of the funding in the Long Range Plan is expected to come from local sources:

Sources of Funds



Financial Assumptions

The Long Range Plan is financially constrained, assuming revenues that can reasonably be expected to be available. It considers and plans for both the construction costs and the operating costs of various projects and programs. Projected funding and costs are balanced each year of the Plan. The Long Range Plan strategically considers the impacts of a New Revenues Scenario in the second decade of the Plan.

The delivery of all projects and programs in the Long Range Plan is dependent upon the availability of local, state, and federal revenues at the levels projected. Major changes in state or federal policy, or unanticipated shifts in the economy, would impact the implementation of the Long Range Plan as presently constituted. Similarly, the Plan relies on the best available capital and operating cost estimates. Should costs rise unexpectedly, implementation of the Plan will be affected. Key financial assumptions are discussed in greater detail in Chapter 4 of this document. Some of the key financial assumptions are:

- **The MTA operating deficit is assumed to be resolved** in the near term and beyond through a combination of cost savings measures and revenue enhancements. MTA transit operating revenue and cost projections in the Long Range Plan are based on the adopted FY 1994-95 MTA Budget. Since adoption of the budget, revised revenue projections indicate lower fare revenues than were anticipated. Over the next several months, the MTA will be developing

a balanced budget for FY 1995-96 that will use updated revenue forecasts and may require changes in the way that the MTA delivers and funds its current programs. As the Budget is developed, impacts on the Long Range Plan will be analyzed and incorporated.

- **The September 1994 *UCLA Business Forecasting Project Long Term Forecast for Los Angeles County*** is used in the Long Range Plan to project future sales tax revenues totalling $33 billion in the plan period. These revenues constitute over 45% of the total funding in the Plan and are used in part to fund debt service on bonds for rail and highway construction projects. If sales tax revenues are lower than projected, planned projects would be delayed until bonds could be issued, unless comparable new revenues were identified or cost savings measures were implemented.

- **No new revenue sources are assumed** to be available over and above those local, state, and federal revenue sources that are currently available. It is assumed that the MTA will maintain the level of funding provided by its current revenue sources and that this level of funding will increase with inflation. In particular, the Plan assumes that approximately 50% of the funding for Red Line Segments 2 and 3 will come from federal contributions to the projects, as consistent with the Full Funding Grant Agreement. The assumption of a 50% federal contribution is carried forward for the funding of three future rail lines: San Fernando Valley East/West and the Eastern and Western extensions of the Metro Red Line. ***If the federal contribution, either on an annual or a total basis, is lower than anticipated, the timing and delivery of the above projects will be impacted.***

- **A contingency / reserve fund is established** in the second decade of the Plan. The Plan sets aside revenues of approximately $700 million, or less than 1% of the total planned revenues, for this reserve/contingency fund. In order to receive federal funds for future rail projects, the MTA will most likely be required to maintain a reserve fund. Also, this contingency fund guards against the impacts of future unanticipated reductions in planned revenues or increases in project and program budgets.

CHAPTER 1
INTRODUCTION

CHAPTER 1: INTRODUCTION

In April 1992, the Los Angeles County Transportation Commission adopted a 30-Year Integrated Transportation Plan and committed to update the plan every two years. Since that first plan, a new public agency known as the Los Angeles County Metropolitan Transportation Authority (MTA) was created to merge the countywide public transportation responsibilities of the Commission and the regional transit responsibilities of the Southern California Rapid Transit District. The MTA has a broad scope of responsibilities which encompass programming of the region's transportation funds, coordination of various transportation services, construction and operation of the public transit system, and integration of transit and highway systems and programs throughout the County.

THE MTA'S MISSION AND LONG RANGE PLAN GOALS

The MTA Board adopted a statement of its mission as a new agency in February 1994:

> *"The mission of the Los Angeles County Metropolitan Transportation Authority is to design, construct, operate and maintain a safe, reliable, affordable and efficient transportation system that increases mobility, relieves congestion, and improves air quality to meet the needs of all Los Angeles County residents."*

This new Transportation Plan for Los Angeles County, known as the Long Range Plan, implements the MTA's mission and is driven by the following goals:

- **INTEGRATED, MULTIMODAL SYSTEM**: Provide for a mix of transportation alternatives that is capable of meeting the continuing need for personal mobility and the movement of goods. Continue to build on and improve the significant investment already made in highways and transit in Los Angeles County.

- **FISCAL STABILITY**: Reduce costs and increase cost efficiency, to "live within our means", without compromising services. Undertake new or expand existing projects and programs only as existing or new revenues permit. Focus on maintaining and expanding existing revenue sources and obtaining new revenues.

- **CUSTOMER SERVICE**: Pursue technologies that make using public transportation more attractive and improve our service and communication to customers. Increase system reliability and efficiency by ensuring that trains and buses run on time and that adequate resources are made available to ensure a clean, safe environment for transit passengers.

- **EQUITY AND ECONOMIC DEVELOPMENT:** Ensure that the $72 billion investment represented by the Long Range Plan is equitably distributed, based on transportation needs, and that the economic impacts are managed to maximize community benefit. Facilitate economic development in conjunction with transit improvements. Also, focus on equity with respect to cost, quality and access to service.

- **ENVIRONMENT:** Continue pursuing alternate fuel technologies and other initiatives to improve air quality.

The Plan is multimodal, recognizing that we must provide residents and visitors with more choices on how to get from point A to point B, whether their destinations are work, shopping or recreation. While the automobile will continue to be the most popular mode of travel in Los Angeles, increasing traffic congestion and air quality concerns demand that we provide residents with alternatives to driving alone. The challenge is to ensure that alternative modes of travel are safe, reliable, efficient, and affordable.

Affordability is a key component of the plan, at two levels. A large percentage of MTA riders are transit-dependent, relying on public transportation to reach their jobs, run errands, and visit friends and family. Affordable transportation alternatives must be provided for these residents, as well as for all transit users to maintain and increase transit ridership. At another level, the MTA is required under new federal directives to develop a long-range transportation plan that is affordable and can be delivered with revenues estimated to be available over the next twenty years. In order to receive federal funds made available through the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), the MTA must demonstrate that its long range plan for constructing highway and rail projects and operating the transit system is a balanced and fiscally-constrained one.

THE MOBILITY CHALLENGE

The 20-year mobility challenge is daunting. The percentage of people using transit and ridesharing has continued to decline, while the amount of travel in Los Angeles continues to rise. Additionally, more than 3 million new residents and 1.3 million new jobs will be added to the Los Angeles region over the next two decades. Without improvements to our current transportation system or changes in the behavior of the traveling public, average countywide commuting speeds currently at 30 to 40 miles per hour will decline to 15 miles per hour or, in some rapidly growing outlying areas, to less than 10 miles per hour. Improved transit speeds, ridesharing and aggressive, perhaps painful, demand management measures will be needed to keep pace with the population growth and essential economic expansion.

While the demands on the transportation system continue to grow, the amount of funding projected to be available during the next 20-years to improve the system is limited. The 30-Year Plan had estimated that more than $100 billion would be available over 20 years to support an ambitious collection of transit and highway projects. The prolonged recession has led to structural changes to

the Los Angeles County economy, reducing the anticipated future sales tax revenue receipts by almost one third in the same time frame.

With constrained financial resources, projected decreasing transit usage, and significant population and employment growth, the MTA must focus its resources on projects, programs and strategies that most effectively improve the capacity and speed of transit to provide viable alternatives to the single occupant automobile trip.

The Adopted Plan proposes a $72 billion investment in Los Angeles County's transportation system. These funds will be used to maintain and improve transit service levels throughout the County, buy new buses, build highway projects such as high occupancy vehicle lanes, construct new rail lines, implement strategies to improve transit speeds, and test innovative services such as smart shuttles and community-based transit. This investment will be funded with a variety of local, state and federal revenues.

DEVELOPMENT OF THE PLAN

The Long Range Transportation Plan is the end-product of a six month planning process during which the MTA analyzed and considered various planning and financial scenarios. It was an open process in which the MTA Board, interested parties, and the public were invited to review and comment on the results of planning and financial analyses conducted up to that point and to provide staff with direction for future steps. This was done through a series of six MTA Board public workshop presentations. Additionally, these workshop presentations were reviewed with elected officials, local agencies, community groups, and business organizations.

Anticipating regional transportation demands over a 20 year period is a complex, time-consuming task which requires the use of computer models for data analysis, coupled with sound planning judgment. During the planning process, data was reviewed which indicated where and what the current transportation demands are, where growth is expected to occur in the region, how this will affect future mobility, and which transportation modes best meet the unique needs of residents living in different areas.

The development process for the Long Range Plan included a number of key steps, as follows:

1. **Establish the Baseline:** A baseline list of projects was developed as the starting point for the reassessment of the Long Range Plan. It included those projects currently under construction or having a full funding commitment. These projects are listed in Appendix B.

2. **Determine MTA Financial Capacity**: After the baseline list of projects is funded, additional local, state and federal revenues are available to fund new projects and programs within the twenty year period.

3. **Establish List of Additional Projects and Programs:** A list was created of additional projects and programs above the baseline which would enhance the baseline list of projects and programs and provide further solutions to transportation problems. These projects and programs do not currently have a firm funding commitment.

4. **Analyze the Impacts of Projects and Programs:** Using a computer simulation model, a rigorous technical analysis was conducted of the impacts of the Baseline system and each individual new project to determine cost-effectiveness, mobility, and air quality impacts associated with these projects. This quantitative method of evaluating projects was accompanied by a more qualitative method, based on ISTEA Metropolitan Planning Factors, which address the environmental, social and economic impacts of projects as well as their contribution to an intermodal system.

5. **Establish Planning Scenarios:** Using the results of the steps above, potential scenarios were developed which included different combinations of bus, rail and highway projects and programs. Each of these scenarios was financially-constrained, based on currently projected revenues available.

6. **Analyze the Impacts of Scenarios**: Each of the potential scenarios were analyzed, as before, to determine their cost-effectiveness, mobility, and air quality impacts, along with their impacts on transit mode share.

7. **Develop Adopted Long Range Plan:** The Adopted Long Range Plan was established based on the results of all the above steps. The Adopted Plan incorporates the scenario which performed the best overall. It is important to note that the delivery of all projects and programs contained in the Adopted Plan is dependent on local, state, and federal revenues currently available over the next two decades. The economic assumptions are based on the best information available at the present time. Major changes in current policy at the state or federal level, or unanticipated shifts in the economy, would impact our ability to implement the Adopted Plan as presently constituted.

8. **Evaluate and Implement Cost Savings Initiatives**: The MTA Board established a Board committee that will evaluate existing and planned construction projects for potential cost savings. These and other cost savings initiatives will be ongoing and recommendations, results, and impacts on the Long Range Plan will be reported back to the Board.

Any cost savings achieved through these initiatives would result in additional revenues which could be used to mitigate the effects of unanticipated reductions in local, state or federal revenues, to fund unanticipated increases in project or program costs, or to fund additional projects and programs beyond those in the Adopted Plan. The Adopted Long Range Plan will be updated to reflect new cost information as well as other changes and additions to the Plan resulting from cost savings.

BACKGROUND

The LACTC Board adopted the 30-Year Plan in 1992 with the guiding recommendations that include an annual update to the Board and formal review and readoption of the Plan every two years. The Adopted Plan provides much more than a formal review of the existing Plan; it includes new directions and policies for a new agency facing major challenges.

Since the 1992 adoption of the Plan, significant and profound changes have occurred which have far-reaching and permanent impacts on the MTA in terms of providing solutions to the transportation problems facing Los Angeles County. These major events include:

Merger: The merger of the Los Angeles County Transportation Commission with the Southern California Rapid Transit District to create the Los Angeles County Metropolitan Transportation Authority. The merger united within one agency all the planning, programming and operating functions for Los Angeles County's regional transportation system. As a new organization, the MTA has had to reorganize and redefine many of its internal and external goals;

Recession: The most severe and protracted recession in Los Angeles County since the Great Depression. Economic forecasts conducted subsequent to the 1992 adoption of the 30-Year Plan estimate that sales tax revenues will decrease by as much as $6 billion due to the recession's structural impact on the region's economy. Economic conditions combined with the delay in the construction of Los Angeles County's transportation system have also impacted the availability of other local, state and federal revenues. For example, the amount of bonds issued has decreased by $10 billion, transit fares and other local revenues are reduced by $7 billion, and state and federal revenues are reduced by $9 billion. Overall, the revenue reduction over the 20 year period equals more than $30 billion.

State Funding Shortfalls: A $5 billion shortfall in the State Transportation Improvement Program (STIP), resulting in a loss of revenues to the MTA and project delays;

Together, these events result in substantially lower revenue projections, some higher project costs due to delays, and new priorities, requiring a reduction in the transportation program envisioned in the adopted 30-Year Plan.

Also reflected in the Adopted Plan is the MTA's decision to shorten the planning time frame from thirty to twenty years. This decision is based in part on the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) requirement that long-range metropolitan plans be fiscally-constrained within a 20-year time frame. Also, a twenty year time period is more realistic to forecast future issues and conditions.

RELATIONSHIP TO OTHER PLANS AND PROCESSES

The Long Range Plan was designed to provide a flexible policy framework and planning tool for the evaluation of complex transportation policy choices and funding decisions within the 20-year planning horizon. **While the Plan provides a framework and overall policy direction for these other plans and processes, it is not a substitute for separate, specific MTA Board action on these documents.** In addition, the fact that a project is included in the Long Range Plan is not a substitute for Board action on the project. All review, approval, and regulatory requirements related to each specific project are performed independently of the Long Range Plan.

The Long Range Plan provides a framework for the following plans or documents prepared by the MTA:

- Transportation Improvement Programs
- Short Range Transit Plans
- Multi-Year Call for Projects
- MTA Annual Budget
- Congestion Management Plan

as well as for Plans developed by other regional agencies, including:

- Regional Mobility Element
- Air Quality Management Plan
- Regional Transportation Improvement Program

Appendix C further describes the Plan's relationship to other planning and programming documents.

FORMAT OF THE PLAN

Chapter 2, *The Mobility Challenge: Regional Transportation and Demographic Conditions*, describes the context in which the region's transportation system operates through a discussion of population and employment projections, development patterns, and travel and environmental conditions. Additionally, it raises key issues to be considered in improving the system.

Chapter 3, *The Plan*, describes the proposed transportation system by element: TRANSIT, HIGHWAY, MULTIMODAL, and TRANSPORTATION POLICY. Each element includes a discussion of the various strategies incorporated in that element. The chapter concludes with a description of how the Plan performs in light of performance measure indices, mode split, transit speeds, and highway and freeway speeds.

Chapter 4, *Financial Element*, describes the economic conditions affecting the County and outlines the key financial policies and assumptions that underlie the Long Range Plan. It includes a

description of current project and program costs by element and the revenues available to fund the transportation system over the next 20 years.

Finally, the *Technical Appendices* provide additional information on the project evaluation process used in the development of the Plan, a description of the baseline program, and other technical and reference materials.

CHAPTER 2
THE MOBILITY CHALLENGE

CHAPTER 2: THE MOBILITY CHALLENGE
Regional Transportation and Demographic Conditions

ANALYSIS METHODOLOGY

Before undertaking a plan of action, the environment in which the plan is to unfold must first be anticipated. The Long Range Transportation Plan provides a blueprint for addressing not only the present conditions, but the future that the plan is to encompass. That future has been established as the next twenty years culminating at the Year 2015. What does the future hold for Los Angeles County growth and travel conditions? Answering this question is the first step in determining the most prudent options that will best accommodate that future. This is the mobility challenge.

There are known factors upon which the future can be postulated. The trends in demographic growth, travel behavior, existing transportation systems and previously adopted transportation commitments all point to a future that will occur if no fundamental change in these elements occur. This is the Baseline Scenario that was analyzed to identify the magnitude of the transportation problem facing Los Angeles County by the Year 2015. This chapter provides additional detail on the sources of information used to forecast Baseline Scenario conditions. Using the deficiencies identified in this analysis, potential alternatives designed to mitigate the effects can be identified and evaluated in subsequent steps of the planning process.

DEMOGRAPHIC FORECASTS AND DEVELOPMENT PATTERNS

Demographic forecasts for Los Angeles County are prepared by the Southern California Association of Governments (SCAG). As the federally-mandated Metropolitan Planning Organization covering Los Angeles and neighboring counties, it is required that these population and employment forecasts be used in planning studies that may lead to federal and state funding. SCAG's forecasting process subdivides county-level control forecasts, provided by the State Department of Finance, into each of the census tracts (approximately 1,650 in Los Angeles County) on the basis of the general land use plans provided by the various jurisdictions in the region. This forecast of census tract demographics is used in the MTA computerized travel simulation forecasting model. The MTA Long Range Transportation Plan utilizes the Year 2015 Forecast prepared by SCAG in April 1994.

Population Forecasts

In 1990, the Census Bureau recorded approximately 8.9 million people living in Los Angeles County (Exhibit 2-1). By the Year 2015, this population is expected to grow to 11.8 million. This represents an increase of nearly three million and 35 percent more than currently reside in Los Angeles County. It is noteworthy that this projected increase, alone, is more than currently reside in Orange County today, and nearly the equivalent of adding another city of Los Angeles to the existing county population.

Currently, the highest population density in Los Angeles County occurs in the central area in and around downtown Los Angeles (Exhibit 2-2), with medium densities in the Beach Cities and Long Beach areas. By the Year 2015, the Burbank-North Hollywood and Glendale-North Los Angeles areas will reach the medium density level, while the East San Gabriel Valley, North San Fernando Valley and Santa Monica areas will achieve the low-medium density category.

The SCAG population forecast indicates considerable growth throughout Los Angeles County with only Malibu, Calabasas and the Angeles Forest areas showing comparatively little growth. The largest increases in population are projected to occur in the communities of Palmdale and Santa Clarita where each will add more than 275,000 people over the next twenty years (Exhibit 2-3). These communities are followed by Lancaster, west San Fernando Valley, San Gabriel Valley, and the central communities immediately east and west of downtown Los Angeles that will each add more than 180,000 people. However, with the already substantial population density in the central communities of the basin, the percentage growth of these communities will be less than twenty percent. In contrast, the less dense areas in North County and the Angeles Forest are expected to double, and sometimes more than triple, their current population over the next twenty years.

Employment Forecasts

Similar to the projections for population, Los Angeles County employment will also grow significantly over the next twenty years. From the 1990 level of 4.6 million jobs in the County, another 1.3 million (29%) jobs will be added by the Year 2015 for a total of nearly six million jobs (Exhibit 2-4). This will account for nearly sixty percent of all jobs in the SCAG region.

The highest current employment densities are in downtown and west Los Angeles where there are more than ten jobs per acre (Exhibit 2-5). The communities in the Beach Cities, Mid East Cities, Long Beach, and Burbank-North Hollywood are in the next highest category of current employment. By the Year 2015, the Mid East and Beach Cities are projected to join the downtown and westside in the highest employment densities in the county. The west San Fernando Valley, Palos Verdes-San Pedro and Southeast Cities are forecasted to attain the medium-high category of employment density.

Exhibit 2-1

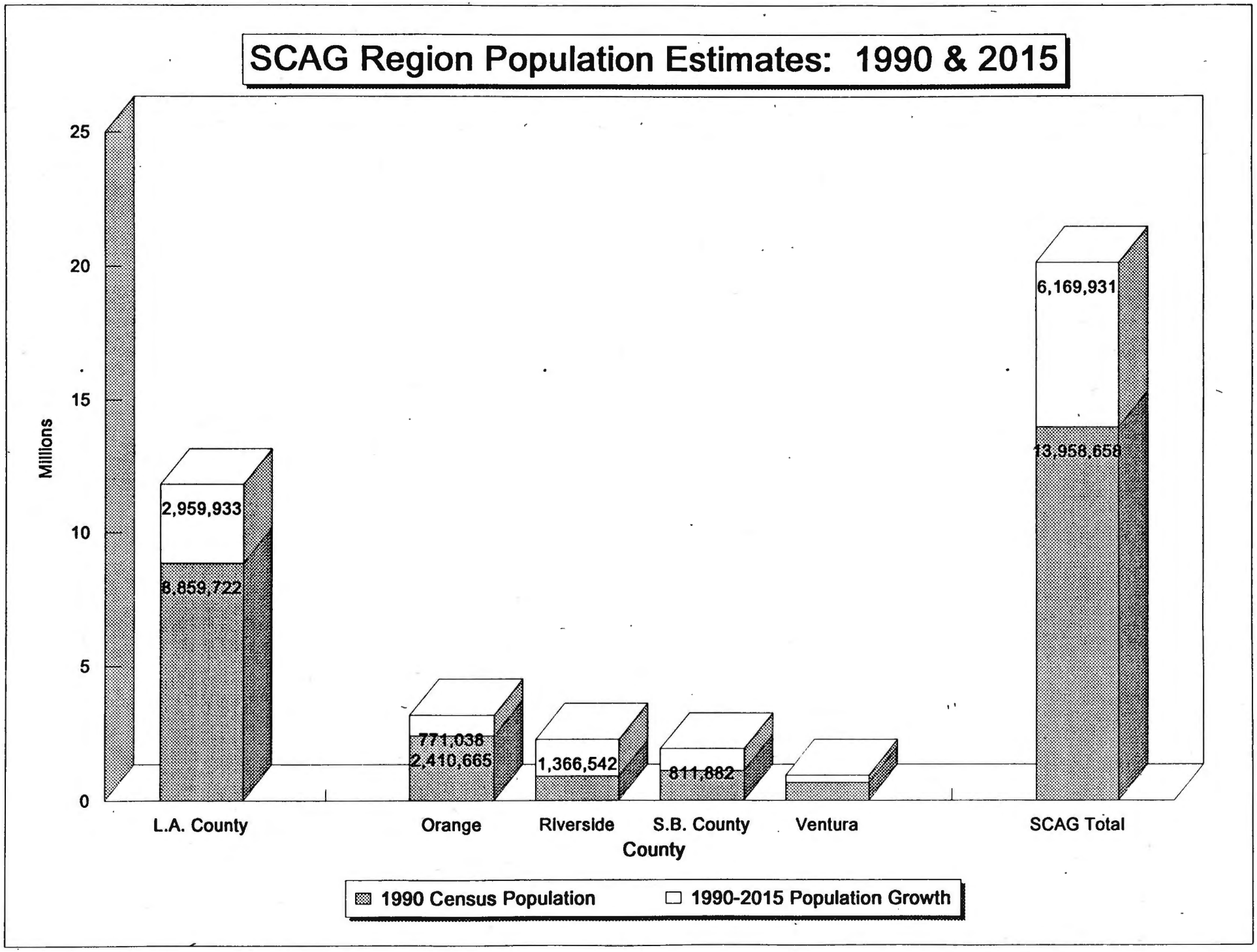
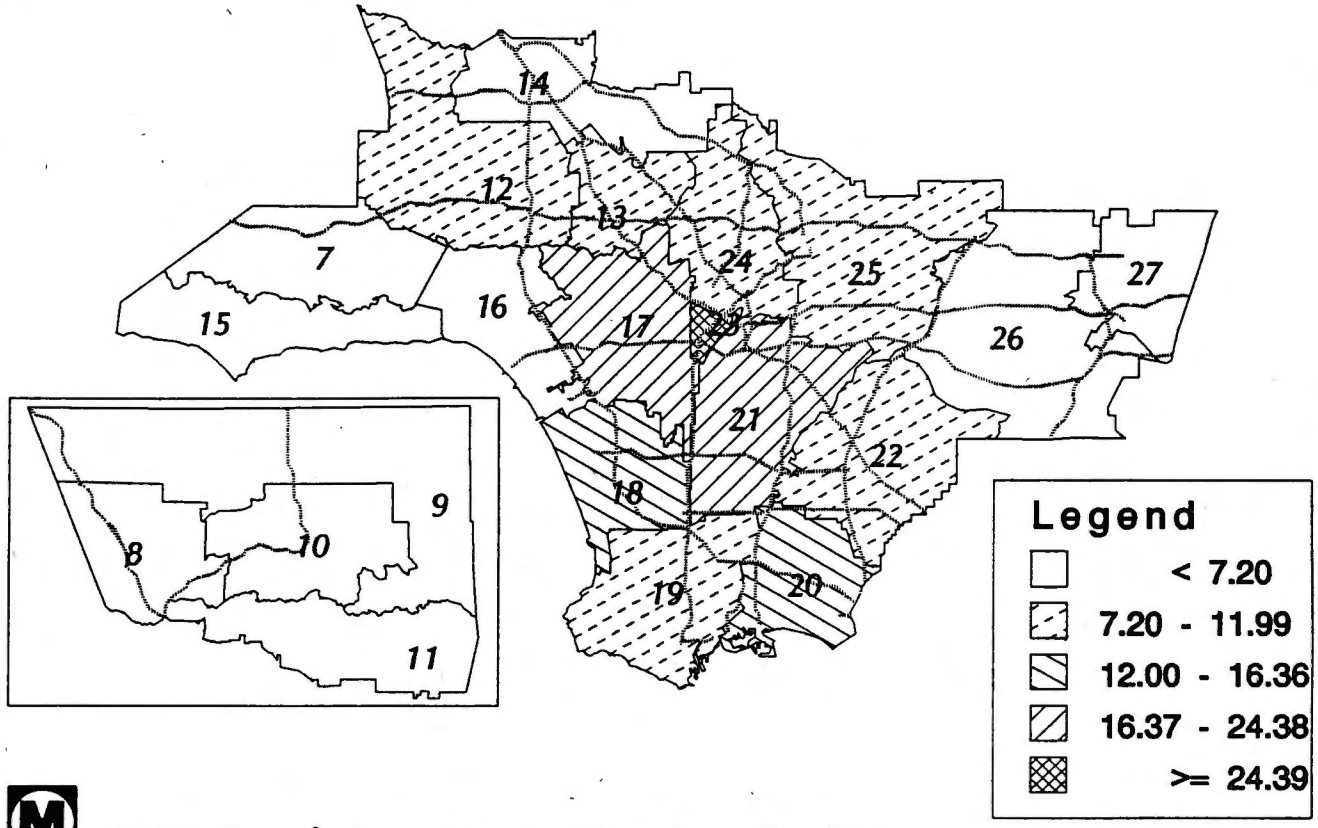
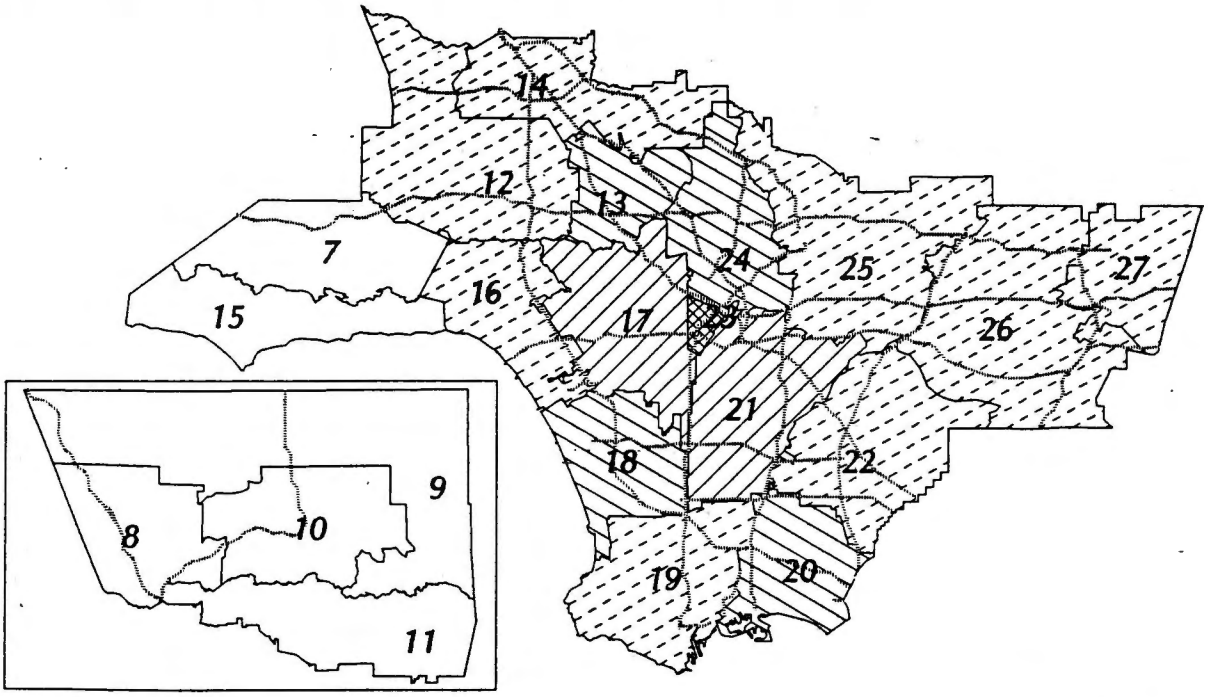

SCAG Region Population Estimates: 1990 & 2015
25
20
15
10
5
0
Millions
2,959,933
8,859,722
771,036
2,410,665
1,366,542
811,662
6,169,931
13,958,658
L.A. County
Orange
Riverside
S.B. County
Ventura
SCAG Total
County
1990 Census Population
1990-2015 Population Growth

Exhibit 2-2

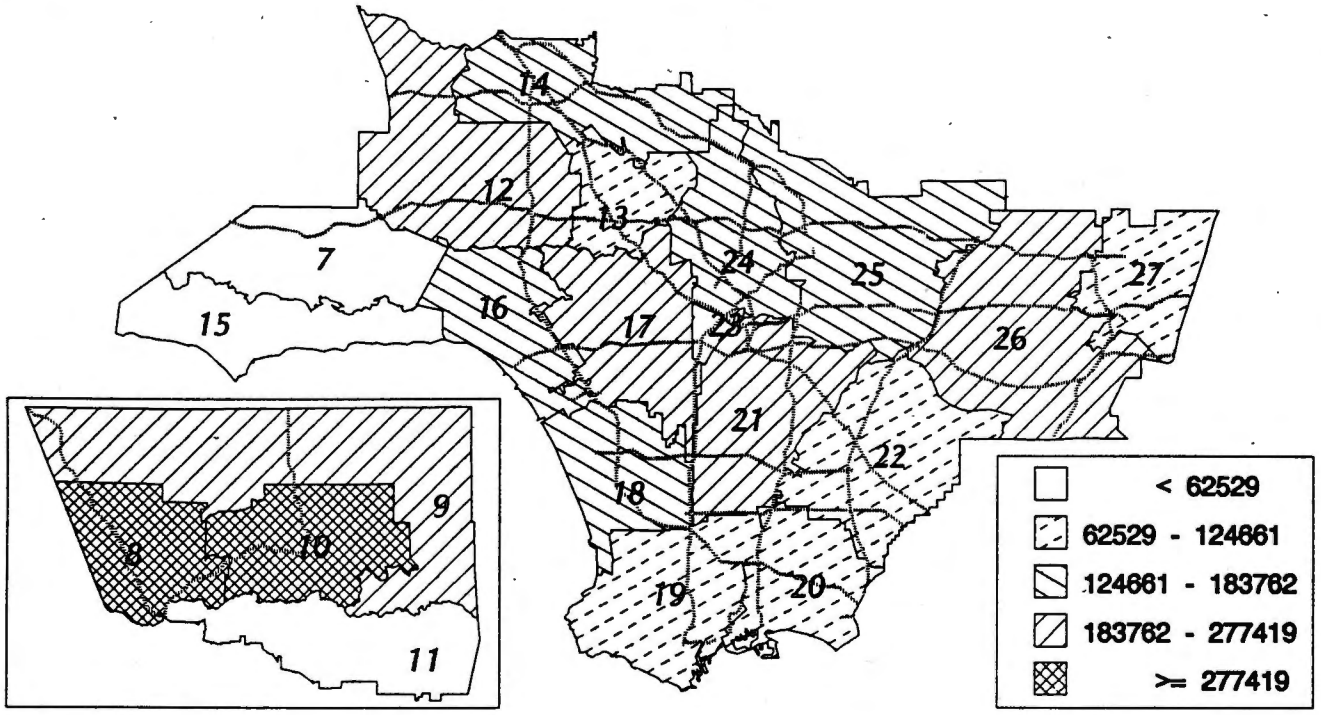
1990 Population Density Per Acre By RSA



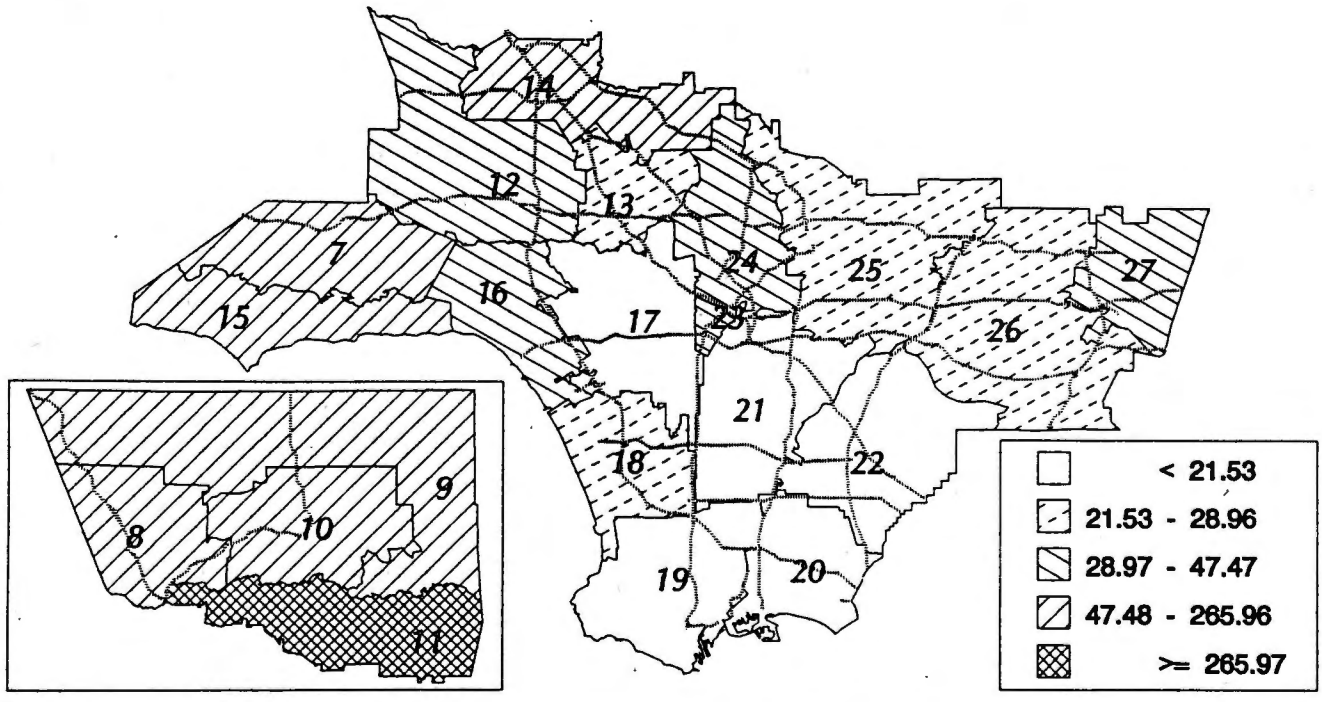
2015 Population Density Per Acre By RSA

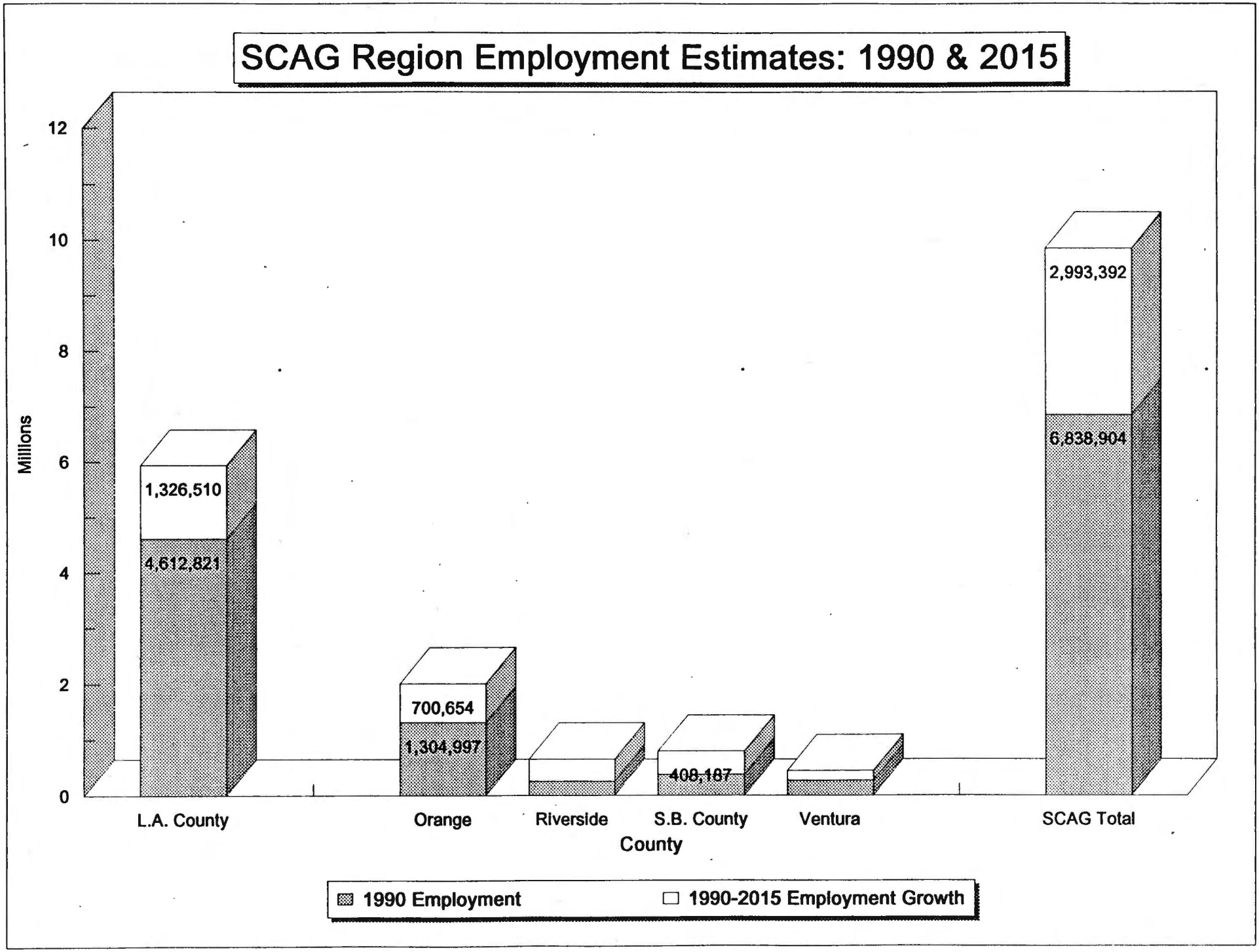


1990-2015 Absolute Population Growth By RSA

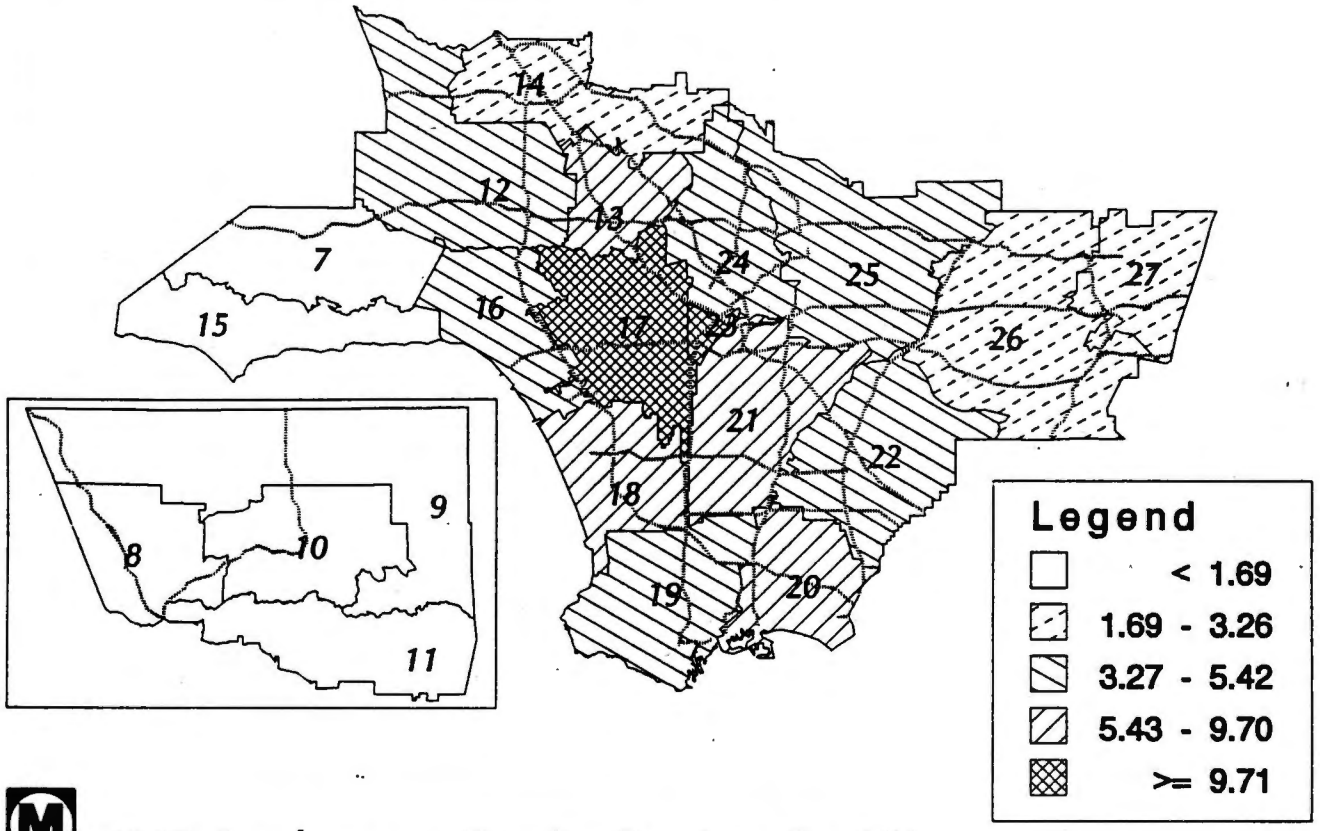


1990-2015 Percentage Population Growth By RSA

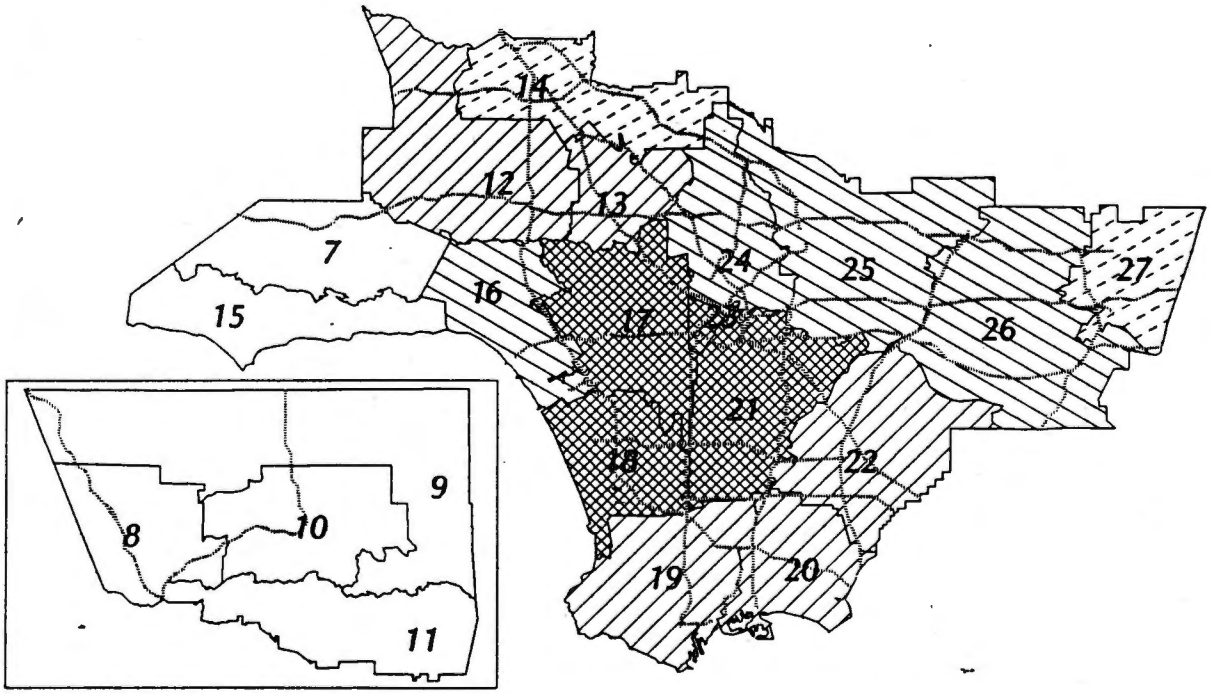



SCAG Region Employment Estimates: 1990 & 2015
Millions
12
10
8
6
4
2
0
1,326,510
4,612,821
700,654
1,304,997
408,187
2,993,392
6,838,904
L.A. County
Orange
Riverside
S.B. County
Ventura
SCAG Total
County
1990 Employment
1990-2015 Employment Growth

1990 Employment Density Per Acre By RSA



2015 Employment Density Per Acre By RSA



The total jobs over the next twenty years are projected to increase more than 100,000 in the Beach Cities and East San Gabriel Valley communities (Exhibit 2-6). An eastern corridor of communities, generally bounded by the Harbor-Pasadena and I-605 Freeway, are projected to be the next fastest in job growth. Job growth in this corridor may be spurred by the opportunities associated with the Alameda Corridor project. On a relative basis, job growth in Santa Clarita and Palmdale is projected to triple over the next twenty years; while Lancaster, the East San Gabriel Valley and Pomona will see increases of at least fifty percent. Even the central areas of the Los Angeles County basin will grow at least eleven percent by the Year 2015.

BASELINE SCENARIO PERFORMANCE

The Baseline Scenario is the starting point for the development of the Long Range Plan. The Baseline Scenario transportation system is composed of those projects and programs that are either fully funded or currently under construction (Appendix B).

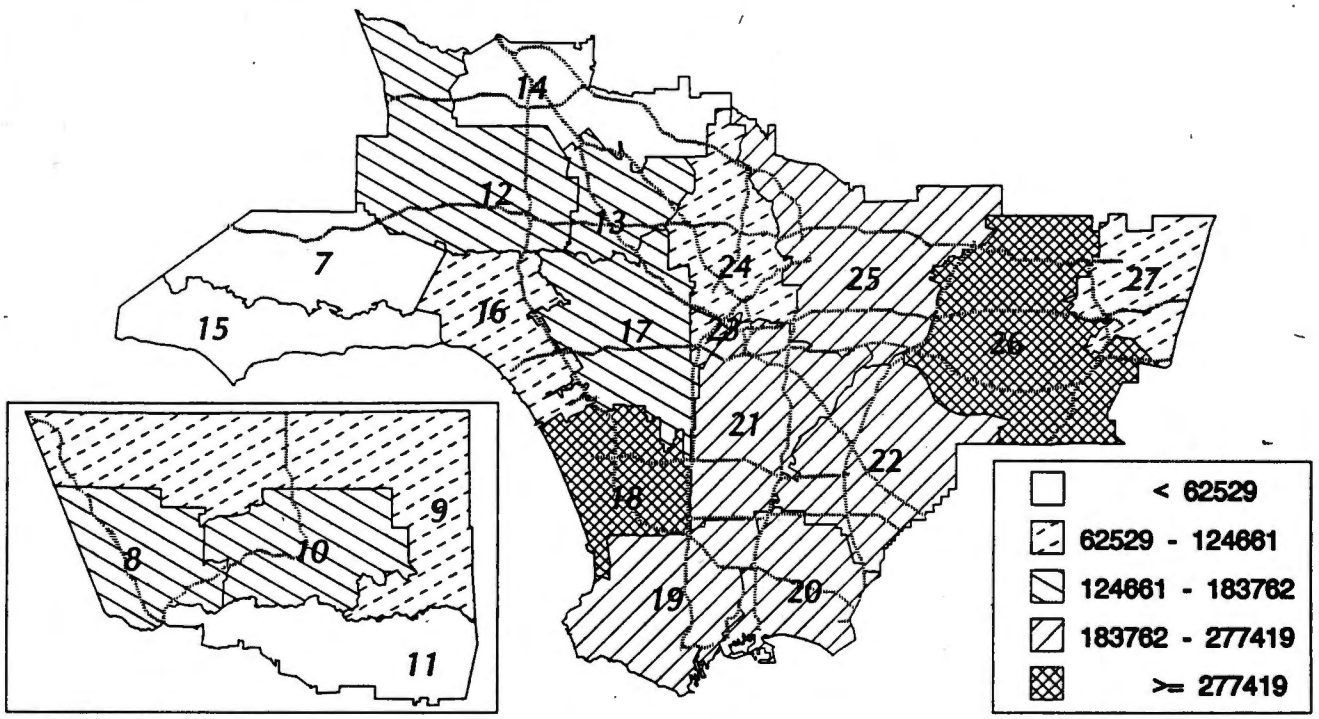
The following discussion summarizes the performance of the baseline system only, not the performance of the full long range plan program. Several additional projects and programs were evaluated and the best performing of these were added to the baseline system. The baseline system, and these additional projects and programs, constitute the Long Range Plan which is discussed in the next chapter of this document.

It is noteworthy that the increases (30% or more) in population and employment projected for the Year 2015 are not accompanied by similar increases in the transportation system infrastructure as represented by the Baseline Scenario. Serious implications for personal travel in Los Angeles County can be expected in this Baseline Scenario assuming that current travel behaviors continue. An analysis of the projected Baseline Scenario transportation system performance helps to identify potential mobility problems for Los Angeles County. Resources are very limited for resolving the projected Baseline Scenario problems, but the Adopted MTA Long Range Transportation Plan will focus on the most effective actions for mitigating these problems.

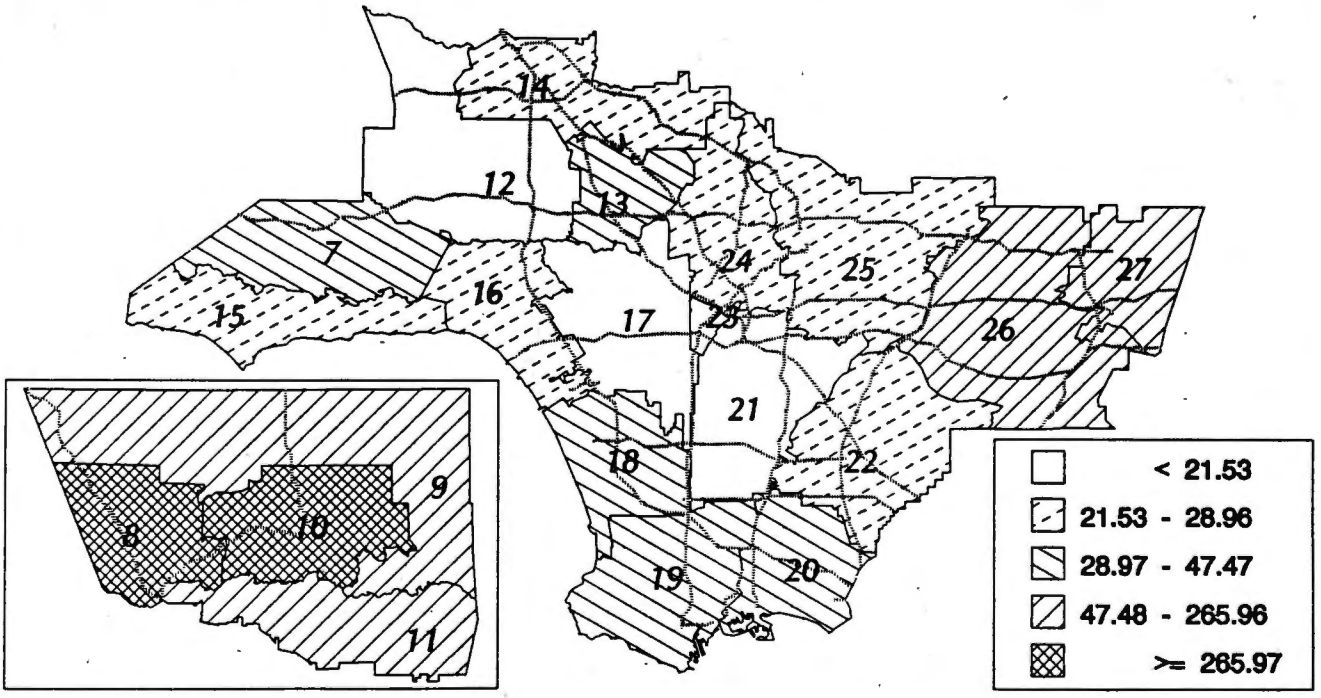
Commuting Patterns

In general, travel movements will increase between all parts of the county in parallel to the increases in population and employment. Los Angeles County daily home-to-work trips will increase from five million in 1990 to nearly seven million by the year 2015. This home-to-work travel is but a small portion of total daily travel which increases from 29 million person trips to more than 38 million person trips in Los Angeles County by the year 2015. Many of the non-work person trips, both now and in the future, occur during the peak commuter periods, especially during the evening commute, which will lead to further transportation system congestion. Without changes to current conditions, by the year 2015, there will be an additional

1990-2015 Absolute Employment Growth By RSA



1990-2015 Percentage Employment Growth By RSA



1.5 million single-occupant commuter autos on Los Angeles County streets than there are today. The largest increases in travel are projected from the North County to the basin, from suburb to suburb, and to and from the Alameda Corridor cities.

Travel Conditions

If the transportation system improvements were limited to those elements in the Baseline Scenario, this projected increase in work and non-work travel would lead to severe highway congestion in the Los Angeles County. This congestion will reduce accessibility to and from various communities as it will take considerably longer to travel from one place to another. Similarly, the increased highway congestion will slow bus transit travel as well.

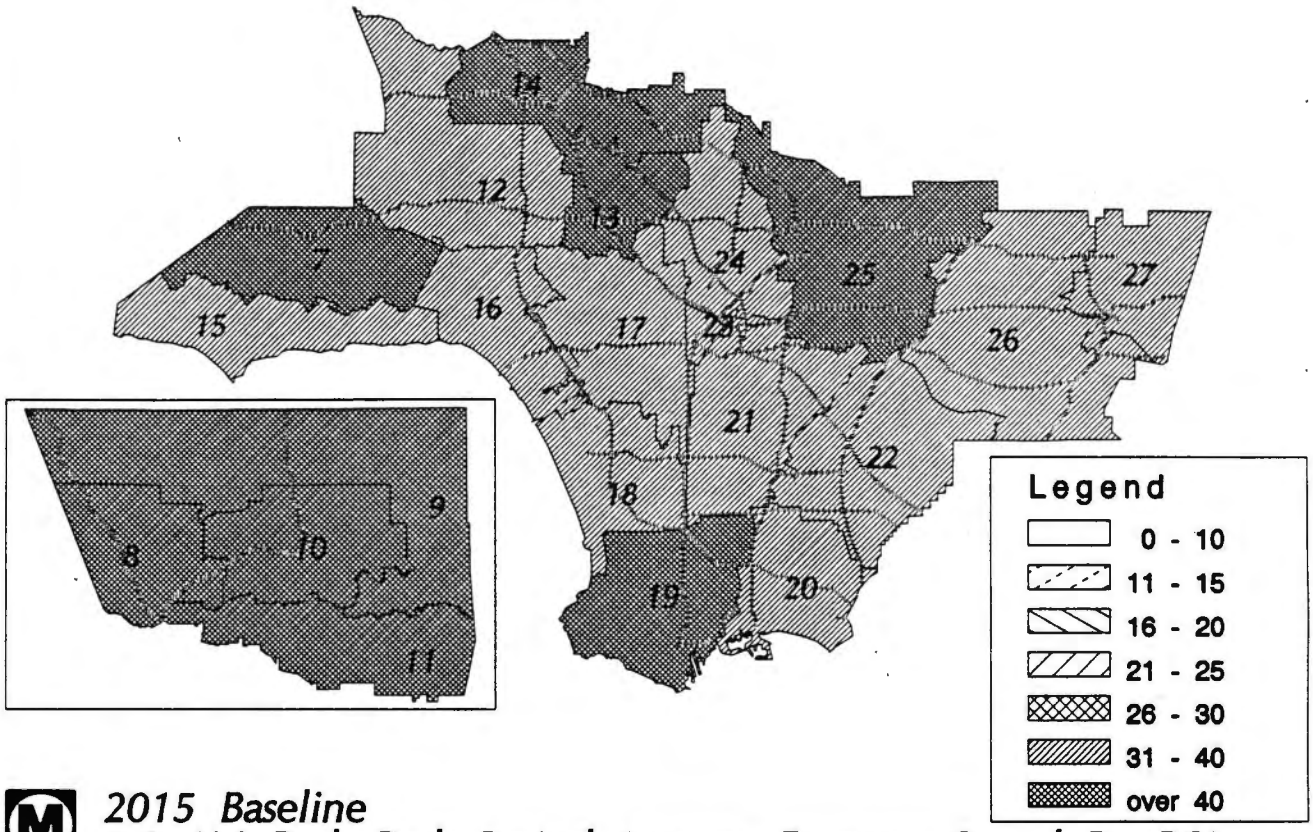
During the 3-hour morning peak period, average mixed-flow (all vehicles) freeway travel speeds are projected to decline from nearly 41 mph in 1990 to less than 17 mph under the Baseline Scenario by the Year 2015. The decline is most pronounced in the areas that are projected to have the highest growth, namely in North County and the East San Gabriel Valley (Exhibit 2-7). Segments of the freeway system will decline to less than 10 mph during the most congested peak one hour of the morning commute (Exhibit 2-8). Freeway carpool lanes, assuming continuation of the two-person occupancy requirement, will not fare much better as average morning peak period speeds are projected to decline from over 45 mph in 1990 to 21 mph by the Year 2015.

The average arterial street speed is projected to decline from nearly 27 mph in 1990 to less than 11 mph under the Baseline Scenario in the Year 2015. In addition to the North County and the East San Gabriel Valley, many parts of Los Angeles County will encounter arterial street speeds less than 10 mph (Exhibit 2-9). The present-day ability of knowledgeable drivers to travel faster on arterials than on the freeways will become a thing of the past by the Year 2015.

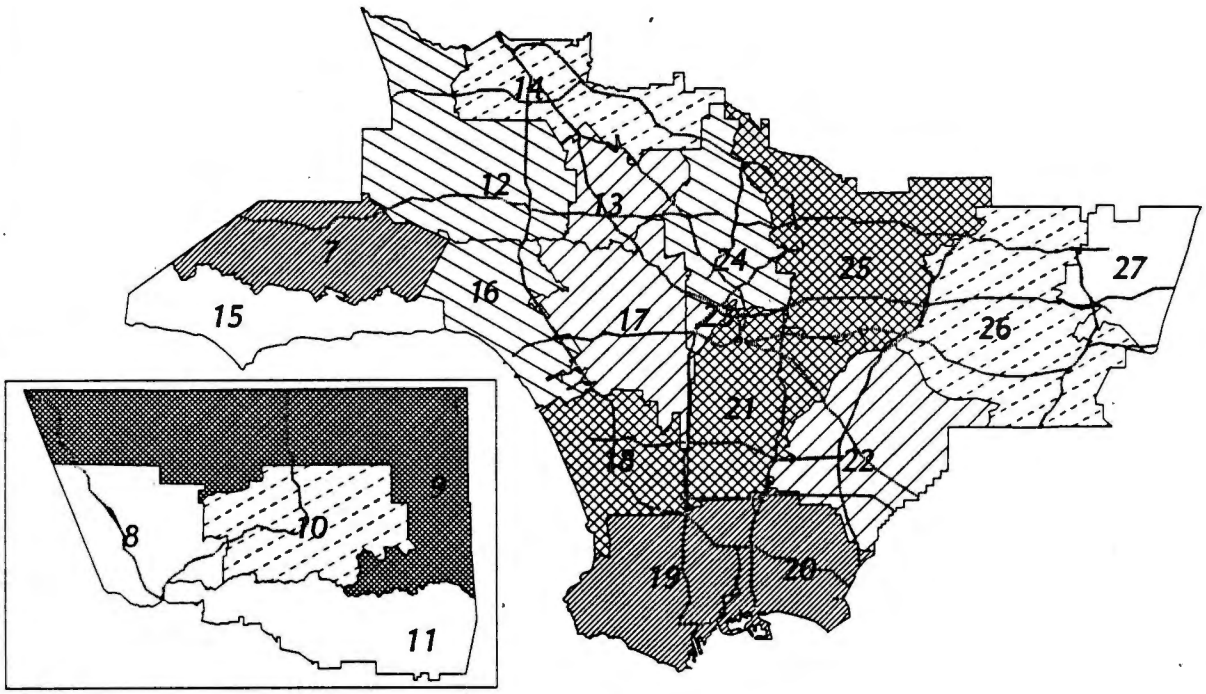
With the increased congestion on arterial streets, bus transit speed will be severely reduced, making transit a less desirable means of travel. A declining speed trend has been observed over the past 15 years, based upon recorded MTA bus miles and hours of service, where average systemwide speed has dropped from 13.5 mph in 1981 to 12 mph in 1994 (Exhibit 2-10). This is largely attributable to increasing street congestion. If this trend continues, average MTA systemwide speed will be under 10 mph by the Year 2015. The implications of this trend are significant for the County's ability to maintain transit mode share and constrain bus transit operating costs. The decline in bus transit speed will be even more severe for many municipal operators in areas of high demographic growth than is projected for MTA bus operations in the central area where speed declines are not as severe. The speed declines would likely result in higher operating costs for a lower level of transit service. Additionally, the rail system will not

Exhibit 2-7

1990 6-9 AM Peak Period Average Freeway Speed By RSA



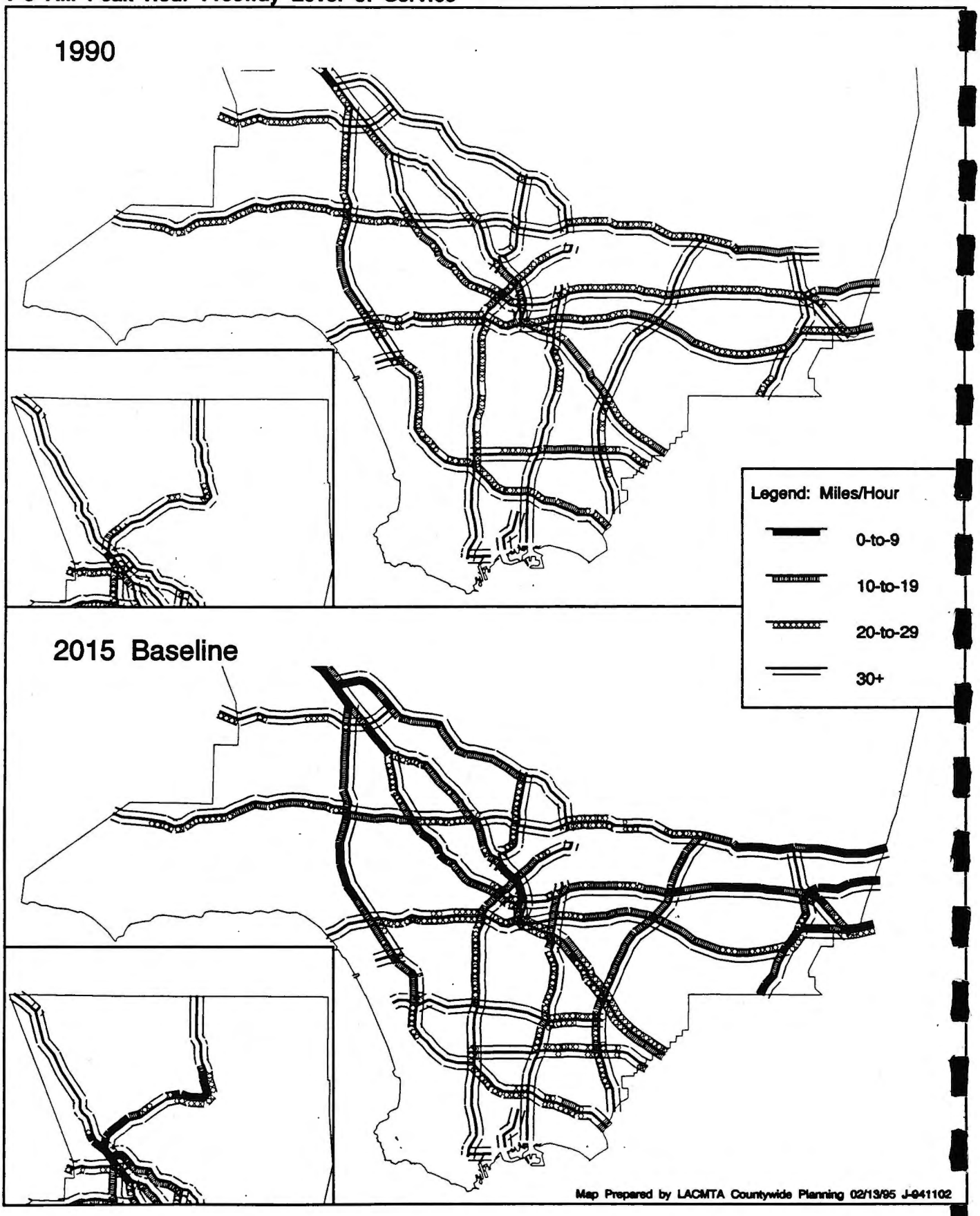
2015 Baseline
6-9 AM Peak Peak Period Average Freeway Speed By RSA



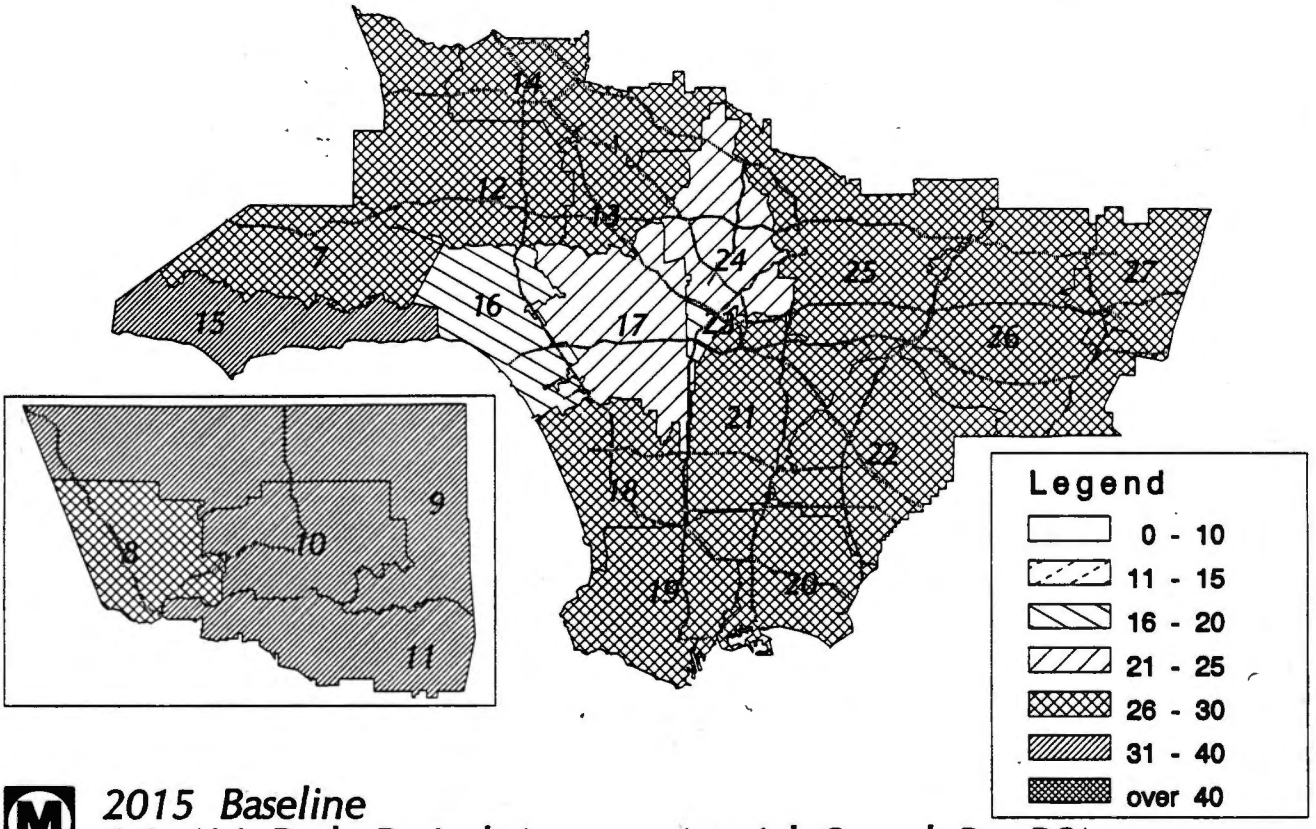
Long Range Transportation Plan

7-8 AM Peak Hour Freeway Level of Service

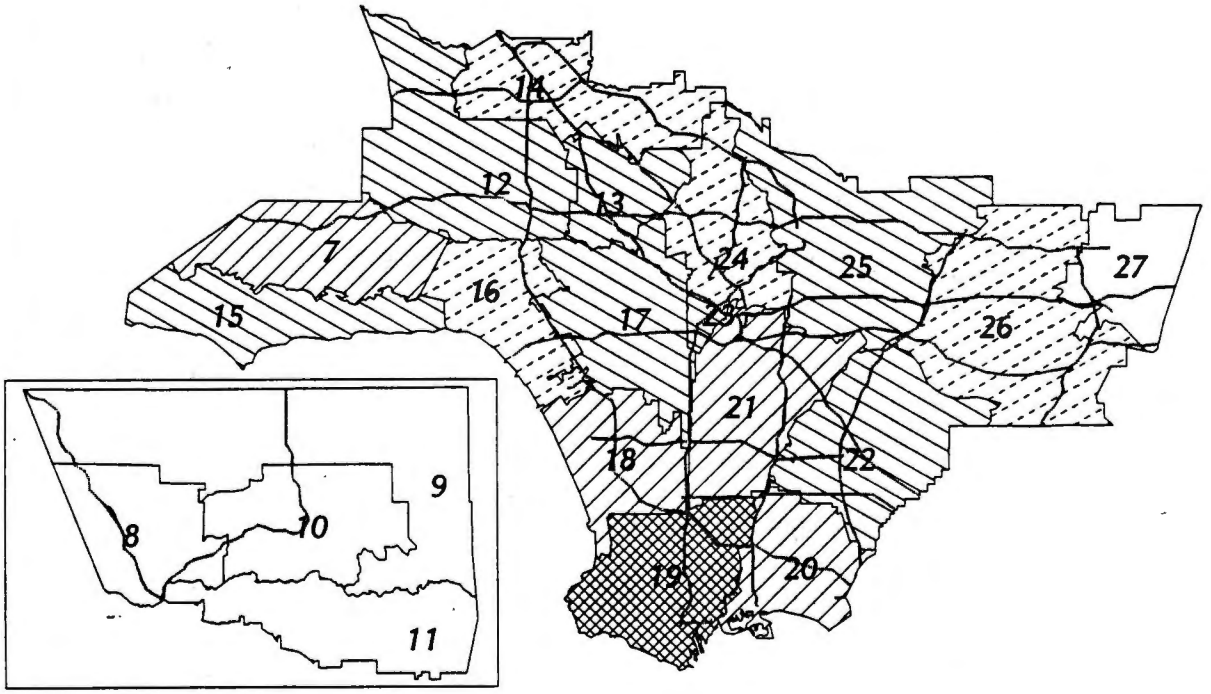
Exhibit 2-8

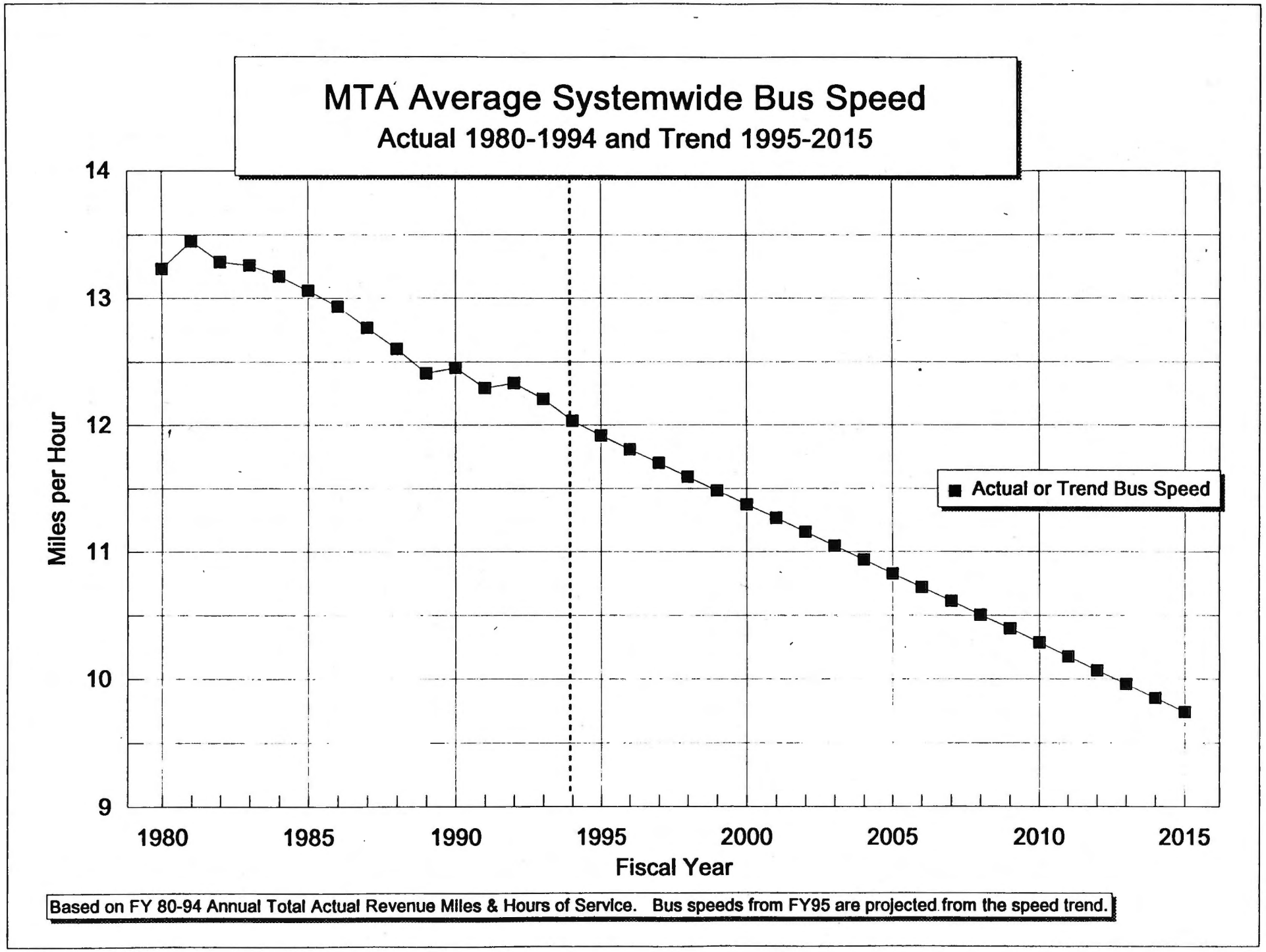


1990 6-9 AM Peak Period Average Arterial Speed By RSA



2015 Baseline
6-9 AM Peak Period Average Arterial Speed By RSA




MTA Average Systemwide Bus Speed
Actual 1980-1994 and Trend 1995-2015
Miles per Hour
14
13
12
11
10
9
1980
1985
1990
1995
2000
2005
2010
2015
Fiscal Year
Actual or Trend Bus Speed
Based on FY 80-94 Annual Total Actual Revenue Miles & Hours of Service. Bus speeds from FY95 are projected from the speed trend.

perform up to its potential as the bus system slows since many patrons may be discouraged from using the rail system due to the reduced bus access service.

PLANNING CONSIDERATIONS FROM THE BASELINE SCENARIO

There are several observations that are evident from the analysis of the Baseline Scenario. The Adopted MTA Long Range Transportation Plan will be successful to the extent it addresses these issues:

- The continuation of current travel behavior and the projected growth in Los Angeles County will only exacerbate future transportation system deficiencies. The projected demographic growth is unlikely to occur if the Baseline Scenario transportation deficiencies become reality. This has potentially adverse implications for the local economy.

- Many areas lack the infrastructure to accommodate the projected growth. It is inconceivable that the highway system capacity will match the same 50-300% demographic growth projected for some areas of the county. The demand-to-capacity gap must be resolved through more efficient utilization of the Baseline Scenario transportation system capacity.

- Without improvements to bus transit for access, the capacity provided by rail transit will not be fully utilized. Bus transit is projected to be the primary means of access to the rail system. If the bus is a less viable mode of travel, the rail system will also be less viable. A mix of both buses and rail is needed to address the transportation problem.

- There are insufficient funding resources to address a very large transportation problem — new resources are urgently needed. Funds are as severely constrained for operations and maintenance as they are for capital. Implementation of low-cost, solutions and policies, such as congestion pricing and parking management, can be just as effective as major capital improvements.

- New facilities will only partially address mobility needs. Transportation Demand policies and programs are required to induce the travel behavior changes needed to more efficiently use existing facilities. The transportation system will have considerably more carrying capacity than will be used — especially with the propensity for commuters to drive alone during the peak travel periods. An example of a transportation demand policy is Telecommuting/Teleservices allowing employers and employees to take advantage of information technology and services thus altering the need for travel.

- In allocating our limited funds, every effort must be made to:
  - maximize the utility of current transportation investment;
  - address the greatest overall benefit with transportation resources;
  - encourage changes in travel behavior to achieve greater efficiencies; and,
  - ensure modal and social equity to provide mobility for those with limited economic options.
- Given our constrained resources and the enormity of the problem, it is imperative that great wisdom is exercised in making future transportation investments. The available transportation funding cannot be ill-spent on projects and programs that do not achieve the most mobility benefit. Otherwise, Los Angeles County will sacrifice economic competitiveness and potential growth.

The performance of the Adopted Plan is summarized in Chapter 4 and explained in greater detail in the Technical Appendix to the Plan.

CHAPTER 3
THE PLAN

CHAPTER 3: THE PLAN

MAJOR POLICY DIRECTIONS

The Long Range Plan vision is to develop a multimodal system that better serves the needs of our transit dependent riders, while also providing a network that will attract solo drivers out of their cars, primarily through faster transit speeds, improved quality of service and more commute choices.

The Plan starts with the premise that the bus network will continue to serve as the backbone of the transit system, and includes strategies which build more transit capacity into strategic links in the transportation system while also ensuring that the current transit system is used to its fullest potential. The bus system will be expanded and transit preference corridors will be created so that those travelling in buses or vans will have a faster, more convenient travel alternative. Flexible, community-based transit services will supplement the heavy-demand lines in the urban core, and provide improved mobility to the less-populated outlying areas, with funding provided through the creation of a Mobility Allowance program. Rail will only be built in the highest-demand corridors where more cost-effective alternatives are not feasible.

The Long Range Plan sets forth major policy directions which will guide the MTA in accomplishing its mission to construct and operate a safe, reliable, affordable and efficient transportation system:

- **Maintain existing revenue sources** and aggressively pursue new transportation revenues for Los Angeles County. In particular, maintain a 50% federal contribution to current and future rail lines. This Plan assumes that approximately 50% of the funding for Red Line Segments 2 and 3 will come from federal contributions to the projects, as consistent with the Full Funding Grant Agreement. The assumption of a 50% federal contribution is carried forward for the funding of three future rail lines: San Fernando Valley East/West and the Eastern and Western extensions of the Metro Red Line. ***If the federal contribution, either on an annual or a total basis, is lower than anticipated, the timing and delivery of the above projects will be impacted.***

- **Improve bus transit service** by targeting highly transit dependent areas with better, more frequent service. Create financial allowances, through the Mobility Allowance program, to fund flexible transit options such as smart shuttles, vans, community based transit, neighborhood collectors, shared taxis for off-peak service and other alternative service delivery strategies. Add 300 buses to the total countywide peak bus fleet to improve service quality in high demand areas and, as rail lines open, eliminate duplicate bus routes and thereby reallocate up to 140 additional buses for other needed services.

The development of the Advanced Technology Transit Bus (ATTB) is a key component of the MTA's strategy to improve the comfort, convenience, cost efficiency, and operating quality of bus service throughout Los Angeles County. In conjunction with the ATTB development, a Fuel Cell Buyers' Consortium has also been formed to achieve the rapid and successful transition to zero emission buses. This conversion will help to improve air quality and will support defense conversion efforts and the creation of new advanced technology jobs in Los Angeles County.

- **Continue developing Los Angeles County's rail network** by opening the Metro Green Line system, building the Pasadena Line, building a rail line in the San Fernando Valley and completing the Eastern and Western extensions of the Metro Red Line. Six additional projects that performed well are still under consideration in the second decade of the Plan **if additional funds become available.** These projects are Crenshaw Corridor; Downtown Connector; Exposition Line (Downtown to USC); Glendale/ Burbank Line; San Fernando Valley East-West (405 Fwy to Warner Center); and the 10/60 Corridor. Certain other projects had lower overall performance; however, future funding changes (such as creation of special programs at the State or Federal level) may warrant special consideration of these projects. For example, if a special funding source for intermodal connections becomes available, the Green Line eastern extension to Norwalk might become a viable project.

- **Improve highway transit speeds and service** by constructing 279 miles of HOV lanes and gap closures on freeways and major streets, adding 130 miles of arterial bus lanes on surface streets and increasing traffic signal synchronization efforts throughout the county.

- **Promote and implement innovative strategies** that encourage mass transit usage by identifying customer needs and providing a system that meets those needs. These strategies include methods of optimizing the current system by making it more efficient and reliable, as well as methods that make transit easier to use through market research of both transit users and non-transit users and implementation of transit-related advancements such as improved passenger information systems and smart fare cards.

- **Make use of existing rights-of-way** by enhancing commuter rail service and exploring the option of using railbus (DMU) technology to provide a lower cost alternative to light rail systems in corridors such as Glendale/Burbank and the eastern extension to the Pasadena Line.

- **Participate as a financial partner in the Alameda Corridor project** to help to ensure the economic success of the region by facilitating the efficient movement of goods.

- **Promote changes in behaviors of the commuting public** by exploring and advancing policies that discourage single occupancy vehicle travel and encourage greater reliance on transit, ridesharing, and innovative alternatives such as telecommuting. These policy changes will also encourage local jurisdictions to implement parking management and land use strategies that are favorable to public transportation.

- **Implement cost savings measures** to increase the cost efficient delivery of both transit services and capital projects.

SUMMARY OF PLAN APPROACH

The Challenge

The Los Angeles area is a diverse combination of high-density, high-demand urban corridors and lower-density suburban areas. As mentioned earlier in this Plan, travel demand in all corridors is expected to increase dramatically in all areas, with particular problems in the central, western, northern and eastern corridors. Congestion is also a problem in the southern corridor, but not as severe. This is due, in part, to the fact that some improvements are already in place, such as the Blue Line to Long Beach, the Green Line, the Century Freeway and the Harbor Freeway Transitway. Travel patterns throughout the County are expected to be more dispersed. Coupled with this trend, rising incomes will increase reliance on the private automobile.

At the same time travel in the suburbs and outlying areas is increasing, congestion in the central city, and portions of East, West and South Los Angeles closest to the urban core will slow speeds of autos and buses. Because of this slowing, more buses will be required simply to make up for losses in speed in the central areas. While buses of various sizes and service configurations will continue to be the workhorse of the system, there will be some corridors where adding buses will not keep up with congestion and anticipated travel demand. In this very limited number of corridors, high-capacity rail lines will need to be constructed.

Exhibit 3-1 summarizes key strategies. These strategies are oriented around the basic principles outlined below and are described in more detail later in this chapter.

Transit Service Provision

Recognizing that the transit system of the future will need to be very different from today's, the Plan calls for significant departures from the status quo. In order to meet the needs of our core customer, the transit dependent, 300 additional buses are concentrated in our highest-demand corridors. In addition, more flexible service is planned for community access, outlying areas and off-peak periods such as nights and weekends. The Plan proposes creation of a Mobility Allowance from subsidies currently assigned to MTA's lower-demand lines and service hours. This funding would be combined with that of local jurisdictions to create a flexible, demand- and

customer-oriented family of services, including DASH-like shuttles, community-operated vanpools and jitneys and shared-ride taxis.

Community and Neighborhood Enhancement

Systems of the future will be designed to enhance livable communities through mixed use developments at transit centers designed around commuter and heavy rail stations, transitway stops and major commercial and community activity centers. Non-motorized access will be improved through completion of key bikeway gaps and improving the pedestrian environment around transit stations and linkages between transit stations and major activity centers.

Street Systems to Facilitate Transit as Well as Auto Travel

Transit-oriented street and highway improvements will speed bus movement in high-demand corridors and improve the overall productivity and cost-effectiveness of the system. The Plan calls for creation of transit priority corridors on streets predominantly used by buses, including a combination of bus-only lanes, signal priority for buses and enhanced bus stops. Since auto traffic will be slowed somewhat on these streets, the Plan also envisions creation of parallel auto priority corridors, where both bus and auto traffic are speeded through creation of areawide coordinated signal systems and smart corridors.

Creation of an Integrated HOV Network

Freeway bus, vanpool and carpool speed will be enhanced by creation of a 279-mile network of high-occupancy vehicle lanes. Increased emphasis will be placed on building these lanes as a system, so that travelers can use HOVs to get from one major destination to another without getting off of the system. The network will also focus on making key inter-county connections as cost-effectively as possible and at considering lower-cost ways of providing HOV lanes, including high-occupancy toll lanes, reversible lanes and lane conversions. To make the overall traffic system operate more smoothly, the Traffic Operations System being undertaken by Caltrans will be enhanced and completed, with an emphasis on safety and efficient movement of traffic, including buses.

Efficient Use of Rights-of-Way and Movement of Freight

Using of rights-of-way to move people and freight more efficiently is another key strategy in the Plan. Toward this end, the Plan places a high priority on completion of the Alameda Corridor project, which will serve ports and freight needs of the future and increase the economic competitiveness and vitality of the region. As an additional benefit, the Alameda Corridor project will improve auto and bus traffic flow in the area and improve air quality. To make the best use of some of MTA's remaining rights-of-way, in the second decade the Plan includes study of a low-cost alternative to light rail in commuter rail corridors, the railbus or diesel multiple unit.

Coordination with Other Major Planning Efforts

Transit systems development will be coordinated with major planning efforts and studies by other jurisdictions and agencies. Major developments such as those envisioned in the City of Los Angeles Department of Airports Masterplan and ground access program, and the associated transportation and traffic mitigations, will require careful coordination with the policies and programs in the Long Range Plan. Projects that serve both the Long Range Plan goals and provide congestion relief and increased mobility in the LAX area will be given additional consideration in coordinating the Long Range Plan with the Airport Masterplan.

Customer-Oriented Systems and Services

Customer convenience and overall system efficiency will be improved by the expenditure of Congestion Mitigation and Air Quality (CMAQ) resources to provide an enhanced Transportation Demand Management approach, which will include customer surveys, passenger-oriented technologies such as smart farecards and advanced transit systems such as automatic vehicle locators and enhanced passenger information systems.

Exhibit 3-1

KEY PLAN STRATEGIES

TRANSIT

Rail

- Rail is targeted at high-performing, high-demand corridors where no other capacity improvement appears to meet the demand.

  1. San Fernando Valley East-West to 405 (Board mandate)
  2. Red Line Western Extension to 405
  3. Red Line Eastern Extension to Atlantic

  Six additional projects that performed well are still under consideration in the second decade of the Plan if additional funds become available.

  - Crenshaw Corridor
  - Downtown Connector
  - Exposition Line (Downtown to USC)
  - Glendale/Burbank Line
  - San Fernando Valley East-West (405 Fwy to Warner Center)
  - 10/60 Corridor

  Certain other projects had lower overall performance; however, future funding changes (such as creation of special programs at the State or Federal level) may warrant special consideration of these projects. An example is the Green Line eastern extension to Norwalk, if there is a special funding source for intermodal connections.

- All lines will be scrutinized further for application of lower-cost construction, aerial and at-grade operation, station deferral, and other cost-saving construction management techniques such as design/build, design/build/operate or turnkey construction.

Bus

- Add 300 buses to improve service quality in high-demand areas. Enhanced fixed route bus service will be complemented by van and jitney-type services to provide neighborhood circulation and employment.

Bus (continued)

- Outlying and suburban areas will be provided with a "mobility allowance" which will take the amount that would normally be budgeted for MTA buses and combine that amount as an incentive for alternative services operated by a combination of municipal operator, city and private resources. This mobility allowance will provide for alternatives to the 40-foot bus in suburban areas and more effective, lower cost off-peak service in the core areas.

- The development of the Advanced Technology Transit Bus (ATTB) and associated zero- or ultra low-emission technologies is a key component of the MTA's strategy to improve the comfort, convenience, cost efficiency, and operating quality of bus service throughout Los Angeles County.

Commuter Rail

- Existing rights-of-way will be used whenever possible to provide improved commuter rail, rail-bus service and busways.

HIGHWAY/MULTIMODAL

High-Occupancy Vehicle (HOV) Lanes

- Construction of 279 miles of HOV lanes with key HOV interchanges to provide a continuous, faster-speed network for public transit and rideshare passengers to get to major business and activity centers.

- System management improvements will be maintained and expanded, including incident management/tow service and a Traffic Operations System (TOS) with particular emphasis on safety, security and efficient movement of both autos and buses.

- The High-Occupancy Vehicle Masterplan will provide further direction on feasibility of low-cost alternatives, design of specific projects and optimal sequencing of HOV facilities.

Regional Surface Transportation

- Alameda Corridor is the top funding priority for Regional Surface Transportation in the early years to benefit air quality, economic development and bus/auto movement.

KEY PLAN STRATEGIES

Regional Surface Transportation (Continued)

- Later year projects will be concentrated on troubleshooting key bottlenecks and freeway access.

Transportation Systems Management (TSM)

- Aggressive implementation of transit-enhancing transportation systems management projects (such as bus priority lanes, signal priority and transit bypass) on key transit streets to allow maximum benefit to transit users and operational savings to transit operators. Approximately 130 miles of streets have heavy transit use warranting priority treatment.

- Improvement of parallel travel for autos and buses through broad countywide implementation of signal coordination, centralized control and Smart Corridors.

Transportation Demand Management (TDM)

- Major direction will be given to travel market efficiency through pricing demonstration and incentives, including congestion and parking pricing.

- Market research will be conducted to determine transit passenger and non-user needs to increase transit ridership.

- Fund transit-related advancements that make transit travel easier, such as information systems, smart buses/AVL, smart farecards.

Transit Centers and Park and Ride

- Transit centers and enhanced bus stops (similar to Inner City Transit Study and San Fernando Valley Bus Restructuring recommendations) will be budgeted for and provided through the Call for Projects.

Non-Motorized Transportation

- Pedestrian improvements to create a transit-oriented environment to benefit transit users are combined with Regional Bikeways into a new Nonmotorized Transportation program.

- MTA bikeway involvement will be limited to major interjurisdictional connections, bottlenecks and demonstrated bicycle commute corridors.

MTA Long Range Transportation Plan
Major Projects

Exhibit 3-2

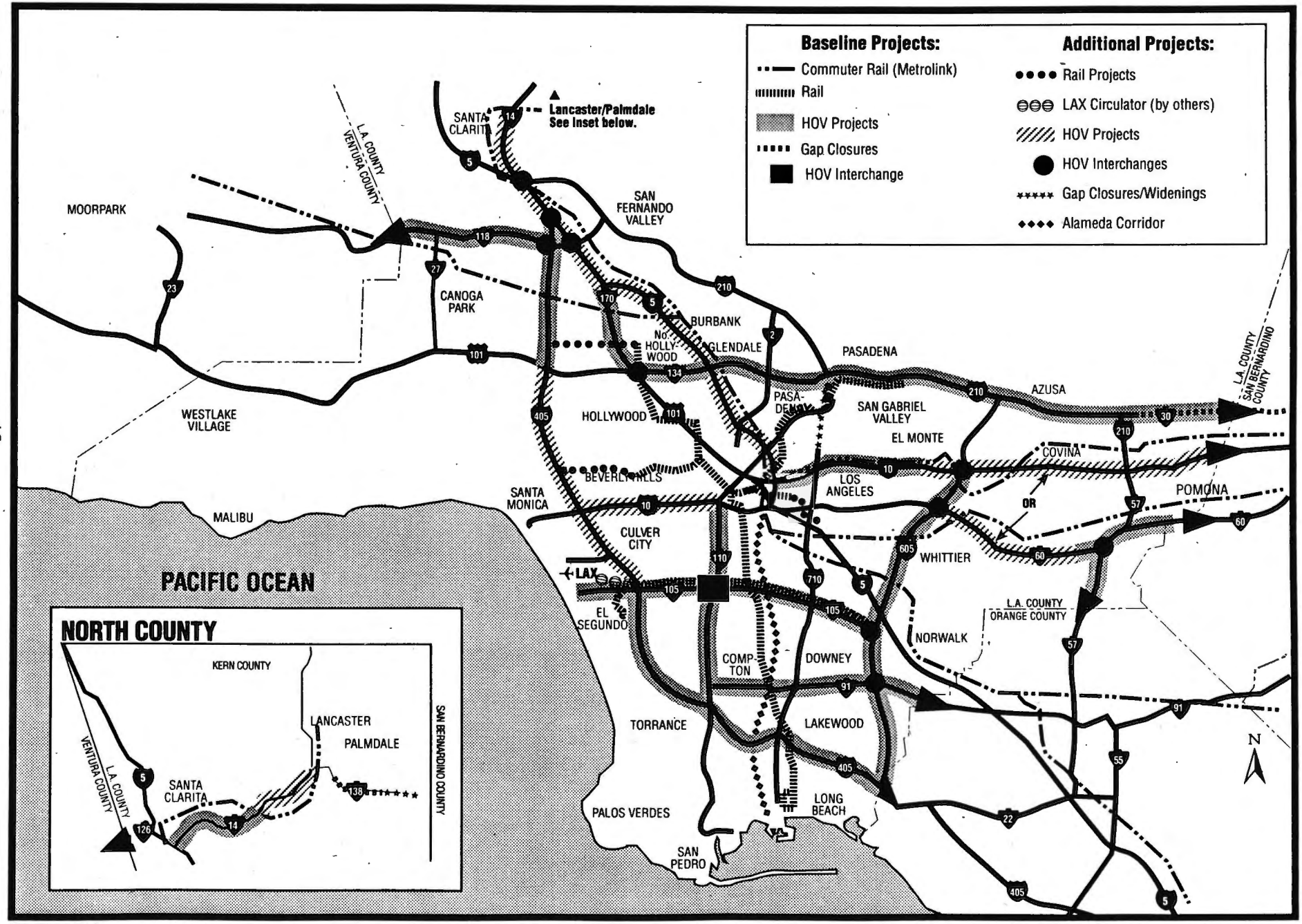


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Exhibit 3-3

MTA Long Range Transportation Plan
List of Projects and Programs

TRANSIT CAPITAL

RAIL

RED LINE Segment 1 Central
RED LINE Segment 2 Central.
RED LINE Segment 3
- North Hollywood
- Westside to Pico/San Vicente
- Eastern to First/Lorena

PASADENA LINE Union Station to Sierra Madre Villa Central
San Fernando Valley East/West (Northern in city of LA)
RED LINE Western Extension to I-405 Fwy.
RED LINE Eastern Extension to Whittier/Atlantic Central.
RED LINE Segments 2 and 3 Station Enhancements Central.
GREEN LINE Norwalk to El Segundo
Metrolink
LA Car
Miscellaneous Rail/Rehabilitation 1
Environmental Clearance/Studies

BUS

Replacement/Maintenance/Expansion Central.

OTHER

Union Station Gateway Transit Center Central.
Diesel Multiple Unit (DMU)/Rail-Bus Technology
Corridor to be determined through feasibility study. Potential corridors include Glendale-Burbank, Northern San Gabriel Valley, Harbor Subdivision, Exposition, and Burbank Branch West.

TRANSIT OPERATIONS

RAIL

Operation of MTA System Described Above and Current Metrolink System Central.

BUS

MTA & Municipal Operators

MTA Long Range Transportation Plan
List of Projects and Programs

HIGHWAY/MULTIMODAL CAPITAL

HOV

Route 5 - Route 10 to Route 14
Route 5 - Orange County Line to Route 605
Route 10 - Route 110 to Route 405 (Conversion) 2
Route 10 - Baldwin Ave to Route 605
Route 14 - Route 5 to P8
Route 30 - 210 to Foothill
Route 57 - Orange County Line to Route 60
Route 60 - Route 605 to San Bernardino County Line
Route 118 - Ventura County Line to Route 5
Route 134 - Route 101/170 to Route 210
Route 170 - Route 101 to Route 5
Route 405 - Orange County Line to Route 110
Route 405 - Route 105 to Route 5
Route 605 - Orange County Line to Route 10
Route 5/14 Interchange
Route 57/60 Interchange
Route 10/605 Interchange
Route 60/605 Interchange
Route 5/405 Interchange
Route 118/405 Interchange
Route 91/605 Interchange
Route 105/605 Interchange
Route 170/134 Interchange
Route 5/118 Interchange

GAP CLOSURES

Route 30 - Route 66 to San Bernardino County Line
Route 126 - Arterial Widening Only
Route 138 - Avenue T to 90th
Route 138 - Widening
Route 710 - Gap Closure to Pasadena

MTA Long Range Transportation Plan
List of Projects and Programs

HIGHWAY/MULTIMODAL CAPITAL

OTHER PROJECTS & PROGRAMS	Alameda Corridor
	Incident Management (Tow Service) Central (Freeway in Central Area)
	Park and Ride/Transit Centers/Other
	Regional Bikeways Central (allocated through Call)
	Regional Surface Transportation Improvements
	Transportation Demand Management (TDM)
	TSM - Freeway and TOS (Programmed by CALTRANS)
	TSM - Local
	Transportation Enhancements Central (allocated through Call)
FUNDING [3] ***PROGRAMS***	Retrofit Soundwalls
	Inter-Regional Roads
	Freeway Rehabilitation (SHOPP)
	SAFE
	Environmental Enhancement and Mitigation
OTHER	Highway Staff Support

LOCAL RETURN

Transportation Improvements (Funded With Local Return Revenues)

OTHER

Reserve Fund
Administrative Overhead (Prop A, Prop C, TDA)
Financing Payments

Notes:

1 Includes: Systemwide Rail Costs, Other Projects (ADA, MOW, ART, Safety, Construction Security, and Rail Rehabilitation).

2 Conversion would be considered after other transit options are available, including the Red Line Western Extension to the 405 Freeway

3 These are programs that are funded from their own revenue source.

THE TRANSIT ELEMENT:
BUS TRANSIT

STRATEGY

This element includes a variety of service delivery options that has been developed through a modeling and planning analysis to recommend an integrated system that includes the following basic strategies:

- Add 300 buses for total Countywide peak fleet of 2,871 to improve service quality in high demand areas. Enhanced fixed route bus service will be complemented by van and jitney-type services to provide neighborhood circulation and potential community employment.

- Outlying and suburban areas with lower transit demand will be provided with a "mobility allowance" which will take the amount that would normally be budgeted for MTA buses and combine that amount as an incentive for alternative services operated by a combination of municipal operator, city and private resources. This concept would also apply to areas where demand during times of the day or days of the week might indicate the need for alternative service delivery options.

- As rail transit lines open, bus service will be modified to feed rail stations and eliminate route duplication, freeing 140 extra buses for other needed services.

- The implementation of bus priority and preference treatments on 130 miles of key bus lines will improve bus speeds.

- As buses are replaced, vehicles with larger capacities will be utilized on high demand corridors so that more people can be carried per bus. Priority and preference treatments will also be used to increase bus speeds in selected corridors.

- The development of the Advanced Technology Transit Bus (ATTB) is a key component of the MTA's strategy to improve the comfort, convenience, cost efficiency, and operating quality of bus service throughout Los Angeles County. In conjunction with the ATTB development, a Fuel Cell Buyers' Consortium has also been formed to achieve the rapid and successful transition to zero emission buses. This conversion will help to improve air quality and will support defense conversion efforts and the creation of new advanced technology jobs in Los Angeles County.

- Expanded market research, marketing and customer convenience activities funded through the TDM program will increase transit and carpool mode share.

- The focus of the service delivery program will be to best match the most cost effective supply with the service demand.

MOBILITY ALLOWANCE

One of the cornerstone principles of the bus element of the Long Range Plan is to better match supply and demand in a more cost-efficient manner. Thus, high demand areas would be served with a combination of high capacity buses and supplemental shuttle and jitney-type services.

In areas of reduced demand, a "Mobility Allowance" would be created consisting of the resources normally budgeted for MTA service that would be made available to local jurisdictions to consider alternative operational and funding scenarios.

The Mobility Allowance offers a number of opportunities to change business as usual. It would create a better coordinated partnership between the local jurisdiction and the MTA resulting in an integrated transportation system. Also, it would provide the potential to extend and expand the value of funds and promote more innovative alternative service delivery options.

From a coordination perspective, although a number of jurisdictions operate locally funded fixed route and demand responsive services, the focus of these has typically been to serve separate markets from the MTA. By making resources available to local jurisdictions, there would be the potential to coordinate planning activities to create nodes of intercept with the high demand corridors while meeting the circulation needs of the local jurisdictions.

On the funding side, there would be an opportunity to augment the Mobility Allowance with local jurisdiction funds, such as the Proposition A and C Local Return Program, or to use private sector funding, such as developer fees. Also, since Municipal Operators and private sector providers typically have operated at a lower cost than the MTA, there could be potential to offer more service for the dollar expended.

Operational flexibility is the primary benefit of the Mobility Allowance concept. Operator options would include the MTA, Municipal Operators, private sector providers or community-based organizations. The size and type of vehicle would be geared to again match supply with demand. Operational modes could include fixed route, route deviation and demand responsive depending on the characteristics of the area.

One of the more innovative proposals of recent years is the Smart Shuttle, which would use today's technology of dynamic scheduling and dispatch, mobile data terminals and automatic vehicle locator system with future technological improvements to develop a multiple use vehicle that could, for example, connect with Metrolink Stations in the morning and evening peak, provide multi-purpose center or non-emergent health care trips in the mid-day and finish with evening and owl service on lower demand corridors.

The last example further demonstrates the potential flexibility of the Mobility Allowance concept, where alternative service could be provided at different times of the day or days of the week depending on demand; for example, weekend service in many parts of the San Fernando Valley

or evening and owl service in South Central and East Los Angeles might use smaller buses or Smart Shuttles.

CAPITAL COMPONENT

In the baseline, the size of the bus fleet was assumed to be that which exists today. Other factors were considered to determine the future need. First, the growth in population was analyzed regarding the effect on the bus network. Next, the net result of the rail system development on the bus fleet was analyzed, which included deletion of duplicating service and modification to improve feeder services. Further analysis indicated that more effective service would be provided in the areas of anticipated heavy demand through the use of higher capacity vehicles, such as articulated buses.

The impact of reduced operating speeds was mitigated by the inclusion of 130 miles of bus priority and preference lanes in the Plan, resulting in the recommendation to add 300 vehicles to the future fleet, which would be reconfigured to include a mix of higher capacity and smaller vehicles for the variety of service deliveries described below.

OPERATING COMPONENT

The operating cost of bus transit can vary significantly depending on what assumptions are made as to who operates the service and how the service is provided. It would be imprudent to disregard the current institutional and infrastructure conditions where MTA operates the majority of the service. However, from a long term perspective, the goal of anticipating and implementing changes in service delivery to improve cost efficiency and service effectiveness appears to be logical. Therefore, the Adopted Plan includes realistic current costs and the potential to decrease future costs through well-planned alternative service delivery options. These would be delivered through restructuring studies, similar to the San Fernando Valley study, but would be expanded to more aggressively link ridership demand with a variety of service and supply options.

The operating plan includes a well structured bus/rail interface plan that eliminates direct duplication and reinforces rail access connectivity. These principles have been incorporated for light and heavy rail services, with these services envisioned as providing replacement for many of the high cost commuter bus lines and duplicative services on parallel routes.

Another critical linkage is with the Transportation System Management (TSM) program and, in particular, the transit priority and preference measures proposed. Targeting transit related improvements, such as bus lanes and signal priority, on the street segments most heavily travelled by transit vehicles would significantly improve travel speeds, thus reducing the number of peak vehicles required. For example, the initial identification of 130 miles of priority segments would

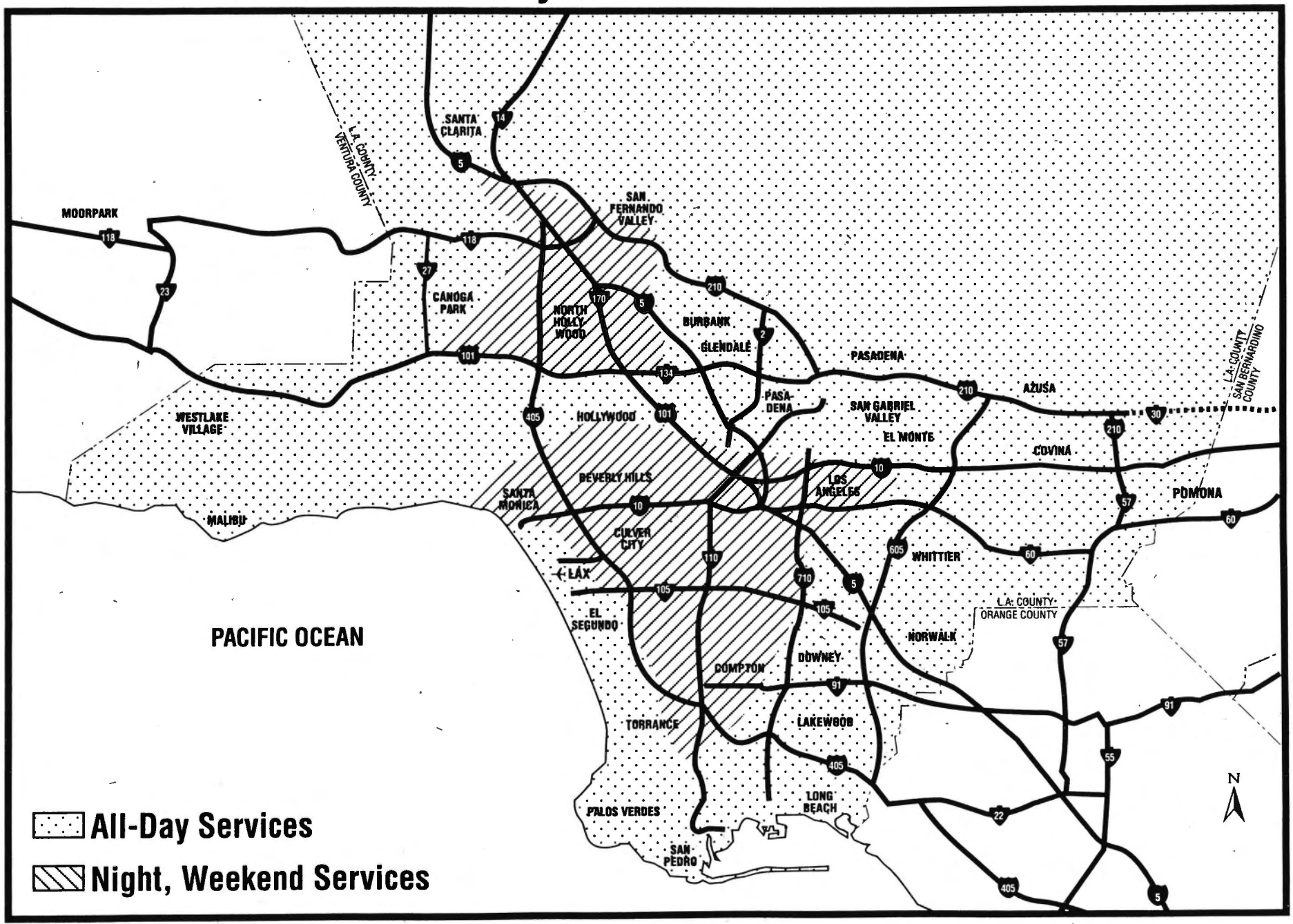
significantly reduce the number of peak buses required. Achieving this potential savings would require an aggressive implementation program.

By concentrating high capacity vehicles on corridors with heavy demand, the overall miles and hours of operation have been reduced but ridership has been increased, thus improving the overall efficiency of this service.

Finally, the use of expanded market research, marketing and customer convenience programs (such as a seamless fare system) will not only provide more information on users and non-users of public transportation, but will result in service modifications based on research input and attract more riders to the integrated transportation systems.

MTA Long Range Transportation Plan
Candidate Areas for Mobility Allowance

Exhibit 3-4



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MTA Long Range Transportation Plan
Fixed-Route Bus Expansion Schedule

Exhibit 3-5

	2003 2004	2004 2005	2005 2006	2006 2007	2007 2008	2008 2009	2009 2010	2010 2011	2011 2012	2012 2013	TOTAL
300 buses added to the current countywide fixed route peak fleet of 2,571 buses											
Number of Replacement/Spare Buses (20% Spare Ratio)	6	6	6	6	6	6	6	6	6	6	60
Number of New Buses Operated	30	30	30	30	30	30	30	30	30	30	300
Total Cumulative Buses	36	72	108	144	180	216	252	288	324	360	

Total Operating Cost ($ million escalated)	$581.6
Total Capital Cost ($ million escalated)	$178.8
Total Cost of Expansion Program ($ million escalated)	$760.4

THE TRANSIT ELEMENT:
URBAN RAIL TRANSIT

The Baseline system, which includes projects that are fully funded and/or under construction, describes several rail lines serving diverse markets. Already constructed are the Blue Line from the Los Angeles CBD to Long Beach and Red Line Segment 1, stretching from Union Station to MacArthur Park. The Green Line from Norwalk to El Segundo is scheduled to open in mid-1995. Further extensions of the Red Line will open in the next 10 years: an eastern extension to First and Lorena, a western extension to Pico/San Vicente and a northern extension to North Hollywood.

While MTA had previously undertaken an aggressive funding and construction program for rail projects, declining revenues and changing markets have led to a rethinking of rail service provision in Los Angeles County. After analyzing future travel demand and congestion levels in key corridors, staff has determined that urban rail is necessary, but only in limited instances. For example, in the western corridor between the CBD and the 405 freeway, traffic congestion and travel demand is expected to grow to the level where sufficient buses cannot be provided to meet the demand, even with on-street bus priority.

STRATEGY

- Rail is targeted at high-performing, high-demand corridors where no other capacity improvement appears to meet the demand.

- The following sequence is incorporated in the Adopted Plan, based on Board mandates and capacity needs:
    1. San Fernando Valley East-West Line to the 405 Freeway (Board Mandate)
    2. Red Line Western Extension from Pico/San Vicente to the 405 Freeway/UCLA.
    3. Red Line Eastern Extension from Indiana to Atlantic

- Cost reductions identified for the San Fernando Valley East-West line to the 405 Freeway will be carried forward into the EIS/MIS process.

- The San Fernando Valley line , the Red Line East to Atlantic and West to the 405 will be advanced for potential federalization under ISTEA II.

- The connection between the Green Line Aviation Station and Los Angeles International Airport is included as a people-mover system, funded by non-MTA revenues.

- Consistent with Board direction, lower cost options are being explored and modeled for the following lines: Crenshaw Corridor, Exposition to USC, 10/60 Corridor, Burbank-Glendale Line, the Downtown Connector, and the San Fernando Valley East-West (405 Fwy to Warner Center). As described in Chapter 4. one or more lines could be constructed in the second decade if additional revenues are available.

COMMUTER RAIL TRANSIT

The commuter rail lines are planned, constructed, and operated by the Southern California Regional Rail Authority (SCRRA), a Joint Powers Agency established by legislation in June, 1990. The Long Range Plan provides funds sufficient to support the operational and capital requirements of the existing 201 mile commuter rail system in Los Angeles County.

The SCRRA's purpose in providing Metrolink may be described by their mission statement:

> *Metrolink is a high quality, efficient five-county commuter train system linking communities to employment and activity centers. The Metrolink meets a major regional demand for improved transportation services and mobility, and improves the quality of life for residents and businesses.*

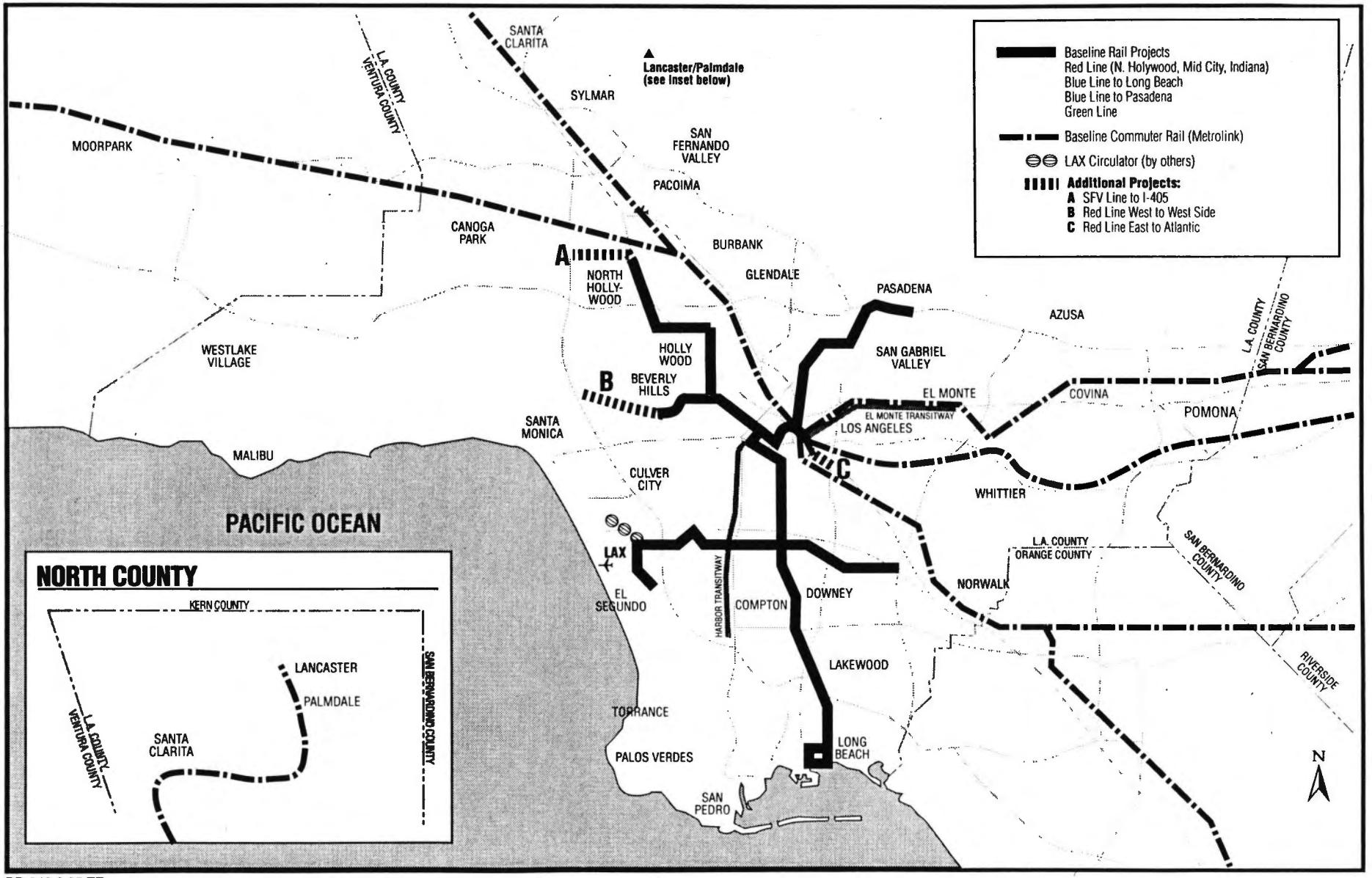
STRATEGY:

- The SCRRA is in the process of updating its capital 20-year plan. This information will be available in approximately 18 months and will be evaluated in the next update of the Long Range Plan. Capital expenditures include items such as rolling stock, new facilities, new track, equipment, communications, signage, street vehicles, etc.

- There are currently 201 commuter route miles in operation within Los Angeles County that serves a basis for computing MTA's funding contribution to Metrolink operations. The SCRRA currently receives over fifty percent of its funding from the MTA. However, as future commuter route miles outside of Los Angeles County come into operation, the percentage of MTA funds should drop to less than fifty percent.

MTA Long Range Transportation Plan
Rail Projects

Exhibit 3-6



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MTA Long Range Transportation Plan
URBAN AND COMMUTER RAIL MILES

Exhibit 3-7

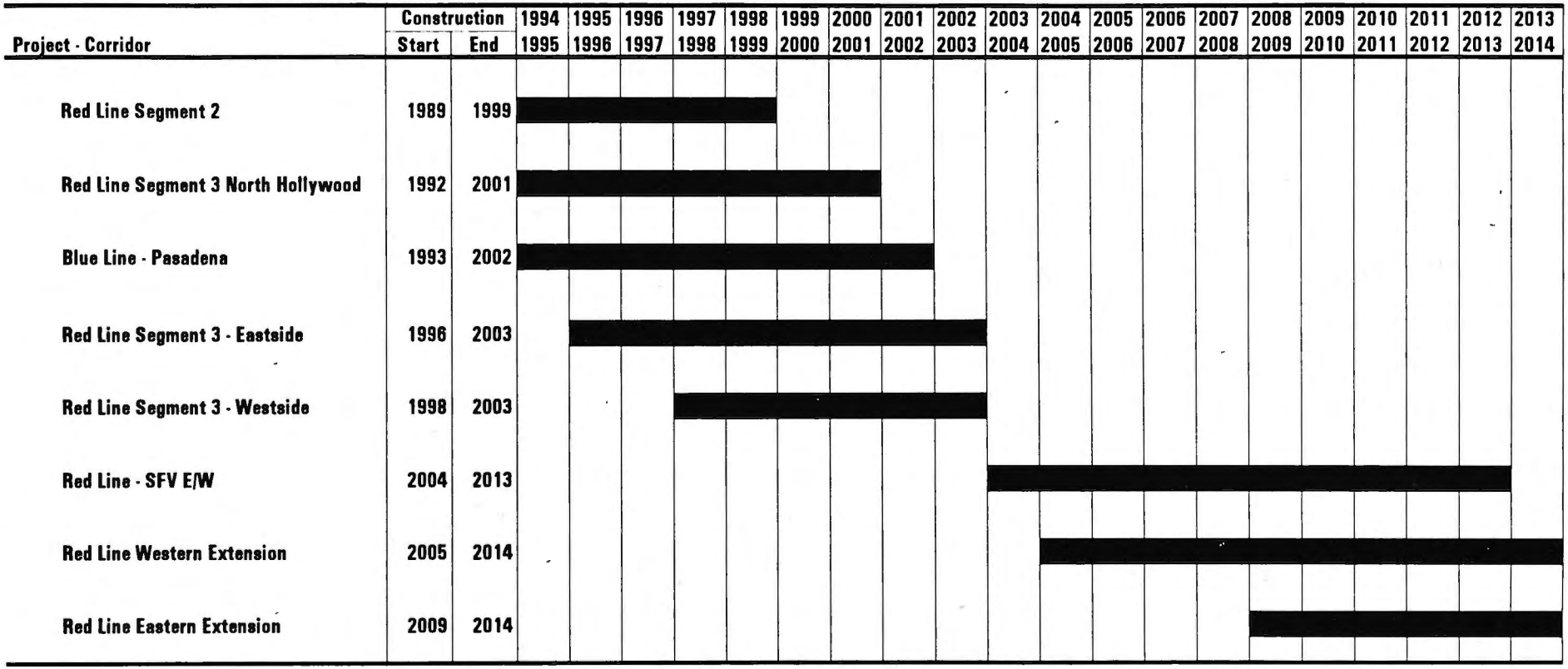
Rail Project/Segment	Miles
RED LINE Segment 1	4.4
RED LINE Segment 2	6.8
RED LINE Segment 3	
North Hollywood	5.9
Westside to Pico/San Vicente	4.0
Eastside to First/Lorena	2.3
San Fernando Valley East/West to I-405 Fwy.	6.0
RED LINE Western Extension to I-405 Fwy.	7.8
RED LINE Eastern Extension to Whittier/Atlantic	3.0
BLUE LINE to Long Beach	21.3
Pasadena Blue Line to Sierra Madre Villa	13.5
GREEN LINE Norwalk to El Segundo	19.5
Subtotal Urban Rail	94.5
Existing Metrolink System (Los Angeles County Portion)	201.0
TOTAL URBAN AND COMMUTER RAIL MILES	**295.5**

10-Apr-95

MTA Long Range Transportation Plan

Rail Project Schedules

Exhibit 3-8



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THE TRANSIT ELEMENT:
DMU/RAIL-BUS OPTION

CONCEPT

In an effort to maximize the effectiveness of our transportation investment, MTA is evaluating Diesel Multiple Unit (DMU) technology. If this technology is found to be feasible and cost-effective, it will be implemented in selected MTA rights-of-way. The DMU is called by a number of different names, including rail diesel car (RDC), diesel railcar, and railbus. In each case, the basic concept is the same: a single rail car which is the approximate size of a light rail transit (LRT) vehicle, operates frequent service, but is powered by a diesel engine. Because the DMU rides on conventional railroad tracks and does not require an electric power system, it can provide many of the advantages of LRT at greatly reduced cost.

STRATEGY

Before MTA can commit to implementing a DMU line, there must be a detailed feasibility study exploring various technology and implementation issues. The first phase of the study will look at the different types of DMUs to determine their operating characteristics, design parameters, and potential for use in the United States. The next phases will look at specific corridors to develop plans and cost estimates for implementation. Exhibit 3-9 shows potential corridors for a DMU analysis. These corridors are:

- Glendale-Burbank Corridor
- Northern San Gabriel Valley Corridor
- Harbor Subdivision Corridor
- Exposition Corridor
- Burbank Branch West Corridor

Based on preliminary cost estimates and analysis, funding would be available in the Long Range Plan to construct and operate DMU / Railbus lines on up to two of the proposed corridors.

ISSUES TO BE RESOLVED

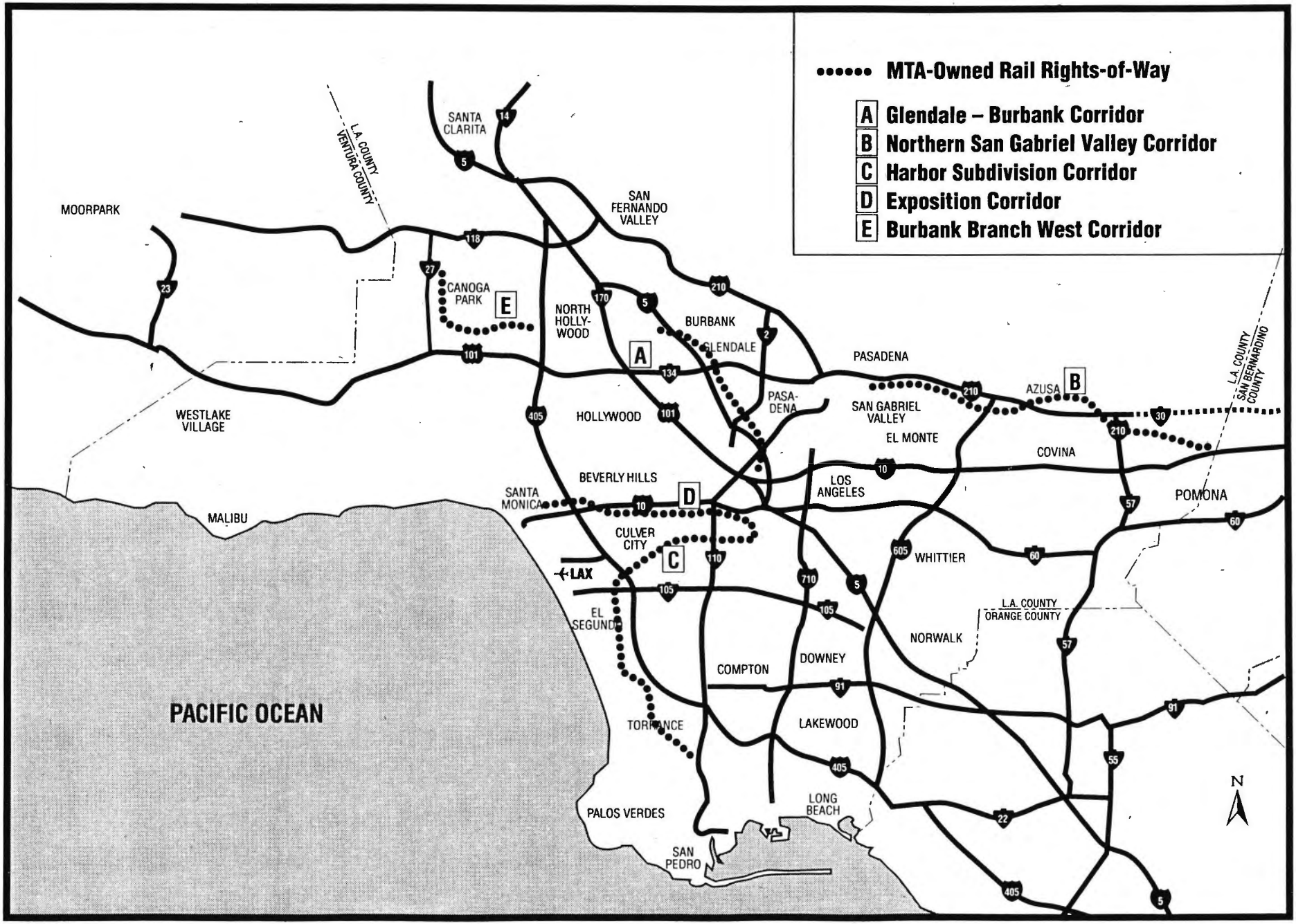
The feasibility study will address the following issues:

Technology Transfer: DMUs are widely used in Europe, Asia, Australia, South America, and Canada, but not in the United States. The current models do not meet federal requirements for car body strength (for service on freight lines), disabled access, air emissions, or domestic content. Introduction of the DMU in the United States may require development of a new model which better meets US standards, while some federal regulations may need to be revised. In addition, the DMU has different operating characteristics than LRT, so it may be necessary to modify LRT plans to accommodate the DMU. There must also be an evaluation of the DMU's impact on regional air quality conformity.

Financial/Institutional Constraints: Since the DMU is a hybrid of urban rail, commuter rail, and bus, a number of financial and institutional issues must be resolved. Each transit mode has its own set of rules for such items as environmental clearance, financing sources, and selection of an operating entity. MTA must therefore develop a framework that will be most effective for the planning, construction, and operation of DMU technology. One particular issue is the financing of the DMU from federal rail funds or from the Proposition C 10% account for commuter rail, park-and-ride, and transit centers. Before a DMU project can be funded from these sources, MTA must consider its priorities relative to other competing uses for these funds.

MTA Long Range Transportation Plan
Railbus Corridor Examples

Exhibit 3-9



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THE TRANSIT ELEMENT:
GATEWAY INTERMODAL TRANSIT CENTER
AT UNION STATION

The Los Angeles County Metropolitan Transportation Authority (MTA) is constructing the Gateway Intermodal Transit Center, adjacent to the historical Union Station, in downtown Los Angeles. This intermodal facility will change the way the region's 18 million residents move to and through the City of Los Angeles and the region, redefining access for individuals and communities to jobs and schools, as well as cultural and recreational opportunities. It will be the premier intermodal center in the western United States and the essential new entrance or gateway to downtown Los Angeles and the region.

The need for such an intermodal facility was initially identified as a mitigation measure in the **1983 Metro Rail Environmental Impact Statement/Subsequent Environmental Impact Report**. The report identified a need for a bus terminal with bus bays and bus layover spaces, a transit plaza to serve passengers, public parking for up to 2,500 cars, ingress and egress to the site, freeway ramp improvements, and roadway realignments.

Construction began in February 1993 on the $149.5 million Gateway Transit Center. When completed in September 1995, this intermodal facility will be the regional transportation hub connecting Los Angeles, Orange, Riverside, San Bernardino, and Ventura counties. It will link all major transit modes including: Regional and local bus lines, commuter rail lines, heavy and light rail lines, carpool, taxi and shuttle services, and regional and local freeway systems. As designed, the Gateway Transit Center will accommodate more than 100 buses every hour and serve more than 115,000 multimodal transit users daily.

The components of the transit center include:

- A **Bus Plaza** which will link the public transit and parking elements to create a highly visible public space. It is projected this intermodal transit facility will increase daily bus ridership by as much as 15,000 riders per day.

- The **Portal Pavilion**, located adjacent to the Bus Plaza, will serve 30,000 awaiting and disembarking passengers transferring between various transit modes each day.

- A **Park-and-Ride Facility** will provide 2,500 spaces adjacent to six heavily travelled freeways, encouraging automobile commuters to complete their commute using alternative modes of transit. This facility is expected to serve an estimated 8,000 car-pooling commuters per day.

THE HIGHWAY ELEMENT

INTRODUCTION

The examination of the Los Angeles County highway system is an essential component in providing for a balanced, multi-modal transportation system in Los Angeles County. The 500 mile freeway system for Los Angeles county currently has some of the most severe congestion in the nation, with most freeways experiencing extreme congestion over considerable portions of the day. The Santa Monica freeway, for example, carries approximately 340,000 vehicles per day, which is the highest volume freeway in the nation. In addition, the commuter peak period, which is typically a morning and evening "rush hour" in many communities across the nation, extends for periods of three to four hours in both morning and evening, resulting in high levels of congestion over many hours of the day.

The focus of the Long Range Plan is to examine how to make most effective use of the existing Highway infrastructure that is currently in place, as well as improvements that are needed to optimize the use of the system. These improvements are in the following areas.

- **HOV System Development.** The development of a countywide high occupancy vehicle (HOV) system has significant benefits in improving mobility and air quality by providing a system of lanes that are dedicated to carpool and transit usage. The provision of HOV lanes provides an incentive for carpool and transit formation, since HOV lane users move faster than mixed flow lanes and reduce the time of travel. HOV lanes benefit adjacent mixed flow lanes, since for every car carrying two persons on a HOV lane, two cars are no longer competing for space in a regular mixed-flow lane. HOV lanes also provide for significant improvement in person movement in comparison to a mixed flow lane. For example, the El Monte Busway now carries as many people as three regular traffic lanes.

- **Transportation Management Center Implementation.** An important aspect of maximizing the use of our existing highway system, is the development of a transportation "central nerve center" that can monitor traffic conditions. Such monitoring provides significant benefits in managing traffic operations and flow of the freeway system, in reducing the response time of emergency vehicles or hazardous material teams to traffic accidents, and in providing real time information to motorists regarding traffic conditions and alternative routes. The Long Range Plan dedicates funding for the development of an advanced Transportation Management Center that will be jointly operated by Caltrans and the California Highway Patrol. The Transportation Management Center includes various components, such as transportation sensors and TV monitors along the freeway system that monitor current conditions, a center that serves as the "brain" of the system in identifying problem locations, and information components that transmit advisory information to the motoring public (changeable message signs, highway advisory radio), as

well as providing information to CHP officers and incident response teams necessary to immediately respond to traffic accidents.

The importance of a Transportation Management Center with its ancillary system of detection and support was vividly illustrated during the recovery from the Northridge Earthquake. The Santa Monica Freeway carrying 340,000 vehicles a day was completely blocked. The Antelope Valley Freeway (Route 14) and Golden State Freeway (Route 5) interchange was destroyed, along with the Route 5 Gavin Canyon bridge. Detours were created, transit service was supplemented, and the adjacent streets system was utilized to handle massive traffic volumes. The establishment of a Transportation Management Center is important in the quick response to wide traffic delays, ranging from natural disasters such as the Northridge earthquake, as well as day to day occurrences such as traffic accidents, special events traffic, or peak hour congestion.

- **Gap Closures.** The Long Range Plan has identified several key gaps in the County highway system where system segments need to be constructed to ensure system continuity. These gap closures are on Route 710 and Route 30, as well as the widening of Route 138 near Palmdale. The completion of gap closures is important in order to ensure proper balance on the freeway system, necessary to reduce congestion and improve air quality.

HIGHWAY ELEMENT STRATEGIES

The objective of the HOV Program is to increase carpool and transit use and to reduce surface street congestion by creating a cost-effective, connected system of highway-occupancy vehicle lanes serving major origins and destinations, including intercounty trips. The Long Range Plan performance criteria have demonstrated that the development of an HOV system is a highly effective means of increasing person through-put on the system as well as a cost-effective component of the transportation system.

The objective of developing highway system improvements is accomplished through the following strategies:

- Construct 279 miles of new HOV lanes with key HOV interchanges to provide a continuous, faster-speed network for public transit and rideshare passengers to get to major business and activity centers.

- In keeping with the spirit of ISTEA and the Metropolitan Planning Factors, priority in funding and sequencing will be given to meeting up with HOV projects coming in from adjacent counties.

- Given the gap between available funds and needs for additional capacity, consideration will be given to converting an existing lane to HOV in high-demand corridors as a alternative to double-decking or other high-cost alternatives.

- High-occupancy toll lanes and private sector-sponsored projects will be investigated in at least one or two corridors for possible future demonstration.

- Complete the development and implementation of a Transportation Management Center to provide two-way communication to motorists and emergency services in avoiding congestion and incidence bottle-necks through real-time information.

- Complete critical gap closures necessary for countywide mobility and system continuity.

- Identify additional projects that are priorities for implementing if funding becomes available.

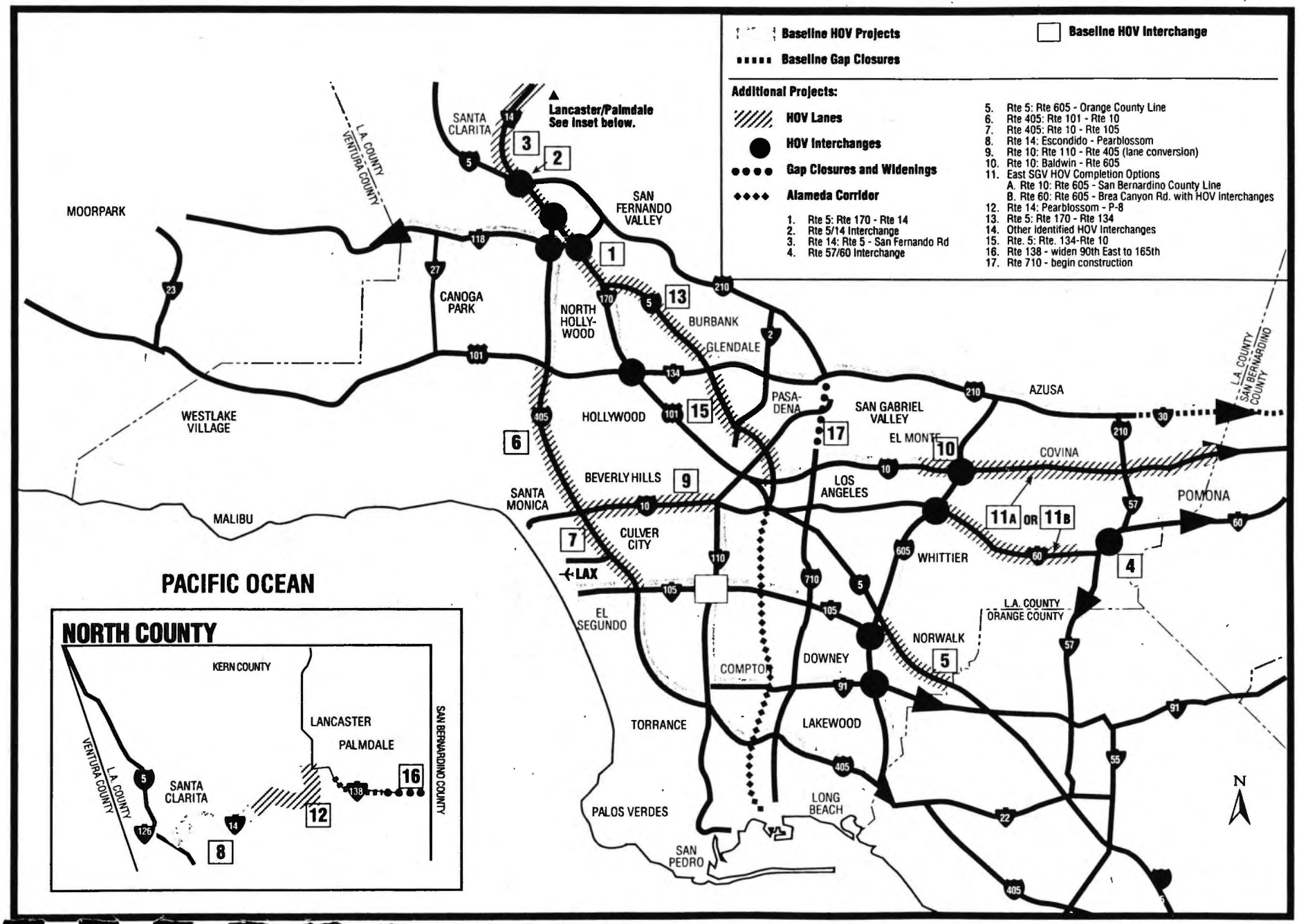
- Conduct the HOV System Integration Plan over the next year, to examine system integration, operational and design issues. This study will ensure that the priorities identified in the Long Range Plan, as well as any additional projects identified for new funding, are designed and implemented in the most cost-effective manner possible, and that appropriate supporting infrastructure (park-and-ride lots, transit service and infrastructure) are considered hand-in-hand with HOV system development.

  The HOV System Integration Plan will provide the MTA with a planning basis from which to evaluate the cost and sequencing of the projects in the Long Range Plan. This will allow the MTA and Caltrans to allocate funding and construct the HOV system, including HOV interchanges, in the most efficient and cost effective manner. The integration Plan will address cost savings measures that could allow for current project schedules to be advanced and additional projects to be added to the Long Range Plan. For example, the Route 10 / Route 60 Corridors will be analyzed for alternatives that could accelerate projects in that region. Other options for enhancing the HOV system include exploring partnerships with local government agencies and/or the private sector for key projects such as the Route 5 / Route 134 HOV interchange and considering innovative HOV delivery options such as HOV toll lanes and private sector financing.

Exhibit 3-10 identifies HOV projects that are recommended for implementation over the next twenty years. It should be noted that in the San Gabriel Valley Corridor, two alternative corridors have been identified. Within existing funding resources and current federal requirements, only one of these alternative projects can be funded. The HOV System Integration Plan will examine these two corridors and develop a recommendation for HOV development that maximizes mobility needs and system integration.

MTA Long Range Transportation Plan
Highway/HOV Projects

Exhibit 3-10



MTA Long Range Transportation Plan

HIGH OCCUPANCY VEHICLE LANE MILES

Exhibit 3-11

HOV Project Segment	Miles
Route 5 - Route 10 to Route 134	8.3
Route 5 - Route 134 to Route 14	18.9
Route 5 - OCL to Route 605	6.9
Route 10 - 110 to 405 Conversion (1)	9.3
Route 10 - Alameda to Baldwin	11.0
Route 10 - Baldwin to Route 605	3.2
Route 10 - Route 605 to SB Co. Line	17.1
(or Rte. 60 - Rte. 605 to Brea Canyon, 11.3)	
Route 14 - Escondido to Pearblossom	11.2
Route 14 - Pearblossom to P-8	6.2
Route 14 - Route 5 to San Fernando Road	2.3
Route 14 - San Fernando to Sand Canyon	6.4
Route 14 - Sand Canyon to Escondido	9.9
Route 30 - Rte. 210 to Foothill Boulevard	2.3
Route 57 - Orange Co. Line to Rte. 60	5.7
Route 60 - Brea Canyon to Rte. 57	2.4
Route 60 - Rte. 57 to S.B. Co. Line	5.1
Route 91 - Rte. 110 to Orange Co. Line	14.3
Route 105 - Rte. 405 to Rte. 605	16.5
Route 118 - Ventura Co. Line to Rte. 5	11.4
Route 134 - Rte. 101/170 to Rte. 5	5.1
Route 134 - Rte. 2 to Rte. 210	3.6
Route 134 - Rte. 5 to Rte. 2	4.2
Route 170 - Rte. 101 to Rte. 5	6.1
Route 210 - Rte. 134 to Sunflower	18.5
Route 405 - Orange Co. Line to Rte. 710	7.6
Route 405 - Route 10 to Route 105	9.3
Route 405 - Route 101 to Route 10	9.9
Route 405 - Route 101 to Rte. 5	10.1
Route 405 - Route 110 to Route 105	9.2
Route 405 - Route 710 to Rte. 110	6.1
Route 605 - Orange Co. Line to South St.	3.8
Route 605 - South St. to Telegraph Rd.	7.0
Route 605 - Telegraph Rd. to Rte. 10	9.9
TOTAL HOV LANE MILES	**278.8**

(1) Conversion would be considered after other transit options are available, including the Red Line Western Extension to the 405 Freeway.

MTA Long Range Transportation Plan

Highway Project Schedule

Exhibit 3-12

Project - Corridor	1993 - 2000	2000 - 2005	2005 - 2010	2010 - 2015
HIGHWAY PROJECTS				
* Route 134 - Rte. 5 to Rte. 2	x			
* Route 170 - Rte. 101 to Rte. 5	x			
* Route 134 - Rte. 2 to Rte. 210	x			
* Route 134 - Rte. 101/170 to Rte. 5	x			
* Route 118 - Ventura Co. Line to Rte. 5	x			
* Route 605 - South St. to Telegraph Rd.	x			
* Route 60 - Brea Canyon to Rte. 57	x			
* Route 405 - Route 710 to Rte. 110	x			
* Route 605 - Orange Co. Line to South St.	x			
* Route 405 - Orange Co. Line to Rte. 710	x			
* Route 57 - Orange Co. Line to Rte. 60	x			
* Route 14 - San Fernando to Sand Canyon	x			
* Route 14 - Sand Canyon to Escondido	x			
* Route 60 - Rte. 57 to S.B. Co. Line	x			
* Route 605 - Telegraph Rd. to Rte. 10	x			
Route 14: Route 5 to San Fernando Road	x			
Route 5/14 Connector	x			
* Route 138 HWY - Ave. T to 90th	x			
* Route 30 - Rte. 210 to Foothill Boulevard	x			
* Route 126 GAP - Arterial Widening	x			
Route 5 - Route 134 to Route 14		x		
Route 10: 110 to 405 Conversion		x		
* Route 30 GAP - Rte. 66 ot SB Co. Line		x		
Route 57/60 Connector		x		
Route 10: Baldwin to Route 605		x		
Route 14: Escondido to Pearblossom		x		
Route 10/605 Connector		x		
Route 14: Pearblossom to P-8		x		
Route 60/605 Connector			x	
Route 5 - OCL to Route 605			x	
Route 118/405 Connector			x	
Route 405: Route 101 to Route 10			x	
Route 405: Route 10 to Route 105			x	
Route 10: Route 605 to SB Co. Line (or Rte 60: Route 605 to Brea Canyon)			x	
Route 5/405 Connector			x	
Route 91/605 Connector			x	
Route 5: Route 134 to Route 10			x	
Route 105/605 Connector			x	
Route 170/134 Connector				x
Route 710: GAP Closure to Pasadena				x
Route 5/118 Connector				x
Route 138 Widening - 90th East to 165th				x

Note: Sequencing and Scheduling for all highway projects will be re-evaluated based on the results of the Highway System Integration Plan which is currently being developed and should be completed by March 1996.

* Baseline Projects

INCIDENT MANAGEMENT / FREEWAY SERVICE PATROL

The Incident Management program has two components: Major Incident Response and Freeway Service Patrol program. Both of these programs are administered jointly by the MTA, Caltrans and the California Highway Patrol (CHP). The purpose of these programs is to reduce congestion, improve air quality and improve the efficient and safe flow of traffic on the freeway system by assisting motorists with disabled vehicles. Freeway Service Patrol/disabled vehicle assistance is provided under contract by private sector towing companies and is offered free of charge to the motorist.

The Metro Freeway Service Patrol covers 75 percent of the freeway system in Los Angeles County. The service is provided Monday through Friday during commuter rush hours (6:00 - 10:00 a.m. and 3:00 - 6:00 p.m.). The service operates 144 vehicles in an effort to respond to incidents within ten minutes.

Caltrans estimates that for every dollar spent on the Freeway Service Patrol, $11 in savings is generated. This savings is realized in the form of:

- Reduced traffic congestion which improves traffic flow and decreases excess pollution caused by idling vehicles.
- Increased motorist safety by reducing congestion and keeping traffic lanes clear of obstructions which decreases the amount of "secondary" accidents.
- Better allocation of CHP resources, allowing CHP officers to focus more on law enforcement duties.

The Major Incident Response Program is designed to reduce clearance time for multi-lane freeway blockages, typically known as "Sig-Alerts" by radio broadcasters. Coordination is improved through intragency workshops. Portable field command equipment is being developed and communications technology is being enhanced.

STRATEGY:

- The program will continue to provide Freeway Service Patrol service through coordinated efforts with the MTA, Caltrans and the CHP.
- New technology will be incorporated into Major Incident Response to deal with communications enhancing the CHP central dispatching, and detecting and handling hazardous spills.
- Revenues for the program include local Prop C 25% funds, budget change proposed funds, as well as HOV Violation Revenues that are expected to increase as new HOV lane miles come into operation.

THE MULTIMODAL ELEMENT: (CALL FOR PROJECTS CATEGORIES)

The Multimodal Element includes countywide programs administered by MTA, but in which projects are frequently implemented by other agencies such as cities and municipal transit operators. The individual projects are typically selected through the MTA's Call for Projects, in which local jurisdictions and others submit project applications, which are then prioritized and funded based on a countywide competition.

Key strategies for this Element include:

- Signal Synchronization and Bus Speed Improvements will be directed at maximizing the person-carrying efficiency of arterial streets, reducing transit operations costs by funding projects which directly increase bus speeds and integrating local traffic signal systems.
- Transportation Demand Management will increase transit and carpool mode splits, determining and designing for user needs, pricing the auto trip appropriately and increasing passenger convenience.
- The Alameda Corridor will be implemented with other funding partners, to consolidate goods movement for the region, improve air quality and minimize traffic delays.
- Regional Surface Transportation Improvements will mitigate traffic congestion by implementing capital improvements at key system bottlenecks.
- Transit Centers and Park-and-Ride will increase transit mode split and reduce passenger travel time by providing passenger shelters and facilities for restructured transit services.
- Non-Motorized Transport will better integrate the transportation system into surrounding communities by implementing bikeways that decrease drive-alone trips and pedestrian access improvements around transit stations.

SIGNAL SYNCHRONIZATION AND BUS SPEED IMPROVEMENTS

Traffic signal synchronization optimizes traffic controls to provide relatively quick relief to traffic congestion. With 89 local jurisdictions within Los Angeles County, coordination among the systems maintained by these agencies is a critical step toward providing seamless travel throughout the county.

Bus speed improvements, such as bus-only lanes, traffic signal priority and intersection improvements can also significantly enhance overall transportation and the delivery of transit services, and increase the attractiveness of ridesharing to otherwise solo drivers. These improvements have demonstrated very high cost-effectiveness and broad applicability throughout the county.

Implementation of these projects, particularly bus speed improvements, requires an exceptionally high level of cooperation among parties: Street improvements must be approved and constructed by local public works agencies; the MTA is the major transit operator using the improvement; local businesses and residents could bear either the benefit or the burden of these projects; and enforcement of traffic restrictions are crucial to project success.

Strategy:

- Bus speed improvements will be aggressively pursued on streets heavily used by transit, to maximize benefit to transit passengers and operational savings to transit operators. Roughly 130 miles of streets currently carry sufficient transit volumes to warrant priority treatment.

- Improvements will be made to parallel streets for autos and buses through broad countywide implementation of signal coordination, centralized control and Smart Corridor projects.

- The MTA will strongly emphasize the need for community and multi-agency involvement in the development of bus speed improvement projects.

- The MTA's Call for Projects will be the primary mechanism through which these projects will be funded. MTA will work in cooperation with local jurisdictions and others to identify and develop cost effective projects.

TRANSPORTATION DEMAND MANAGEMENT

Transportation Demand Management (TDM) actions decrease the volume of traffic and vehicle miles traveled (VMT) by influencing the manner in which people travel. TDM generally includes increasing the use of transit, carpooling and vanpooling, bicycling and walking, shortening trips, and avoiding trips altogether through telecommuting.

In order to significantly affect travel demand, travelers must be provided with options that best meet their individual needs. To be effective, the MTA's TDM program must therefore provide a wide choice of alternatives to driving alone. It must also provide incentives to use these alternatives, in cooperation with both the private and public sectors.

Strategy:

- Major emphasis will be placed on market-based projects, through pricing demonstration and incentive projects, including congestion and parking pricing.
- Market research will be conducted to determine transit passenger and non-passenger needs and to identify the most effective ways to increase transit ridership.
- Maximize commuter outreach by marketing MTA-funded as well as MTA-provided services and programs through employers for transit, vanpooling, carpooling and information about HOV lane, Park-and-Ride lot and telebusiness center usage.
- Transit-related advancements to make transit travel easier will continue to be explored, such as information systems, smart buses and vehicle locating systems, and smart fare cards.
- Improved intermodal integration (such as bicycle/bus travel) will be emphasized, along with implementing land use/transit policies and trip avoidance strategies such as telecommuting.
- Limited shuttle funding will be provided to demonstrate potentially self-supporting or city-supported concepts such as smart shuttles, with high-efficiency dispatching, and jitneys.
- The MTA's Call for Projects will be the primary mechanism through which these projects will be funded, with particular focus on leveraging local and private sector efforts. Funding levels will be increased over time as we evaluate the effectiveness of the programs and MTA's role.

ALAMEDA CORRIDOR

The efficient movement of goods is a primary component of transportation for Los Angeles County, and to the economic vitality of the region. In spite of this fact, regional traffic congestion both contributes to and is affected by conflicts between goods movement and general public travel.

The Alameda Corridor project was developed to improve the inter-modal efficiency of our transportation system, by consolidating the operations of the three freight railroad carriers into one high-speed, high-capacity corridor. The route, to be constructed along Alameda Street, will include the elimination of all at-grade highway crossings of the railroad, while consolidating 90 miles of branch line tracks into one 20-mile corridor.

A distinct improvement to the region will be the elimination of traffic conflicts at nearly 200 at-grade highway crossings of the tracks, saving an estimated 15,000 hours of delay per day for vehicles sitting and waiting to cross as trains pass. In addition, Alameda Street will be improved to provide better access from the ports of Long Beach and Los Angeles to freeway ramps. In doing so, the Alameda Corridor will accommodate the increase in rail and truck traffic associated with the ports' growth, while significantly reducing the negative impacts of that growth on the environment and neighboring communities.

Strategy:

- MTA will join with other local, state, federal and private sources to pursue the project. MTA involvement in the program will be to provide approximately $350 million in funding, contingent upon negotiation of key oversight and performance requirements.

- MTA will examine the applicability of goods movement improvements in other corridors throughout the county.

REGIONAL SURFACE TRANSPORTATION

Regional Surface Transportation projects include improvements to major inter-jurisdictional arterial streets, interchanges, grade separation projects, and goods movement projects.

These projects frequently provide significant reduction in traffic congestion and delays in surrounding areas, which benefit both transit users and general auto traffic. However, implementation of these projects has become more difficult in recent years due to increasing concerns regarding their impact on air quality and the environment. MTA involvement will therefore be limited to those projects which are clearly deliverable within limited time horizons.

MTA involvement in these projects is further reserved for major capital improvements to regionally significant arterial highways that are beyond the normal funding capability of the affected local agency(ies). Of particular concern to MTA is the regional significance of the project, its regional continuity (length), usage (traffic volume), and connectivity to major activity centers or transportation facilities such as freeways and airports.

Strategy:

- Funding will concentrate on key bottleneck locations and improving freeway access.
- Technical feasibility and project deliverability will be key criteria in the selection of projects to be funded.
- The MTA's Call for Projects will be the primary mechanism through which these projects will be funded, with particular focus on leveraging local funds.

TRANSIT CENTERS AND PARK-AND-RIDE

Provision of comfortable, safe, and convenient transfer points is a major determinant of the transit system's attractiveness and effectiveness at generating ridership. This is particularly true where transit restructuring studies result in recommendations for timed transfers and other strategies which concentrate transit passengers at particular locations. For park-and-ride and bus stop facilities, integration with surrounding land uses and the community are also essential.

Strategy:

- Transit centers and enhanced bus stops (similar to those recommended in the Inner City and San Fernando Valley bus restructuring studies) will be funded through the Call for Projects.
- MTA funds dedicated to these purposes will increase over the 20-year period.
- In order to implement these projects in the near term, MTA will develop a leverage funding formula through the Call for Projects to give local jurisdictions incentives to invest in transit center and bus stop improvements.

NON-MOTORIZED TRANSPORT

Bicycle, pedestrian and other non-motorized modes are in many ways the cleanest and most cost-effective forms of travel. Safe, attractive, and convenient access to transit and other non-motorized alternatives to auto travel are therefore an important part of the transportation system.

Strategy:

- MTA funding of bikeways will be limited to major interjurisdictional connections, bottlenecks and demonstrated bicycle commute corridors.
- Pedestrian access improvements to transit centers and stations will be encouraged and funded through the Call for Projects.

OTHER FUNDING PROGRAMS

These programs include projects funded up to the available revenue level defined annually for the program. Each program is defined as a source and use of funds in the MTA's Financial Plan and is not fungible. These programs are administered and programmed by the State.

STRATEGY:

- **State Highway Operation and Protection Program (SHOPP):** provides resources for operational integrity and safety of the State Highway System that includes rehabilitation, traffic safety, seismic safety and other small improvements; funded though the State Highway Account.

- **Service Authority for Freeway Emergencies (SAFE):** provides resources for an integrated freeway callbox system providing direct telephone links to the California State Highway Patrol for notification of road hazards and emergencies; funded by an annual surcharge on motor vehicle registration fees.

- **Environmental Enhancement and Mitigation (EE&M):** provides resources to mitigate environmental impacts of new public transportation facilities in three major project categories - Highway Landscape and Urban Forestry, Resource Lands and Roadside Recreational facilities; funded through the State Highway Account.

- **Inter-Regional Road**: provides resources for improving inter-regional travel in areas outside urbanized areas of the state; funded through the State Highway Account.

- **Retrofit Soundwalls**: provides resources for building freeway soundwalls for the purpose of reducing noise pollution generated by the freeway system; funded through the State Highway Account.

These programs serve as part of the region's strategy to meet the goals of mobility, air quality, and cost-effectiveness and are assumed to continue throughout the 20-year period of the plan.

THE TRANSPORTATION POLICY ELEMENT

OVERVIEW

The transportation infrastructure improvements identified in earlier Chapters of the plan demonstrate considerable success in improving mobility. These projects successfully lead to increasing ridership for transit and carpooling, which reverses a declining trend occurring across the nation. However, even with these important improvements, Los Angeles will continue to face a daunting task in meeting its mobility challenge. High levels of congestion will continue to exist and, in fact, single occupant vehicles could still account for as much as 77 percent of the home-to-work trip in our county.

It is clear that while facility improvements are necessary to improving mobility, such solutions alone will not solve our mobility and air quality problems. This is in large part because of the dispersed travel patterns of our county which are difficult for our transit system to accommodate, as well as because the subsidies provided to the automobile (i.e., employer subsidized parking, low cost of user fees, free access to freeways regardless of construction costs) make the automobile the most attractive transportation choice for many.

In order to meet mobility needs of the future, we need to re-examine our transportation policies that lead to a preferred use of the automobile, and consider a policy shift to strategies that encourage greater reliance on transit and carpool use. It is appropriate to consider such policy shifts as an element of the Long Range Plan, because changes in policy must go hand in hand with system improvements, in order to ensure that policy changes are supported by readily available transportation alternatives in order to be successful.

The Long Range Plan has focused on five policy shifts that encourage greater reliance on transit and ridesharing. These are as follows:

- Increasing the minimum passenger occupancy for High Occupancy Vehicles from two persons per vehicle to three persons per vehicle.
- Encouraging greater utilization of telecommuting and teleservices.
- Encouraging local implementation of parking management strategies.
- Focusing land development in proximity to transit centers.
- Encouraging consideration of regional market incentives.

POLICY SHIFT OPTION STRATEGIES

- **Increasing Minimum Passenger Occupancy for High Occupancy Vehicles.** With the exception of the El Monte HOV facility, all High Occupancy Vehicle Lanes in operation or under development in Los Angeles County will require a minimum of two persons per vehicle. While this minimum standard is useful at this time in encouraging the effective utilization of new carpool lanes, our modeling analysis shows that these lanes will become increasingly congested over the next twenty years. It is important to manage traffic congestion on carpool lanes to maintain a free flow condition, as a free flow condition rewards carpoolers by allowing them to arrive at their destination faster by traveling through less congestion than is found on normal mixed flow lanes. HOV lanes also have a benefit on improving congestion in normal mixed flow lanes, since every two person carpool using an HOV lane removes two cars from the normal mixed flow lanes. Effective transit service using the carpool lanes has an even greater benefit in removing automobiles.

  The modeling for the Long Range Plan demonstrates that if carpool lanes remain at two persons per vehicle over the next twenty years, they will be operating at approximately 20 miles per hour. In order to maintain the time-competitive advantage with the mixed flow lanes that creates the incentive for carpool and transit use, the HOV system needs to be managed to maintain speeds of 40 miles per hour or greater. This will require that the minimum passenger occupancy be increased from two persons per vehicle to three persons per vehicle as carpool lane congestion increases over the next twenty years.

  Strategy

  It is important that policy decisions on raising the HOV minimum requirements be made considering the HOV system as a whole, rather than on a facility by facility basis. Changing HOV policies on some segments while leaving them alone on others would only create operational problems as, for example, two person carpools traveling on segments with different requirements might be required to exit on portions of the system restricted to three persons or more.

  Additionally, increasing minimum requirements can also displace existing two person carpools. It is possible that increasing HOV lane requirements in combination with other strategies may have the most desirable mobility benefit. Such strategies might include, incorporating three person HOV lanes with local parking policies, or to provide access to HOV lanes for two person carpools and single occupant vehicles at a fee. Opportunities may also exist to restructure bus services to maximize utilization of transit on HOV lanes, as the greater the bus utilization of an HOV lane, the higher the person through-put productivity of the facility. Such issues need to be considered to avoid unnecessary congestion bottle-necks and to ensure the safe operation of the system.

MTA, in partnership with Caltrans and the Southern California Association of Governments, will be developing an HOV System Integration Plan which is scheduled for completion by early 1996. The HOV System Integration Plan will examine how HOV thresholds should be changed within a systemwide context, and result in a policy recommendation to address this issue which can be incorporated into future updates of the MTA Long Range Plan. The issues mentioned in the above paragraph will all be considered as part of the HOV System Integration Plan analysis.

- **Increase Telecommuting/Teleservices.** There appears to be growing public interest and receptiveness to technological improvements that are bringing in the computer age and the revolutionary "information highway". As a result of this receptiveness, the implementation of a wide range of telecommunications strategies may be one of the most promising strategies for encouraging the public to forgo certain trips. A growing number of businesses are allowing employees to telecommute for one or more days per week. With the advent of on-line computer services and the Internet, there is a growing capability to order information, goods, and services that may significantly alter the need for travel.

Strategy

One of the most significant barriers to enhancing telecommuting strategies are organizational and institutional concerns, related to the management, supervision and communication with employees that are not working on-site. There is an increasing body of research as to how employers have overcome such obstacles and developed telecommuting programs that provide flexibility to employees that benefit from working at home or at an off-site location, while maintaining or increasing productivity and accountability, which is of utmost importance to employers. We recommend that outreach projects be initiated to coordinate with private and public sector interests to share telecommuting methods successfully used by other organizations, so as to reduce institutional issues and facilitate telecommuting. SCAG is currently funding MTA through their Southern California Economic Partnership to conduct executive outreach. MTA may also wish to consider telecommuting demonstration projects in the TDM Category of the Call for Projects process.

- **Parking Management.** A wide range of parking strategies can be promoted, primarily by local jurisdictions, to discourage auto travel by affecting parking policy. Such policy changes could include:

  - Expanding parking cashout programs which allow an employer to reduce the obligation to provide parking and through the savings, provide a cash allowance that employees can use for transit or carpool alternatives.

- Restructuring parking fees. Fees could be raised in various ways, such as through an across the board surcharge or by making changes to early-bird discounts. Such changes increase the cost of traveling by auto relative to transit, thereby encouraging the use of transit and carpools.

- Reducing the availability of parking supply to encourage greater reliance on transit and carpooling. This strategy may be particularly effective in urban centers.

Strategy

Parking strategies are primarily implemented at the local level through local ordinance. As a result, considerable coordination must be conducted with local jurisdictions to assist them in implementing strategies. MTA is currently funding several demonstration projects through the Call for Projects examining parking strategies at specific employer sites. A preliminary evaluation these projects indicates that parking strategies can dramatically increase ridesharing and transit use. MTA may wish to consider funding a variety of parking demonstration studies through the TDM Category of the Call for Projects. MTA may also wish to create incentives for local jurisdictions to implement parking policy strategies by providing bonus points to jurisdictions that implement effective parking policies in competing for MTA funds in future Call for Projects processes.

- **Focus Land Development Around Transit.** A wide range of studies conducted by private sector, environmental and government groups have documented that land development focused around transit centers creates an environment that reduces vehicle trips and encourages the use of transit. MTA's review of this literature suggests that transit friendly development constructed around rail stations may reduce vehicle trips by as much as 20 percent. Land use decisions are a local responsibility that require considerable policy integration in many areas, including zoning, general or specific plan changes, and ensuring supporting infrastructure and services are provided.

Strategy

MTA should consider local jurisdiction demonstration projects through the TDM Category of the Call for Projects that lead to land use changes around transit centers that encourage transit use. MTA staff have also worked with jurisdictions in the development of land use/transportation strategies.

- **Regional Market Incentives.** There is emerging interest at both the State and regional level in examining market based incentives, such as facility pricing (i.e., toll facilities) or VMT fees that in essence charge based on the miles of auto use.

Strategy

SCAG and Caltrans have been awarded $1 million as part of an FHWA congestion pricing demonstration study. This study will identify various market incentive strategies, gauge public acceptance of such strategies, and developing a strategy for further consideration of these concepts. MTA staff will actively participate in this process.

MTA NEXT STEPS

The policy changes identified above require changes to individual travel behavior that will be challenging, as getting people to change habits is always difficult. However, just as public attitudes toward smoking have drastically changed in recent years, so must attitudes toward single occupant vehicle use, if we are to provide for our future mobility needs. The identification of policy changes in the Long Range Plan is a first step in identifying options that have complex consequences. These consequences require considerable analysis and long term strategies in order to build public support necessary for successful and effective implementation. It is important to begin the dialogue on policy options through the Long Range Plan process, and through MTA participation with regional and state agencies exploring these issues.

- Consider implementing appropriate demonstration studies that test the viability of policy options through the Call for Projects.

- Participate with state, regional, and local agencies in examining the viability and consequences of different strategies. Participate in on-going study efforts at the regional and state level to explore policy options.

- Continue MTA staff efforts in identifying those policy shift options that work best for Los Angeles. As policy options are considered, MTA will work to forge broad consensus to facilitate the development of effective strategies while minimizing any adverse impacts, and also work toward educating the public regarding mobility needs, the need for changes in travel behavior, and the benefit the public will derive in terms of improvements to mobility, air quality, and the economy.

PERFORMANCE OF THE PLAN

BACKGROUND

The components of the Adopted Plan were selected following several stages of travel simulations and evaluations. First, each project and program was analyzed individually against the Baseline Scenario. Then, the projects and programs were grouped into alternative scenarios to identify the best combination. Additional analysis was conducted on several supportive policy alternatives to the Adopted Plan. While the three performance indices (mobility, air quality, cost effectiveness) provided quantitative data on the relative merits of each alternative, the application of the ISTEA Planning Factors was also conducted for the qualitative impacts of the alternatives. (The details of these analyses are presented in Appendix A.) This technical analysis and the public input received from numerous briefings, workshops and community meetings contributed to the development of the Adopted MTA Long Range Transportation Plan that will best meet the transportation needs of Los Angeles County.

PERFORMANCE ELEMENTS

The transportation facilities and policies in the Adopted MTA Long Range Transportation Plan will lead to an improvement in countywide travel conditions as compared to the conditions that may have otherwise existed without those improvements. In the testing of various alternative scenarios, it was determined that the Adopted Plan provides the best mix of projects and supporting elements to create an overall improvement in mobility and air quality (Exhibit 3-13). Simultaneously, the Adopted Plan was found to be cost effective in using the limited available MTA funds.

Mobility Index

The Mobility Index is a multimodal performance measure that was used to evaluate the movement of people through the Los Angeles County transportation system. The Adopted Plan provides a 26% improvement in the mobility index compared to the Baseline Scenario. The Adopted Plan provides travel speeds improvements for all modes of travel and encourages increased ridesharing through improvements for transit and carpool travel. However, the Adopted Long Range Transportation Plan will not fully recover from the increasing congestion that led to the declining Mobility Index and deteriorating highway travel speeds by the Year 2015. Transportation policies encouraging shifts in travel behavior, which either provide incentives to ridesharing or disincentives to single-occupancy travel, are needed to further improve mobility in Los Angeles County.

MTA Long Range Transportation Plan

Selected Performance Characteristics

	1990	Baseline Scenario	Adopted Plan w/o Policies	Adopted Plan with Policies
Mobility Index	42.27	24.40	28.39	32.75
Air Quality Index (mobile source kg)	1,319,714	550,330	510,670	451,628
Cost Effectiveness Index ($/Hr Saved)				
- MTA: Transit & HOV	NA	NA	$2.65	$1.68
- MTA: All Travel	NA	NA	$1.35	$0.91
- Total Public: Transit & HOV	NA	NA	$3.87	$2.46
- Total Public: All Travel	NA	NA	$1.98	$1.33
Home-Work Trip Mode Share				
- Transit	8.25%	7.28%	9.22%	9.90%
- Carpool	15.92%	13.85%	13.46%	14.29%
- Drive Alone	75.83%	78.87%	77.32%	75.80%

Notes: Cost Effectiveness is only measured relative to the Baseline Scenario.

All data is daily for Los Angeles County and for the year 2015 except where indicated.

The transportation policies analyzed with the Adopted Plan include parking and VMT fees.

Air Quality Index

The greatest improvement in air quality over the next twenty years will come from technology. As low- and zero-emission vehicles become more prevalent in the on-the-road fleet, air quality improvements will occur not unlike that which has occurred over the past twenty years with emission controls.

The MTA is taking a national leadership role in the development of low- and zero-emission vehicles through its development of the **Advanced Technology Transit Bus (ATTB) program**. Strongly supported by the California Congressional delegation, the program was initiated in 1992 with a multi-year grant from the Federal Transit Administration and matching funds from the MTA. The objective is to develop a lightweight, low floor, advanced electronics, ultra low emission bus ready to be field tested in the 1997-1999 time frame. The MTA is one of 19 transit agencies throughout the country participating in the ATTB program. These agencies represent 42% of the national bus fleet.

In conjunction with the ATTB development, a Fuel Cell Buyers' Consortium has been formed, consisting of thirty state and local government entities, public utilities and transit agencies. Their purpose is to achieve the rapid and successful transition to zero emission vehicles called for by the South Coast Air Quality Management Plan and to harness Southern California's buying power to support defense conversion and new technology jobs in a dynamic profitable fuel cell industry. The ATTB has been targeted as one of the points of entry for bringing fuel cells into the transportation market.

Based on the emission factors for the Year 2015, supplied by the California Air Resources Board, the Baseline Scenario indicates that mobile source pollutant emissions will decline approximately 60 percent. The Adopted Plan will provide a small amount of additional reductions in mobile source emissions from the Baseline Scenario. The air quality improvement is largely attributable to the mode shift from single-occupant vehicles to transit and carpools. This not only reduces vehicle trips, but also enables the remaining vehicles to travel somewhat faster.

Cost Effectiveness Index

The performance measure used to evaluate the cost effectiveness of the Adopted Plan was the cost per hour of travel time saved. This measure was evaluated from the perspective of both the cost to the MTA and the total public cost of the Adopted Plan. In addition to the travel time savings associated with transit and carpool travel, the measure was also used to measure travel time savings for all modes including single-occupant vehicles. One standard that can be applied to evaluate this measure is the minimum wage rate (currently $4.25/hour). Another is the generalized value of time obtained from travel surveys and calculated in econometric models (currently $10.50 based upon the SCAG 1991 Household Travel Survey). The composite cost effectiveness for the Adopted Plan passes the test in that the expenditures by either the MTA or

the public for an hour of travel time savings for either ridesharers or all travelers is significantly less than either standard.

Mode Share

Given that the air quality consideration will largely be addressed by automotive technological improvements, the largest remaining problem Los Angeles County faces is the increasing traffic congestion. The three methods to reduce congestion are to reduce vehicular travel, to move vehicles more efficiently or to build more roads. The Adopted Plan includes elements of all three methods, but primarily focusing on vehicular travel reductions and transportation systems management to facilitate bus and auto travel. The drive-alone commuter mode share declines from 78.9% under the Baseline Scenario to 77.3% in the Adopted Plan resulting in a reduction of 120,000 daily commuter auto trips. The transit mode share increases to 9.2% from 7.3% in the 2015 Baseline Scenario. **If the Adopted Plan is successful in achieving this transit mode share, it would represent the reversal of a 100-year decline**. Carpooling declines slightly from 13.8% to 13.5% largely due to the transit improvements that encourage carpools in those corridors to switch to transit (only a small percentage of all carpools use freeway carpool lanes).

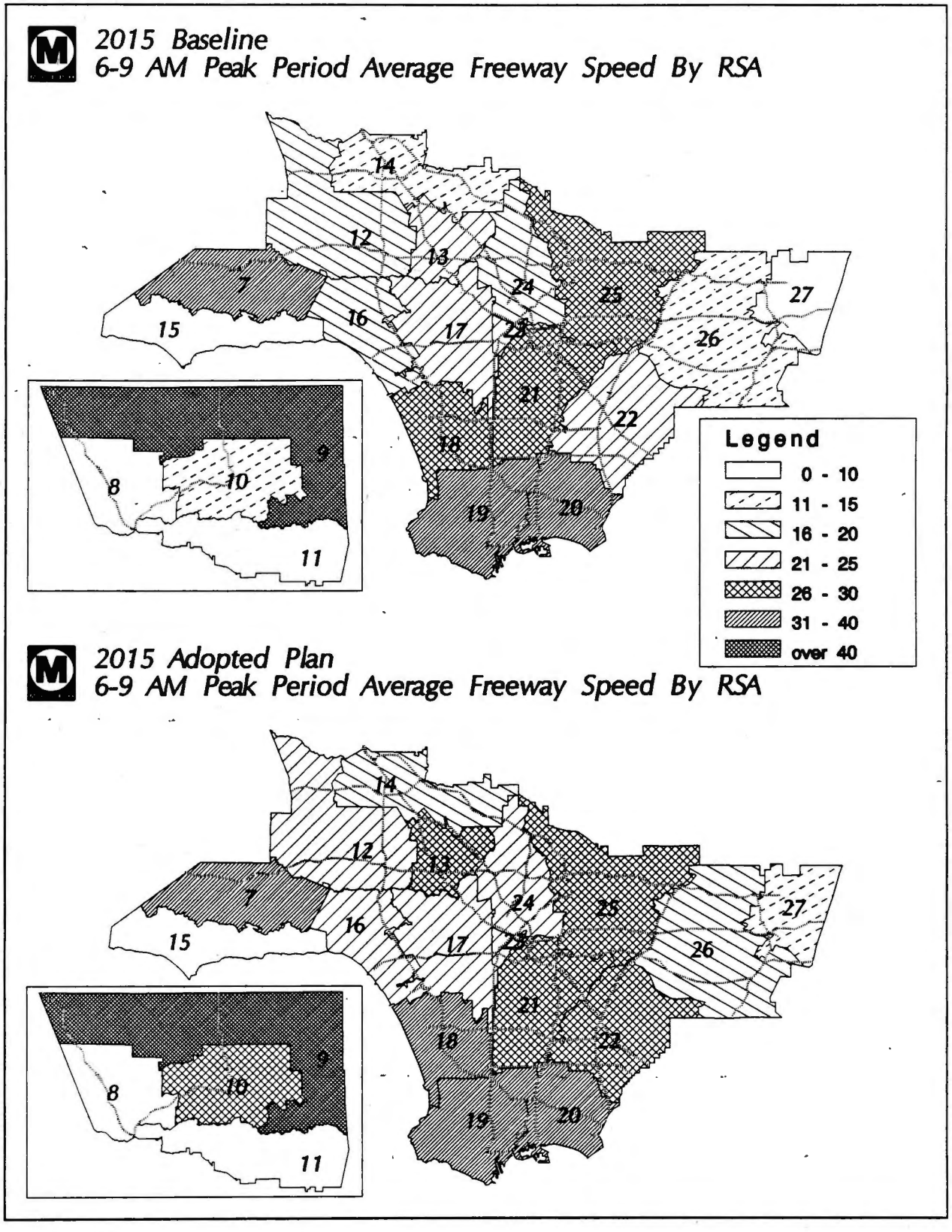
Still, the carpool projects and programs included in the Adopted Plan provide a foundation for increased ridesharing with the adoption of supportive transportation policies. This was illustrated in the evaluation of a policy scenario that imposed a 20 percent parking tax (50 percent around transit stations) and a 5¢ per vehicle mile fee. The analysis showed that this policy scenario would reduce single-occupant vehicle mode share to less than the 1990 level and increase transit mode share to nearly 10 percent. The total ridesharing mode share would be marginally higher than in 1990, but the increase in transit mode share (relative to carpooling) would contribute to faster highway speeds than would otherwise have been possible.

Transportation System Speeds

Travel speeds for all modes were improved by the highway and transit improvements included in the Adopted Plan. Freeway travel speeds either increase or do not deteriorate from already high Baseline Scenario levels (Exhibit 3-14). This is particularly notable in the communities of Palmdale, Santa Monica, Burbank, Glendale, the Beach and Mid-Southeast Cities, and the San Fernando and San Gabriel Valleys. The peak hour travel speeds on specific freeways also show a comparable improvement (Exhibit 3-15). The freeway system in the Adopted Plan benefits from the expansion of capacity associated with the addition of HOV lanes on many facilities. Arterial travel speeds are similarly improved in nearly every community (Exhibit 3-16).

These speed improvements are also notable on the various components of the transportation system. Following the dramatic declines from 1990 to the Year 2015 Baseline Scenario, **speed**

Exhibit 3-14


2015 Baseline
6-9 AM Peak Period Average Freeway Speed By RSA
14
12
13
7
15
16
17
24
25
27
23
26
21
22
18
9
8
10
19
20
11
Legend
0 - 10
11 - 15
16 - 20
21 - 25
26 - 30
31 - 40
over 40
2015 Adopted Plan
6-9 AM Peak Period Average Freeway Speed By RSA
14
12
13
7
15
16
24
25
27
17
23
26
21
18
22
9
8
10
19
20
11

Long Range Transportation Plan

7-8 AM Peak Hour Freeway Level of Service

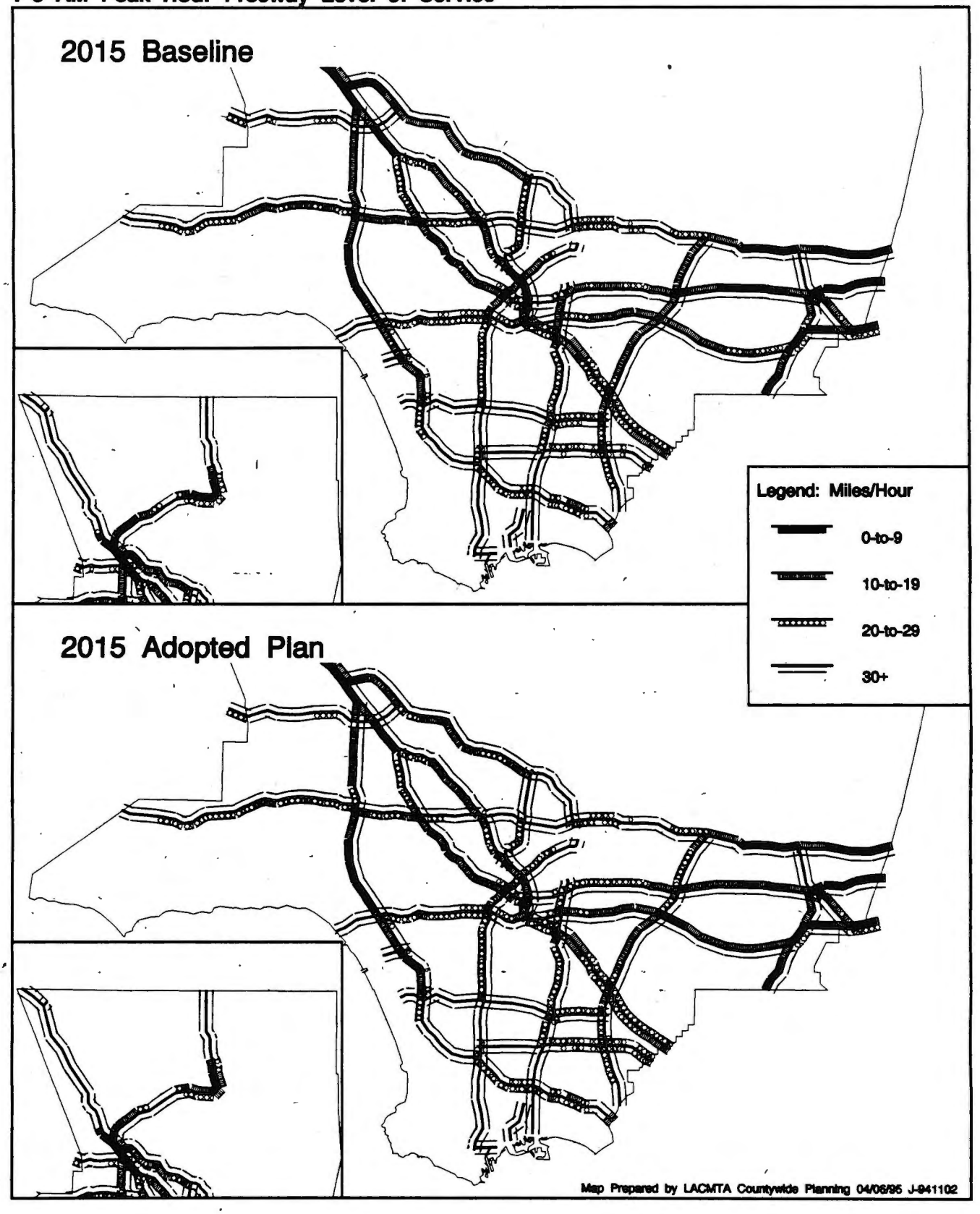
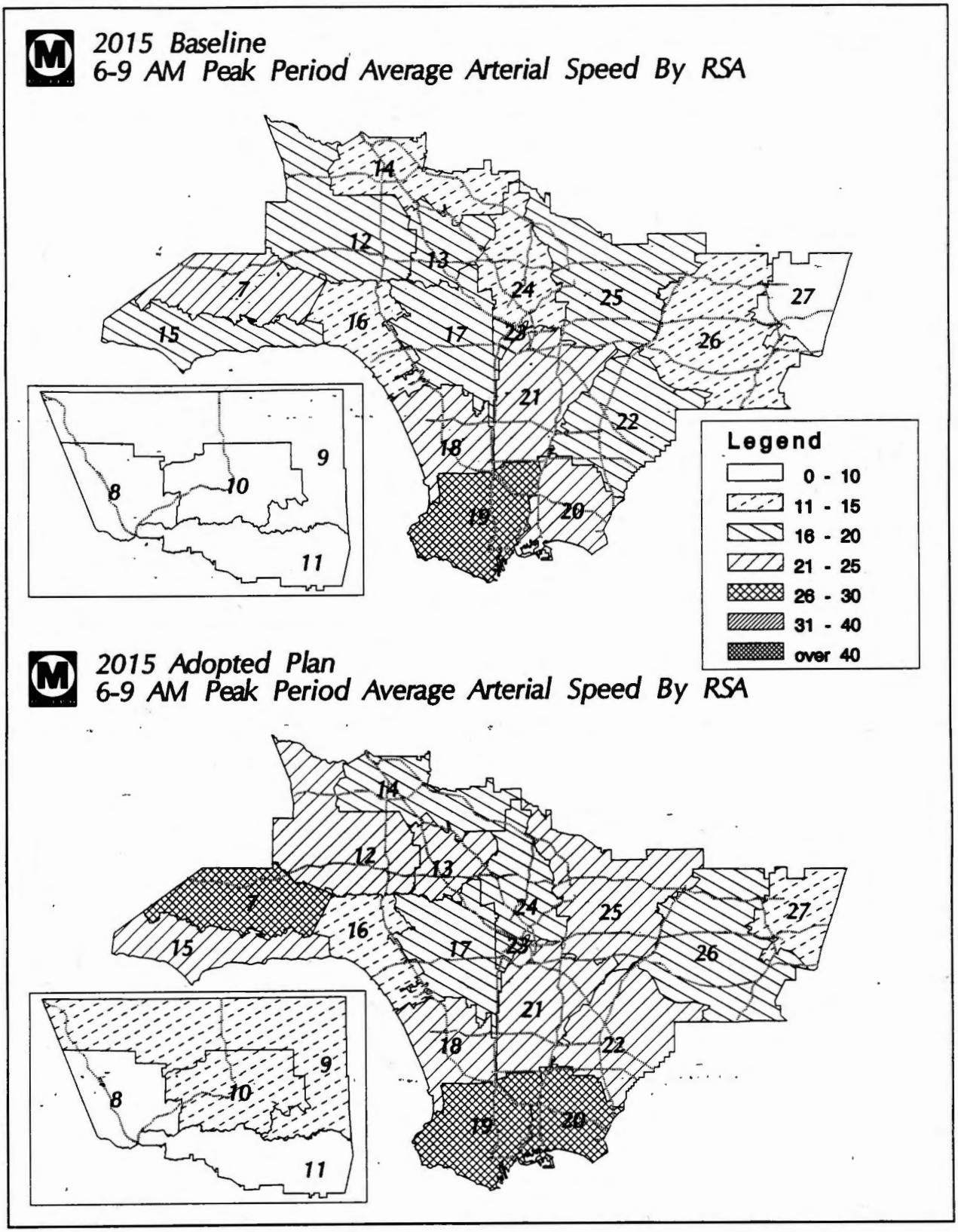


Exhibit 3-16

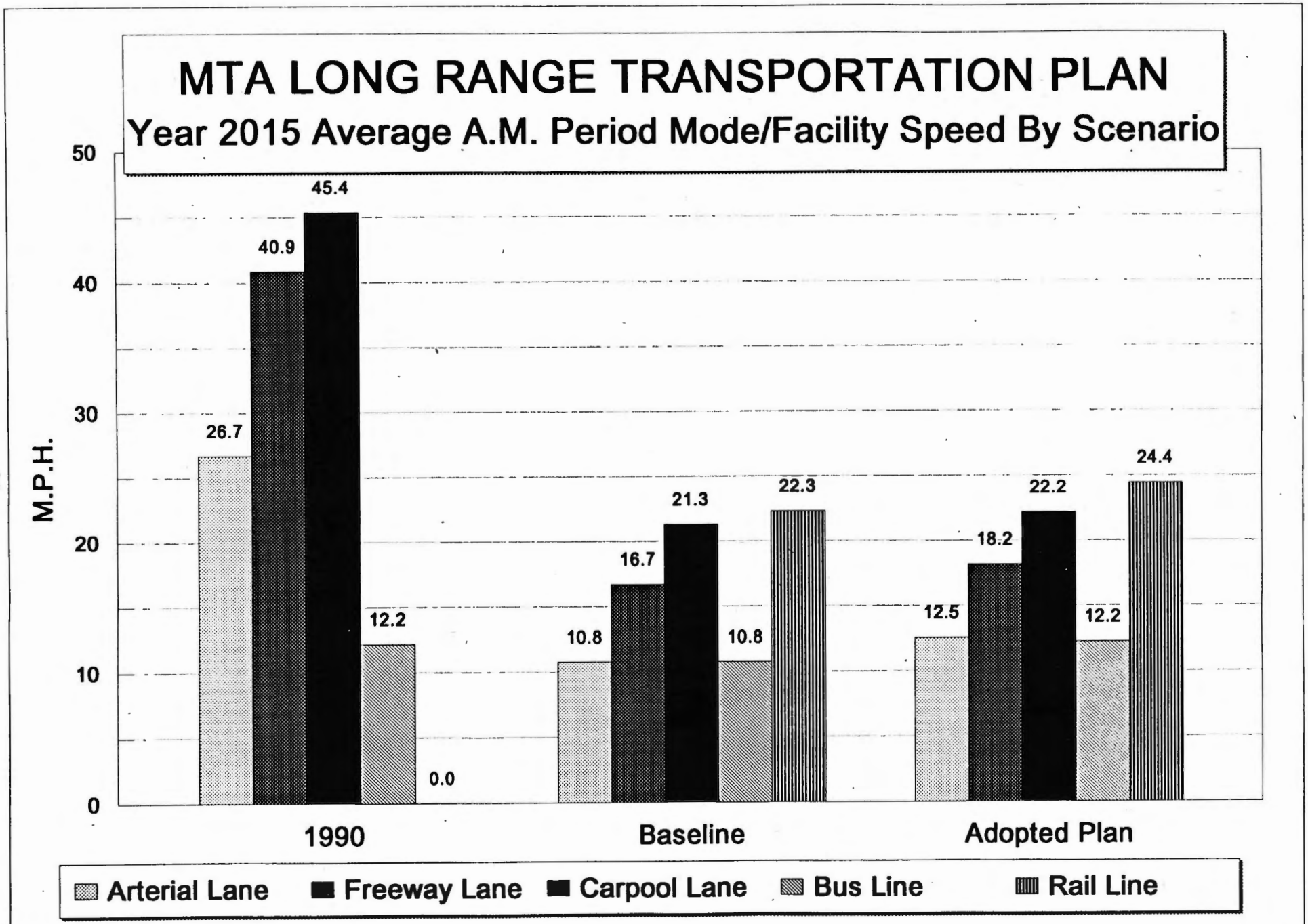

2015 Baseline
6-9 AM Peak Period Average Arterial Speed By RSA
14
12
13
7
24
25
27
15
16
17
23
26
21
22
18
9
8
10
19
20
11
Legend
0 - 10
11 - 15
16 - 20
21 - 25
26 - 30
31 - 40
over 40
2015 Adopted Plan
6-9 AM Peak Period Average Arterial Speed By RSA
14
12
13
7
24
25
27
15
16
17
23
26
21
22
18
9
8
10
19
20
11

improvements ranging from 4-16 percent are projected for all highway and transit travel (Exhibit 3-17). As described earlier, the increase in transit mode share reduces the number of vehicles using roadways resulting in speed improvements for all modes. Arterial speeds are further assisted by the implementation of traffic management systems on all major arterials. These traffic management systems also improve bus travel speeds through the implementation of arterial bus lanes and preferential treatments in the heaviest transit service corridors. Rail transit speeds are improved through the provision of heavy rail extensions in grade separated rights-of-way.

The average door-to-door travel speed improvement (including walking, waiting and parking time) is even more dramatic (Exhibit 3-18). The door-to-door speed for the 1990 all-bus system is estimated at 9.2 miles-per-hour in the MTA model. **The three rail lines in the Adopted Plan improve transit speeds to 12 miles-per-hour. This represents a 32% increase over today's door-to-door transit travel speed.** The HOV and highway projects in the Adopted Plan improve auto speeds to over 20 miles-per-hour compared to 17 miles-per-hour in the Baseline Scenario.

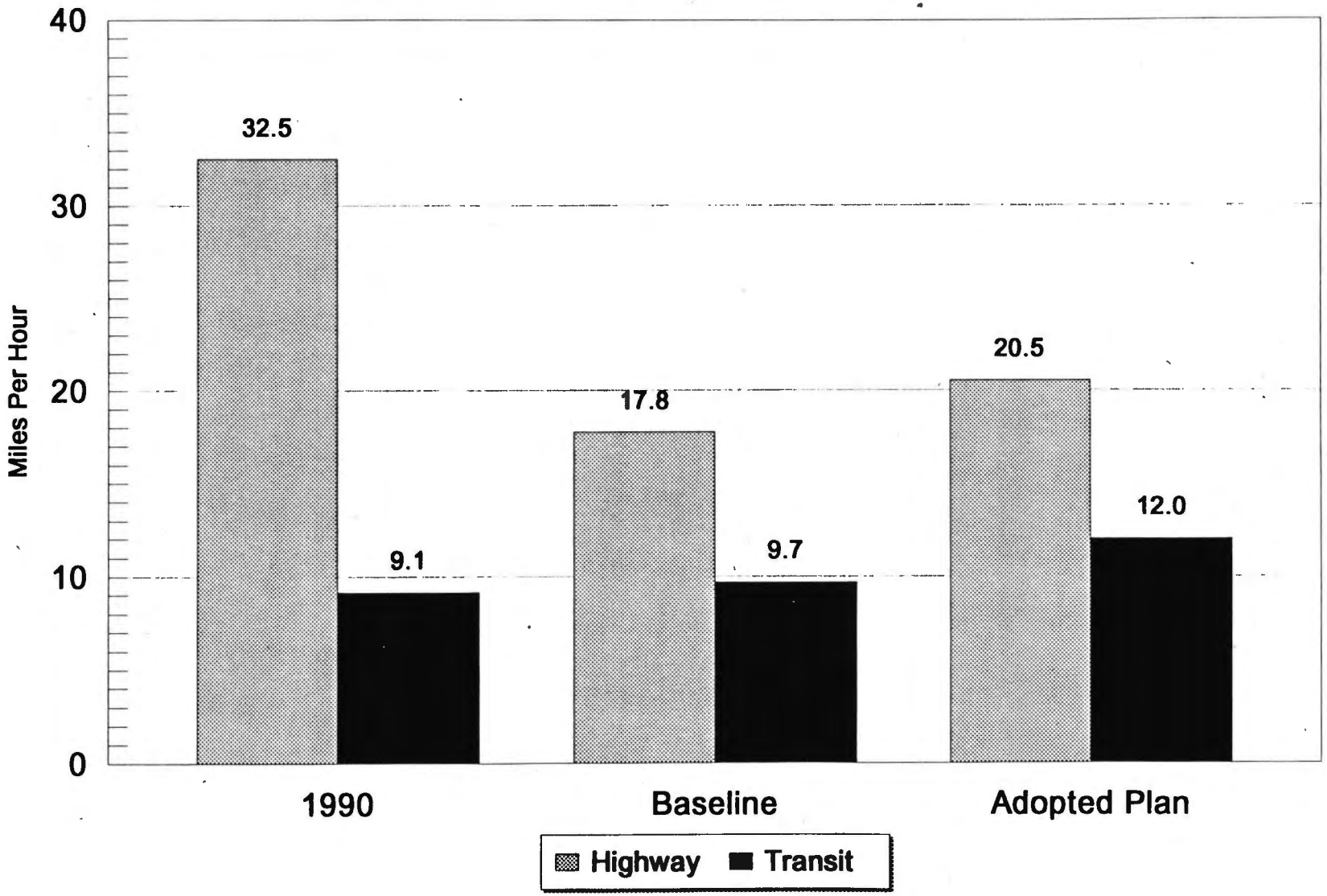
SUMMARY OBSERVATIONS FROM THE ADOPTED PLAN PERFORMANCE

- The Adopted Plan strikes a balance between bus and rail improvements and provides the highest level of ridesharing and transit ridership.
- Transit work trip mode share increases to 9.2% in the Adopted Plan, up from 8.2% in 1990 and up from 7.3% in the 2015 Baseline Scenario.
- Rail development in the high demand corridors shown in the Adopted Plan will provide more mobility than bus improvements in those same corridors.
- Automotive technological improvements (zero- and low-emission vehicles) will reduce mobile source emissions by the year 2015, but an wide-ranging congestion problem will remain.
- The Adopted Plan improves upon Year 2015 Baseline Scenario performance, but does not recover 1990 mobility levels.
- Behavioral changes are need to achieve greater utilization of transportation system capacity and further system performance. Some combinations of transportation policies, if implemented countywide, have the potential to reduce the drive-alone mode share and increase the transit mode share to nearly 10 percent.


MTA LONG RANGE TRANSPORTATION PLAN
Year 2015 Average A.M. Period Mode/Facility Speed By Scenario
M.P.H.
50
40
30
20
10
0
26.7
40.9
45.4
12.2
0.0
10.8
16.7
21.3
10.8
22.3
12.5
18.2
22.2
12.2
24.4
1990
Baseline
Adopted Plan
Arterial Lane
Freeway Lane
Carpool Lane
Bus Line
Rail Line

MTA LONG RANGE TRANSPORTATION PLAN

Year 2015 Average Door-to-Door Speed by Scenario



CHAPTER 4
FINANCIAL ELEMENT

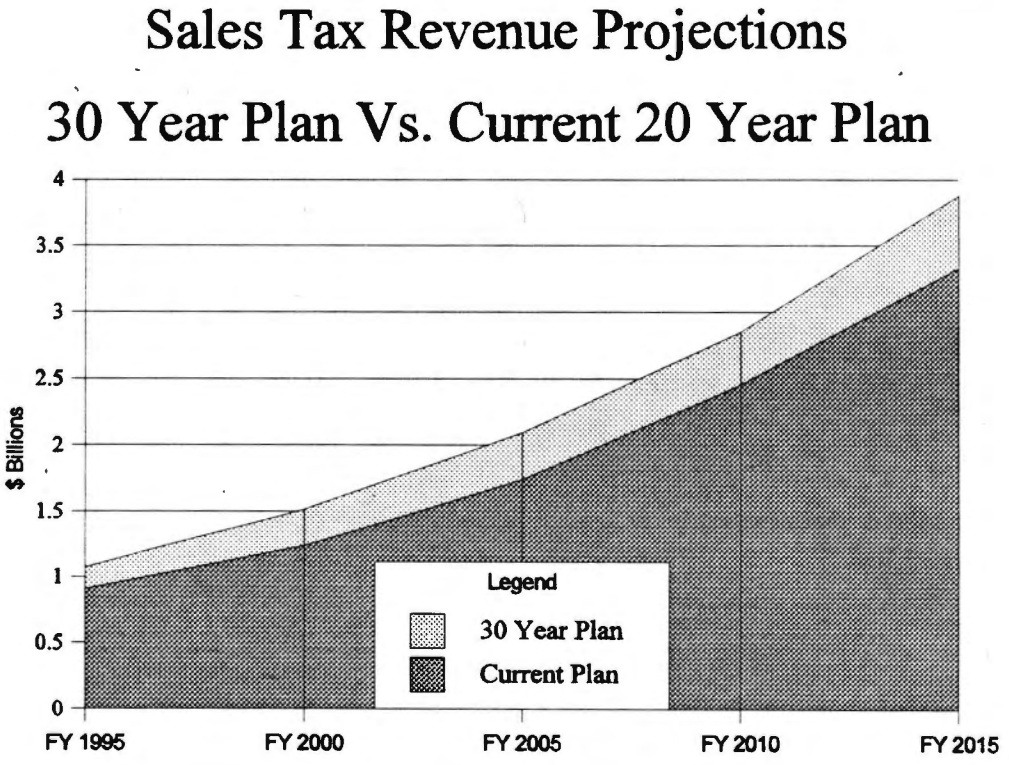
CHAPTER 4: FINANCIAL ELEMENT

ECONOMIC CONDITIONS AFFECTING THE COUNTY

The adage that nothing is constant except change certainly applies to the Los Angeles County transportation picture. Since the 30-Year Plan was adopted in April, 1992, significant and profound changes have occurred which have far-reaching and permanent impacts on the MTA in terms of providing solutions to the transportation problems facing Los Angeles County.

Los Angeles County is just beginning to recover from the deepest and longest-lasting recession since the Great Depression in the 1930s. The recession has had a significant impact on the County's sales tax revenues, which projections show will decrease by almost 16% over the 20-year period from 1994 to 2013. The MTA receives local sales tax revenues from three sources: Proposition A, a 1/2 cent sales tax for countywide transportation programs passed by the voters in 1980; Proposition C, another 1/2 cent sales tax for transportation passed in 1990; andtheTransportation Development Act, which instituted a 6 cent statewide sales tax.

Exhibit 4-1



Each year, the MTA relies on the *Long Term Forecast for Los Angeles County,* prepared by the UCLA Business Forecasting Project, to project sales tax revenues over the long term. The 30-Year Plan, adopted in April 1992, was based on UCLA sales tax revenue projections from October 1991, which estimated revenues of $40.3 billion over the 20-year period. The most recent UCLA forecast of August 1994 projected sales tax revenues of only $34 billion for the same period, a reduction in the projection of over $6 billion dollars.

As defined by the program envisioned in the adopted 30 Year Plan, the projected reduction in local sales tax revenues adversely impacts the MTA's ability to fund transit operations, to issue bonds for capital construction projects, and to provide discretionary funds to cities, the County and other local agencies for regionally significant projects.

The recession and the resulting decrease in sales tax revenue projections also impacts the MTA's ability to match state and federal dollars, further reducing the revenues available. Many of the state and federal transportation funds available to the MTA, such as ISTEA funds, require a local match. Sales tax revenues represent approximately 73% of the local funds available over the 20 year period, so any reduction in this source has a significant impact on the availability of local matching funds.

At the state level, a $5 billion shortfall in the State Transportation Improvement Program (STIP) has resulted in a loss or delay in revenues available to the MTA. Propositions 156 and 181 would have provided $2 billion of rail bonds statewide, of which Los Angeles County would have received $800 million for the Pasadena Blue Line and the San Fernando Valley East/West Line. While the state has committed to honor its STIP obligations to Los Angeles County, these funds will be significantly delayed, directly impacting project construction schedules since local funds are not available to fully substitute for delayed state funds in the same time period.

At the federal level, the new Congress is looking at ways to cut federal spending. Transportation funding and transit operating subsidies may be targeted for significant reductions. Section 9 operating funds were already reduced by 11% in the last fiscal year.

While Los Angeles County continues to show the spirit and resolve to bounce back from numerous setbacks, some of these setbacks, in particular the recession and resultant loss of jobs, will have permanent adverse impacts. According to UCLA's Forecast, Los Angeles County has already lost over 400,000 jobs, or 10% of its base, since its 1990 peak. Before the recession is over, it is projected that the County will have lost an additional 60,000 jobs. Thus, while LA County makes up 30% of the State's population, 70% of California's total recessionary job loss will be in Los Angeles County.

Further exacerbating the effects of recessionary job losses in LA County is the fact that most of the job losses are in the durable goods manufacturing sector, which is driven by aerospace and other high-tech jobs. This sector of the economy has lost 35% of its base since its peak in late

1985. LA County has suffered a permanent loss of many of these high-paying jobs and a significant portion of these are being replaced by lower-wage, part-time positions in the service and trade sectors.

SUMMARY OF FINANCIAL CHART INFORMATION

Exhibit 4-2: Financial Summary - 20 Year Sources of Funds

This chart summarizes the type, amount, and percentage of federal, state and local funds that comprise the $72.4 billion Adopted Long Range Plan.

Exhibit 4-3: Financial Summary - 20 Year Uses of Funds

This chart summarizes the cost of the different components of the Plan, including bus and rail capital and operations, highway capital, local return, and other costs (debt service, etc.).

Exhibit 4-4: Financial Summary

This chart combines the information presented in Exhibits 4-2 and 4-3. It shows the total costs for the different Plan components, as well as the type of revenues funding each component.

Exhibit 4-5: Project and Program Costs

This chart provides a detailed listing of all projects and programs in each component of the Adopted Plan, as well as their total costs.

Exhibit 4-6: Project and Program Cost Detail

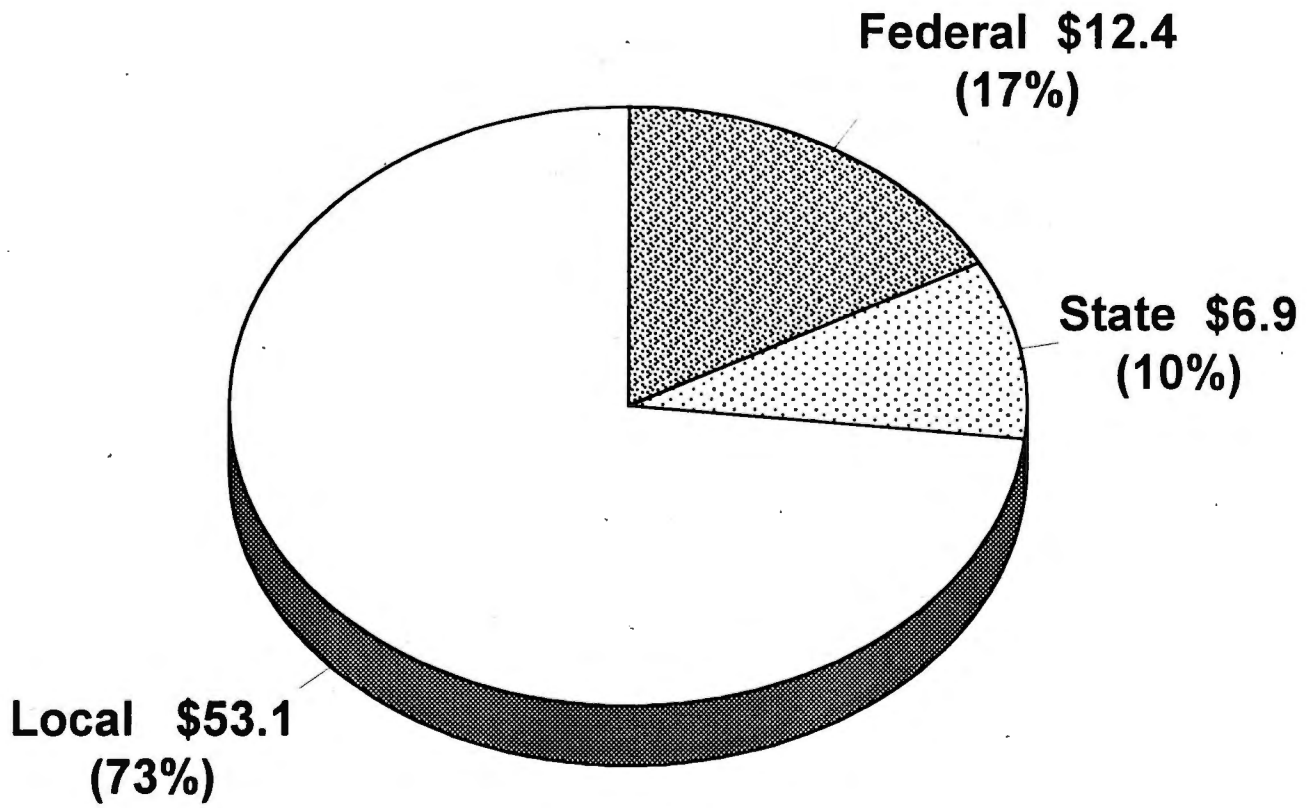
This chart expands on Exhibit 4-5 by showing the various major revenue sources that fund each project and program in the Adopted Plan.

Exhibit 4-2

MTA Long Range Transportation Plan

Financial Summary - 20 Year Sources of Funds

($ Billions)

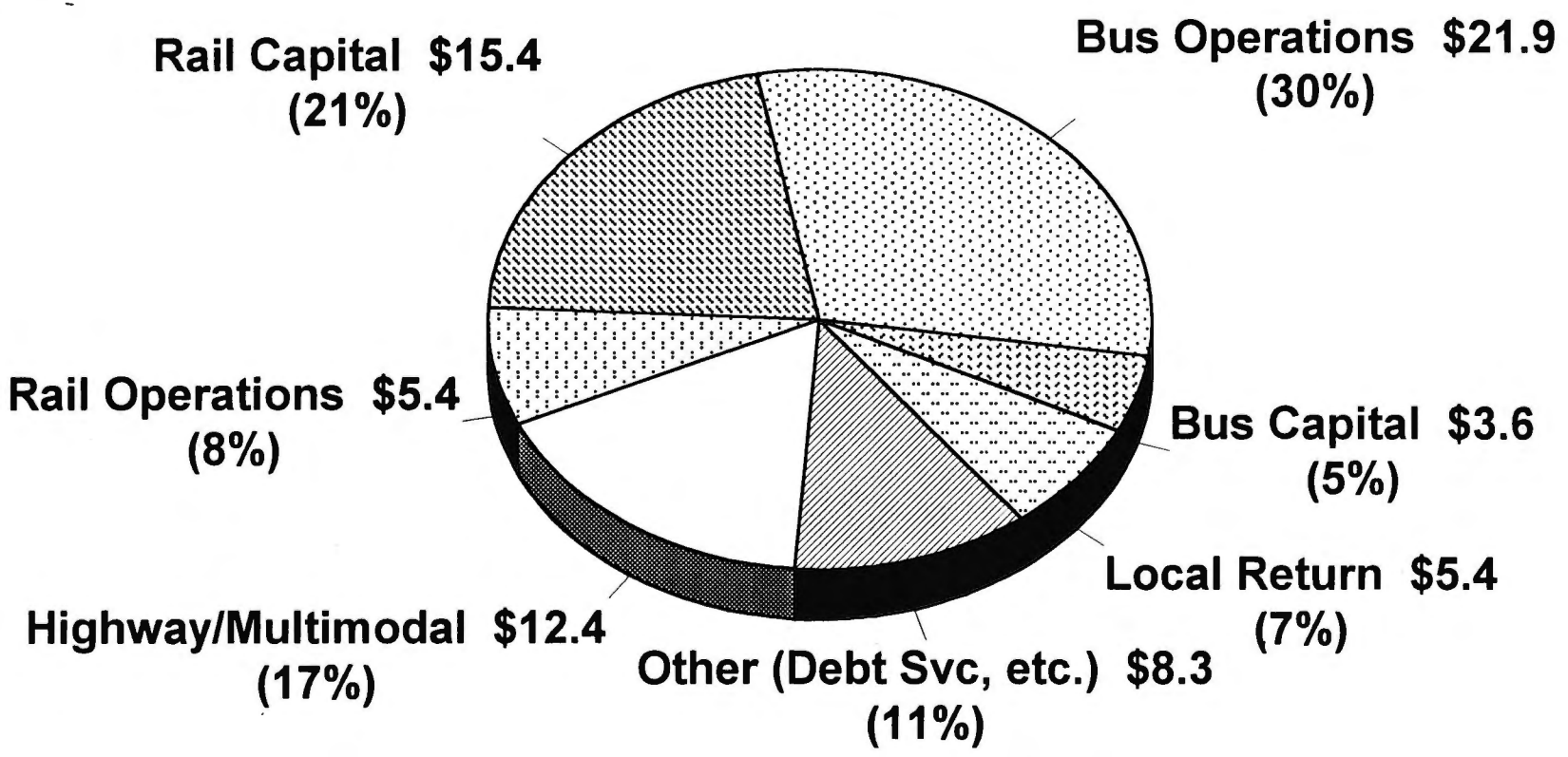


TOTAL: $ 72.4 BILLION

MTA Long Range Transportation Plan

Financial Summary - 20 Year Use of Funds

($ Billions)



TOTAL: $ 72.4 BILLION

MTA Long Range Transportation Plan

Exhibit 4-4

Financial Summary

($ millions escalated)

	Local Revenues	State Revenues	Federal Revenues	Total Revenues
All Projects and Programs				
Transit Capital				
Bus	1,233.2	22.6	2,451.8	3,707.6
Rail	7,266.8	1,807.6	6,316.5	15,390.9
Transit Operations				
Bus	20,773.7	262.6	816.9	21,853.2
Rail	5,120.8	229.0	26.2	5,376.0
Highway/Multimodal Capital	5,083.2	4,621.2	2,695.9	12,400.3
Local Return	5,398.1	0.0	0.0	5,398.1
Other (Debt Service,etc.)	8,231.9	0.0	118.5	8,350.4
Total Long Range Plan	**53,107.7**	**6,943.0**	**12,425.8**	**72,476.5**

MTA LONG RANGE TRANSPORTATION PLAN

Exhibit 4-5
($ millions escalated)

	Projects/Programs	Total Cost
TRANSIT CAPITAL		
RAIL	RED LINE Segment 1	1,417.9
	RED LINE Segment 2	1,446.3
	RED LINE Segment 3	
	- North Hollywood	1,310.9
	- Westside to Pico/San Vicente	491.5
	- Eastern to Indiana	979.6
	PASADENA LINE Union Station to Sierra Madre Villa	998.0
	San Fernando Valley East/West	1,081.9
	RED LINE Western Extension to I-405 Fwy.	3,110.7
	RED LINE Eastern Extension to Whittier/Atlantic	1,242.2
	RED LINE Segments 2 and 3 Station Enhancements	100.6
	GREEN LINE Norwalk to El Segundo	722.4
	Metrolink	179.2
	LA Car	257.6
	Miscellaneous Rail/Rehabilitation 1	1,635.4
	Environmental Clearance/Study Costs	416.7
BUS	Replacement/Maintenance/Expansion	3,558.0
OTHER	Union Station Gateway Transit Center	149.6
	Subtotal Transit Capital	**19,098.5**
TRANSIT OPERATIONS		
RAIL	MTA Rail Operations and Metrolink	5,376.0
BUS	MTA & Municipal Operators	21,853.2
	Subtotal Transit Operations	**27,229.2**
HIGHWAY/MULITMODAL CAPITAL		
HOV	Route 5 - Route 134 to Route 14	104.5
	Route 5 - Route 10 to Route 134	443.0
	Route 5 - Orange County Line to Route 605 (interim project)	117.8
	Route 10 - Route 110 to Route 405 (Conversion)	10.7
	Route 10 - Baldwin Ave to Route 605	73.5
	Route 14 - Route 5 to San Fernando Road	13.9
	Route 14 - San Fernando Road to Escondido	62.6
	Route 14 - Econdido to Pearblossom	63.3
	Route 14 - Pearblossom to P8	32.7
	Route 30 - 210 Fwy to Foothill	13.7
	Route 57 - Orange County Line to Route 60	21.9
	Route 60 - Route 605 to Brea Canyon Road	76.2
	Route 60 - Brea Canyon Road to San Bernardino Cty Line	43.1
	Route 91 - OCL to Route 605	0.7
	Route 118 - Ventura County Line to Route 5	42.0
	Route 134 - Route 101/170 to Route 210	32.1
	Route 170 - Route 101 to Route 5	13.4
	Route 405 - Orange County Line to Route 110	79.8
	Route 405 - Route 101 to Route 5	14.8
	Route 405 - Route 101 to Route 10	200.4
	Route 405 - Route 10 to Route 105	133.1
	Route 605 - Orange County Line to Route 10	59.0

MTA LONG RANGE TRANSPORTATION PLAN

($ millions escalated)

Projects/Programs		Total Cost
HOV (cont.)	Route 5/14 Interchange	24.2
	Route 57/60 Interchange	123.7
	Route 10/605 Interchange	29.7
	Route 60/605 Interchange	90.7
	Route 5/405 Interchange	63.1
	Route 118/405 Interchange	54.8
	Route 91/605 Interchange	68.2
	Route 105/605 Interchange	61.8
	Route 170/134 Interchange	63.9
	Route 5/118 Interchange	88.0
GAP CLOSURES	Route 30 - Route 66 to San Bernardino County Line	342.2
	Route 126 - Arterial Widening	46.5
	Route 138 - Avenue T to 90th	30.5
	Route 138 - Widen from 90th to 165th	62.4
	Route 710 - ROW Preservation Only	5.1
	Route 710 - Funding for Project Completion	1,409.6
OTHER PROJECTS & PROGRAMS	Alameda Corridor	1,829.6
	Incident Management (Tow Service)	653.1
	Park and Ride/Transit Centers/DMU/Other	363.8
	Regional Bikeways	301.4
	Regional Surface Transportation Improvements	949.8
	Transportation Demand Management	584.3
	TSM - Freeway and TOS	516.6
	TSM - Local	1,172.7
	Transportation Enhancements	301.8
FUNDING PROGRAMS[2]	Retrofit Soundwalls	74.5
	Inter-Regional Roads	230.0
	Freeway Rehabilitation (SHOPP)	812.1
	SAFE	178.5
	Environmental Enhancement and Mitigation	20.0
OTHER	Highway Staff Support	195.5
	Subtotal Highway/Multimodal Capital	**12,400.3**
LOCAL RETURN	Funds used for local transportation improvements	5,398.1
OTHER	Reserve Fund (2nd decade of Plan)	720.5
	Administrative Overhead.(Prop A, Prop C, TDA)	983.6
	Financing Payments	6,646.3
TOTAL LONG RANGE PLAN		**72,476.5**

Notes:

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1 Includes: Systemwide Rail Costs, Other Projects (ADA, MOW, ART, Safety, Construction Security, and Rail Rehabilitation)

2 These are programs that are funded from their own revenue source.

MTA Long Range Transportation Plan

Exhibit 4-6

($ millions inflated)

Project/Program	Total Cost	Local						State				Federal		
		Prop A Prop C	TDA Art. 4	Local Agency	Benefit Assess.	Fares	Other Adv/Aux	Article XIX/TCI	Rail Bonds	State ISTEA	Other State	Section 3	Section 9	ISTEA
TRANSIT CAPITAL														
RAIL														
* RED LINE Segment 1	1,417.9	244.0	-	133.6	130.3	-	-	195.4	-	-	18.7	605.3	90.6	-
* RED LINE Segment 2	1,446.3	473.0	-	95.9	25.4	-	-	133.0	-	52.1	-	666.9	-	-
RED LINE Segment 3														
* North Hollywood	1,310.9	375.1	-	98.2	13.5	-	-	20.9	25.0	69.1	3.2	680.9	-	25.0
* Westside to Pico/San Vicente	491.5	52.7	-	35.4	-	-	-	-	40.0	58.3	7.2	242.5		55.4
* Eastside to Indiana	979.6	224.4	-	67.0	-	-	-	-	15.0	83.3	11.1	492.9	-	85.9
* PASADENA LINE to Sierra Madre	998.0	630.7	-	-	-	-	-	-	21.2	-	346.1	-	-	-
San Fernando Valley East/West	1,081.9	272.0	-	50.6	-	-	-	-	-	-	253.1	506.2	-	-
RED LINE West. Ext. to I-405 Fwy	3,110.7	1,196.5	-	155.5	-	-	-	-	-	-	23.3	1,555.4	-	180.0
RED LINE East. Ext. to Whittier/Atlantic	1,242.2	480.0	-	62.0	-	-	-	-	-	-	9.1	621.1	-	70.0
* RED LINE Station Enhancements	100.6	97.3	-	-	-	-	-	-	-	-	-	-	-	3.3
* GREEN LINE Norwalk-El Segundo	722.4	616.4	-	-	-	-	-	-	106.0	-	-	-	-	-
* Metrolink	179.2	179.2	-	-	-	-	-	-	-	-	-	-	-	-
* LA Car	257.6	122.1	-	-	-	-	-	-	33.5	84.0	-	-	11.9	6.1
* Misc. Rail/Rehabilitation	1,635.4	904.3	230.0	-	-	-	-	84.0	-	-	-	417.1	-	-
* Environmental Clearance/Study Costs	416.7	416.7	-	-	-	-	-	-	-	-	-	-	-	-
BUS														
* Replacement/Maintenance/Expansion	3,558.0	28.7	1,136.6	-	-	-	-	-	-	-	-	-	2,143.5	249.2
* Union Station Gateway Transit Center	149.6	60.2	-	7.7	-	-	-	12.3	-	10.0	0.3	34.2	3.3	21.6
Subtotal Transit Capital	**19,098.5**	**6,373.3**	**1,366.6**	**705.9**	**169.2**	**0.0**	**0.0**	**445.6**	**240.7**	**356.8**	**672.1**	**5,822.5**	**2,249.3**	**696.5**
TRANSIT OPERATIONS														
RAIL														
* MTA Rail Operations & Metrolink	5,376.0	2,925.5	754.5	-	-	1,440.8	-	-	-	-	229.0	-	-	26.2
BUS														
* MTA and Municipal Operators	21,853.2	6,867.3	4,336.8	-	-	8,529.6	1,040.0	-	-	-	262.6	-	816.9	-
Subtotal Transit Operations	**27,229.2**	**9,792.8**	**5,091.3**	**0.0**	**0.0**	**9,970.4**	**1,040.0**	**0.0**	**0.0**	**0.0**	**491.6**	**0.0**	**816.9**	**26.2**
OTHER														
Reserve Fund (2nd decade of Plan)	720.5	720.5	-	-	-	-	-	-	-	-	-	-	-	-
Administrative Overhead	983.6	891.4	92.2	-	-	-	-	-	-	-	-	-	-	-
Local Return	5,398.1	5,398.1	-	-	-	-	-	-	-	-	-	-	-	-
Financing Payments	6,646.3	6,527.8	-	-	-	-	-	-	-	-	-	-	118.5	-
Subtotal Other	**13,748.5**	**13,537.8**	**92.2**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**118.5**	**0.0**
SUBTOTAL TRANSIT AND OTHER	**60,076.2**	**29,703.9**	**6,550.1**	**705.9**	**169.2**	**9,970.4**	**1,040.0**	**445.6**	**240.7**	**356.8**	**1,163.7**	**5,822.5**	**3,184.7**	**722.7**

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Note: * Indicates Baseline project.

MTA Long Range Transportation Plan

($ millions inflated)

Project/Program	Total Cost	Local			State					Federal		
		Prop C Direct/Bonds	Local Agency	Other Local	FCR	Rail Bonds	TSM	Self Fund Programs	Other State	ISTEA	TEA	Fed Demo
HIGHWAY/MULTIMODAL CAPITAL												
HIGH OCCUPANCY VEHICLE (HOV) LANES												
* * Rte 5 - Rte 134 to Rte 14	104.5	4.0	-	-	57.4	-	15.5	-	-	27.6	-	-
* * Rte 5 - Rte 10 to Rte 134	443.0	17.1	-	-	243.3	-	65.6	-	-	117.1	-	-
* * Rte 5 - Orange County Line to Rte 605	117.8	4.5	-	-	64.7	-	17.4	-	-	31.1	-	-
* * Rte 10 - Rte 110 to Rte 405(Conversion)	10.7	0.4	-	-	5.9	-	1.6	-	-	2.8	-	-
* * Rte 10 - Baldwin to Rte 605	73.5	2.8	-	-	40.4	-	10.9	-	-	19.4	-	-
* Rte 14 - San Fernando to Escondido	62.6	6.4	-	-	2.4	-	6.4	-	-	47.4	-	-
* * Rte 14 - Escondido to P8	96.0	3.7	-	-	52.7	-	14.2	-	-	25.4	-	-
* * Rte 14 - Rte 5 to San Fernando Rd	13.9	0.5	-	-	7.6	-	2.1	-	-	3.7	-	-
* Rte 30 - 210 Fwy to Foothill	13.7	-	-	-	-	-	13.7	-	-	-	-	-
* Rte 57 - OC Line to Rte 60	21.9	2.4	-	-		-	2.1	-	0.7	16.7	-	-
* * Rte 60 - Rte 605 to Brea Cyn	76.2	2.9	-	-	41.8	-	11.3	-	-	20.1	-	-
* Rte 60 - Brea Cyn to SBC Line	43.1	14.3	-	-		-	3.3	-	-	25.5	-	-
* Rte 91 - OC Line to Rte 605	0.7	-	-	-	0.7	-	-	-	-	-	-	-
* Rte 118 - VC Line to Rte 5	42.0	30.6	-	-	11.4	-	-	-	-	-	-	-
* Rte 134 - Rte 101/170 to Rte 210	32.1	29.5	-	-	-	-	-	-	2.6	-	-	-
* Rte 170 - Rte 101 to Rte 5	13.4	1.1	-	-	-	-	1.4	-	-	10.9	-	-
* Rte 405 - OC Line to Rte 110	79.7	3.9	-	-	4.0	-	8.3	-	-	63.5	-	-
* Rte 405 - Rte 101 to Rte 5	14.8	2.5	-	-	-	-	1.4	-	-	10.9	-	-
* * Route 405 - Route 101 to Route 10	200.4	7.7	-	-	110.0	-	29.7	-	-	53.0	-	-
* * Route 405 - Route 10 to Route 105	133.1	5.1	-	-	73.1	-	19.7	-	-	35.2	-	-
* Rte 605 - OC Line to Rte 10	59.0	49.1	-	-	-	-	7.9	-	-	2.0	-	-
* * Rte 5/14 Interchange	24.2	0.9	-	-	13.3	-	3.6	-	-	6.4	-	-
* * Rte 57/60 Interchange	123.7	4.8	-	-	67.9	-	18.3	-	-	32.7	-	-
* * Rte 10/605 Interchange	29.7	1.1	-	-	16.3	-	4.4	-	-	7.8	-	-
* * Rte 60/605 Interchange	90.7	3.5	-	-	49.8	-	13.4	-	-	24.0	-	-
* * Route 5/405 Interchange	63.1	2.4	-	-	34.6	-	9.3	-	-	16.7	-	-
* * Route 118/405 Interchange	54.8	2.1	-	-	30.1	-	8.1	-	-	14.5	-	-
* * Route 91/605 Interchange	68.2	2.6	-	-	37.4	-	10.1	-	-	18.0	-	-
* * Route 105/605 Interchange	61.8	2.4	-	-	33.9	-	9.1	-	-	16.3	-	-
* * Route 170/134 Interchange	63.9	2.5	-	-	35.1	-	9.5	-	-	16.9	-	-
* * Route 5/118 Interchange	88.0	3.4	-	-	48.3	-	13.0	-	-	23.3	-	-
GAP CLOSURES												
* Rte 30 - Rte 66 to SBC Line	342.3	71.7	-	-	251.6	-	-	-	12.0	-	-	7.0
* Rte 126 - Arterial Widening	46.5	-	4.1	-	36.2	-	-	6.2	-	-	-	-
* Rte 138 - Ave T to 90th	30.5	-	1.5	-	23.0	-	-	6.0	-	-	-	-
* * Rte 138 - Widen 90th to 165th	62.4	2.4	-	-	34.3	-	9.2	-	-	16.5	-	-
* Rte 710 - ROW Preservation Only	5.1	-	-	-	5.1	-		-	-	-	-	-
* * Rte 710 - Funding for Project Completion	1,409.6	54.4	-	-	774.0	-	208.6	-	-	372.6	-	-

MTA Long Range Transportation Plan

($ millions inflated)

Project/Program	Total Cost	Local			State					Federal		
		Prop C Direct/Bonds	Local Agency	Other Local	FCR	Rail Bonds	TSM	Self Fund Programs	Other State	ISTEA	TEA	Fed Demo
OTHER PROJECTS & PROGRAMS												
** Alameda Corridor ***	1,829.6	70.7	1,045.0	-	-	80.0	-	-	-	287.9	-	346.0
** Park and Ride/Transit Centers/DMU/Other	363.8	354.9	-	-	-	-	-	-	8.9	-	-	-
** Regional Bikeways	301.4	118.8	47.2	131.3	-	-	-	-	-	2.6	1.5	-
** Regional Surface Trans. Improvements	949.8	502.0	280.6	-	122.8	-	-	-	0.5	37.5	-	6.4
** Transportation Demand Management	584.3	29.6	112.6	5.0	-	-	-	-	-	437.1	-	-
** Freeway TSM and TOS	516.6	64.6	-	-	242.4	-	68.5	-	-	141.1	-	-
** Local TSM	1,172.7	875.2	248.4	-	-	-	-	-	-	35.4	-	13.7
Transportation Enhancements	301.8	-	-	-	-	-	-	-	-	-	301.8	-
* Incident Management (Tow Service)	653.1	644.4	-	8.7	-	-	-	-	-	-	-	-
					-	-	-	-	-	-	-	-
FUNDING PROGRAMS					-	-	-	-	-	-	-	-
Retrofit Soundwalls	74.5	-	-	-	-	-	-	74.5	-	-	-	-
Inter-Regional Roads	230.0	-	-	-	-	-	-	230.0	-	-	-	-
Freeway Rehab. (SHOPP)	812.1	-	-	-	-	-	-	812.1	-	-	-	-
SAFE	178.5	-	-	-	-	-	-	178.5	-	-	-	-
Environmental Enhance. & Mitigation	20.0	-	-	-	-	-	-	20.0	-	-	-	-
OTHER COSTS												
Highway Staff Support	195.5	195.5	-	-	-	-	-	-	-	-	-	-
Subtotal Hwy/Multimodal Capital	**12,400.3**	**3,198.8**	**1,739.4**	**145.0**	**2,571.6**	**80.0**	**617.6**	**1,327.3**	**24.7**	**2,019.5**	**303.3**	**373.1**
TOTAL LONG RANGE PLAN	**72,476.5**											

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Notes:

* Indicates Baseline project.

** The Funding Plan shown is for Long Range Planning Purposes Only; Actual funding plans will be developed for each project and program through the annual Transportation Improvement Program (TIP) process based on revenue source availability, project requirements, fund source restrictions, and project schedules.

*** MTA Funds programmed for the Alameda Corridor project in future Call for Projects / TIPs will be federal formula funds, not local sales tax revenues (Proposition C).

FINANCIAL ASSUMPTIONS

One of the most significant changes brought about by the Federal Intermodal Surface Transportation Efficiency Act (ISTEA) is the requirement that long-range transportation plans be financially constrained. Specifically, the law states that the 20-year regional plan will "include a financial plan that demonstrates how the long-range plan will be implemented, indicates resources from public and private sources that are reasonably expected to be made available to carry out the plan, and recommends any innovative financing techniques such as value capture, tolls, and congestion pricing." With this clause, ISTEA transformed the regional transportation plan from an illustrative list of projects and programs into a decision-making document.

The financial assumptions included in the Long Range Plan address the requirements of the 1991 Federal ISTEA legislation. A fiscally constrained plan of projects and programs ensures consistency with MTA objectives by providing guidance for short and long term decisions relating to multiyear funding commitments, budget decisions, and the TIP/Call for Projects process. It provides a benchmark against which the MTA can monitor and measure progress in meeting its objectives. In addition, it ensures that the MTA can demonstrate its financial capacity to outside agencies.

The Long Range Plan includes revenue estimates based on current economic conditions and existing revenue bases, and projects these estimates forward for 20 years. The Plan is structured to be financially constrained throughout the twenty-year period. The Long Range Plan calls for a $72.4 billion investment in transportation in Los Angeles County over twenty years. As shown in Exhibit 4-3, this investment includes both capital and operating expenses for all modes.

This investment envisioned in the Long Range Plan will require full participation by the three funding partners: the federal, state, and the local sectors. Especially noteworthy is the local funding share, which constitutes 73% of the overall transportation program resources, representing a significant commitment of local sales tax and private dollars to transportation in Los Angeles County (Exhibit 4-2).

In developing the Plan, emphasis was given to maximizing state and federal funding to the County while meeting all conditions tied to these funding sources. For example, local matching requirements and the eligibility of modes for a particular funding source are considered in optimizing funding in the Plan. Certain funding sources are relatively flexible, i.e. they can be used for different modes and for operating and capital expenses, while others have very specific requirements on how they are to be used. A matrix showing the funding sources for each project and program is provided in Exhibit 4-6. A matrix showing the eligibility of types of projects and programs for key funding sources is provided in Exhibit 4-7.

Successful completion of the programs and projects in the Long Range Plan will require the MTA, its funding partners, and transit operating agencies to continue their aggressive pursuit of transportation funding for Los Angeles County.

This section of the financial element of the Plan will describe:

- Summary of Key Financial Assumptions
- Major Revenue Source Assumptions
- Highway Program Assumptions
- Multimodal Program Assumptions
- Other Funding Programs Assumptions
- Bus Program Assumptions
- Rail Program Assumptions
- New Revenue Assumptions

SUMMARY OF KEY FINANCIAL ASSUMPTIONS

The Long Range Plan relies on numerous assumptions which reflect the best available estimate of future trends in revenues and costs over the next twenty years. Existing MTA policies guide the development of the assumptions. However, there are many areas requiring future policy decisions. In developing the Long Range Plan, it was assumed that certain future policy decisions will be made, consistent with the needs of the Plan. As specific policy and project decisions are made by the MTA Board, they can be analyzed and the Plan can be adjusted accordingly.

In the Long Range Plan, no new revenue sources are assumed to be available over and above those local, state, and federal revenue sources that are currently available. The Plan does, however, assume that the MTA will maintain the level of funding provided by its current revenue sources and that this level of funding will increase with inflation. In particular, the Plan assumes that the 50% federal contribution to Red Line Segments 2 and 3, as specified in the Full Funding Grant Agreement, will be maintained. Additionally, the Plan assumes that the 50% federal contribution will be available to fund the San Fernando Valley Line and the Eastern and Western extensions of the Red Line.

In order to continue to receive federal funds for future rail lines, the MTA will most likely be required to maintain a reserve fund. The Plan sets aside revenues for a reserve/contingency fund in the second decade of the Plan, during the anticipated construction period for the future rail lines.

It is important to note that the delivery of all projects and programs in the Long Range Plan is dependent on the availability of local, state, and federal revenues at the levels projected. Major changes in state or federal policy, or anticipated shifts in the economy, would impact the implementation of the Long Range Plan as presently constituted.

The Plan, and the assumptions upon which it was developed, do not replace MTA Board action or policies. The Plan will be updated periodically to reflect separate, specific MTA actions. To clearly identify assumptions requiring future policy decisions by the MTA, the notation ***POLICY DECISION*** appears after each assumption where these decisions would be required.

Detailed financial assumptions included in the Long Range Plan are discussed later in this chapter. **The following are some of the major financial assumptions incorporated in the Long Range Plan along with a discussion of possible outcomes if these assumptions aren't realized:**

- **September 1994 UCLA Forecast** - The *Long Term Forecast for Los Angeles County,* prepared by the UCLA Business Forecasting Project, was used to project sales tax revenues totalling $33 billion in the plan period. These revenues constitute over 45% of the total funding in the Plan and are used in part to fund debt service on bonds for rail and highway construction projects. If sales tax revenues are lower than projected, planned

projects would be delayed until bonds could be issued, unless comparable new revenues were identified or cost savings measures were implemented.

- **MTA Operating Deficit is Resolved** - The Plan assumes that the MTA operating deficit in the near term and beyond is resolved through a combination of cost savings measures and revenue enhancements. MTA transit operating revenue and cost projections in the Long Range Plan are based on the adopted FY 1994-95 MTA Budget. Since adoption of the budget, revised revenue projections indicate lower fare revenues than were anticipated. Over the next several months, the MTA will be developing a balanced budget for FY 1995-96 that will use updated revenue forecasts and may require changes in the way that the MTA delivers and funds its current programs. As the Budget is developed, impacts on the Long Range Plan will be analyzed and incorporated.

- **No New Revenue Sources** - No new revenue sources are assumed to be available over and above those local, state, and federal revenue sources that are currently available. The Plan assumes that the MTA will maintain the level of funding provided by its current revenue sources and that this level of funding will increase with the planned rate of inflation. If current levels of funding are not maintained, projects and programs would be reduced or delayed accordingly unless comparable cost savings measures were implemented.

- **Current federal funding programs, except Section 9 operating assistance, continue and allocations increase with inflation** - The Plan assumes the reauthorization of the federal ISTEA legislation each five year period beginning in Fiscal Year 1997-98. The plan also assumes that future allocations of federal formula funds (through ISTEA) will keep pace with inflation, with the exception of Section 9 operating assistance, discussed in the next section. If federal funds do not occur at the planned levels, planned highway, rail, and Call for Projects capital projects would be delayed accordingly unless comparable project cost savings measures were implemented.

- **Federal Transit Administration (FTA) Section 9 operating assistance continues at current year levels ($40.6 million) throughout the Plan period** - If federal operating subsidies are reduced or eliminated, either transit operations costs would also need to be reduced or other flexible funds would need to be used to cover the shortfall. If the federal operating subsidy was eliminated, and if the resultant shortfall was made up entirely with flexible funds currently projected to be used to support future bond issues for the rail construction program, bonding capacity, and hence, capital outlay, for that program would be reduced by up to $500 million. This would cause up to a three year delay for current and planned rail projects along with higher construction costs for each project.

- **Los Angeles County continues to receive discretionary FTA Section 3 New Start Funds for future rail construction projects** - The Plan assumes that each of the three rail lines planned in the second decade of the Plan will receive 50% funding from FTA

Section 3 discretionary funds. If this federal contribution were lower than 50%, project construction would begin on these projects later than currently planned. The level of federal funding for each future rail project would be agreed to with the federal government prior to beginning construction on a project. This would be through the form of a Full Funding Grant Agreement with the FTA. *If the Federal contribution to the rail program, either on an annual or a total basis, is lower than anticipated, the timing and delivery of the rail program will be impacted.*

- **First 2 years of METRO Green Line Operations costs will be funded with federal ISTEA funds** - The Plan assumes that the FTA will allow the MTA to use its federal formula funds for Green Line operations costs for the first two years of operations (Fiscal Year 1995 - 96 and Fiscal Year 1996 - 97). This is consistent with federal guidelines which allow Congestion Mitigation and Air Quality Improvement Program (CMAQ) funds to be used for the first two years of operation of a new transit service. A grant application has been filed with the FTA for this purpose. If the request to use CMAQ funds for Green Line operations is denied, other operating costs would need to be reduced or flexible funds currently used for rail construction would need to be used to fund Green Line Operations. This could cause a one year delay in some currently scheduled rail construction projects.

- **MTA transit fare revenues and operating costs increase with inflation** - This assumption essentially means that a balanced MTA operations budget is assumed in the development of the Long Range Plan consistent with the assumption on the resolution of the MTA operating deficit discussed above. For bus operations, the basis for the cost projections is the adopted FY 1994-95 MTA budget. The Plan assumes a bus farebox recovery ratio and operating costs consistent with the current budget, adjusted for inflation.

  Fare revenues can increase in two ways: revisions to the basic fare structure or increased ridership. To the extent that fare revenues, or any other revenues, increase at a rate lower than inflation, this can be mitigated by controlling costs so that costs also increase at a rate lower than inflation.

  Over the next several months, the MTA will be developing a balanced budget for FY 1995-96. This may require structural changes in the way that the MTA delivers and funds its current programs. As the budget is developed, impacts on the Long Range Plan will be analyzed and the Plan will be updated accordingly. ***[Policy Decision]***

- **Agreement is finalized on the City of Los Angeles' contribution to Red Line Segment 3 construction and approval of Benefit Assessment Districts for Red Line Segments 2 and 3** - MTA staff is working with the city staff to resolve this issue and reach agreement on the city's contribution to Red Line segment 3 construction. If the city's contribution to the project does not materialize, this could cause up to a 2-3 year

delay in the construction of current and future rail projects along with associated cost increases due to the delay.

- **Contingency/Reserve fund established in second decade of the Plan** - The Plan includes a contingency, or reserve, fund in the second decade of the Plan (starting in FY 2004-05) totaling $720 million. This represents about 1% of the total value of the Long Range Plan. This fund could be used to mitigate unanticipated revenue reductions or cost increases such as:

  - Reductions in planned sales tax revenue receipts
  - Federal funding contribution to future rail lines at less than the planned level of 50%
  - Increases in planned rail construction costs
  - Reductions in planned fare revenues
  - Unanticipated costs or mandates

  Additionally, this reserve could be used to satisfy federal program reserve requirements that would most likely be imposed by the federal government as a condition for receiving FTA Section 3 New Start funds for the San Fernando Valley East/West Line and the future Western and Eastern extensions to the Red Line. This would be consistent with requirements in the current Full Funding Grant Agreement with the FTA on Red Line Segments 2 and 3. ***[Policy Decision]***

- **Leveraging State and Federal Funds** - The Plan assumes that local funds are used to match state and federal funds consistent with the project and program priorities established in the Long range Plan. By leveraging these funds, more projects can be constructed and operated over the next twenty years.

- **Use of Long-Term Debt** - The Plan assumes that senior lien bonds will be issued in each year they are needed to meet capital requirements for major capital projects, constrained by MTA debt service coverage ratio limitations. Debt service on the bonds is assumed to be paid with Proposition A and Proposition C revenues. Given all other assumptions used in the plan, debt financing is necessary for the completion of construction projects on the schedules assumed in the Plan. Actual bond issuances must be approved by separate action of the MTA Board. ***[Policy Decision]***

- **Establishing service levels for all programs** - A balance of the transportation services among all modes was sought in the Plan. Assumed service levels were determined using existing studies and plans for the various programs and projects. Additionally, transportation modeling and planning activities were performed on many of the projects and programs. Decisions on specific increases in service levels and new services will be made by the MTA Board as the programs are developed through the planning processes. ***[Policy Decision]***

- **STIP Shortfall** - State shortfalls in transportation funding have resulted in a funding shortfall in the California State Transportation Improvement Program (STIP) of approximately $4.0 - $5.0 billion. In light of this, the California Transportation Commission (CTC) has made funding seismic retrofit and other essential safety and rehabilitation projects their top priority and delayed all other projects. However, MTA high priority projects that assumed state funding will be allowed to be advance-funded locally under state advanced construction provisions, where local funds can be used as up-front cash flow until state funds can be advanced or reimbursed at a future time. ***[Policy Decision]***

MAJOR REVENUE SOURCE ASSUMPTIONS

INFLATION FACTORS

Operating and Capital Inflation - A 3.99% average annual inflation rate, based upon the September, 1994 UCLA sales tax forecast for Los Angeles County, is applied to projected revenues and operating costs. The Plan assumes that the rate averages 4.08% over the first decade and 3.89% during the second decade. A 20-year annual average inflation rate of 3.28% is applied to projected transit capital cost items. The rate varies by decade as follows: first decade is 3.36% and second decade is 3.20%. The rate is based on the relationship of the Construction Cost Index (CCI) to the Consumer Price Index (CPI) which found that the CCI was approximately 82% of the CPI. The highway capital inflation rate, estimated by Caltrans, remains constant at 3.5% over the 20-year period.

LOCAL REVENUES

Proposition A - These revenues are generated by a 1/2 cent sales tax for countywide transportation programs passed by Los Angeles County voters in 1980. Pursuant to the Proposition A Ordinance, these funds are used to improve public transit throughout Los Angeles County. A portion of the revenues are returned to local jurisdictions, based on population, for use in public transit projects. Revenues are divided as follows:

Local Return program -	25%
Rail development -	35%
Discretionary -	40%

The estimated annual amount of Proposition A revenues over the 20 year period is based on the September, 1994 UCLA Sales Tax Forecast for Los Angeles County. The plan assumes that all of the Proposition A 40% discretionary funds are used for bus operations. Proposition A local return revenues projected to be expended on bus operations are based on continuation of trends identified in the Short Range Transit Plans.

Proposition C - These revenues are generated by a 1/2 cent sales tax for countywide transportation programs passed by Los Angeles County voters in 1990. The Proposition C ordinance specifies that funds are to be used for "public transit purposes." Revenues are divided as follows:

Rail and bus security -	5%
Commuter rail/transit centers/park and ride -	10%
Transit related streets/state highways improvements -	25%
Local return -	20%
Discretionary-	40%

The estimated annual amount of Proposition C revenues over the 20 year period is based on the September, 1994 UCLA Sales Tax Forecast for Los Angeles County. The plan assumes that the 40% discretionary funds are split among rail capital and operations, bus capital and operations and bus service expansion. The relative share of the allocations between bus and rail capital and operating requirements shifts over time to meet evolving system needs as projects are built and operations begin. Although most of the 25% highway funds are programmed for highway related projects such as high occupancy vehicle (HOV) lanes, these funds are also eligible to be used for portions of rail transit projects which have freeway alignments, such as the Pasadena Blue Line. Specific Board action through the Call for Projects and TIP programming process must to be taken to program Proposition C funds to specific projects and programs. **[*Policy Decision*]**

Bonds/Financing Mechanisms

Senior Lien Bonds (Prop A and C):

Senior Lien Bonds are bonds which have a senior claim on an MTA pledged revenue source that is superior to the claim of any other bonds or debt. The plan assumes that senior lien bonds will be issued throughout the Plan as needed to support rail and highway capital requirements. Bonds are projected to be issued in each year they are needed to meet capital requirements. The Plan assumes bond payments based on a 7% interest rate and 30 year term. These model generated bond issuances ***do not*** substitute for specific Board action required to issue bonds. ***[Policy Decision]***

Certificates of Participation (COPs):

New COPs pledged by Federal Section 9 capital formula funds and TDA Article 4 funds are not assumed to be issued throughout the Plan for bus purchases. Debt service for COPs that were issued in prior periods is included.

TDA Article 4 - Revenues are derived from one-quarter cent retail sales tax collected statewide. TDA Article 4 funds are available for both bus capital and operations. MTA staff estimates total fund availability based on sales tax projections. Specifically, the amount of TDA Article 4 funds are calculated as 51.86% of Proposition A, multiplied by 92.2%. The majority of Article 4 funds are allocated to bus operations based on historical data and projected needs and uses.

City of Los Angeles Funds - These funds represent the City's contributions to Metro Rail and Union Station Gateway. The City's assumed contribution is an average of 7% of the current total costs for Red Line Segments 1, 2 and 3 and a 5% contribution on the Red Line - San Fernando Valley Extension, Westside Extension, and Eastside. Also, it is assumed that the City will contribute local return funds to match federal and state revenues for the Union Station Gateway Transit Center project (approximately 5% or $7.7 million of the current project budget per the Gateway funding plan). Negotiations are currently underway with the City that may affect the level of contributions to be made by the City of Los Angeles. ***[Policy Decision]***

Benefit Assessments - The financial plan for the construction of the Metro Rail Red Line includes costs for station construction to be partially paid for by assessments levied on the properties adjacent to stations, which will reap the financial benefits of close proximity to a major transit system station. A benefit assessment district has been in place for Red Line Segment 1 since 1985, producing revenues of $162 million. An amount of $75 million was originally programmed for Red Line Segments 2 and 3 (MTA Board action, September 28, 1993). Recent negotiations with potential assessment district property owners lead staff to conclude that two districts may elect out of district formation. The Plan assumes that approximately 52% ($39.1 million) of the anticipated benefit assessment revenues originally programmed for Red Line Segments 2 and 3 will be lost due to this anticipated action.

Farebox Revenues

Bus:

Bus farebox revenue is calculated by multiplying the farebox recovery ratio by the annual operations and maintenance cost (O&M) cost.

MTA: MTA's assumed bus fare revenue of is based on the farebox recovery ratio in the Fiscal Year 1994 - 95 Budget, which is approximately 44%, and projected out at the rate of inflation. Over the next several months, the MTA will be developing a balanced budget for Fiscal year 1995 - 96. This may require structural changes in the way that the MTA delivers and funds its current programs. Any structural changes impacting the Plan will be incorporated.

Municipal Transit Operators: For Fiscal Year 1994-1995 through Fiscal Year 1997-1998, bus fare revenues for the municipal transit operators' are based on information in their Short Range Transit Plans. The farebox recovery ratio for this time period is approximately 28%, not including local return funds. For Fiscal Year 1998-1999 and beyond, bus fare revenues were escalated with inflation. This method of projecting fare revenues assumes that these revenues increase in proportion to O&M costs.

Rail:

Rail farebox revenue is calculated by multiplying the estimated fare per boarding by the projected annual ridership. Fares and ridership figures for the current system are based on existing figures which have been projected out, while fare and ridership information for future lines and extensions is based on information from the Long Range Plan travel demand model. The farebox recovery ratio increases to approximately 34% as the rail system expands to the system envisioned in the Long Range Plan. The MTA is currently updating its rail operations and maintenance (O&M) cost model to reflect the MTA's current operating cost structure and industry standards. The Long Range Plan will be updated once this new data is available.

STATE REVENUES

Flexible Congestion Relief - The Flexible Congestion Relief (FCR) Program is a statewide capital program for highway and fixed guideway capacity improvements. Funding for this program is composed of state and federal gas tax revenues. FCR funds are targeted in the Adopted Long Range Plan for gap closures, major arterial improvements, and high occupancy vehicle lanes. Revenues anticipated through Fiscal Year 1998 - 1999 are those programmed in the 1992 Revised State Transportation Improvement Program (STIP). Due to funding shortfalls at the State level, no funds are assumed to be available for new projects for Fiscal Years 1999 - 2000 through 2002 - 2003. FCR revenues are assumed to remain at a constant level beginning in Fiscal Year 2003 - 2004. This annual revenue estimate is based on historical data on county minimums as well as discussions with California Transportation Commission (CTC) staff. The MTA must take separate action on the programming of FCR funds to specific projects through the Call for Projects and TIP programming process. ***[Policy Decision]***

State Rail Bonds - Propositions 108 and 116 were passed by California voters in 1990. Proposition 108 authorized the state to sell $1 billion in general obligation bonds to provide funds for rail capital outlay. It also authorized two additional state rail bonds measures of $1 billion each. The 1992 and 1994 bond measure did not pass. Through the 1992 STIP, and the State Allocation Plan, the state will use other funds for the bond funds. This will cause a delay in state funds for many projects. These anticipated delays have been incorporated in the Long Range Plan. Projects receiving Proposition 108 funds must be completed no later than June 30, 2001. Proposition 116 authorizes the state to sell $1.99 billion in general obligation bonds to provide funds for rail capital outlay as well as bikeway facilities. The state rail bond amounts assumed to be available for Los Angeles County are projected by MTA staff, based on past CTC appropriations and discussions with CTC staff. State rail bonds are projected to fund Metro Rail, commuter rail, the LA Car, bikeways projects and the Alameda Corridor.

FEDERAL REVENUES

ISTEA (STP, CMAQ) - As part of the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991, the Federal government created new flexible funding programs, the Surface Transportation Program (STP) and the Congestion Mitigation and Air Quality Improvement Program (CMAQ). STP funds are intended to be used for congestion relief in urban areas. Eligible uses include transit capital projects, Transportation Demand Management (TDM), and improvements to highways and arterial roads. The CMAQ program is designed to fund projects that contribute to the attainment of national ambient air quality standards. CMAQ funds cannot be used to construct facilities that provide additional capacity for single-occupancy vehicles. Revenues anticipated during the 20-year period are based on historical allocations through Fiscal Year 1994 - 1995. The Plan assumes the federal reauthorization of the Transportation Act. Beginning in Fiscal Year 1997 - 1998 and at the end of each five-year federal reauthorization period, the plan assumes that the total amount available will be escalated by CPI and held constant

for the 5-year period. Board action will be required through the Call for Projects and TIP programming process to program ISTEA funds to specific projects. ***[Policy Decision]***

Section 3 New Rail Starts - These funds, which are to be used for rail transit capital improvements, come from mass transit funds, generated by one cent of the nine cent federal gas tax. Section 3 New Starts are earmarked by Congress to specific projects - in the case of Los Angeles County, to Metro Rail. Full Funding Grant Agreements for Red Line Segments 1, 2 and 3 are negotiated by MTA with the Federal Transit Administration. Section 3 New Starts funds are a discretionary source of federal funds that is reauthorized every five years. The total funding level is assumed to escalate at the CPI rate beginning in Fiscal Year 1997 - 1998 (after commitments for Red Line are completed) and every five year reauthorization period thereafter.

Section 3 Rail Modernization Section 3 Rail Modernization funds are used in the Plan for rail rehabilitation and other minor rail capital expenses. The funding level is assumed to escalate at the CPI rate beginning in Fiscal Year 1997 - 1998 and every five year reauthorization period thereafter. An incremental increase in funding is projected as rail projects are completed and rail mileage in Los Angeles County increases.

Section 9 Capital - The current funding level is assumed to remain constant though Fiscal Year 1996 - 1997. Beginning in Fiscal Year 1997 - 1998, and at the end of each five-year federal reauthorization period, the Plan assumes that the total amount available will be escalated by CPI and held constant for the five year period. The Plan assumes that these funds will be allocated to all eligible bus operators for identified capital requirements. ***[Policy Decision]***

Section 9 Operating - Section 9 allocations for transit operations are assumed to remain constant at Fiscal Year 1995 levels throughout the 20-year period. This federal revenue source was not escalated as were others because some federal officials are proposing to reduce and, possibly, eliminate operating assistance subsidies in the coming years. If this funding source is actually eliminated in future adopted Federal budgets, transit operations in Los Angeles County could be severely impacted.

HIGHWAY PROGRAM ASSUMPTIONS

The Highway component of the Long Range Plan focuses on mobility and air quality and funds projects such as HOV lanes, Traffic Systems Management efforts and other highway programs.

Project construction costs were provided by Caltrans and are inflated at 3% for Fiscal Year 1994 - 1995 and increased to 3.5% thereafter. Right-of-Way inflation rates, initially 6% for Fiscal Year 1993 - 1994, follows the CPI rate.

Freeway Incident Management The Freeway Incident Management program, funded primarily through Proposition C (25%) and HOV violation funds, will continue to be funded at current levels. The CPI rate for transit operations described in the major revenue assumptions section was used to escalate the costs for the program over the 20-year period.

Freeway Traffic Systems Management (TSM) & Traffic Operations System (TOS) The Plan assumes that operating costs for freeway TSM measures will be covered through the Caltrans operating budget. Beginning in FY 1997 -1998, $300 million is included in the Plan to complete the TOS system.

Funding sources for Freeway TSM and TOS consist of the following sources: Prop C (25%), ISTEA (TSM match), and ISTEA (STP).

High Occupancy Vehicle (HOV) Carpool Lanes HOV project costs are based upon estimates provided by Caltrans, District 7. A total of approximately $380 million in Baseline projects were programmed through the competitive FY 1993-94 Multi-year Call for Projects. The Plan will provide approximately $1.9 billion over the 20-year period to complete the HOV program, including connectors, beyond baseline commitments.

Funding sources for HOV lanes consist of the following: Prop C 25%, State/Local Partnerships, State TSM (discretionary), TSM (ISTEA match), ISTEA (CMAQ), ISTEA (STP), and Flexible Congestion Relief funds.

Gap Closures & Arterial Widenings The costs for gap closures and arterial widenings are based upon estimates provided by Caltrans, District 7.

Funding sources for gap closures consist of the following: Prop C, Local Agency/Other (private) Funds, State/Local Partnership, Flexible Congestion Relief, Inter-regional funds, and Federal Highway Demonstration funds.

MULTIMODAL PROGRAM ASSUMPTIONS
(CALL FOR PROJECTS CATEGORIES)

Local Transportation Systems Management (TSM) Local TSM projects receive funding under the TSM category of the Call for Projects and are eligible for project support funding as well as capital outlay funding from the State Highway Account. Local TSM project funding levels are determined through the Multi-Year Call for Projects.

Funding sources for Local TSM consist of the following: Prop C (25%), Local Agency Funds, and Federal ISTEA funds.

Transportation Demand Management (TDM/Ridesharing) The funding level is focused on leveraging local and private sector efforts. Lower funding levels will be set in the beginning years as the program is evaluated for its effectiveness. Moderate funding levels begin in FY 2000 - 2001, concurrent with the opening of additional rail and HOV facilities. Sources of funding for TDM consist of the following: Combined Road Plan Cash/Prop A, Federal ISTEA funds, State TSM, and Prop C (25%).

Regional Bikeways Funding sources for Regional Bikeways consist of the following: Prop C (25%), Prop 116, Federal ISTEA funds, and TDA Article 3 funds.

Regional Surface Transportation Improvements (RSTI) Funding for the Alameda Consolidated Transportation Corridor and other improvement projects are included in this category. Funding sources for RSTI projects are Proposition C 25%, Local Agency Funds, Proposition 116, Federal Highway Demonstration Funds, and Federal ISTEA funds.

Alameda Consolidated Transportation Corridor The preliminary engineering and right-of-way acquisition are partially funded. $8.6 million has been programmed through the Call for Projects through FY 1994 - 1995. The Plan includes MTA's contribution to the project as follows:

Prop C 25%	$70.7
ISTEA (STP)	$38.7
ISTEA (CMAQ)	$249.2
Total	**$358.6**

Additional agreements with the Alameda Corridor Transportation Authority need to be negotiated prior to the allocation of funds to this project.

Park and Ride Facilities/Transit Centers Funding for Park and Ride Facilities and Transit Centers consist of the following: Prop C (10% & 25%), and TP&D TCI. Beginning in FY 1998 - 99, funding for this category is allocated from Prop C 10%.

Transportation Enhancements Funding for specific transportation enhancement projects will be programmed through the Call for Projects process. The Plan assumes federal reauthorization. Revenue received is expected to be expended in accordance with schedules supporting approved applications. This program is administered by the State.

OTHER FUNDING PROGRAMS ASSUMPTIONS

Service Authority for Freeway Emergencies (SAFE) Revenue is based on a $1 annual surcharge on each motor vehicle registration in Los Angeles County. Cost estimates and assumptions are based on the SAFE ten-year Financial Plan and include capital requirements and operations/maintenance expenses.

State Highway Operation and Protection Program (SHOPP) - Freeway Rehabilitation The SHOPP program was formerly referred to as the Highway Systems Operation and Protection Plan (HSOPP). Cost estimates through Fiscal Year 1994 -1995 are from the FY 1993 - 99 TIP. No funds are included in the Plan for Fiscal Years 1995 - 1996 through 1997 - 1998 due to the funds being diverted for seismic retrofit and earthquake restoration. Funding is assumed to begin in Fiscal Year 1998 - 1999 at a constant level adjusted for inflation and to continue to the end of the Plan period. This program is administered by the State.

Inter-regional Road System Caltrans provides estimates for the total need to make improvements for inter-regional traffic on state highways outside urban limit lines. Funding is not available for this program in the first decade based on the STIP shortfall. Beginning in Fiscal Year 2003 - 2004, $23 million per year is allocated to the program. The funding for the Inter-regional Road Systems is provided through the State Highway Account and is administered by the State..

Retrofit Soundwalls Funding is programmed through Fiscal Year 1998 - 1999 based on Caltrans' programming information and priorities. The funding for Retrofit Soundwalls is provided through the State Highway Account and is administered by the State.

Environmental Enhancement & Mitigation Although this program is funded through the State Highway Account, it is not included in the STIP. Proposition 111 legislation allows allocation of $10 million annually statewide over a ten-year period from Fiscal Year 1991 - 1992 to Fiscal Year 2000 - 2001.

The Plan estimates that Los Angeles County's fair share provision follows Sections 187 and 188 of the Streets and Highways Code which allocates 40 percent of the total amount to projects in northern counties and 60 percent to projects in southern counties. This includes San Luis Obispo, Kern, Mono, Tulare, Inyo, Santa Barbara, Ventura, Los Angeles, San Bernardino, Orange, Riverside, San Diego and Imperial. All other counties are considered northern counties. The Plan assumes that Los Angeles County will receive $2.5 million annually through the life of the program. Revenues received are expected to be expended in accordance with schedules supporting approved applications and is administered by the State.

BUS PROGRAM ASSUMPTIONS

BUS CAPITAL

Transit Operators

The Plan includes the following transit operators:

- Antelope Valley Transit Authority
- Arcadia
- Claremont
- Commerce Municipal Bus Lines
- Culver City Municipal Bus Lines
- Foothill Transit
- Gardena Municipal Bus Lines
- La Mirada Transit
- Long Beach Transit
- Los Angeles Department of Transportation (LADOT)
- Montebello Municipal Bus Lines
- MTA Operations
- Norwalk Transit
- Redondo Beach
- Santa Clarita Transit
- Santa Monica Municipal Bus Lines
- Torrance Transit

The Plan includes funding for vehicles replacement, facilities rehabilitation and replacement, and support equipment, as described below:

Clean Fuels Air Quality Maintenance District (AIR QUALITY MAINTENANCE DISTRICT (AQMD)) requirements are assumed to be met by converting vehicles and facilities to clean fuels (i.e. alternative fuel vehicles) and by increasing transit service so that work trips on transit as a percentage of all regional trips increases by the year 2013.

Vehicle Replacement Schedule Vehicle replacement is based on the following retirement schedule:

Transit Buses (35 and 40 foot) -	12 years
Heavy Duty Smaller Buses -	10 years
Dial-A-Ride Vehicles-	5 years for light duty, mid-sized buses, approximately 25 to 35 feet in length
Dial-A-Ride Vehicles-	4 years for light duty, small buses, cutaways, or modified vans 16 to 28 feet in length

Vehicle Costs Total vehicle costs, including wheelchair lifts, for each technology, are presented below in 1995 dollars. This purchase price assumes replacement with alternative fueled vehicles.

Buses - 40 foot, MTA	$324,000
Buses - 40 foot, Municipal Operators	$300,000
Small to Mid-sized Buses	$200,000
Vans	$50,000

The MTA purchase price is based on a recent procurement of Compressed Natural Gas (CNG) Vehicles. The purchase price for the Municipal Operators was estimated by the bus operators for a generic alternative-fueled vehicle. A decision has not been made on the technology of future bus procurements. The MTA purchase price is higher than the Municipal Operators' purchase price because on different specifications on added equipment. A feasibility analysis for a countywide bus procurement standard will be undertaken to determine future cost savings. ***[Policy Decision]***

Facilities Maintenance facilities are assumed to have a useful life of 50 years. Renovation and rehabilitation costs of existing facilities are estimated to average about 30% of the construction costs in 1994 dollars every 15 years. These costs are calculated as the total square footage for all the facilities multiplied by the assumed cost of construction. These costs were distributed at 2% per year over the life of a facility. The fully escalated cost of facility replacement was assumed in year 50.

Support Equipment This category includes costs of minor capital items such as support vehicles, spare parts, and miscellaneous support equipment. Spare equipment costs are assumed at 15% of the total vehicle replacement and facilities rehabilitation and replacement costs, based on an analysis of the municipal operators' allocation patterns.

COP Payments Debt payments for existing Certificates of Participation issued for the MTA, Torrance Transit, and Culver City Municipal Bus Lines are assumed in the Plan.

Union Station Gateway Intermodal Transit Center The Union Station Gateway Intermodal Transit Center will be a major intermodal center which includes light rail, heavy rail, bus, commuter rail, and intercity rail. Included facilities consist of a bus plaza, portal pavilion, a 2,500 park-and-ride lot, and off-site improvements designed to serve the transit center. As designed, the Gateway Transit Center will accommodate more than 100 buses every hour and serve more than 115,000 multimodal transit users daily. The Plan includes $149.5 million for the project based on the funding plan. This facility is scheduled to be completed in Fiscal Year 1996 - 1997.

ADA/Paratransit Cost projections to implement the mandates of the American with Disabilities ACT (ADA) for the first decade of the Plan were based on estimates provided by Access Services Inc.(ASI) as part of their 1994 Annual Update to the Los Angeles County Coordinated Paratransit Plan. Projections beyond Fiscal Year 2002 - 2003 were escalated using the cost inflation factors previously discussed.

Unmet Needs In the preparation of the Fiscal Year 1994-95 SRTPs, Los Angeles County Bus Operators, including the MTA, identified what they believe to be unmet bus capital needs. The MTA's Planning and Programming unit will continue to meet with operators during the next year to further define bus capital needs in light of the Long Range Plan, the SRTP process, and the TIP/Call for Projects.

BUS OPERATIONS

MTA Operations and maintenance cost projections are based on the Fiscal Year 1994 - 1995 Budget and are assumed to grow with the rate of inflation. The Plan includes the revenue projections sufficient to support the existing service levels since the Plan assumes the baseline regional bus system will not grow beyond the peak fleet and revenue service hours reflected in the MTA Fiscal Year 1995 - 1998 Short Range Transit Plan. The Formula Allocation Program (FAP) is assumed to continue in future years for TDA Article 4, Proposition A, STA, and Section 9 operating funds. The Plan assumes the MTA operating deficit, both in the near term and beyond, is resolved.

Municipal Operators Operations and maintenance costs were based on data included in the transit operators' Fiscal Year 1995 - 1998 Short Range Transit Plans. The Fiscal Year 1997 - 1998 cost estimates are used as the basis for future years' cost projections and escalated using the inflation factors discussed in the inflation factors section. The Baseline assumption is that the baseline regional bus system will not grow beyond the peak fleet and revenue service hours reflected in the Fiscal Year 1995 - 1998 Short Range Transit Plan. The Formula Allocation Program (FAP) is assumed to continue in future years for TDA Article 4, Proposition A, STA, and Section 9 operating funds. The following transit operators are included in this category:

- Antelope Valley Transit Authority
- Arcadia
- Claremont

- Commerce Municipal Bus Lines
- Culver City Municipal Bus Lines
- Foothill Transit
- Gardena Municipal Bus Lines
- La Mirada Transit
- Long Beach Transit
- Los Angeles Department of Transportation (LADOT)
- Montebello Municipal Bus Lines
- Norwalk Transit
- Redondo Beach
- Santa Clarita Transit
- Santa Monica Municipal Bus Lines
- Torrance Transit

Expansion A countywide 300 bus expansion program is included in the Plan. Operating costs of $581.6 million through 2013 were estimated using a marginal cost per bus calculation (67% of total operating costs) based on the MTA's Fiscal Year 1994 - 1995 budgeted cost per bus and Fiscal Year 1994 - 1995 data from the municipal operators' SRTPs. The operating costs were included in the Plan assuming 80% MTA operations and 20% Municipal Operators' for purposes of planning calculations only. Actual fleet expansion will depend on factors relevant to the operating environment. Expansion farebox revenues were estimated using a marginal farebox recovery ratio of 20%, since the expansion buses will be used to improve service as well as attract new riders.

The actual assignment of bus expansion by operator has not been assumed in this Plan. This decision will be made separately through the TIP and Call for Projects processes. ***[Policy Decision]***

ADA/Paratransit Cost projections to implement the mandates of the American with Disabilities ACT (ADA) for the first decade of the Plan were based on estimates provided by the Consolidated Transportation Services Agency (CTSA, aka ASI) as part of their 1994 Annual Update to the Los Angeles County Coordinated Paratransit Plan. Projections beyond 2003 were escalated using the cost inflation factors discussed in the inflation factors section.

RAIL PROGRAM ASSUMPTIONS

RAIL CAPITAL

Rail Projects Capital Cost Estimates Costs for rail projects that have MTA approved plans and budgets are shown as an annual cash flow based on the approved budget. Costs for rail projects with no existing budgets are calculated based on MTA's cost estimation guidelines. The cost estimation process considers factors such as the estimated construction cost in current dollars, the construction start date based on available resources, and the construction duration and curve based on experience with past or current projects.

All costs detailed below are in escalated dollars, based on when a project is anticipated to be constructed.

Metro Rail Segment 1 The first three segments of the downtown Los Angeles Metro rail system are called the "Metro Red Line". Metro Red Line Segment 1 operates from Union Station to the Westlake/MacArthur Park station. The 4.4 mile, 5 station Red Line Segment 1 project opened for revenue service in January 1993.

The project budget is as follows:

Local Funds:	$508	36%
State Funds:	$214	15%
Federal Funds:	$696	49%

Total Project Cost: $1,418 million

Metro Rail Segment 2 Metro Red Line Segment 2 consists of two rail corridors, totalling 6.8 miles. The Wilshire Corridor extends from the Westlake/MacArthur Lake station northwest to Wilshire/Vermont, and west along Wilshire Boulevard to Western Avenue, terminating at the Wilshire/Western station. The Vermont/Hollywood Corridor extends north from Wilshire/Vermont along Vermont Avenue, turning west along Hollywood Boulevard to the Hollywood/Vine station. These segments are anticipated to open for revenue service in Fiscal Year 1996 - 1997 and Fiscal Year 1998 - 1999, respectively.

The project budget is as follows:

Local Funds	$594	41%
State Funds:	$185	13%
Federal Funds:	$667	46%

Total Project Cost: $1,446 million

Metro Rail Segment 3 The Metro Red Line Segment 3 project consists of three segments. The North Hollywood segment is a 5.9 mile project with three stations, which begins just west of the Segment 2 Hollywood/Vine station and continues west under Hollywood Boulevard to the Hollywood/Highland station and north under the Santa Monica mountains to its terminus in North Hollywood. The Mid-City portion is a 2.3 mile project with two stations that begins west of the Wilshire/Western station, passes through the Crenshaw/Olympic station, and terminates at the Pico/San Vicente station. The eastern extension is a 4 mile, 4 station alignment running east from Union station to First and Lorena Street. The North Hollywood portion of the project is anticipated to open for service in Fiscal Year 2000 - 2001, with the Eastside and Westside portions both opening in Fiscal Year 2002 - 2003.

The project budget is as follows:

Local Funds:	$866	31%
State Funds:	$333	12%
Federal Funds:	$1,583	57%

Total Project Cost: $2,782 million

Metro Blue Line The Metro Blue Line is a 22-mile light rail line with 22 stations which extend from downtown Long Beach to Seventh and Flower streets in downtown Los Angeles. Operation of this line began in Fiscal Year 1990 - 1991.

The project budget is as follows:

Local Funds:	$877	100%
State Funds:	$0	
Federal Funds:	$0	

Total Project Cost: $877 million

Metro Green Line The Metro Green Line light rail line extends 20 miles along the center of the 105 Freeway from Studebaker Road and the 605 Freeway in Norwalk to Freeman Blvd. and Marine Avenue in Redondo Beach, with 14 stations. The revenue operations date of this line is scheduled for Fiscal Year 1995 - 1996.

The project budget is as follows:

Local Funds:	$616	85%
State Funds:	$106	15%
Federal Funds:	$0	

Total Project Cost: $722 million

Pasadena Blue Line The Metro Blue Line light rail line extending from Sierra Madre Villa in Pasadena to Union Station in downtown Los Angeles is currently under construction. This line will cover 13.5 miles and have 14 stations. This rail line is anticipated to be open for service in Fiscal Year 2002 - 2003.

The estimated project costs and funding are as follows:

Local Funds:	$631	63%
State Funds:	$367	37%
Federal Funds:	$0	

Total Project Cost: $998 million

Because of the state funding shortfall and the resultant delay in the availability of state funding, it is assumed that the state will delete the requirement that the state funds for this project be drawn-down by the year 2000.

Red Line - San Fernando Valley East/West The San Fernando Valley East/West Line connects the North Hollywood area with the San Fernando Valley. The 3-station, 6 mile subway line extends from the terminus of the Metro Red Line Segment 3 station in North Hollywood at Chandler Blvd. to Sepulveda Blvd., just east of the San Diego 405 Freeway. Construction of this line, which will stretch over 9 years, is anticipated to begin in Fiscal Year 2003 - 2004, with revenue service starting in Fiscal Year 2012 - 2013.

The estimated project costs and funding are as follows:

Local Funds:	$323	30%
State Funds:	$253	23%
Federal Funds:	$506	47%

Total Project Cost: $1,082 million

Because of the state funding shortfall and the resultant delay in the availability of state funding, it is assumed that the state will delete the requirement that the state funds for this project be drawn-down by the year 2000.

Red Line - Westside Extension The Westside Extension of the Metro Red Line extends from Pico/San Vacandi to the San Diego Freeway (Route 405). The 6-station, 7.8 mile line will begin construction in Fiscal Year 2004 - 2005 and is anticipated to open for revenue service in Fiscal Year 2013 - 2014.

The estimated project costs and funding are as follows:

Local Funds	$1,352	43%
State Funds	$23	1%
Federal Funds:	$1,735	56%

Total Project Cost: $3,111 million

Red Line - Eastern Extension The Eastern Extension of the Metro Red Line extends from Indiana Avenue in East Los Angeles to Atlantic/Whittier. The 3-station, 3 mile segment will begin construction in Fiscal Year 2008 - 2009 and is anticipated to open for revenue service in Fiscal Year 2013 - 2014.

The estimated project costs and funding are as follows:

Local Funds:	$600	43%
State Funds:	$12	1%
Federal Funds:	$792	56%

Total Project Cost: $1,403 million

LA Car The Los Angeles Light rail procurement consists of a base order of 72 standard cars and 2 prototype vehicles for a total of 74 light rail vehicles. The standard cars will be used on the Metro Blue Line, Pasadena Line, and planned extensions of the lines.

The budget for the 74-car procurement is as follows:

Local Funds:	$122	47%
State Funds:	$118	46%
Federal Funds:	$18	7%

Total Cost: $258 million

Commuter Lines The Southern California Regional Rail Authority (SCRRA) is a Joint Powers Agency which plans, constructs, and operates Southern California's commuter rail system. The LACMTA funds a portion of the capital and operating costs for commuter rail projects located within Los Angeles County, including :

- Los Angeles / San Bernardino
- Los Angeles/San Bernardino/Riverside/Fullerton
- Los Angeles / Moorpark
- Los Angeles / Santa Clarita / Palmdale / Lancaster
- Los Angeles / Oceanside

- Los Angeles / Riverside (Union Pacific)
- Fullerton/LAUPT
- Shared Facility

The SCRRA current system includes 346 route miles, 201 of which are in Los Angeles County. The Plan assumes continued funding for the current commuter rail system. Operating cost projections were provided by SCRRA staff. Los Angeles County's share of commuter rail costs is funded with Proposition C 10% revenues, which is consistent with MTA's funding policies adopted in Fiscal Year 1994 - 1995. Over the 20-year period of the Plan, the Plan includes the following costs:

MTA Share of Capital Needs: $180 million

Total Operating Needs: $1.170 billion
MTA Share of Operating Needs: $666 million (56.92%)

Diesel Multiple Unit (DMU) Diesel Multiple Unit options will be explored as a transportation alternative to more expensive light rail systems in selected corridors. Before these projects could be implemented, a feasibility analysis would need to be completed. DMU projects could be funded with Prop. C 10% funds.

Rehabilitation and Replacement Projected rehabilitation and replacement costs are based on a methodology developed by Robert Peskin of KMPG Marwick. This methodology was developed based on actual costs experienced by the Washington Metropolitan Area Transit Authority (WMATA). Actual WMATA rehabilitation and replacement costs were compared to their original installation capital costs. The MTA Rail rehabilitation and replacement costs were calculated in the same manner based on the Metro Blue, Red, and Green Line original installation capital costs. The first rehabilitation and replacement costs are estimated to begin five years after a rail line begins revenue operations.

Based on the Peskin Model, the rehabilitation and replacement costs for the 20-year period are as follows:

Blue Line - LA to Long Beach	$370 million
Red Line Segments 1, 2 and 3	$830 million
Green Line - Norwalk to El Segundo	$146 million
Blue Line - LA to Pasadena	$56 million
Total Cost	$1,402 million

The costs for rehabilitation and replacement of rail capital are funded with a combination of local Proposition A, C and TDA revenues, state TCI revenues, and Federal Section 3 Rail Modernization revenues, as follows:

Local Revenues:	$985 million
State Revenues:	$0 million
Federal Revenues:	$417 million

Systemwide Rail Capital/Other Projects/Station Enhancements In addition to the costs associated with the construction of each individual rail line, there are costs related to developing the rail system. These include the procurement of computer software and hardware, safety and security measures, legal support, studies, facilities, Americans With Disabilities Act (ADA) requirements, and transit station access improvements.

Over the 20-year period, these costs are estimated to be as follows:

Local Revenues:	$250	96%
State Revenues:	$0	
Federal Revenues:	$10	4%

Total Cost: $260 million

Capitalized Environmental Clearance/Study Costs Capitalized environmental clearance/study costs are determined each year through the MTA Budget process. This category includes the costs for environmental studies, staff support, overhead, and Board-directed studies. Over the 20 year period, the costs are estimated to be as follows:

Local Revenues:	$417	100%
State Revenues:	$0	
Federal Revenues:	$0	

Total Cost: $417 million

RAIL OPERATIONS

Rail operations costs are based on an operating and maintenance (O&M) cost model that was developed during the analysis for the 30-Year Plan. The model is a disaggregate, resource build-up model, consistent with the methodology specified by the Federal Transit Administration (FTA) for Alternatives Analysis studies. Staffing requirements, labor costs, and non-labor expenses are calculated based on the projected quantity of service supplied (e.g., peak vehicles, revenues vehicle-miles) and the physical size of the system (e.g., route-miles, number of stations). The model reflects the former RTD's organizational structure at the time the 30-Year Plan was being

developed, but is largely based on industry standards since Los Angeles County's rail system was still in its infancy when the model was created.

The same O&M cost model has been used to develop preliminary estimates for rail operating costs in the current 20-Year Long Range Plan. To the extent possible, the cost model has been recalibrated based on updated information, including the current budget. **The MTA is currently updating the O&M cost model to reflect the MTA's current operating cost structure and industry standards. The Long Range Plan will be updated once this new data is available.** Any savings resulting from this update will be included in the cost savings initiatives study which will be completed in the near future.

Los Angeles County's portion of commuter rail operating costs is based on the current budget and estimates from the Southern California Regional Rail Authority (SCRRA).

Based on the O&M cost model and SCRRA's commuter rail estimates, the rail operating costs (including security) for the twenty year period are as follows:

RED LINE	$2,144 million
Segment 1, 2 and 3	
Western Extension	
Eastern Extension	
San Fernando Valley East/West	
BLUE LINE	$1,824 million
Long Beach	
Pasadena	
GREEN LINE	$742 million
Norwalk/El Segundo	
COMMUTER RAIL	$666 million
Current System (LA Portion Only)	
TOTAL RAIL OPERATIONS	$5,376 million

NEW REVENUE ASSUMPTIONS

Staff has been actively pursuing potential new revenue sources through a variety of initiatives, including active participation in the California Consensus Project which, in conjunction with the California Transportation Commission (CTC), is working to identify and advocate additional revenue sources for transportation projects and programs in California. Any new revenues could be used to fund additional projects that were not included in the fiscally constrained plan due to limited resources. If any new revenues become a reality, staff will present recommendations to the Board as to what additional projects and programs could be included in the Plan.

CONDITIONS

Before a new revenue source can become a reality, the following conditions should exist which would be conducive to legislative and/or voter approval of new revenues:

- Evidence that current transportation projects and programs, both capital and operating, are being managed and delivered in a cost efficient manner;
- Voter perception that the current transportation system is deteriorating and congestion is worsening;
- Proof that current revenue sources are inadequate to address identified transportation needs;
- Assurance that any new revenues will be used to fund clearly identified projects and programs;
- California economic recovery / expansion;
- Current projects, including Metro Red Line Segment 3 and Pasadena Line, are completed on schedule and within budget.

REVENUE ESTIMATES

Any of the following new revenue sources would provide about $230 million (Fiscal Year 1994 dollars) annually for Los Angeles County:

- 1/4 cent countywide general sales tax;
- Additional statewide 6 cent per gallon fuel tax;
- Additional statewide 4% sales tax on fuel;

- Countywide 6 cent per gallon fuel tax;

- 1/3 cent per mile vehicle use / vehicle miles travelled (VMT) fee.

In addition to the above, other funding sources will be explored such as the potential for accessing no-traditional funding sources, including funding programs administered by the Department of Health and Human Services.

ADDITIONAL PROJECTS AND PROGRAMS

An example of the additional program that could be funded with new revenues is shown below. Based on the assumption that $4.3 billion in new revenues would be available in the second decade of the Plan, and assuming some flexibility of use and the issuance of bonds secured by new revenues, the program of projects listed below could be funded with new revenues:

- Depending upon the cost of each rail line, between three and six rail lines could be constructed and operated in the second decade. These could include:
  - Crenshaw Corridor
  - Downtown Connector
  - Exposition Line (Downtown to USC)
  - Glendale/Burbank Line
  - San Fernando Valley East-West (405 Fwy to Warner Center)
  - 10/60 Corridor

- The equivalent of 350 to 400 additional full-size buses could be procured and operated in the second decade to enhance current service or to add new service such as rail feeder or dedicated HOV system service;

- Construction schedules for highway projects currently included in the Plan could be advanced or additional major capital projects could be funded. These could include:
  - Route 5 Gap Closure from Route 605 to Orange County Line
  - Route 126 Gap Closure from Route 5 to Route 14
  - Route 71 Gap Closure from Route 60 to Route 10
  - Route 138 (Ave. P-8) from Route 14 to Avenue 50

- Additional funding could be made available to program for projects in the Call for Projects categories;

- Advanced transportation technologies recommended by the Southern California Association of Governments (SCAG) could be funded, such as, electric vehicles, alternative fuel vehicles, advanced Smart Shuttle transit, passenger-oriented technologies, intelligent vehicle highway systems, and increased telecommunications initiatives.

- Some combination of the above examples of projects.

Funding Source Eligibility

Exhibit 4-7

Revenue Sources	Rail		Bus		Highways	TDM
	Capital	Operations	Capital	Operations		
LOCAL						
Proposition A (1)	A	E	E	A		E
Proposition C (1)	A	A	A	A	A	A
TDA Article 4	E	E	A	A		
Other Local Agency Funds	A	A	A	A	A	A
Farebox	E	A	E	A		
Benefit Assessments	A					
Financing	A		A			
STATE						
Flexible Congestion Relief	A				A	
State Rail Bonds	A					
State Transit Assistance (STA)	E	A	E	A		
Transit Capital Improvement (TCI)	A		E			
Article XIX	A		E			
TSM	E		A		A	E
State & Local Partnership	A				A	
Inter-Regional Roads					A	
Soundwalls					A	
SHOPP					A	
FEDERAL						
FTA - Section 3	A		E			
FTA - Section 9	A	E	A	A		
ISTEA - CMAQ	A	E(2)	A	E(2)	A	A
ISTEA - STP	A		A		A	E
ISTEA - STP Trans Enhance	A		A		A	
Fed. Highway Demo Projects			A		A	
PRIVATE						
Private/Joint Venture	A	E	E		A	A

Notes: A - Revenue allocated to these modes. E - This mode is eligible for these revenues although none have been allocated to it. (1) Exclusive of local return. (2) Eligible for first 2 years of new service only.

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