



The  
**REPORT**

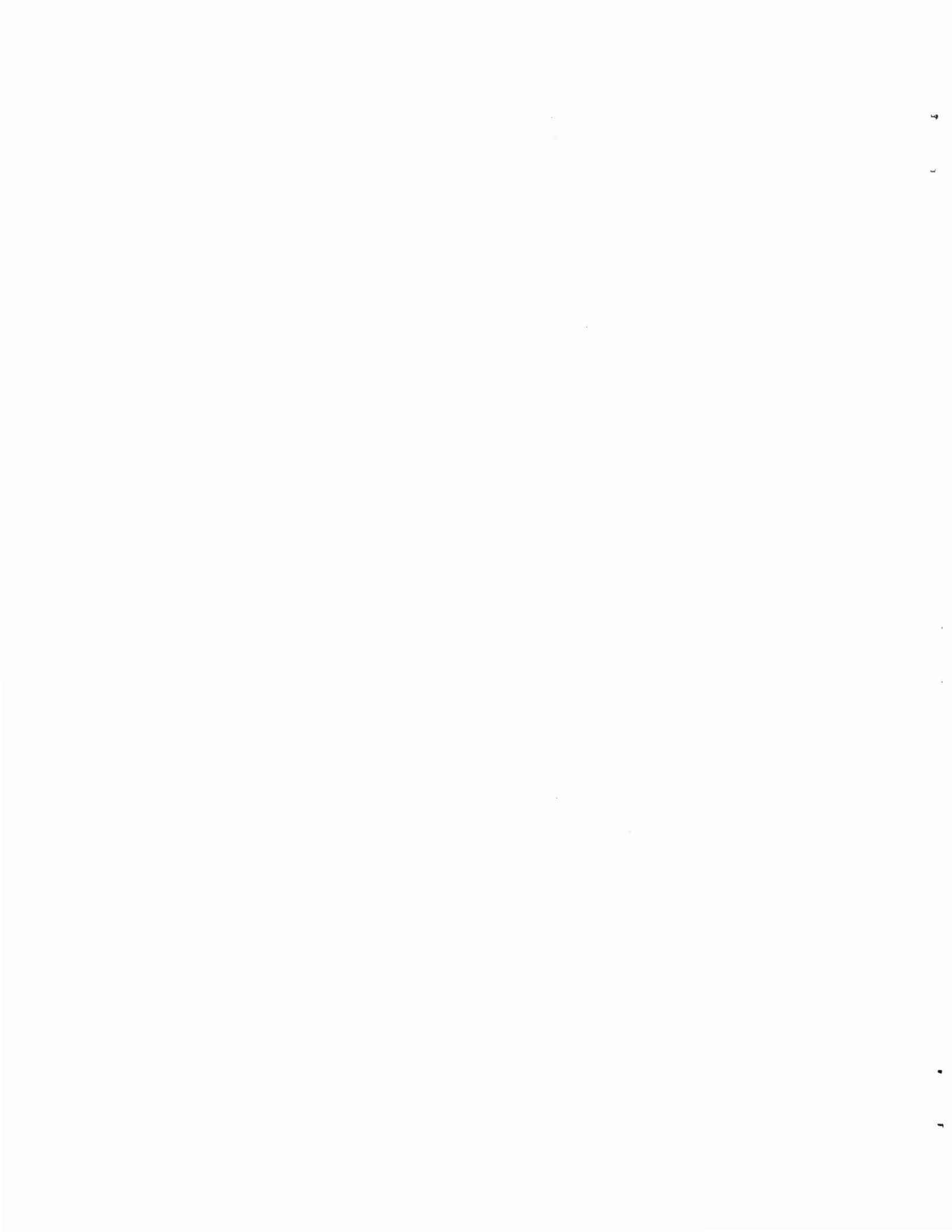


UPDATE  
**2002**

**THE**

# **Crisis**

Transportation and Mobility in Southern California  
Automobile Club of Southern California



## **From *The Quiet Crisis*:**

**"California is headed for a crisis. Our mobility is challenged by our growing population and expanding economy, increased travel, and limited resources. If our transportation system fails to grow as well, California's economy and quality of life will be at risk."**

**"We can reduce the impacts of growth on our mobility, but we need a number of changes—more road capacity, improving the way we use the automobile, alternatives to driving, better planning, and more effective use of resources."**

**"The automobile remains the backbone of mobility, but a multimodal network is essential to a vibrant economy and a mobile society. Mobility must be recognized as a basic social and economic necessity—as important as health, education, and law enforcement—and funding for it must be provided accordingly."**

**"California needs transportation 'champions'—leaders who will consistently and effectively seek and implement solutions. We must have leadership and achieve consensus on core values. Further, the public must be better informed and involved in transportation decisions. Mobility, not one mode of travel, is the issue."**



**We welcome your thoughts.**



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THE *Quiet* **Crisis**

Transportation and Mobility in Southern California  
Automobile Club of Southern California



**S**ince its founding in 1900, the Automobile Club of Southern California has been an advocate for increased mobility. We put up the first road signs, made car insurance affordable, started the first highway patrol, advanced the art and science of highway

engineering, promoted improvements in vehicle technology, and sponsored legislation for “good roads” and the safe use of those roads. Auto Club members are the largest single group of users and financial supporters of California’s transportation network, and we are proud to be part of developing a transportation system that has been among the best in the world.

But now, California’s mobility is challenged by our growing population and expanding economy, by increased travel, and by limits on resources. Most of California’s urban roadways are congested for increasingly long time periods, and congestion is increasing at a rate of 10 percent annually. Many of our rural roads are being asked



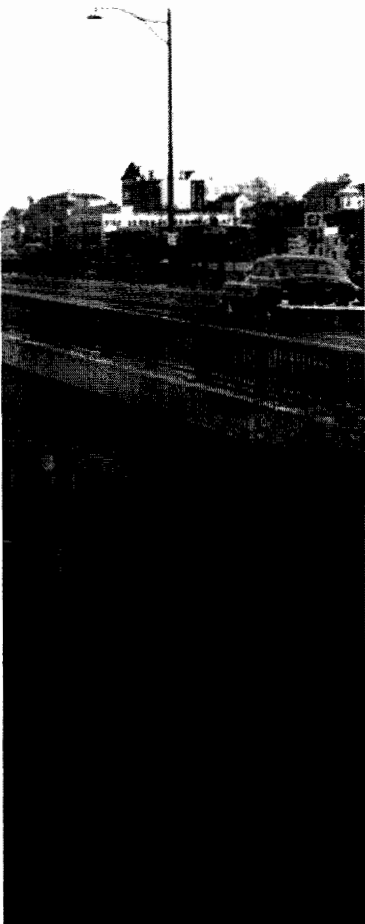


PHOTO COURTESY CALIFORNIA

to carry much more traffic than they were designed to.

Southern California's transportation system has rated the lowest grade, "D," in the Southern California Association of Government's last four annual "State of the Region" report cards. California now ranks last or nearly last among the states in road conditions and per-capita state expenditures on roads. Los Angeles and Orange Counties lead the nation in congestion delays and costs, and San Diego and the Inland Empire are not far behind. Inadequate road maintenance and poor road conditions cost California motorists, transit agencies, shippers, businesses, and taxpayers millions of dollars annually in increased repair and maintenance costs for both roads and

vehicles. Transit continues to carry a very small share of trips despite substantially increased investment.

Simply put, California will soon face a mobility crisis. A 1999 study found an unfunded backlog of more than \$100 billion in highway, local road, and transit needs over the next 10 years. And over the next 20 years, we can expect 10 million more Californians to be using highways, streets, and transit that are inadequate now. We will have to work hard to accommodate this growth and the crisis it will precipitate.

We call this crisis "the quiet crisis." We didn't choose that term because people are silent about congestion, the state of transit, and the cost of moving goods—they're not. Auto Club members frequently rate transportation concerns along with crime and the economy as critical issues affecting their daily lives. But the crisis is quiet because most of us travel fairly well today, although with some amount of delay and inconvenience. The transportation system functions well enough for most of us most of the time—for now.

The crisis is quiet because it hasn't really hit yet—but it will. California will continue to grow. There are limits to the transportation system's capacity and durability and to the public's adaptability and patience, and we are approaching and in some places exceeding those limits. Years of effort and many billions of dollars—and changes in how we think about mobility—

will be needed to handle the demands that will be placed on our transportation systems. If we don't meet this challenge, we will face enormous and unacceptable impacts on our economy and quality of life.

Maintaining mobility calls for coordinated public, private, and individual actions, ongoing public dialogue and involvement, and a general consensus on the directions we need to take. This report is intended to stimulate thought and discussion and help achieve that consensus.

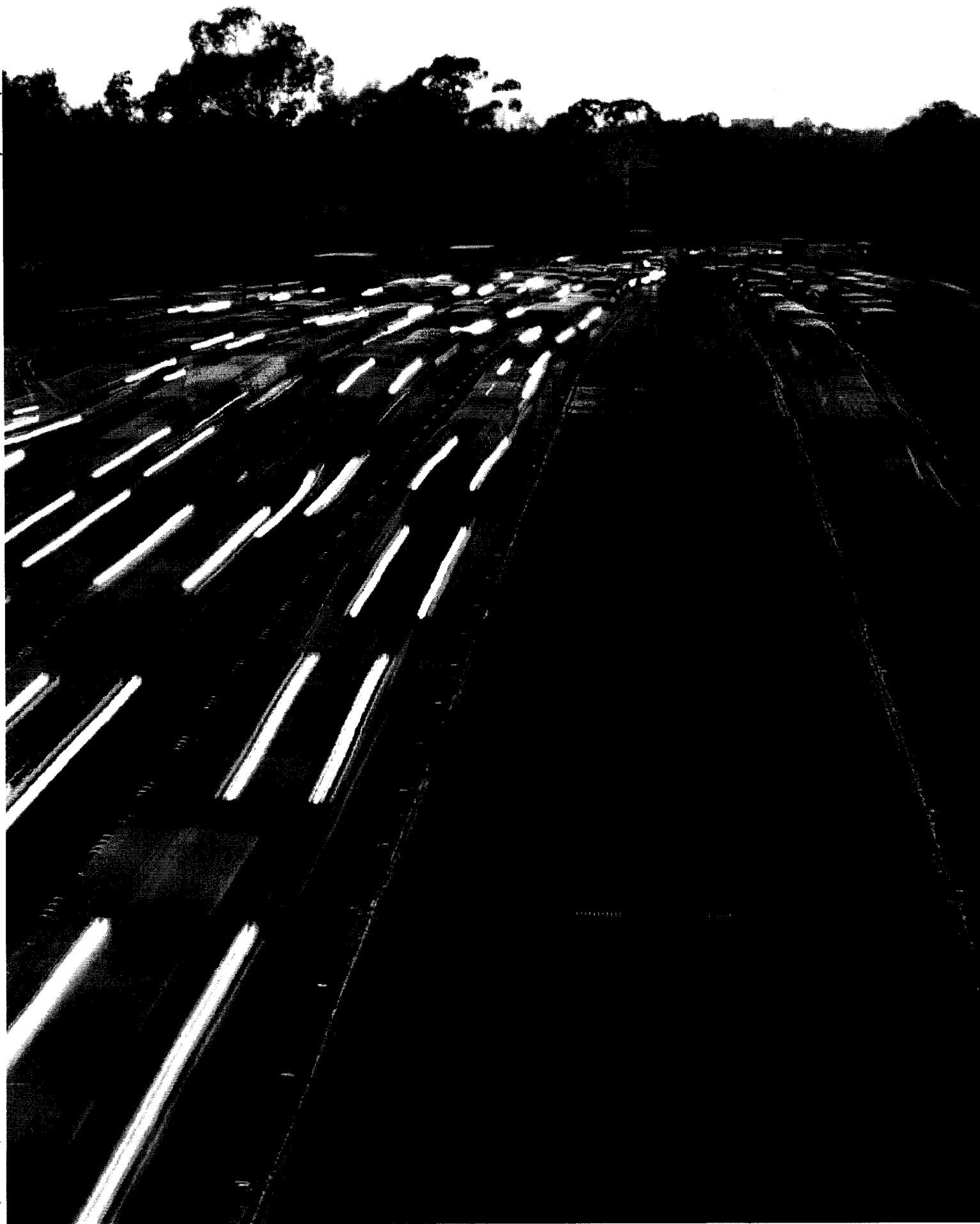
We've organized the discussion around five key policy areas: California's road system, the automobile, alternatives to the automobile, the planning and implementation process, and resources. There is no one single answer. Many actions will be needed to solve the problems we face. Translating those policy recommendations into consensus and action will be a formidable task, but one that we believe is both achievable and essential.

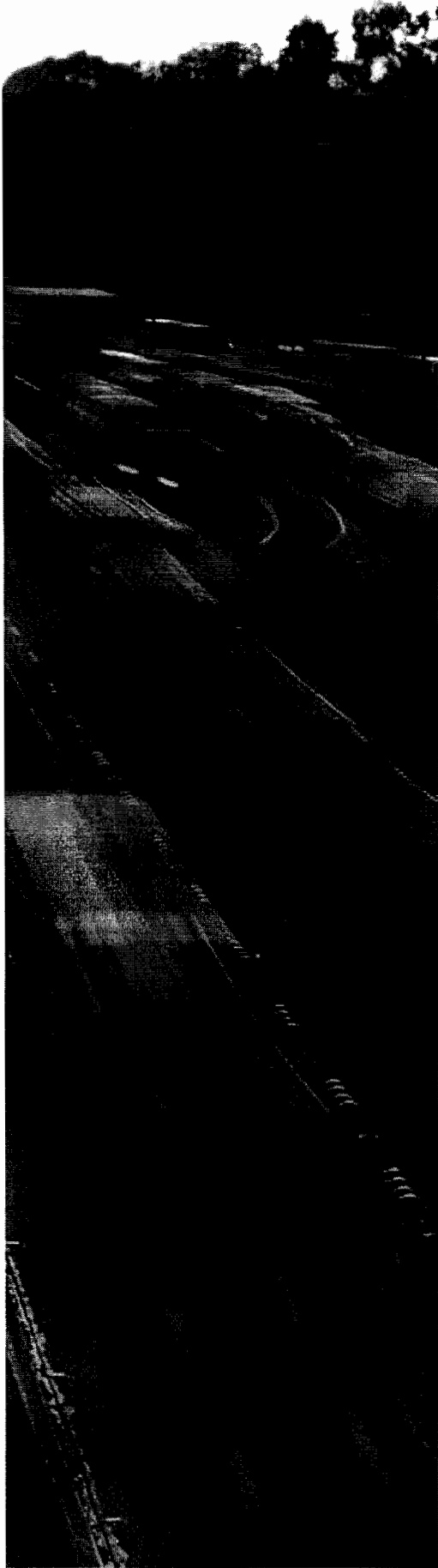
The Auto Club will continue its historic role in promoting and preserving California's mobility. We look forward to working with other committed public and private interests to meet our transportation challenges with ingenuity and determination—and to keep our state, residents, visitors, and economy moving.

**Thomas V. McKernan Jr.**  
President and CEO,  
Automobile Club of  
Southern California

# THE INTRODUCTION







**H**istorically, the U.S. transportation system has been among the best in the world, providing a remarkable level of mobility and access to goods and services. Moreover, the system's quality and pervasiveness have been influential in shaping development patterns both locally and nationally. In many respects, however, the system has been the victim of its own success. The very affluence it has helped create has resulted in a demand for travel and access that is increasingly difficult to meet, as witnessed by the growing congestion and delay that characterize all transportation modes. Although this congestion may abate in the short term, in time the problems will return. In addition, as the infrastructure of the system has expanded, it has increasingly intruded on neighborhoods and the environment. Society's responses to the complex challenges thus posed – even the failure to respond – will have fundamental consequences for the nation's future prosperity and quality of life, as well as for the environment.

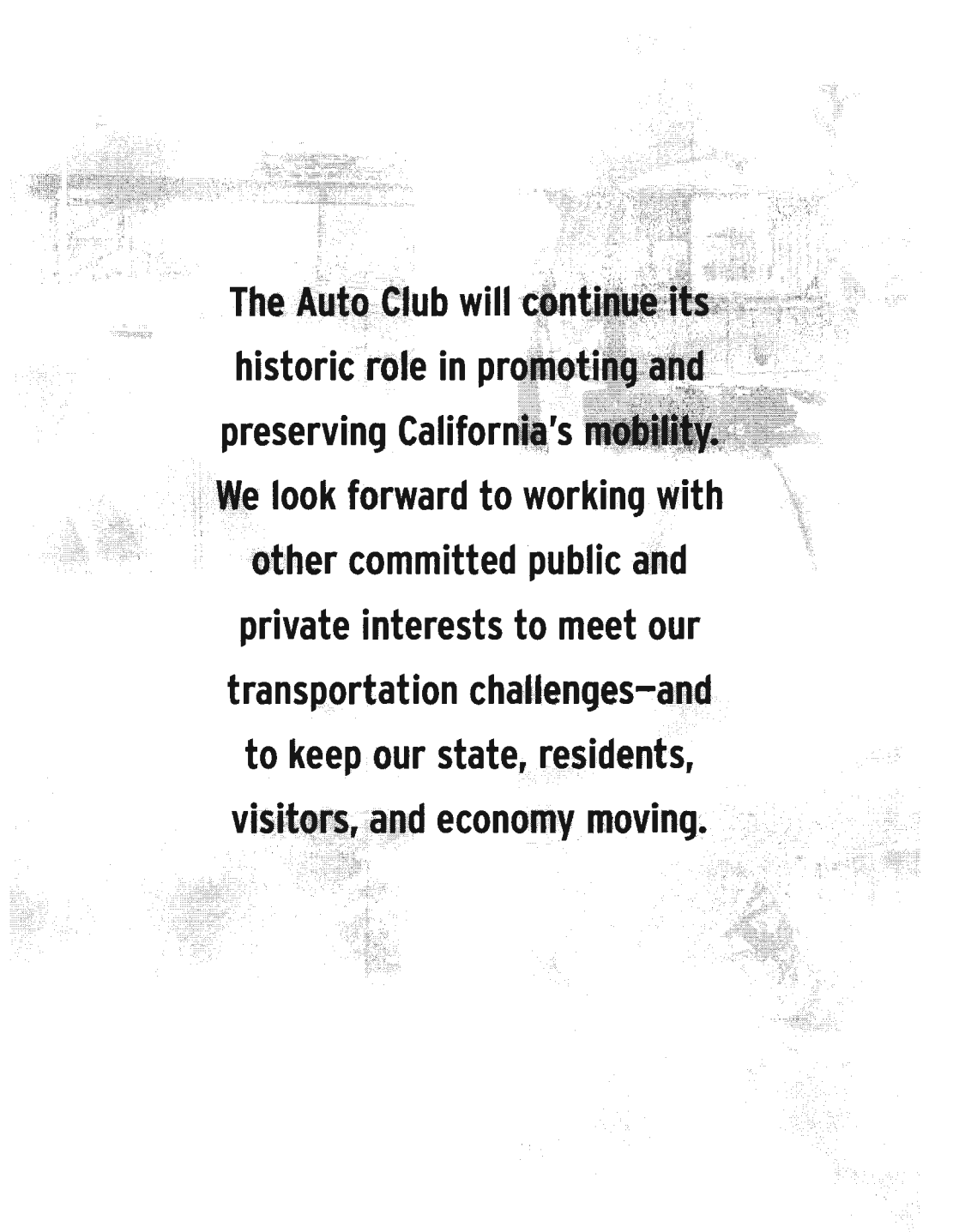
**Executive Committee**  
Transportation Research Board,  
National Academy of Sciences

# The PREFACE



**UPDATE  
2002**





**The Auto Club will continue its historic role in promoting and preserving California's mobility. We look forward to working with other committed public and private interests to meet our transportation challenges—and to keep our state, residents, visitors, and economy moving.**

PHOTOS COURTESY THE AUTO CLUB OF SOUTHERN CALIFORNIA ARCHIVES



TREY SOLBERG



# The Quiet Crisis— Transportation and Mobility in Southern California

**O**ver several decades California has built a world-class system of highways, streets, and public transit, creating the mobility that is critical to the economy and lifestyle

we enjoy, to the ready access to California's cultural and recreational riches, and to the efficient movement of goods and services throughout the state and beyond. This transportation system is essential to life in California as we know and enjoy it today.

However, California's mobility is declining in the face of reduced investments, growing population and commerce, and wear and tear on our streets and highways, and we believe it is headed for a crisis brought on by decades of population and economic growth without corresponding investments in transportation. At present the crisis is relatively quiet—we still get around fairly well most of the time. But California will grow—by as many as 10 million more people by 2020. If our transportation system fails to grow as well, California's economy and quality of life will be at risk.



In publishing *The Quiet Crisis*, the Auto Club offers a number of recommendations and ideas—some new, some that have been thought about for some time—on how we can address this coming crisis, in five key areas: roads, the automobile, alternatives to the automobile, the decision process, and resources. We offer these ideas and recommendations to help generate discussion, agreement, and action.

## Our Key Messages

**G***rowth is inevitable.* Whether we like it or not, California will grow, and this growth will place enormous burdens on transportation networks.

*The potential adverse effects of growth on mobility are not inevitable.* We can influence the results of growth in transportation demand by how we plan for it and act.

*The automobile is the backbone of mobility.* No other mode of travel provides more than a small fraction of the trips made in automobiles. This will not change appreciably over the coming decades. The automobile has brought unprecedented mobility and access to jobs, education, commerce, and recreation to hundreds of millions of

people. To retain these benefits, we need to evaluate the use of the automobile, while implementing technological improvements to increase its safety and mobility, and continuing to reduce its impact on the environment.

*Public transit is essential and must be strengthened and improved.* Alternatives to the automobile, primarily public transit, are essential to help reduce congestion and energy use, improve air quality, and provide choices for those who cannot or choose not to drive. But transit cannot continue to operate as it has, carrying a very small share of trips while spending an increasing share of transportation resources.

*The automobile and transit are both essential to mobility.* They can and should be complementary parts of the mobility system, and the capacity of both must be increased. Transportation interest groups must cooperate—not continue to squabble—over modes and resources.

*Technology can greatly improve mobility.* How we use automobiles and operate public transit, and whether we need to make trips at all, can be greatly changed by technology—but how and when remain uncertain.

*We must have leadership and achieve consensus on core values.* Mobility, not one mode of travel, is the critical issue. Environmental sustainability, public safety, independent mobility, and cost-effectiveness are some of the overarching values to be incorporated in our decisions. California transportation needs “champions”—leaders who will consistently and effectively seek and implement solutions.

*Transportation resources must be used wisely.* We must ensure that the money we already have is being used as efficiently and effectively as possible before we seek more. Key to doing so will be prioritizing all transportation investments based on the best mobility results for the funds spent.

## Transportation in California at the Beginning of the 21st Century

Consider that . . .

Between 1967 and 1997, California's road capacity increased by 29 percent—but our population increased by 70 percent, licensed drivers by 91 percent, and annual vehicle miles driven by 184 percent.

Highway spending in California has dropped from about \$60 per 1,000 vehicle miles driven in the 1960s to (factoring in inflation) about \$4 in 2002. Ten-year unfunded road-related construction and maintenance needs of up to \$70 billion over the next 10 years have been identified.

Not coincidentally, in 2001 California's road conditions were rated the worst of all 50 states, and California drivers spent an average of over \$500 per year per person on vehicle repairs related to bad road conditions.

Public transit alone needs an estimated \$30 billion more than it will have over the next decade for increased service and operation and maintenance.

Our cities rate among the highest in congestion. According to one study, in 2000, Southern California drivers spent 50 to 140 hours stuck in traffic, costing them an average of \$1,000–\$2,500 in wasted time and fuel.

Southern California faces a transportation crisis—one that has taken many years to develop and that will take years, consensus, hard work, change, and resources to address.

The good news is that we *can* maintain Southern California's vital mobility. We are making a number of suggestions as to how—and we welcome others.

## Five Key Recommendations—A Summary

### 1. Southern California must have additional road capacity.

We must:

- Build new roads and new lanes.
- Creatively increase the efficiency of the roads we already have by applying advanced technologies to manage them and by providing information to users to help improve their decisions on when and where to travel.
- Improve maintenance of our roads and reconstruct existing roads to improve safety and travel time and reduce vehicle damage. We have to find better ways to minimize the disruption that this work causes.
- Change and improve how and when automobiles and other vehicles use the roads. Spreading our work and other trips as well as truck deliveries over more hours would reduce peak congestion.
- Improve law enforcement and the management of incidents on our roads, both of which reduce congestion and improve safety.

### 2. We need to improve how we use the automobile.

The automobile—a shorthand term for all kinds of privately owned passenger vehicles—clearly dominates transportation in California, for the simple reason that the automobile meets the mobility needs of the vast majority of people better than the alternatives. That will continue into the future—and yet we need to improve the automobile and how we use it to continue enjoying its many benefits and to offset its adverse impacts and costs.

- We need to continue the significant progress we've made in reducing the automobile's energy use and meeting clean air goals. Improvements to the automobile have done more to clean our air than changes to any other source of air pollution. Today's vehicles emit less than 2 percent of the emissions of early 1960s models, and each class of vehicle is more fuel efficient as well. More can be done, however, to further reduce emissions by automobiles as well as heavy trucks, construction equipment, and other, more prolific sources of emissions.

- We must use technology to continue to make the automobile safer, smarter,



PHOTO COURTESY MTA



PHOTO COURTESY NORTH COUNTY TRANSIT DISTRICT

# Where Are We—And Where Can We Be?

**N**ow and during the next 20 years, Southern California faces a number of significant challenges with its transportation systems, many of which we share

with the rest of the state and nation. We must meet and overcome these challenges to ensure continued mobility for all Californians and—since much of the nation's trade, travel, and tourism passes through Southern California—for the well-being of the nation as well.

The following table contains a number of current issues pertaining to our transportation system—where we are now and where we might be in 20 years if we make the right decisions.

# CURRENT CONDITIONS

Issues pertaining to California's current transportation system—and

**CONSENSUS...** California lacks consensus on what needs to be done for mobility, resulting in avoidable policy conflicts, shifting priorities, inefficiency, and unfinished projects. California also lacks an effective way to measure the performance of transportation investments, and therefore lacks critical information needed to make crucial public policy decisions. As a result, transportation investment is usually increased in response to crises.

**CONGESTION...** California's congestion rate is 65% higher than the national average and has increased 10% per year since 1995. In Los Angeles, drivers are delayed an average of 136 hours and waste 1.2 billion gallons of fuel annually. Conditions in other Southern California metropolitan areas are not much better.

**AIR QUALITY...** has greatly improved over the conditions in the 1950s through 1980s. Much of the improvement is due to technological advancements in light-duty motor vehicles, which emit about 98% less pollution than in the early 1960s. However, Southern California's major population areas do not meet all clean air standards. A large number of older, higher-emission vehicles remain on the roads. Mobile sources—automobiles, trucks, buses and others—still contribute more than half of our air pollution and a share of the “greenhouse” gases, which some believe contribute to global climate changes.

**VEHICLES OPERATING ON ROADS...** The transportation network is based almost completely on vehicles operating on roads, including private passenger vehicles, buses, and trucks.

**ROAD CAPACITY...** California's road capacity increased by only 29% between 1967 and 1997, while population increased 70%, licensed drivers by 91%, registered vehicles by 130%, and vehicle miles traveled by 184%.

**MAINTENANCE...** Despite maintenance being identified as the highest priority for funding, there continues to be a shortfall in maintenance funding. Ultimately, repairs cost four times as much if “mediocre” roads are allowed to deteriorate to “poor.” Local agencies face an estimated \$400 million shortfall in funding for deferred maintenance and repairs every year.

**PRIVATE PASSENGER VEHICLES...** are used for the overwhelming majority of trips. There are enormous benefits to individuals and society in making these trips. Calls for significantly higher taxes and fees and other limitations on private passenger vehicle use would adversely affect mobility and quality of life.

**PUBLIC TRANSIT...** use is growing in absolute numbers but, in most cases, transit carries a lower percentage of trips despite billions of dollars in public investment. Transit is not convenient or accessible for many people.

**EMPLOYMENT PATTERNS...** are already changing away from traditional industrial and office employment in fixed locations toward a more mobile, flexible workforce that works in more locations and changes jobs more often, challenging existing highway and transit networks.



# WHERE WE CAN BE

how these will change and can be improved over the next two decades.

An improved and continuous statewide planning effort will regularly identify needed transportation projects and funding, making objective performance comparisons between various transportation projects and modes. Transportation investment will be based more upon reliable data, sound planning, and continuous improvement than on sporadic episodes of "crisis."

Congestion will continue to exist. It's not feasible to build, operate, and maintain transportation systems that will handle peak loads without congestion. However, we will manage congestion and provide more ways to avoid being affected by it. Travel time predictability will improve.

Light-duty motor vehicles will be relatively minor contributors to smog. Considerable progress will have been made to reduce their emissions of greenhouse gases. Highly efficient, near-zero polluting vehicles will have replaced most of the passenger vehicle fleet. Most will continue to use carbon-based fuels; a growing percentage will use alternative fuels and propulsion systems. Significant emissions reductions will have been made in heavy trucks, construction equipment, locomotives, buses, off-road and recreational vehicles, ships, and aircraft.



The backbone of our transportation network will continue to be automobiles operating on roads. However, all of the components of the network will have been re-examined; their integration, effectiveness, and efficiency improved; and new components added.

Road mileage will continue to lag behind increases in population, drivers, vehicles, and travel. There is no feasible way to increase road mileage proportionately. However, we will make key capacity increases—such as building new roads, improving bottlenecks, and closing freeway gaps. Roads will serve these growing numbers more efficiently through technology, management, and changes in demand.

Additional funding for maintenance and repairs will be provided, especially at the city and county level. New techniques and materials will result in longer-lasting road construction and repairs. High-technology inspections and sensors imbedded in pavement and bridges will identify maintenance needs earlier, and as a result maintenance will be conducted at more appropriate intervals and roads will last longer.

Private passenger vehicles will continue to be the preferred and necessary mode of travel for most people, but their effectiveness will improve greatly. The adverse impacts of driving will be reduced through voluntary actions resulting from information, incentives, and the availability of attractive alternatives, not from punitively high fees and mandated restrictions on driving.

Improvements in transit systems and service delivery will offer useful travel choices to more people, partly by offering flexibility that approaches that of the private passenger vehicle. High-demand, well-defined transportation corridors will continue to be served by fixed-route systems, but innovative options will provide better service to other areas.

Employment pattern changes will accelerate, with work being conducted at more hours of the day, at more locations, and frequently electronically, allowing for greater flexibility in trip planning. Fixed-route transit and ride-sharing will have been modified to better serve the more irregular and dispersed trips that result.

## CURRENT CONDITIONS

**GOODS MOVEMENT...** is expanding enormously because of growing California-based manufacturing and agriculture and a booming global trade market. California also transports much of the goods for the entire nation through its ports, airports, and border ports of entry. Capacity for goods movement is lacking and severely affects other road uses. Trucks may comprise 60% of the vehicles on some Southern California freeways by 2020. Heavy trucks do not pay fully for the damage they cause to highways and roads.

**FUNDING...** for highways, roads and public transportation is based primarily on fuel and sales taxes, which have not kept up with investment needs. Fuel taxes are diminishing in real value over time and county transportation sales taxes face a two-thirds vote requirement for renewal. Technology-based pricing mechanisms have only been tried in a few demonstration situations and face significant technical and political obstacles. Overall, there is a shortfall of several billion dollars per year in revenue for transportation.

**GROWTH AND "SPRAWL"...** are becoming serious concerns in some areas. Much of our suburban land uses do not lend themselves to alternatives to private automobiles. However, most people generally prefer less dense living environments.

**OLDER...** Our population is growing older. Only 4% of the population was older than 65 in 1900, but 12% are over 65 in 2000 and 19% will be over 65 in 2025. Older members of society have unique mobility needs, which today are often not met well either by automobiles or transit. The disabled share many of these needs.

**TECHNOLOGY...** is beginning to improve our road and transit management, provide improved information to commuters and travelers with which to make decisions on routes and times of travel, and make vehicles safer and more reliable.

## WHERE WE CAN BE

**Some infrastructure will be built specifically for trucks, including exclusive ramps and lanes on heavily impacted freeways. Truck tolls will provide an equitable share of the costs. Shippers and receivers will reschedule their operating hours to allow more truck movements to take place during off-peak demand periods. California will have truck fees that more accurately reflect heavy truck impacts on roads and bridges and produce adequate revenues to mitigate these impacts. New truck technologies and configurations will increase both efficiency and safety.**

**Funding for all modes will be expanded and stabilized. A variety of sources will be used that reflect user impacts and benefits. A combination of efficiencies and revised and new revenue sources will more equitably and adequately fund the transportation system. Overall revenues will increase and will better address needs. Increased federal funding will compensate California for its extraordinary costs in accommodating international travel and trade, which benefits the entire nation.**

**Many land uses will be much the same as today, due to the long useful lives of housing, commercial, industrial, and utility infrastructure. However, a wider variety of urban and suburban development forms will provide additional options for differing lifestyles and travel needs.**

**Transportation systems will offer greatly increased mobility to older and disabled people through more flexible and individualized transit and paratransit services and through technological improvements in vehicles that enable these people to operate them safely. The disabled and elderly will also take increased advantage of the Internet and other electronic communications to meet their needs.**

**Technology will improve mobility in ways that we can only begin to imagine, much the same as we could not imagine in 1990 how the Internet would change our lives today. Technology will improve some trips and provide suitable alternatives to travel in others. It will also provide new ways to equitably and efficiently charge fees for using the transportation system, augmenting or replacing today's taxes and fees. Infrastructure will be planned, built, and retrofitted to accommodate the needs of advanced technology.**





PHOTO COURTESY CALTRANS

# Southern California Needs More Road Capacity

**W**e use our network of roads and highways for most of our travel—for business, pleasure, and to transport goods and services. And for most of these trips, there is no feasible substitute. The number of automobile, transit, and truck trips is growing rapidly, as is air travel and shipment of goods by air and sea.

Our most important roads are becoming more and more congested. Up to a point, drivers, transit riders, and shippers can accept some congestion as a result of increasing commerce, personal travel, and population growth. However, increasing congestion and its byproduct, increasingly unpredictable travel times, create both frustration and social and economic costs. For example, Southern California drivers spend 50 to 140 hours a year stuck in traffic congestion, costing drivers \$1,000 to \$2,500 in wasted time and fuel.

An annual nationwide survey found that in 2001, California ranked 50th in road condition and per-capita state spending on roads. Highway spending in California

has dropped from about \$60 per 1,000 vehicle miles driven in the 1960s to about \$4 today, factoring in inflation. From 1967 to 1997, California's road capacity increased 29 percent—but population increased 70 percent, licensed drivers by 91 percent, and annual vehicle miles driven by 184 percent.

We can reduce congestion and improve our ability to predict travel times in three basic ways:

- **We can build new roads and more lanes on existing roads.**
- **We can manage the capacity we have by using vehicles and roads more efficiently.**
- **We can create an environment that will reduce or limit the increase in demand.**

None of these approaches will do the job by itself. For example, one study estimated that if we relied solely on construction, Los Angeles and Orange Counties would have to add 39 lane-miles of freeway and 79 lane-miles of major streets every year in addition to what we're building now to keep congestion from growing, which is clearly infeasible. We will need to implement a combination of these approaches.

## Road Construction

In 1986, the Auto Club authored *Freeway Development to the Year 2000*. We noted that Southern California's population was expected to increase from 16 to 19 million by 2000, and daily trips would increase from 50 to 65 million. The report recommended 406 additional route-miles of freeway development, as well as improved public transit and better operation and maintenance of existing freeways and local streets.

The 1986 estimates were remarkably accurate but somewhat understated. In 2000, Southern California's population was 19.9 million and daily trips totaled 69 million. Despite that growth, only 77 miles of the proposed freeways have been built and 58 miles programmed for at least partial construction. Public opposition, environmental issues, political decisions, and funding shortages make it unlikely that they will be resurrected. However, we must provide the mobility in existing urban areas that

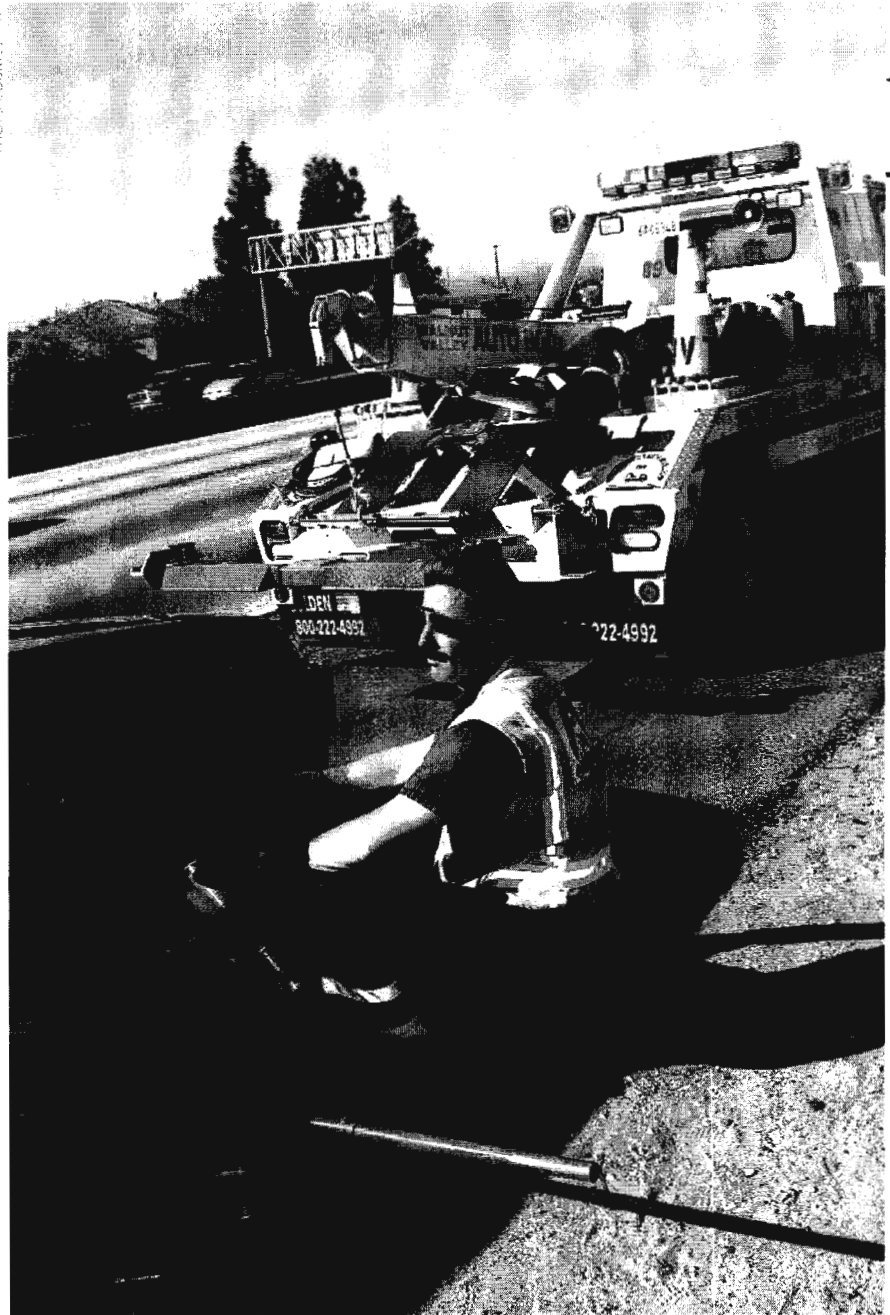
these foregone freeways represent.

Rapidly developing "edge" cities and suburban areas present their own issues. In many cases, both the number of roads and their capacity are inadequate. We will need to increase both to provide adequate mobility in those areas. Southern California's Inland Empire is a case in point. It is estimated to absorb 1.8 million of California's expected 10 million population growth by 2020, and will in many places need entirely new roads as well as substantial upgrades to its existing road system.

**RECOMMENDATION: Create additional freeway and road capacity.**

In older urban areas, some construction of new roads may be possible, but more likely we will increase capacity by

PHOTO: COURTESY MTA



**Freeway Service Patrol tow trucks provide assistance to motorists who've broken down on the freeway, thereby clearing traffic lanes and reducing congestion.**

widening and making other improvements to existing routes. In newer urban areas and in suburban and rural areas, we must build new roads and make major improvements where needed and appropriate. Significant improvements will also be needed at and around seaports and airports to accommodate growth in world trade and travel.

We can achieve significant improvements to existing routes without building entirely new freeways and major highways in developed urban areas. We can improve major arterial streets with advanced traffic signals, through-traffic lanes, access ramps or lanes, bus-priority movement, grade separations, and other modifications.

We can also make considerable improvements to the carrying capacity and safety of highways and roads by relatively minor construction, including widening roads, improving intersection layouts, unclogging bottlenecks, creating reversible lanes in freeways and streets that have highly directional morning and evening traffic, and eliminating railroad grade crossings. Such improvements, which permit more efficient use of the existing infrastructure, usually cost less than building new capacity.

**RECOMMENDATION: Pursue innovative and nontraditional ways to increase capacity.**

Nonconventional capacity improvements include auto-only, bus-only, and truck-only roads, lanes, and ramps; freeway-to-freeway and freeway-to-arterial HOV/transit connectors; "super streets"; additional freeway levels below-grade; and urban vehicle tunnels. All are likely to be expensive, but not providing additional capacity will be more so.

**RECOMMENDATION: Make safety-related improvements in existing roadways.**

Road conditions are a factor in 30 percent of highway fatalities. More than 11,000 people a year are killed in collisions with fixed objects such as trees, guardrails, and poles, and more than 400 are killed at railroad crossings. Road improvements, which will increase capacity and effectiveness and reduce crashes, injuries, and deaths, should include roadway lane and shoulder widening, removal of obstacles, adding or improving medians, redesigning barriers and guardrails, improving sight-lines, separating railroad and street crossings, adding lanes and medians, traffic-management centers, advanced signal synchronization, new roads and gap closures, and geometric, signal, and signage improvements. Heavy-duty vehicle sizes and weights must be compatible with the carrying capacity, durability, and safe operation of the road system.

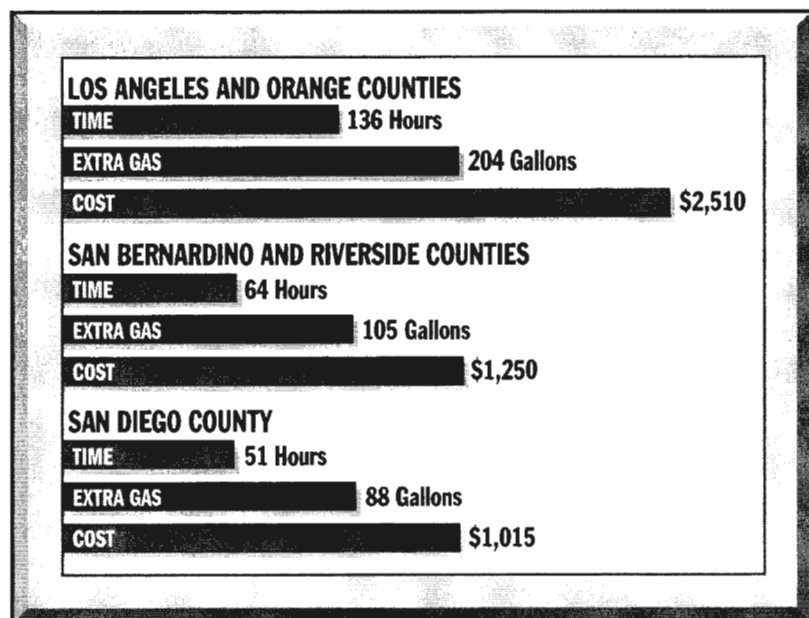
Congestion on Southern California's freeways consists of both recurrent congestion (predictable, regular slowdowns at specific locations) and nonrecurrent congestion, which occurs in different places because of such things as crashes, vehicle breakdowns, load spills, road-work, special events, and police activity. Operational and safety improvements will relieve both kinds of congestion.

**RECOMMENDATION: Greatly increase investment in road maintenance and reconstruction and in the research, development, and use of advanced construction and maintenance techniques.**

Much of our freeway network was built during the 1950s, '60s, and '70s, and many of our other highways and local streets are even older. Rehabilitation, safety, and reconstruction needs between 2000 and 2010 are estimated at \$2 billion annually. Although California designates highway system maintenance as the highest priority for transportation funding, significant improvements still need to be made, including the use of advanced technologies in pavement composition and design, bridge construction, and other areas to extend the effective life of roads.

Maintenance protects existing investments, defers expensive reconstruction

**Average Annual Costs of Congestion Per Driver**



(sometimes for decades), and facilitates smoother, more efficient driving. Effective maintenance will require developing and implementing advanced construction techniques; maintaining pavement, bridges, and other structures; and more frequent maintenance intervals to avoid higher future repair and reconstruction costs.

**RECOMMENDATION: More effectively alleviate the disruption caused by construction and maintenance.**

As maintenance is accelerated and obsolete facilities are rebuilt, traffic congestion and disruption to businesses and the community will become an increasingly critical issue. To mitigate the impacts of construction and maintenance, government agencies and contractors will need to use innovative construction management techniques and advanced materials and will also need to effectively coordinate with cities, businesses, community groups and transit providers.

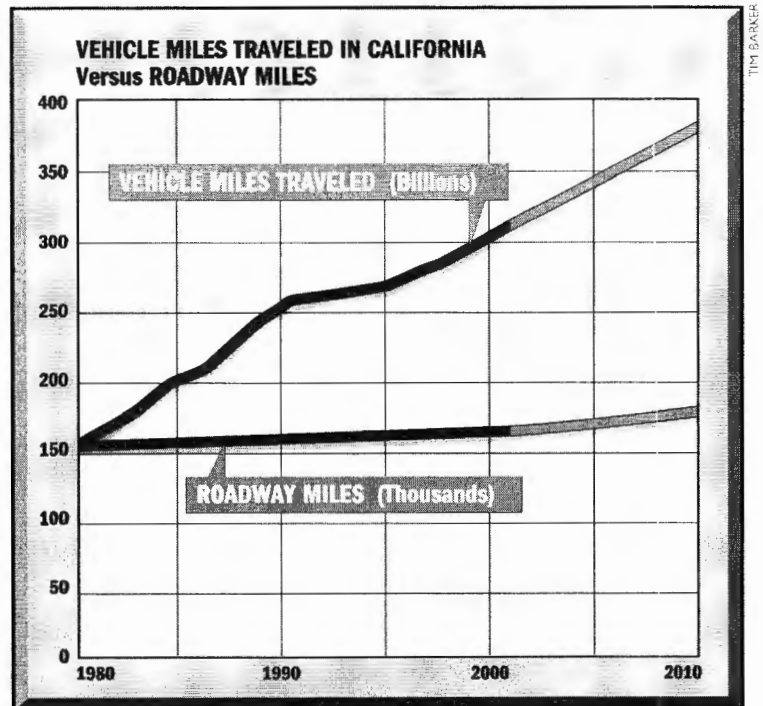
**RECOMMENDATION: Distribute community, environmental, and business disruption equitably.**

Historically, some communities have been disproportionately disrupted by the construction of freeways and other transportation facilities. Since all segments of society benefit from transportation improvements, all should be willing to accept some of the adverse impacts. Cooperation between cities and counties, plus additional regional and state involvement, may be necessary to reach consensus on location and mitigation issues.

## Road Management

Current and emerging technologies can help existing transportation systems operate more efficiently. They include advanced roadway-system operations; dissemination of interactive and real-time traveler information; in-vehicle and in-road safety devices; improved commercial-vehicle operations; improved vehicle crash-avoidance and operational diagnostics systems; and emergency assistance.

The appropriate use of advanced technology, sometimes referred to as intelligent



transportation systems (ITS), combined with selected capital improvements, will increase the carrying capacity of our roads, reducing both recurrent and nonrecurrent congestion at less cost than extensive physical improvements.

**RECOMMENDATION: Implement, expand, and upgrade traffic-management centers, freeway and roadway traffic-condition detection and information sharing, and advanced-management systems.**

Current freeway management typically gathers information through in-road detector loops, cameras, and other techniques and shares it with various systems and operators. Using this information to improve roadway operations, however, is not as well developed.

For example, older ramp meters are programmed using historical, not real-time, congestion information, are not actively managed, and do not provide adequate queuing space for smooth freeway operation. Some advanced freeway- and arterial-management systems have been funded and implemented, but much more can be achieved by upgrading and coordinating technologies.

**RECOMMENDATION: Require that new road construction and reconstruction embed the necessary hardware for advanced technologies.**

Fiber-optic and electric cable, sensors, active and passive guidance mechanisms, communications, low-power radio, and other equipment must be included in future construction. This will avoid the much higher costs of retrofitting them later. This is especially important for "specialty" facilities such as truck-only, transit-only lanes, and automated vehicle operation lanes.

**RECOMMENDATION: Expand and improve law enforcement and incident management resources and technology.**

Traffic law enforcement agencies help to significantly reduce congestion by abating behavior that causes it and by clearing incidents rapidly. In demonstration projects, the California Highway Patrol has shown significant improvements in congestion and incident clearance and in mitigation of truck impacts through increased and targeted enforcement and incident clearance. Freeway Service Patrols (roving tow trucks that move disabled vehicles out of traffic) have also shown that they can clear incidents rapidly and restore traffic flow. Both should be expanded to alleviate nonrecurrent (incident-related) congestion.

**RECOMMENDATION: Assess the vulnerability of transportation-system users and key elements of the infrastructure to terrorism, develop effective countermeasures, and implement them.**

The tragedy of September 11, 2001 demonstrated that the American people, our institutions, and our infrastructure are vulnerable to violent disruption. Transportation systems concentrate people in places that can become targets—stations, tunnels, bridges, interchanges, airports and the like—and their disruption or destruction can cause severe social and economic costs. Although we are just beginning to understand the long-term requirements of homeland security, we nevertheless need to address transportation-related security issues, including:

- Identify appropriate levels of security for transportation facilities and appropriate amounts and sources of funding.
- Identify key transportation assets, assess their vulnerability, and update disaster planning.
- Improve 911 and communications among emergency-

**Traffic management centers help reduce congestion by monitoring traffic flows, adjusting traffic signal timing, alerting motorists to problems via highway message signs, and dispatching emergency personnel to crashes.**



PHOTO COURTESY CALTRANS

response and traffic-management agencies.

- Fully explore privacy concerns related to improved personal identification and data gathering based on drivers licenses.

- Provide surveillance and protection of key facilities that utilize Intelligent Transportation Systems technologies.

- Continually track and monitor hazardous material shipments by road, rail, and air and more thoroughly investigate and monitor the licensing of commercial drivers.

## Reducing Demand

We can increase effective road capacity by reducing demand. This can be achieved in several ways, including how we use the automobile, described below, and by providing attractive alternatives to automobiles, discussed in the following section.

**RECOMMENDATION: Increase the number of occupants per vehicle.**

Filling empty seats—ridesharing—is a potentially effective approach to reduce the number of vehicles on the road and increase available road space, but it is one that has not caught on well. Ridesharing in carpools and vanpools has been encouraged for several decades through education and outreach, facilitating carpool formation, employer mandates, tax incentives, and by construction of special carpool or high occupancy vehicle (HOV) lanes. At best, however, average vehicle occupancy has hovered around 1.1 persons per vehicle. Despite these modest results, ride sharing remains an inexpensive and effective means to decrease road demand, and it should continue to be encouraged with new and creative incentives.

**RECOMMENDATION: Make the automobile safer, smarter, and more reliable.**

Future vehicles will be equipped with a variety of computer-controlled mechanisms to facilitate communications and vehicle operation. These will enable two-way communications so that drivers or

passengers can obtain emergency assistance, travel advice, congestion and alternate routing information, locations of repair facilities, and a wide variety of food, entertainment, and lodging options. They will also enable the vehicle to be operated in automated and semiautomated mode on certain roadways. And they will provide real-time transit options, routes, schedules, and comparisons between driving and transit time to destinations. However, operating in-vehicle devices and information sources can create driver distraction, a significant problem discussed later.

**RECOMMENDATION: Reschedule some commute trips and goods movement out of peak periods.**

In some metropolitan areas, traditional peak travel periods have expanded dramatically into late morning and early afternoon hours and even into weekends. A traditional remedy for congestion—taking more trips at other times—is less of a solution than it once was. A number of changes would have to be made in traditional employment, education, retail, and other schedules, but the potential benefits are worth pursuing because a small percentage shift of travel out of peak periods would reduce congestion considerably.

The benefits of rescheduling trips may be more substantial in goods movement. The increased cost of shipping because of congestion in peak periods may help encourage flexibility in working hours agreements and warehousing and delivery times.

**RECOMMENDATION: Ensure that automobiles effectively, efficiently, and safely share the roads with other users, including pedestrians and bicyclists.**

We must be certain that the automobile continues to be a good urban citizen and enhances the quality of life in residential areas. Traffic is becoming increasingly intrusive in many residential areas. Proven, technically sound traffic engineering measures should be employed to assure safety and maintain our quality of life.

**RECOMMENDATION: Inform drivers about the costs of driving.**

Increasing the public's awareness of the consequences of buying and operating cars—such as the impacts of vehicle design, size, weight, fuel economy, safety, use, and emissions—may help people make appropriate and suitable decisions about the way they travel.

**"Many existing residents facing greater congestion want to 'limit future growth.' But these sentiments are delusions. Existing residents in any region cannot stop either domestic or foreign immigration into it by adopting anti-growth policies. A region's growth rate is determined by such basic traits as its climate, its location in the nation, its topography, its natural resources, its demography, and past investments made in it by governments and businesses. These traits cannot be changed by local or even statewide policies. Our challenge is to accommodate growth, not prevent it."**

*—Anthony Downs  
Senior Fellow,  
the Brookings Institutions*



# The AUTOMOBILE



SECTION  
4

## The Automobile's Contributions to Mobility

**T**he next two sections discuss partners in mobility that can and should be complementary—the private passenger vehicle and its alternatives. One of the most important transportation goals should be to build a complementary system that maximizes the contributions of the automobile and public transit. In urban areas, the private passenger vehicle can become more like transit (with higher vehicle occupancy, vehicle sharing, and advanced technology) and transit can become more like the private passenger vehicle (with greater flexibility in available times and routes and more tailored to individual travel needs).

There are, of course, a wide variety of private passenger vehicles, including automobiles, motorcycles, light trucks, vans, minivans, sport utility vehicles, and variations yet to come. For ease of reference, we'll use the term *automobile* for all of them.

The automobile is the dominant method of travel for hundreds of millions of people throughout the world. It will remain so. In most of Southern California, as in most areas of

the U.S., 91 to 95 percent of commute trips and about 98 percent of all trips are taken by automobile. Automobiles allow us to travel when, where, with whom, and for whatever purpose we want. There is no better alternative for most people's varied travel needs. Most people will not change their travel mode unless a better alternative is available. They should not be forced or coerced to do so through punitive taxes or other disincentives.

The fees and taxes associated with the automobile are also assets to society because they contribute to the economy, help pay for most transportation infrastructure and operations, and provide general fund resources. In 2000, about \$2.7 billion was provided from new and used motor vehicle sales taxes and about \$1 billion from state sales taxes on motor vehicle fuels. Motor vehicle fuel excise taxes totaling \$3 billion paid for road construction and maintenance, and \$1 billion from motor vehicle registration fees supported operations of the California Highway Patrol and the Department of Motor Vehicles.

Indisputably, automobile use also generates direct and indirect costs—for example, time spent in congestion; deaths, injuries, and associated costs due to crashes; consumption of fuels and materials; and environmental and land-use impacts. To mitigate these costs, we need to continue to make the automobile more efficient, safer, and environmentally friendly.

**RECOMMENDATION: Encourage and require technical advances to reduce energy use and meet sound and scientifically supportable clean-air goals.**

- Set fuel and efficiency standards that are ambitious enough to require the commitment of auto manufacturers to continued, marked improvements in fuel efficiency and reduced emissions but realistic enough to ensure passenger safety and consumer choice.
- Encourage significant research and development funding for alternative-fuel vehicles and alternative fuel-distribution systems.
- Maintain and enhance clean fuel standards nationwide for both gasoline and diesel fuel.
- Establish and enforce rigorous standards for proper vehicle maintenance to reduce emissions.
- Aggressively pursue emissions



PHOTO COURTESY VOLVO CARS OF NORTH AMERICA, INC.

**The latest safety devices for cars of the near future include see-through pillars for better visibility and improved safety belts.**

reductions in heavy commercial and industrial vehicles, port and airport equipment, construction equipment, off-road and recreational vehicles, and ships and watercraft, including requiring low-sulfur diesel fuel and alternative fuels.

The automobile has already met a key challenge—emissions from new automobiles have decreased by more than 98 percent since the early 1960s and 60 percent since 1990 alone. The percentage of air pollution attributed to automobiles and light trucks has dropped from 50 percent to 25 percent, despite substantial increases in the number of vehicles and miles driven. Driving the cleanest new gasoline-powered passenger automobiles for 100,000 miles is the emissions equivalent of spilling about five ounces of gasoline or operating a two-cycle snowmobile for seven hours. If we continue to develop and apply innovative automotive technology, emissions from passenger vehicles will become a relatively minor source of air pollution in the future.

In addition to reducing emissions and improving fuel consumption of gasoline- and diesel-powered vehicles, we should accelerate research, development, and deployment of vehicles that use alternative fuels, such as natural gas, hydrogen, and ethanol, as well as electric vehicles and “hybrids,” which have internal-combustion engines and electric motors. These vehicles offer reduced emissions and reduced dependence on petroleum-based fuels, much of which are imported and therefore subject to supply disruption and/or price instability.

More and more frequently, vehicles classified as light trucks are being used as passenger rather than working vehicles. Their emissions and fuel-consumption characteristics should be improved. Heavy trucks, construction and cargo-handling equipment, off-road recreation vehicles, and other nonautomotive mobile sources contribute much more to air pollution than automobiles both on an overall and individual basis. For example, the *Los Angeles Times* reported in 2002 that emissions just from vessels in the ports of Los Angeles



and Long Beach equalled those of one million automobiles.

California's rigorous standards for emissions-control equipment and fuels have contributed significantly to cleaner air and should not be lowered. Fuels should meet defined performance standards rather than having government mandate specific formulas or additives.

**RECOMMENDATION: Implement Intelligent Transportation Systems (ITS) technologies.**

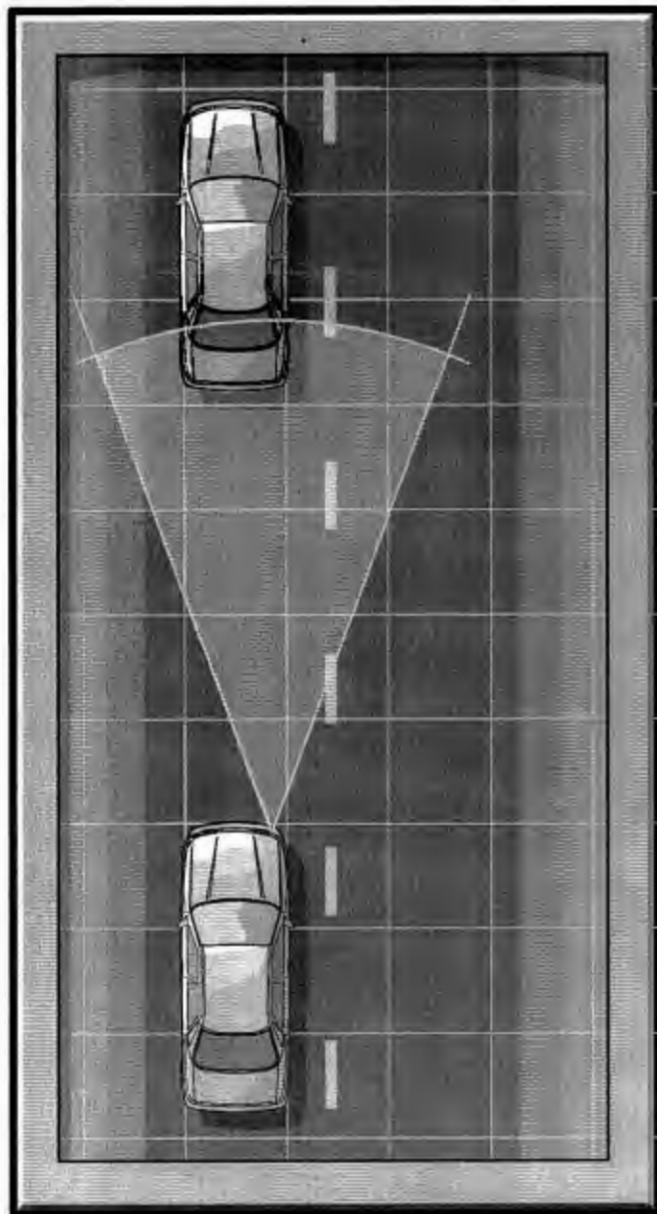
- Encourage, develop, and implement projects that demonstrate the usefulness of advanced vehicle control, guidance, and information technologies.
- Develop and implement uniform systems standards to accelerate ITS development and implementation.
- Inform the public, decision makers, and the media about the safety and congestion-relief advantages of in-vehicle technologies.
- Provide financial and other incentives that reflect the value of in-vehicle safety-related technologies.
- Identify workforce needs for future technologies and implement high school, college, and vocation programs to train and continuously retrain workers.

Intelligent transportation systems include advanced technologies that can make major contributions to congestion relief and safety by helping to prevent crashes and breakdowns, two major sources of traffic congestion, death, and injury. These include:

- Providing real-time traffic information and route alternatives (including transit alternatives) that offer useful choices in trip routes, times and modes.
- Interactive in-vehicle assistance including road service, route advice, and guidance to services.
- Diagnostic systems that detect impending problems (such as low tire pressure, overheating, low fluids, parts failures) and identify the needed correction.
- Devices that warn about potential hazards outside the vehicle, such as slowing traffic or obstacles ahead, or driver errors, such as deviating from a lane.
- Control assistance that supplements a driver's ability to operate the vehicle, such as "smart" cruise controls that vary speeds according to traffic ahead or traction control that shifts power to wheels with the best traction.
- Advanced safety devices, such as second-generation air bags, that activate how and when they are needed.
- Overrides that detect dangerous situations and intervene in the driver's control of the vehicle, such as automatic braking or keeping the vehicle in the lane.

## Adaptive Cruise Control

Adaptive cruise control, now an option on a few luxury cars, is a first step toward avoiding crashes. In general, here's how it works: 1. The driver chooses a distance to maintain from a vehicle in front and sets a desired cruising speed. 2. A laser radar sensor in the front bumper sends rays forward to "see" if there's a vehicle ahead. 3. A distance-control computer calculates the distance and speed of the vehicle ahead. 4. If the vehicle ahead is moving more slowly, a computer closes down the throttle to decelerate and, if necessary, applies the car's brakes in order to achieve the proper following distance. 5. Below a certain speed, the system shuts down, and the driver is alerted that he or she must apply the brakes to stop the car.



The automobile has already met a key challenge: Emissions from new automobiles have decreased by more than 98 percent since the early 1960s and 60 percent since 1990 alone.

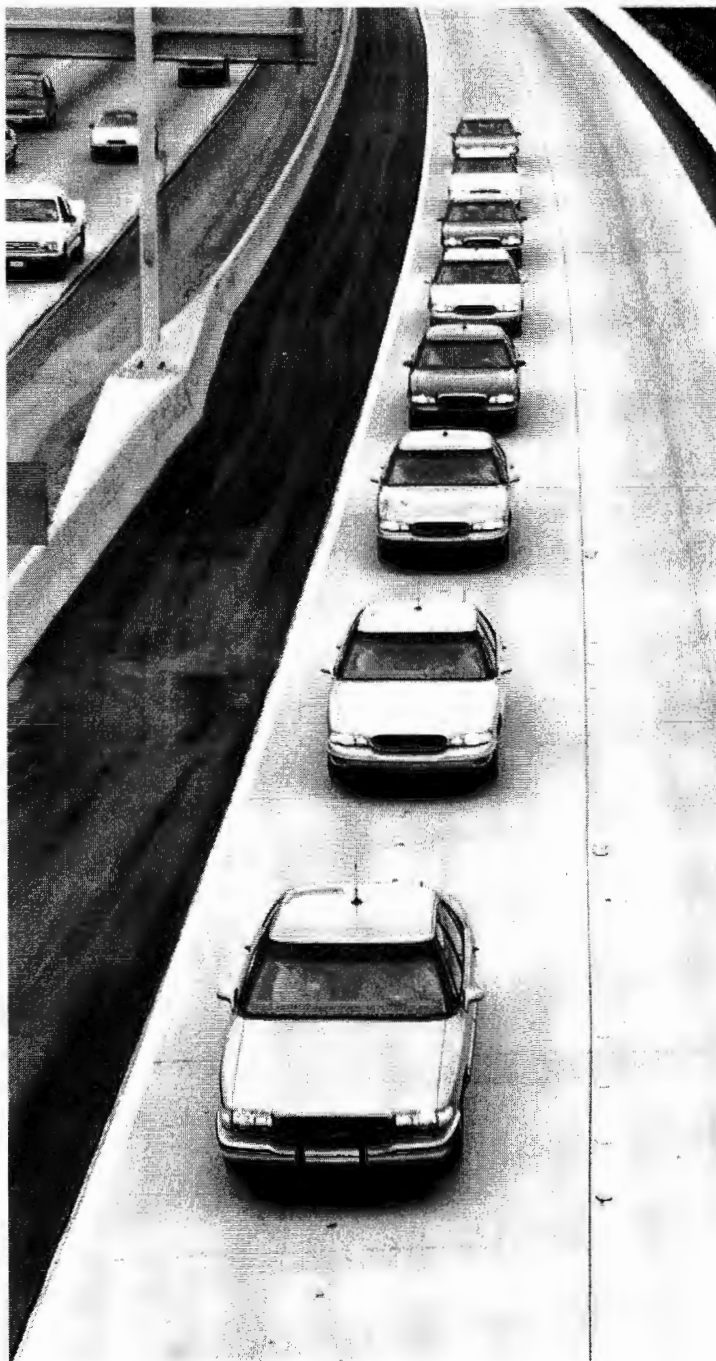


PHOTO COURTESY CALIFORNIA PATH

Automated highway demonstration, San Diego County, 1997

- Fully automated vehicle operation in controlled-access lanes. In addition to helping avoid crashes, fully automated operation permits more efficient road use, since vehicles can safely travel (or “platoon”) much closer together.

Whether these technologies and systems are incorporated will depend on market forces, public policy, and motorists’ willingness to accept and pay for them. Deployment can be accelerated through incentives or future pricing options that allow discounts for more efficient use of the roads (such as fully automated operation), and public education.

Increased automation can also help people with marginal driving abilities—some disabled and older people, for example—to enjoy the benefits of driving longer and more safely.

**RECOMMENDATION: Pursue research and public education to ensure that drivers are not distracted by in-vehicle technologies and include procedures for proper device operation in driver-training curricula.**

In-vehicle technologies offer many safety and convenience benefits, but if they require conscious interaction from the driver, they can also pose serious hazards. The growing debate over in-vehicle use of cellular telephones provides an example. Expanded use of in-vehicle information systems, navigational assistance, concierge-type services, warning systems, vehicle-diagnostic systems, and other interactive technologies will increase public concerns. These systems should be made as easy and nondistracting to operate as possible, and drivers must learn how to operate them properly. New technologies must not detract from the most important role of a driver—operating the vehicle safely.

**RECOMMENDATION: Reassess the automobile’s role in the current and future development of urban, suburban, and rural areas to assure a wide variety of development patterns reflecting local and regional needs and individual living and travel preferences.**

Concerns are being expressed about “sprawl”—low-density suburbs distant from employment centers that lack public transit, depend on automobiles for almost all travel, consume land, and require new infrastructure. Urban densification as an alternative generates concerns that living and travel options will be reduced, private vehicle use and parking will be restricted, people will be forced to use public transit, housing will be too expensive, and public-development subsidies will be required.

“Sprawl” is a difficult term to define and is subject to misinterpretation and misperception. For example, Southern California is often described as one of the least densely populated, most sprawling urban



TOP TWO PHOTOS COURTESY MICHELIN CHALLENGE BIBENDUM; BOTTOM PHOTO, COURTESY TOYOTA MOTOR CORP.

areas in the nation, and with residents that drive a high number of miles annually, mostly on the freeways. In fact, metropolitan Los Angeles is denser on a person-per-acre basis (8.31) than the greater New York City area (7.99), and Los Angeles's freeway mileage and miles driven per capita are below average for U.S. metropolitan areas. Many older, Eastern metropolitan areas with relatively unchanging populations and more developed public transit networks are expanding into open land far faster than growing cities in the West.

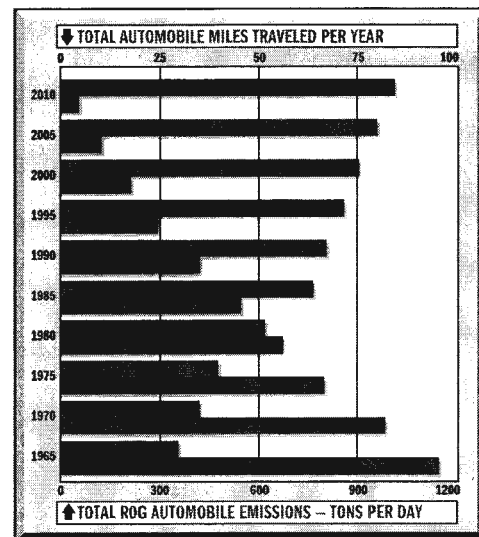
Because of the expected increase of 10 million people in California by 2020, continued suburban and rural growth seems certain. As a result, there have been calls for changes in urban and suburban growth, as well as calls for changes in how land and transportation systems are used, many generated by the real and perceived impacts of the automobile. Some potential solutions include affordable housing in areas closer to employment, more pedestrian-friendly communities and urban centers, and increased access to employment, service, retail, education, and recreation opportunities both for those who use automobiles and those who don't.

Many of these proposals include growth controls, urban growth boundaries, increased densities, restrictions on road expansion, driving and parking, and increased dependence on transit, which may decrease mobility, access to jobs, and education options.

Many who are involved in the discussions about sprawl are concerned with how various land use and growth proposals may affect mobility and access. Proposed changes to development and living patterns—sometimes referred to as “new urbanism” or “smart growth”—should provide options that people want, avoid mandates, and demonstrate proposed benefits, including reduced congestion and

**Fuel-efficient automobiles of the future could include cars that are propelled by hydrogen fuel cells, such as Nissan's Xterra FCV, GM-Opel's Zafira (top left and right, respectively), or Toyota's gas-electric Prius hybrid (above), which is available now.**

### Reactive Organic Gases



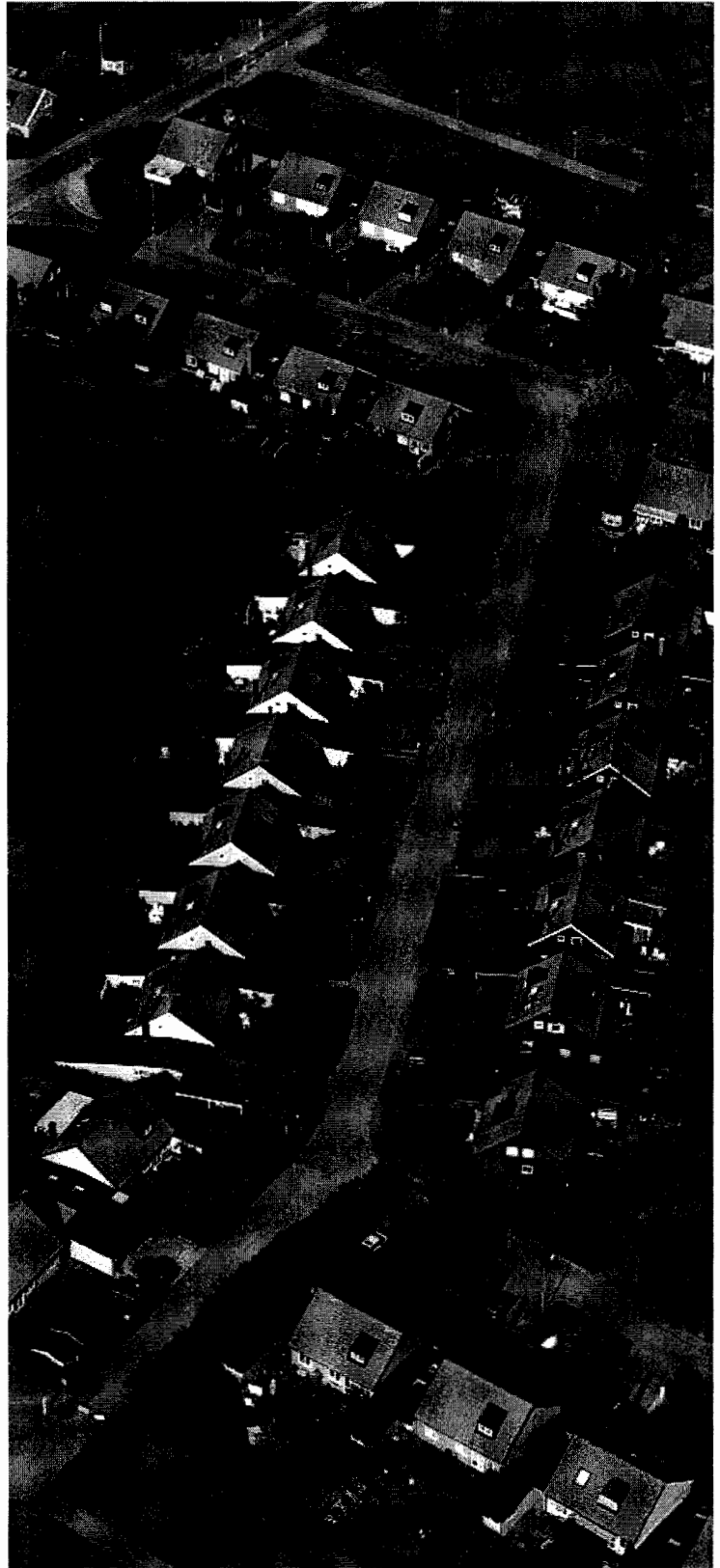
During the next decade, total reactive organic gases (ROG) emitted from automobiles in Southern California will continue to decline, as they have since 1965, even though the number of cars and the total miles traveled per year will increase.

increased mobility options. Transportation should not to be used as a means to limit choices, nor should automobile use be altered in response to problems it did not cause and cannot remedy such as growth and increased demand for goods, services, and recreation.

Many of the land-use decisions that will affect the next 20 years or more have already been made. Changes will likely be gradual and incremental and can—especially if guided by appropriate public policy—result in an increasing variety of newly developed and redeveloped urban and suburban forms. We see that variety as a useful expansion of available living and working choices. As part of these efforts, planners and policy makers should better integrate the automobile and transit with urban, suburban, and rural land uses, growth and increased demand for goods, services, and recreation.

Planning officials at all levels should view transportation policy as only one of many factors that influence sensible growth decisions. A comprehensive approach to community planning and development, including integrated transportation strategies, is key to achieving sensible growth. Some of the elements of this approach include:

- Respect for individual lifestyle and employment decisions.
- Sound and scientifically based traffic engineering principles.
- Accommodation of expected population levels and distribution.
- Fair distribution of benefits and impacts of growth, revenues, and infrastructure.
- Balancing community and regional fiscal resources and responsibilities and transportation needs.
- Adequate provision and maintenance of all infrastructure, including public safety, power, education, water, sewage, and transport.
- Balancing local and regional concerns and needs.
- Land-use planning that accommodates both short- and long-range needs.
- Reasonable environmental protections.





The  
**ALTERNATIVES**



SECTION  
**5**

PHOTO COURTESY MTA

# Alternatives to the Automobile

**A**uto Club members, like most Californians, rely on the automobile to meet most of their mobility needs.

They also use a variety of transportation modes, and they

support maintaining other forms of transportation besides the automobile—for example, public transit, bicycling, and walking. The Auto Club is firmly committed to multimodal transportation and believes it is an essential component of our economy and society. Automobiles and alternatives, such as public transit, should be integrated as much as possible and should be mutually supportive.

## Public Transit

**A**lthough the actual number of people using public transit is growing in some areas, with few exceptions, it has attracted an increasingly smaller percentage of travelers for several decades, losing most of its market share to driving. Today, transit carries 5 to 9 percent of commute trips and a very small share of all trips, despite substantially increased investment. Transit does not offer the flexibility of

the automobile, and for the near future, transit may continue to be a “niche” mobility provider—necessary for some, attractive to some, but simply unable to attract more than a relatively small portion of the population on a regular basis.

The Transportation Research Board of the National Academy of Sciences, in a 2001 report on improving transit, noted that:

*Even dramatic changes in transportation investments, land-use controls, and public attitudes—including the acceptance of much denser settlement patterns and Western European-style disincentives to driving—would take many decades to reshape the American urban landscape in ways that would fundamentally favor transit use.... Still, there is ample opportunity for transit to play a more prominent role in the urban transportation system of the United States.*

For various reasons, many people can't drive or choose not to. They might be too young to hold a license or too old to continue to drive safely. They might have an injury or a chronic condition that limits driving. They might never have learned to drive, or their car

might be in the repair shop. Also, many people cannot afford to own and maintain a car, and some prefer to leave their cars at home when they head to work. Public transit gives people options. Without it, some people would either have to reduce their travel or depend on others with cars to provide them with transport.

In addition to providing alternative means of travel, public transit can improve mobility by making more efficient use of the existing transportation network. In 1999, for example, Southern Californians boarded buses and trains for a total of 687 million transit trips.

Transit can be both efficient and an attractive alternative to driving. In too many cases, however, transit patrons are expected to adapt to the needs of the system instead of the other way around. Given the almost infinite flexibility of driving, it is not surprising that most people who can drive, do drive.

Some observers point to the success of public transit in other parts of the world as a model for transit in the United States. However, political and social conditions that foster higher transit use in some other nations—such as greater population and development densities, stronger central government authority to impose regulations and land-use controls, stronger metropolitan area planning authority, disincentives to driving in the form of higher fuel and vehicle-use taxes, and historically high levels of transit use and lower rates of vehicle ownership—generally do not exist in the U.S. and are not likely to be accepted in most areas. More importantly, although many of those conditions exist in much of Europe, overall transit mode share there is decreasing, and automobile ownership and use is increasing faster than in the U.S.

Increasing the overall use of public transit is essential to maintain and improve mobility. Some want to penalize drivers through increased fees and taxes, higher fuel prices, parking limitations, operating limitations, and other means to inhibit automobile ownership and use, hoping to force some people to use transit instead. Such efforts will generate overwhelming resistance and not achieve the desired increase in transit use.

Instead, to increase the use of transit, we should increase its utility and appeal to a broader base of potential users. If it is to play a significant role in improving mobility and continue to receive tax subsidies, transit needs to do a better job of meeting the public's needs and expectations regarding safety, reliability, and convenience. Some of our suggestions follow.

**RECOMMENDATION: Approve and fund transit projects providing the greatest mobility benefits.**

Public transit receives the major share of current transportation investment in California's urban areas but is not returning proportionate results. In the six-county Southern California Association of Governments area, for example, 64 percent of transportation revenues are spent on the capital and operating costs of public transportation, which represents only 2 percent of all trips.

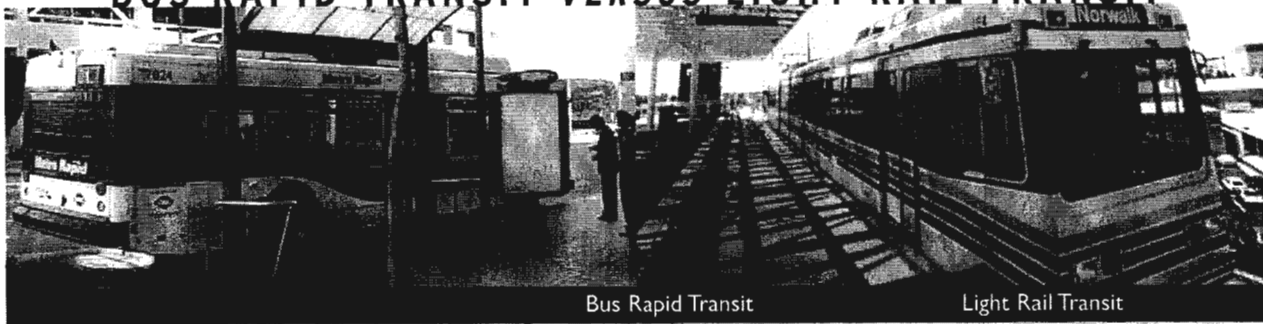
Decisions to invest in transportation modes should be made by objectively analyzing and evaluating road, bus, and rail projects. The issue should be not only how many highway lanes or what type of rail should be built. Rather, we should decide how best to spend limited resources to obtain the greatest possible mobility, using

**Transit services also provide ways to get around for people with disabilities and others who can't drive.**



PHOTO COURTESY OCTA

# BUS RAPID TRANSIT VERSUS LIGHT RAIL TRANSIT



PHOTOS COURTESY MTA

	Bus Rapid Transit	Light Rail Transit
Capital cost <i>per mile</i>	\$0.07-13.5 million	\$34.8 million
Operating cost <i>per vehicle revenue hour</i>	\$97/hour	\$212/hour
Operating cost <i>per vehicle revenue mile</i>	\$3.96/mile	\$11.74/mile
Operating cost <i>per unlinked passenger trip</i>	\$2.75/trip	\$2.63/trip
Average speed	32.2 mph	16.8 mph

THE URBAN TRANSPORTATION MONITOR, 10/12/01

unbiased cost-benefit and performance analyses to make decisions about investment choices. The selection of road, heavy rail, light rail, commuter rail, busway, bus types and sizes, smart shuttles, and other investments would then better match their proposed operating environments. Developing such a methodology and achieving consensus on its use must be a high priority for researchers, planners, and interest groups.

Decision-makers and the public also need to know the real costs of transit, just as they need information on the real costs of driving. In almost all cases, transit requires large and ongoing subsidies, generally ranging from 40 percent to 80 percent or more of operating and maintenance costs (over and above capital costs). Adding new transit services frequently creates unfunded liabilities for ongoing operating subsidies. For example, the state Legislative Analyst estimated in 2001 that the new transit services identified in the 2000 Traffic Congestion Relief Program created an *annual* need for about \$250 million in subsidies, funding for which has not been identified nor provided from any source.

Decisions to subsidize transit must be guided by a credible decision-making process. Planners must closely scrutinize the subsidy requirements of most forms of public transit and benchmark and monitor all transit systems for performance. Future funding increases should be contingent on maintaining and improving transit efficiencies and reducing subsidy requirements.

**RECOMMENDATION: Select the right form of transit to serve the intended markets to preserve future flexibility.**

- Most high-capacity, fixed-route transit should use buses rather than rail.
- Transit should be more flexible to appeal to more people.

High-capacity, fixed-route transit—a light rail system, for example—is appropriate in many circumstances, such as areas with high residential and business density, low-income urban areas, and between outlying residential areas and concentrated areas of employment. However, heavy, light, and commuter rail are extremely expensive and inflexible alternatives that should be pursued only after rigorous analysis that objectively compares its costs and benefits

to other modes and options.

Bus-based transit, including exclusive (and potentially automated) guideways and preferential street operation, should be the transit mode of choice in all but the highest-service-level corridors. Buses are more flexible than rail, can be used in various applications, and can complete trips after leaving dedicated rights of way. Success of “Rapid Bus” pilot projects in Los Angeles and of dedicated bus guideways in other cities suggest that bus transit can provide capacity comparable to light rail with a fraction of the investment. If bus service cannot meet the demand in a specific area, upgrading to rail may be an option.

The demand for transit that runs on a fixed route at specific times is relatively small and has been declining as a percentage of all trips. If transit service can become more flexible, it may be able to increase its share of trips, improve mobility, and reduce the impact on our roads and resources. One approach can be extensive networks of “smart shuttles” that use advanced communication and economies of scope and scale to allow tailored service to specific destinations with little advance notice. Other examples of flexibility include bus services that operate on a fixed route but allow some flexibility in route departure and timing; private operations such as jitneys and paratransit; coordination by transit agencies of a variety of services, sometimes referred to as “regional mobility management”; and extensive use of the high occupancy vehicle (HOV) lane network for a variety of transit vehicles. Providing adequate park-and-ride facilities and real-time transit



PHOTOS COURTESY SAN DIEGO TROLLEY (LEFT) AND METROLINK (RIGHT)

schedules and destination information would also contribute to flexibility.

**The San Diego Trolley and Metrolink are contemporary examples of light rail and commuter rail, respectively.**

**RECOMMENDATION: Improve customer service to make transit a more appealing option**

Flexibility, reliability, frequency of service, in-vehicle time, seat availability, convenience of access and fare payment, cleanliness, safety, and the overall “feel” of a system are all important factors in establishing transit as an attractive alternative to driving. Riders will be inclined to respond to systems that offer these qualities and will not be attracted to systems that don’t.

To maximize the potential benefits, transit services will need to be more flexible, more efficient, better coordinated across city and county lines, and better integrated with other modes of travel, including the automobile. Ways to achieve these goals include:

- Increasing private-sector involvement to reduce costs, improve services, and stretch limited transit resources.
- Using smaller transit vehicles with state-of-the-art communications to provide on-call services to more areas.
- Implementing universal passes or fare cards that can be used on all transit services across large geographic areas.
- Taking advantage of advanced technologies that can improve the performance of buses and shuttles and provide real-time arrival and departure information to riders.
- Testing the use of shared vehicles or short-term rental of electric cars and bicycles at selected transit stations so

that travelers can get to final destinations that are too far to walk to from transit stops.

- Exploring personal rapid-transit systems with vehicles that can link up and function like trains in the middle of a trip, then separate and function like cars at either end of a trip.

**RECOMMENDATION: Treat transit as an essential public service and fund it from general revenues.**

The single most important contribution to transit’s success may be to treat transit as an essential public service similar to education, public health, and social services, and to assure funding for a defined level of transit service from state and local revenues. *This proposal is more than a paradigm shift in funding mechanisms—we would also be defining mobility as an essential activity in modern society, as important as health, education, and law enforcement.* None of these other necessities are possible without mobility. This approach may largely obviate the concern over transit subsidy requirements, but operators must continue to be required to focus on efficiency.

**RECOMMENDATION: Explore low-fare or fare-free transit service.**

Reducing or even eliminating fares may improve transit use and contribute to transit efficiency in several ways—saving the cost of personnel employed to handle the cash collected, speeding bus boarding, reducing user confusion over fares and payment, eliminating ticket machines, and reducing enforcement costs.

Currently, transit fares represent almost \$900 million in annual income to transit agencies in California, but fares typically provide less than 30 percent of the cost of operating the services, let alone capital costs. Transit agencies are generally reluctant to raise fares for fear of deterring riders. They have also been reluctant to follow the example of airlines and other businesses in offering off-peak discounts to fill empty seats. It is unlikely that any current transit operation can aspire to cover most or all of its operating expenses through any reasonable fare increases.



The concept of fare-free transit needs to be explored and developed. Fares are already low on some systems, and fare levels are only one variable in people's decisions to use transit. The fare and subsidy structures also impose a degree of responsibility on systems to keep costs down and provide appropriate and cost-effective services. Using other funding to replace fare box revenues should be limited to baseline amounts and carefully audited service expansions to avoid inefficient demonstration projects, high subsidies on low-demand routes, and changes to the dynamics of management-labor relations.

Fare and pass structures can also affect transit use and efficiency. Lowering the cost of base fares, transfers, and/or zone charges in some systems may increase ridership. Transit passes can be provided in bulk to employers and schools at deeply discounted rates and only charged when used.

Several demonstration programs should be conducted to determine if low-cost or fare-free operation will result in long-term ridership expansion and congestion reduction. If the demonstrations establish that low-fare or fare-free operation increases transit ridership and transit's appeal to a broader range of users, permanent funding for an appropriate level of low-fare or fare-free operation could be established, subject to local agency maintenance of effort and efficiency requirements and other appropriate fiduciary and operating controls.

**RECOMMENDATION: Explore subsidized automobile ownership under limited circumstances.**

Underwriting the costs of automobile ownership and/or operation for some transit-dependent people may be a cost-effective alternative to providing some heavily subsidized forms of transit, especially if the vehicles are pooled or used for ridesharing. Rural areas and multiple job sites are two possible situations where subsidized vehicle ownership may be more cost-effective than transit. If significant numbers of vehicles were provided in this manner it might also be appropriate to provide zero-emission or super-ultra-low-emission vehicles. This would help address the state's goal to increase the percentage of these vehicles and would also help create a market and the essential infrastructure for them.

**RECOMMENDATION: Apply advanced technologies to transit services.**

Technology can enhance transit in a number of important ways. Regionally recognized, fraud-resistant transit passes would speed bus loading and improve fare collection. Various types and sizes of vehicles from different operators could make use of common operational coordination for increased efficiency. Enhanced routing could make near "door to door" service possible without the need for appointments made hours or a day in advance, as at present. Transit fleet maintenance can be enhanced through on-board diagnostic systems, and operations can be improved via vehicle location technology and on-board controls and sensors similar to those available in automobiles. For more efficient and reliable operation, full-size buses, shuttle buses, and vanpools could be fully automated when traveling in separated rights of way and operated in "trains" during peak periods.

Other operational improvements can also dramatically improve transit service. Increasing the distances between stops, conducting fare transactions off the vehicle, timing arrivals at transfer points, coordinating transit fare between jurisdictions and advanced fare media, traffic signal priority, and less expensive off-peak service are examples.

## Other Mobility Options

**RECOMMENDATION: Provide shared-use and specialized vehicles as an alternative to vehicle ownership.**

In some situations, many of the benefits of automobiles can be obtained without owning one. Examples of shared-vehicle use include "station cars" rented for a short time from a central location such as a transit station; shared-ownership vehicles, in which an established group owns vehicles used by reservation; and local-use vehicles such as ultracompact electric cars and electric bicycles. These options may lessen the need for additional automobile ownership and operation in urban areas. These options may also be useful in improving mobility for people who depend on transit.

**A viable transportation system includes nonmotorized options for pedestrians and bicyclists.**



**RECOMMENDATION: Expand cost-effective alternative-mobility programs for special-needs groups.**

- Provide tax benefits and other incentives for the provision of rides by non-traditional providers, and examine means to mitigate liability issues.
- Establish information exchanges that increase awareness and coordination of private or informal ride opportunities.

Millions of people do not drive, or drive under restricted circumstances. Driving by many seniors is restricted. Young people cannot drive before a certain age. Certain disabilities and chronic conditions limit driving by some people. Public transit opportunities are not always convenient nor perceived as safe or easy to use. Transit in suburban and rural areas is frequently limited or virtually nonexistent.

Mobility options must be increased for special-needs groups. Many different approaches are needed. In some cases, enhancing these groups' abilities to drive can be accomplished using applied technologies, as discussed earlier. Making public transit a more attractive option will help. Specialized public services (for example, paratransit) can provide some mobility, although these services tend to be very expensive. Many of these people are able to get around with help from informal providers, such as businesses, special groups including churches and community groups, and family, friends, and neighbors. These sources of mobility need to be encouraged.

**RECOMMENDATION: Expand and enhance alternatives to taking trips.**

- Encourage changes to employment patterns, retailing, communications, and tax structures to promote alternatives to trip making.
- Conduct further research and analysis of electronic commerce and if warranted, facilitate it as an alternative to physical travel.

Just as technology provides ways to manage our roadways and our vehicles, it will also improve our access to work, information, contacts, shopping, entertainment, and education, with the need for fewer physical trips. Telecommuting, remote offices, and flexible work schedules are

limited examples of this trend.

Retailing is one area that may be heavily modified by technology. "E-commerce" is providing alternative purchasing and delivery channels that are being used by ever-increasing numbers of people. Purchases are made without the need for physical trips, and goods are delivered rapidly. Reduced numbers of buyer trips, however, may be offset by increases in delivery truck traffic. Electronic commerce may also reduce sales taxes, including those dedicated to transportation, in some areas because the actual transaction occurs elsewhere.



# Making Better Decisions About Transportation

**C**alifornia has a well-developed State Transportation Improvement Program (STIP) for allocating state and federal funds for capital, design, engineering, and

administrative uses in statewide, interregional, regional, and local transportation projects and programs. A major revision of the STIP in 1998 shifted control of 75 percent of the capital funding and most of the project decision-making to regional agencies—a boost to regional and local decision-making and a recognition of the diversity of transportation needs and interests among regions. California also establishes highway operations and maintenance as its highest priority for funding through its State Highway Operations Protection Program (SHOPP).

However, there are a number of areas in the transportation planning, decision-making, and implementation processes where improvements are needed. The suggested revisions are aimed at what are essential goals—improving the allocation of scarce transportation resources and assuring the public that the taxes and fees



PHOTO COURTESY SANDAG

**“Too often our planning has looked like plotting against the American people instead of planning for them. It all comes down to respect for the judgment of the American people. They are not recalcitrant children to be led to someone’s idea of a more enlightened mode of living—certainly not someone in Washington. The American people have no obligation to live in ways that make it convenient for government to serve!”**

*—Alan E. Pisarski,  
Independent Transportation  
Consultant*

they provide are used in the best possible ways.

**RECOMMENDATION: Revise the state transportation planning and implementation process to regularly assess deficiencies, measure the performance of all modes, and reduce costs.**

- The STIP process for state and regional selection of transportation capital investments should be maintained.

- Streamline project development and implementation processes, including full use of outside contracting by Caltrans and concurrent rather than sequential environmental review by involved agencies.

- Coordinate compliance with the California Environmental Quality Act and the National Environmental Protection Act.

California does not adopt a state transportation plan at regular intervals. The draft California Transportation Plan developed in 2001-02 was the first since 1993. California also does not have an overall capital facilities plan that balances transportation and other

infrastructure needs.

The “needs inventory” performed under Senate Resolution 8 in 1999, the first conducted in more than a decade, identified about \$110 billion in needed—but unfunded—projects between 2000 and 2010. However, this evaluation was not done through an established and well-understood process and may not have accurately or uniformly identified needs. The state also does not perform regular long-term revenue projections, although regional agencies are required to do so. Both processes should be strengthened and performed at least every five years.

The state also does not have performance measurements or effective and reliable models in place to determine how proposed transportation investments will achieve their adopted goals and desired outcomes. Public agencies are not able, therefore, to effectively assess the performance of different proposed investments or to apply the results of performance measurements to funding and public policy decisions.

Performance measurement should include a statement of project objectives, establishing benchmarks, and monitoring and analyzing the project’s progress.

Many possible performance measurements can be used to better allocate limited funds. A key element must be unbiased cost-effectiveness measurements that compare competing projects along different corridors and competing modal investments in the same corridor. Possible measurement categories include:

**Condition:** age, useful life, design standards, structural adequacy, road surface quality, serviceability, appearance.

**Performance:** safety, security, mobility, accessibility, reliability, efficiency, environmental impacts.

California has for decades largely avoided executive and legislative determination of specific transportation projects. Instead, the STIP incorporates a defined process of project evaluations and funding decisions by regional agencies and the California Transportation Commission. The STIP and regional transportation agencies should continue to govern the allocation process for federal and state transportation funding.

**RECOMMENDATION: Expedite project delivery.**

We must enact comprehensive cost-reduction measures to streamline the planning, environmental review, engineering, construction, and mitigation processes, while maintaining important environmental and fiduciary safeguards. These processes must retain the important elements of public participation and legal review to assure widespread involvement and resolution of issues, but they must not be used as tools to perpetually delay or increase the costs of needed projects and programs. Delay alone can add 3 percent or more annually to the cost of projects, depending upon the rate of inflation. Public agencies must also have the option to contract for services to reduce costs and foster competition.

**We must enact comprehensive cost-reduction measures to streamline the planning, environmental review, engineering, construction, and mitigation processes while maintaining important environmental and fiduciary safeguards.**

**Express lanes, such as those on the I-15 in San Diego County (left), and elevated lanes for buses and carpools, such as the Harbor Freeway Transitway near Los Angeles (below), are two ways to augment road capacity.**

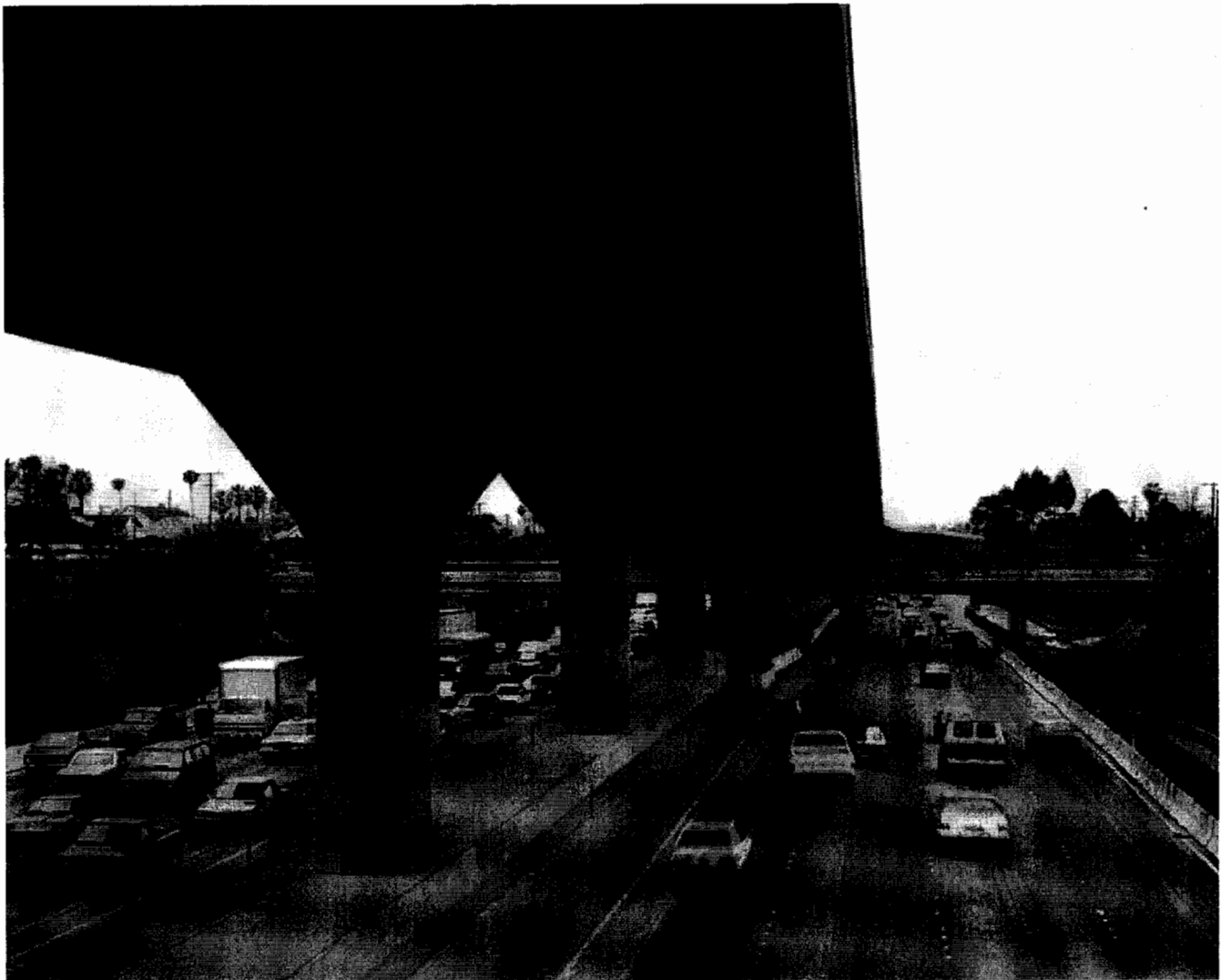


PHOTO COURTESY CALTRANS

Environmental review is often the least predictable and lengthiest stage of project development because it often is undertaken by several agencies, sometimes concurrently but often sequentially. Typically, environmental review includes a number of steps. Extensive technical studies must be undertaken and reviewed. Public hearings must be conducted at various stages of review, public comment periods are often extended, and lengthy, exacting draft and final reports prepared. Legal challenges are common. Many projects must comply with both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA), whose requirements are often very similar. While these very important environmental and public involvement safeguards must be preserved, environmental review can and should be streamlined. Two such measures that should be undertaken are concurrent rather than sequential reviews, and CEQA compliance satisfying NEPA requirements and vice versa, where appropriate.

**RECOMMENDATION: Develop, fund, and implement ongoing public information and involvement programs, and conduct research regarding public expectations and preferences.**

All transportation interests in California need to better inform and engage policy makers, legislators, and the public on the importance of transportation and its funding, the impact of decisions on peoples' lives and on society and commerce, and what people can do to be involved and influence decisions.

Transportation agencies need to better understand the expectations and travel preferences of their customers—the public. Transportation interests and decision makers also need to find ways to engage all segments of California's increasingly diverse society and economy.



PHOTO COURTESY METROLINK

# Establishing and Maintaining Adequate, Reliable Funding for Transportation

**I**n fiscal year 2000-01, California had about \$17.5 billion from federal, state, and local sources to spend on transportation, including a \$2 billion, one-time infusion

from the Transportation Congestion Relief Program. The major sources of this funding are discussed in the following pages. This is a lot of money, but it hasn't met current needs, nor will it assure that transportation will be able to do what will be asked of it in the coming decades.

In 2000, California was falling behind in providing for its already-identified transportation needs by the equivalent of \$10 billion annually. The adoption of Proposition 42 in 2002, allocating more than \$1 billion in gasoline sales taxes to transportation each year, is a considerable contribution to closing that gap—but it does not fill it.

Our insufficient transportation funding does not mean that we must increase fees and taxes. Most importantly, transportation agencies must ensure, and assure the public, that existing taxes are spent as efficiently and effectively as possible, making use of many of the recommendations



TODD MASINTER

Some Southern California freeways, such as the I-710 near Long Beach (above), are so damaged they must be completely rebuilt.

noted earlier in this report. Only then is it appropriate to ask for additional revenue.

**Goals for transportation revenue must include:**

- Public agencies responsible for building, maintaining, and operating our transportation networks will become more efficient and act as responsible stewards of scarce revenue.
- The public will be assured that transportation resources are spent effectively and efficiently.
- Mobility will be recognized as a necessary and basic social and economic necessity, and funding for it will be provided accordingly.
- The funding system will emphasize the complementary nature of road, transit, and nonmotorized transportation modes. Funding will be provided to each mode in a way that best addresses California's mobility needs.
- Tax and fee revenues will be fairly, effectively, and efficiently allocated to meet the growing demand for transportation infrastructure.

**Criteria to evaluate current and potential funding sources include:**

- **Effectiveness**—Funding sources should generate adequate, reliable, and predictable revenues that meet identified needs.

- **Efficiency**—Funding sources should have low administrative and overhead costs relative to the revenue collected. They should be resistant to fraud and evasion.

- **Equity**—System users and communities affected by the transportation network should have their interests taken into account. Disproportionate impacts on particular groups of people or businesses should be minimized.

*Any review of funding needs and sources must first include an assurance that existing revenues will receive wise stewardship. Next, we must evaluate and possibly revise current funding requirements. Finally,*

*we should determine whether to increase revenues and/or identify new funding sources. Together, these procedures would provide more transportation resources and provide them more efficiently and effectively. Our recommendations include, first, measures we believe should be implemented as soon as possible, and second, long-term recommendations that warrant further exploration.*

## Recommended for Implementation

**RECOMMENDATION: Maintain the motor-vehicle fuel excise tax as a cornerstone of transportation funding.**

- Preserve the constitutional dedication of California motor vehicle fuel excise taxes predominantly for road construction and maintenance.
- Continue to dedicate federal fuel taxes exclusively for transportation purposes, and increase the allocation to California.

Motor vehicle fuel excise taxes, frequently referred to as the “gas tax” (although diesel fuel, aviation gas, and other fuels are also taxed), have been the mainstay of highway construction and maintenance funding since the 1920s. Fuel taxes are easy to collect, easy to impose on both in-state and out-of-state vehicles, and have low administrative costs and low evasion rates. Federal and state fuel taxes together provided \$6 billion in 2001.

However, fuel taxes also have limitations. The amount of fuel tax paid by a given vehicle is only roughly proportional to that vehicle's impacts on the road system, since mileage (and therefore fuel consumption and fuel taxes paid) does not necessarily vary directly with the size and weight of the vehicle. This is especially true with heavy trucks. Also, fuel taxes are not adjusted to reflect the needs of the transportation system. Instead, periodic perceptions of crises have initiated adjustments in fuel tax rates (most recently by nine cents per gallon between 1990–94 in the case of the California state fuel tax), which have not kept up with either inflation or needs. Total fuel taxes collected in 2000 have only 48 percent of the purchasing



power of those collected in 1965. Without adjustment, their value will continue to diminish over the next two decades because of inflation, increased gas mileage in automobiles, and the increasing use of electric propulsion and alternative fuels, which are not now subject to fuel taxes.

**State** fuel tax revenues, currently 18 cents per gallon for both gasoline and diesel, are protected by Article XIX of the California Constitution, which restricts their use to public street and highway construction and maintenance, and for mass transit guideway construction and maintenance (a "guideway" is a dedicated pathway for a transit train or bus). This protection has served California well for decades, guaranteeing that funds raised from highway users are spent predominately on highway needs, and should be maintained.

**Federal** fuel taxes, currently 18.4 cents per gallon for gasoline and 24.4 cents per gallon for diesel, are distributed to states through complex formulas and also allocated for projects identified by Congress. A wide variety of conditions and requirements are placed on their use, but there is also some flexibility in state decisions over which transportation modes receive funding. Currently, California receives only a minimum guarantee of 90.5 cents from every dollar collected in California of federal fuel taxes distributed by formula. Although funding allocated by Congress to specific projects partly redresses this imbalance, California provides extraordinary transportation services to the entire nation because of the state's tourism, travel, and international trade. Additional federal funds should be made available to compensate California for these costs.

**RECOMMENDATION: Reduce the current two-thirds vote requirement to enact or re-enact local transportation sales taxes. Local jurisdictions should be able to determine when to place the issue on the ballot and, prior to the election, should be required to adopt a plan specifying the projects and programs to be funded, include a sunset date on the tax, and to have annual external oversight of the plan and expenditures.**

Local sales taxes approved by voters specifically for transportation purposes have become a mainstay of funding in California, raising almost \$2.6 billion annually. Several are permanent, but the taxes in 13 counties, representing about \$1 billion per year, will expire between 2005 and 2011 unless renewed. Under current law, a 2/3 vote is required to enact or renew these taxes.

Local sales taxes have provided a critical source of funding. They are effective and efficient, can be tailored to local needs, enjoy popular support and generate reliable revenues. However, they can also be a volatile source of

**The Alameda Corridor, which connects the ports of Los Angeles and Long Beach with downtown L.A., is a high-speed, high-capacity route for trains and trucks that both improves safety and mitigates congestion.**

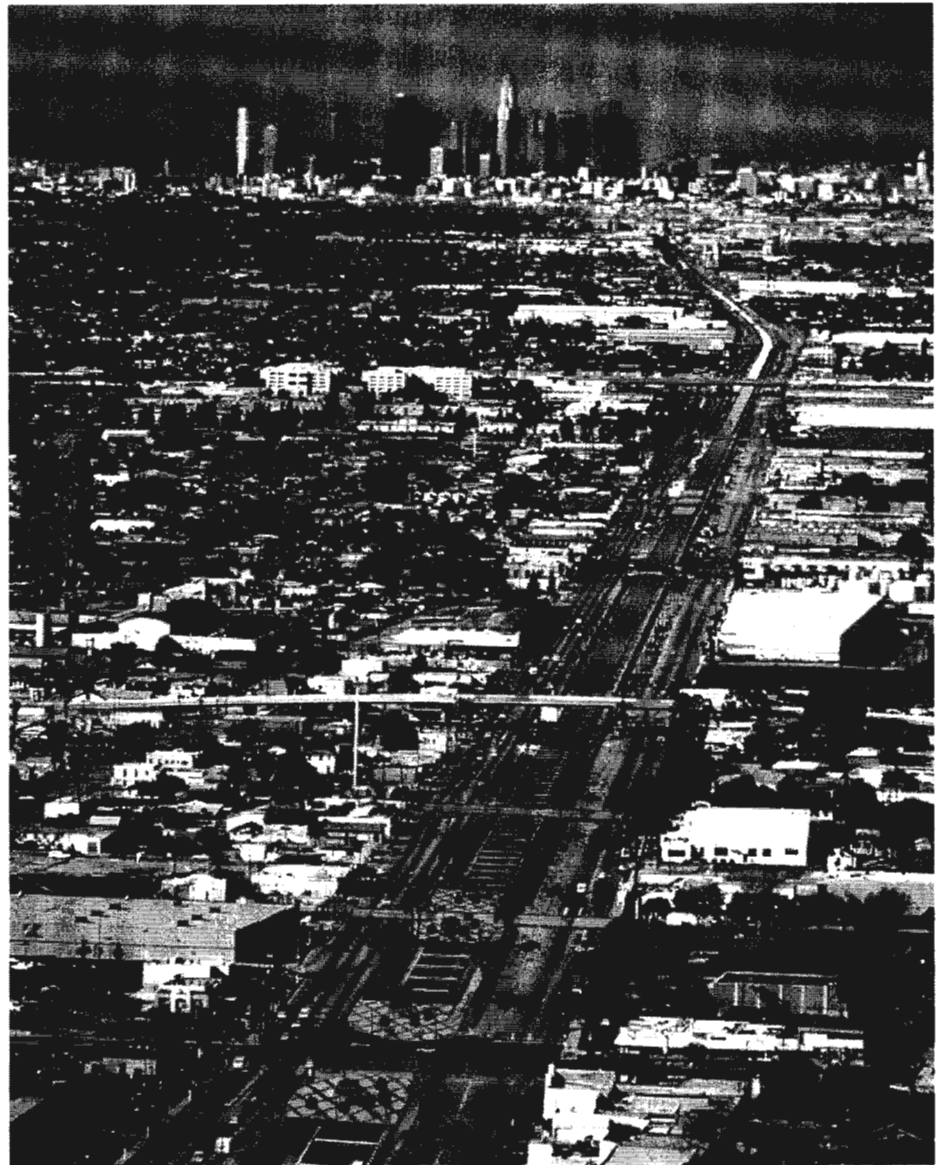


PHOTO COURTESY ALAMEDA CORRIDOR TRANSPORTATION AUTHORITY

funding, because they require both public approval and periodic reenactment, especially given the current “supermajority” vote requirement, and they bring the risk of an abrupt loss of revenue if not reenacted. A 2/3 vote is difficult to obtain for any proposed tax or fee, including transportation. Although transportation sales tax reenactment measures were adopted in 2000 by more than 2/3 of the vote in Alameda and Santa Clara Counties, there is no assurance that other measures will be.

**RECOMMENDATION: Increase the use of bonds under appropriate circumstances.**

Bonds are an appropriate part of transportation funding sources. They have the benefit of “front-loading” project financing so needed projects can be completed more quickly. They can also be a valuable fund leveraging and management tool, accelerating receipt of future taxes or grants, and they permit future users to participate in paying for projects that will continue to be in use decades into the future. However, projects funded by bonds cost more than pay-as-you-go funding, and some bonds must compete for voter approval with bonds for other

purposes. Bonds are effective but not especially efficient because of the long-term redemption charges. They are somewhat equitable in the sense that everyone pays for them.

Bonds are most appropriate as responses to specific urgent needs, such as the highway seismic retrofit program and rebuilding of earthquake-damaged bridges, and for projects supported by known future revenue sources or direct revenue streams such as tolls. They also have advantages in times of economic downturn, providing helpful spending and therefore jobs, and also potentially capturing low interest rates. Bonds can also provide additional general revenues to support transportation capital programs, but bonding should not provide the majority of funding for ongoing transportation infrastructure improvement efforts and should never pay for operation and maintenance expenses.

**RECOMMENDATION: Periodically transfer general funds for transportation purposes.**

During times of economic prosperity, support for transportation infrastructure should be provided by the state’s General Fund. This was done by the governor and legislature in 2000 and was a welcome addition to transportation funding. Periodic appropriations are neither sufficient nor reliable enough to solve long-term funding shortfalls and, of course, are not to be expected during times of economic distress.

### Recommended for Evaluation

Even with increased effectiveness and efficiency regarding how we use existing funds and the additional revenue suggested above, it almost certainly will be necessary to explore the adequacy of current resources. Soon, transportation system users and beneficiaries may be asked to pay differently from the way they do now, and perhaps pay more.

Users are paying to use transportation in many ways now—in congestion-related costs such as delay, lower fuel economy, vehicle wear and tear, and lost opportunities to do other things with their time; in uncertain travel time and conditions, which require dedicating more time to a trip than might otherwise be necessary; and in lack of options to pay these costs. Transportation also affects the cost of goods and services. In short, we are indirectly paying a significant amount now to use the roads, and generally don’t have choices in how or how much we pay. We might well prefer to pay based on choices, which is why a comprehensive evaluation of how and what users now pay and might pay in future is necessary.



PHOTO COURTESY NORTH COUNTY TRANSIT DISTRICT

The Coaster is a commuter-rail line in San Diego County.

But as noted, before calling for any new revenue sources, the public must be assured that current funding is being used as expeditiously, efficiently, and effectively as possible. If such assurances are forthcoming, the following are appropriate for evaluation, analysis, and public debate.

**RECOMMENDATION: Evaluate the adequacy of the motor vehicle fuel excise tax.**

Largely because of inflation and improved gas mileage, total fuel taxes collected in 2002 have less than half the purchasing power of those collected in 1965, even though the tax per gallon has more than doubled. Without adjustment, their value will continue to diminish over the next two decades.

Future increases in motor-vehicle-fuel taxes may be needed. However, it would be inappropriate and likely unsuccessful to simply propose an increase. Rather, a needs-determination process, a list of high-priority projects, and an effort to inform and involve officials and the public should precede any decision on the amount and timing of a possible increase. An effort comparable to 1990's successful "Transportation Blueprint" may provide a useful template.

This effort utilized extensive research, collaboration between interest groups, defined objectives including both highway and transit projects, public information, and a balance of increased fuel taxes and bonds. The "Blueprint" resulted in Propositions 111 and 116, adopted by voters in 1990, which along with related legislation provided both a graduated increase in the state fuel excise tax from nine to 18 cents per gallon and a series of four \$1 billion bond issues (only the first was approved by voters). We are not prescribing either a similar tax increase or comparable bonding, but do suggest a similar process to explore the adequacy of current state fuel taxes.

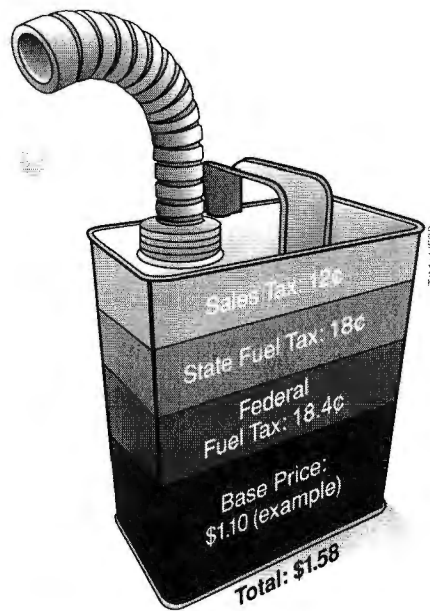
Other approaches may also be appropriate. However, "indexing" the fuel tax to a varying rate such as the Consumer Price Index, or ongoing indefinite increases such as one cent per year, should be avoided, because the amount and impact of increases should be part of the public policy deliberation process.

**RECOMMENDATION: Evaluate whether alternative fuel and alternative propulsion vehicles are paying an appropriate share of road construction and maintenance costs.**

Vehicles that use alternative fuels or electric power, or combinations, impose the same congestion burden and wear on the roads as gasoline- and diesel-fueled vehicles. As they become a significant percentage of the vehicle population, they should pay an appropriate share to construct, maintain, and operate the roads. The imposition of any additional taxes on these vehicles should include discussion of the proper level and source of incentives to encourage alternative vehicle use.

**RECOMMENDATION: Reevaluate the appropriateness and structure of tolls.**

- Existing facilities should not be tolled.
- Toll facilities should be in public ownership.
- There should always be reasonable free alternatives to tolled facilities.



**Taxes make up about one-third of the cost of a gallon of gasoline.**

- Privately operated toll facilities should ensure that the public interest is protected, including assuring that critical safety and capacity improvements can always be made.

Pay-as-you-go funding should remain the preferred method for paying for roads. However, chronic funding shortages suggest that tolls may be an appropriate funding alternative under certain situations, such as to accelerate needed projects or to build projects to a higher design standard than is otherwise affordable. Electronic toll collection technology has mitigated the congestion and safety impacts of toll booths. Requiring tolls may also impose a certain discipline on project selection, since only projects popular enough to generate sufficient toll revenues to pay costs are likely to survive the financing process. Toll roads can also be used to support special-purpose facilities such as truck-only lanes.

To assure revenues, the agreements establishing the public and private toll roads in Orange County preclude needed capacity improvements near the toll roads unless the operator is compensated. Also, these toll roads have uneven revenue histories.

Therefore, we are reluctant to recommend toll roads except under extraordinary circumstances. Even then, they should meet the principles articulated under the recommendation above.

**RECOMMENDATION: Evaluate whether heavy-truck fees could be more appropriately assessed through a weight, distance, and configuration-based truck-taxation system.**

Fees based on the weight, distance traveled, and configuration (e.g., type of truck and number, size, and type of trailers) should be charged to heavy commercial trucks that accurately reflect their impacts on road and highway repair and improvement costs. Currently, California (and most other states) charges heavy trucks based on their declared operating weight, not on their actual weight, and not on how much they travel on the roads, which results in encouraging higher weights. Fees based on actual weight, distance driven, and truck configuration may be more accurate means of assessing direct user charges, as demonstrated in Oregon and other states that impose weight-mile fees.

Emerging technologies, which truck fleets will likely utilize to improve their operations, will make it possible to track the time, place, and weight of a truck in operation and assess fees accordingly. "Weight-mile" taxes have been proposed before in California and defeated by strong trucking industry opposition based in part on cumbersome administrative requirements that can be largely obviated by these technologies. Implementation of the technology will also aid in other trucking-related regulation, such as of hours of service enforcement, condition of vehicles and equipment, and incident investigation.

Weight-distance fees would be effective and feasible; they would be efficient, if technological solutions to administrative complexities can be developed; and would be equitable, in that the largest and heaviest vehicles will pay the largest fees. The total collected should accomplish two goals: collect an appropriate amount of

revenue from all medium- and heavy-duty trucks that reflects the total costs of their impacts on the roads and appropriately assess truck configurations and operations.

A national technology standard and a corresponding nationwide weight-distance fee would facilitate collection of the fees and establish interstate uniformity. Demonstration programs involving large fleets should be pursued, along with incentives for installation of Global Positioning Satellite (GPS)-type technology in smaller fleets or owner-operated units. Ultimately, a national weight-distance fee structure should be imposed in lieu of current state fees, set to appropriately allocate costs of various sizes and weights of commercial trucks. States should be allocated a share of the revenues or allowed to impose their own weight-distance fees if they are compatible with the methodology and technology of the national fee.

**RECOMMENDATION: Reevaluate and expand on the principle of "user fees" by conducting further research and demonstration projects of direct road-use pricing.**

Numerous proposals have been made for electronically charging specific fees or charges for driving, based on the amount of road use, and possibly also on the time, place, and conditions at the time of use. "Congestion pricing" is one frequently used term. The purpose is usually articulated as charging a more accurate fee for use of a scarce resource (in this case, road capacity), which is worth more at times of high demand (e.g., rush hour) and less at off-peak times, but the purpose also envisions using the fee to reduce driving.

Proponents note that similar variable pricing is applied to some other consumer charges such as reduced off-peak airline and cruise fares, matinee theater prices, and day and night charges for electricity and telephone use. However, it should also be pointed out that these activities are far less necessary for business and personal life and that it's generally easier to change the time we use these services than it is to change the time we drive.

In principle, such fine-tuned methods more fairly assess a charge for using a resource (in this case, road capacity) in times of high demand by charging a higher fee, and reward use of the resource when it is in low demand by charging less. In principle, the underlying economic theory is sound and could result in reducing congestion as people who are able to make more trips outside of heavy demand periods.

In reality, direct road-use pricing faces considerable challenges. It may not be very effective, since it may be difficult to implement and political and popular support is lacking. It may not be efficient, since administrative and overhead costs are likely to absorb a large percentage of fees collected, and fraud and evasion may be pervasive. And it may not be equitable because impacts may be felt more sharply by low-income people, people who cannot adjust the times in which they travel, and people dependent on driving for their occupations.

None of these objections are insurmountable, but all will require extensive development, refinement, demonstration, and public information before widespread use occurs. A wide variety of privacy, technological, financial, jurisdictional (such as

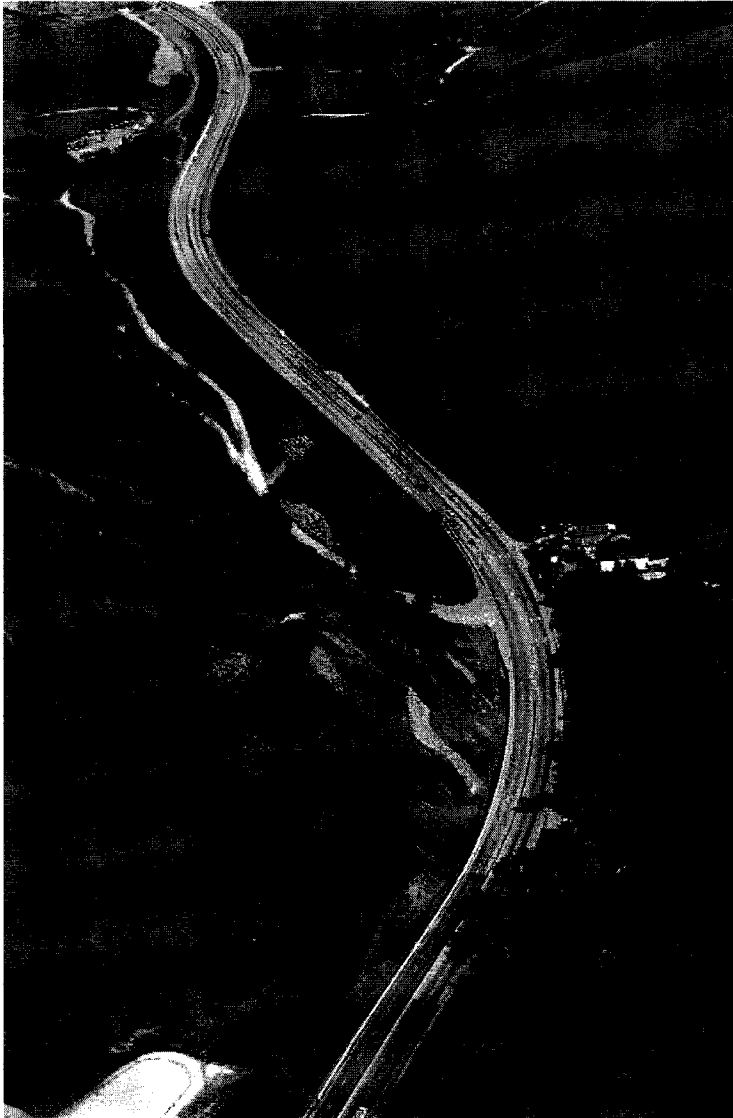


PHOTO COURTESY CALTRANS

out-of-state vehicles), implementation, enforcement, and administrative issues will need to be resolved before a compelling case can be made for direct road-use charges. The best that can be hoped for may be to charge for premium facilities (such as toll roads or lanes) or to use this approach as a voluntary offset to fuel taxes for those choosing to participate in direct pricing.

Before implementing direct pricing, pilot and demonstration programs of the principles of direct pricing should be conducted, including extensive public involvement, to further understand how they might be applied and how the obstacles might be addressed. Direct pricing should be evaluated as a possible *alternative* (not addition) to current fuel excise taxes and other less precise means of charging for road use. A critical principle in exploring direct user charges must be that they are developed to impose fair and equitable charges, not to “force” changes in behavior nor to exact additional revenue from drivers.

“Vehicle Miles Traveled” (VMT) fees are sometimes proposed as a means to charge for road use. VMT fees would be based on the amount of miles driven per year and collected periodically

based on odometer readings. VMT fees are a crude iteration of direct pricing that considers all driving as equal—a trip across the Los Angeles Basin in rush hour traffic is treated the same as a weekend visit to a national park. Such a fee has no relation to the time and place of driving or the impact on congestion or the roads and is therefore inappropriate as a pricing mechanism.

**RECOMMENDATION: Explore a fixed-fee approach to provide support for road infrastructure construction and maintenance in lieu of the current Vehicle License Fee.**

A basic fee to support California’s roads could be similar to fees that are charged for telephone and utility access. These fees support the underlying infrastructure and are independent of actual use. This annual fee could be collected instead of the current vehicle value-based Vehicle License Fee (VLF), which is an in-lieu property tax that has no relationship to impact on the roads and is almost the only remaining remnant of the state’s former personal property taxation system. It would be collected annually by the Department of Motor Vehicles along with the basic registration fee (currently \$30 for private passenger vehicles). This fee should be uniform for all vehicles, similar to utility standby fees, which do not, for example, vary based on the number of telephones per household, and should be a relatively small amount so as not to impose a hardship on vehicle owners.

As an example, an annual “road fee” of \$33 applied to the 29 million nonexempt commercial and noncommercial vehicles registered in California in 2001 would raise about \$960 million. Even when added to the basic \$30 registration fee, the total payment would be less expensive for almost all vehicle owners than the current VLF. A substantial share could be allocated to counties and cities for road construction and maintenance according to an appropriate formula that would partially offset the loss of VLF funds to cities and counties. The remainder of the VLF loss to local governments could be made up by the state.

Such a fee could be effective in generating reliable and predictable revenue and would be efficient to collect. However, it may not be seen as equitable (even if set at a low level), since older vehicles owned by lower-income people would be charged the same fees as all other vehicles. In that respect, it would be no different from the current \$30 registration fee. Vehicle owners would be assured of benefit in the form of road infrastructure investments. The fee could be reduced or eliminated for low-income motorists, similar to telephone and utility “lifeline” programs.

**RECOMMENDATION: Explore expanded beneficiary payments.**

Beneficiary fees and charges capture some of the value that a well-functioning transportation system represents to landowners, businesses, and employers. They could take several forms. For example, additional fees on new development to pay for the costs of providing improved roads or transit service could be assessed proportionally to the new development’s needs. Some fees are charged in some jurisdictions now, but often don’t reflect the costs of providing the increases in service that new development requires, and rates currently vary from one jurisdiction to the next. The obvious downside is that the fees are passed on to home buyers, increasing the cost of housing.

Also, property in close proximity to transit stations and freeway exits may increase in value because of the access that the proximity represents. Fees and taxes to “capture” a portion of that increased value to support transportation have met with limited success to date but could conceivably be refined and applied more widely.

Current beneficiary fees are applied in widely varying amounts and situations, and there is a wide variety of complex economic and equity issues in such fees, such as a tendency to drive investment and business to areas that do not have the fees and, in some cases, to impose the highest costs on the newest arrivals. However, there is a definite value to access, and means should be evaluated to fairly capture

some of the value to support the systems that make access possible. They should be explored further to assess whether they could be more widely and evenly applied and whether the public would support them.

**CONCLUSION**

Southern California’s mobility, economic vitality, and quality of life are challenged by a growing population, increasing national and world trade, and growing congestion on streets and freeways. Our roads, once the model for the nation, are increasingly overcrowded and in poor condition; workers spend more and more time commuting, leaving less time for work and family; businesses pay ever higher prices for shipping goods and receiving supplies; and public transit does not meet the needs of most people.

Southern California can, however, rise to and overcome these challenges. We can improve the condition and safety of our roads, we can reduce congestion and commute times, we can ensure speedy and on-time delivery of goods and services, and we can provide reliable and efficient alternatives to commuting in rush-hour traffic.

To accomplish these goals, Southern Californians and their elected and appointed officials will need to agree on basic and achievable goals, and make sound transportation investment, policy, and project decisions to move our region toward a better, more prosperous, and more livable future. These decisions will necessarily include increasing the capacity, efficiency, and safety of our transportation facilities and services—including roads, public transit, and public and private transportation technologies.

The Auto Club looks forward to working with all Californians to keep our state moving.

## **GLOSSARY OF SELECTED TERMS**

### **ALTERNATIVE FUEL/PROPULSION VEHICLES**

Vehicles that use a fuel other than gasoline or diesel (such as compressed natural gas) or another means of propulsion (such as an electric motor) to move.

### **BUS RAPID TRANSIT (BRT)**

A transportation service that combines the capacity and quality associated with rail transit and the flexibility and lower costs of bus transit. BRT systems typically include special buses that provide frequent service in special lanes or on regular streets and that use a variety of technologies to improve speed, reliability, and overall service quality in high-transit demand corridors.

### **BUSWAY (OR TRANSITWAY)**

Travel lanes dedicated to the exclusive use of transit vehicles. Lanes can be located within, or parallel to, general-purpose freeways or streets or in a separate right-of-way.

### **CALIFORNIA DEPARTMENT OF TRANSPORTATION (CALTRANS)**

State agency responsible for planning, designing, building, maintaining, and operating state transportation facilities and services, administering state transportation resources, and making various transportation decisions specified in law.

### **CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)**

California law that establishes state policy for the environment and requires environmental impact reports before transportation (and other) projects can be approved.

### **CALIFORNIA HIGHWAY PATROL (CHP)**

State agency responsible for, among other things, patrolling state highways and enforcing traffic laws.

### **CALIFORNIA TRANSPORTATION COMMISSION (CTC)**

A nine-member panel appointed by the governor responsible for overseeing and making decisions on various transportation programs specified in law, including approving projects and allocating state-controlled transportation funds to projects and services.

### **FREEWAY SERVICE PATROL (FSP)**

Government-funded roving tow services that quickly identify and remove stalled vehicles and debris from travel lanes and roadway shoulders to improve traffic flow and reduce congestion.

### **GRADE SEPARATION**

Vertical isolation of travelways through the use of a bridge or tunnel so that traffic conflicts (between crossing highways or highways and rail lines) are eliminated or minimized.

### **HIGH OCCUPANCY TOLL (HOT) LANES**

An HOV lane that can be used by single-occupant vehicles for payment of a toll or fee.

### **HIGH OCCUPANCY VEHICLE (HOV), OR CARPOOL, LANES**

Highway travel lanes restricted to vehicles occupied (typically) by two or more people, including the driver.

### **INTELLIGENT TRANSPORTATION SYSTEMS (ITS)**

Systems of highways and transit services that use advanced technologies to improve traffic monitoring, management, and safety, and to reduce congestion.

### **JITNEY**

Privately owned small- or medium-sized transit vehicle usually operated on a fixed route but not on a fixed schedule.

### **METROPOLITAN PLANNING ORGANIZATION (MPO)**

A federally designated public agency responsible for various aspects of the transportation planning, funding, and decision-making process. Examples include the Southern California Association of Governments (SCAG), which covers the six-county greater Los Angeles area, and the San Diego Association of Governments (SANDAG) in San Diego County.

### **MODE**

Method of travel; for example driving, walking, or taking transit.

### **MODE SHARE (OR SPLIT)**

Percentage of trips using a particular mode or form of transportation.

### **MOTOR VEHICLE FUEL EXCISE TAX**

A tax, commonly referred to as a gas tax, charged on each gallon of

motor-vehicle fuel sold. Californians pay a total of 36.4 cents per gallon in motor vehicle fuel excise taxes; 18 cents per gallon goes to the state and 18.4 cents per gallon goes to the federal government. State gas-tax revenues are protected by Article XIX of the State Constitution and can only be used for street and highway purposes and mass transit guideways (for example rail line construction), but not transit operations. Federal gas-tax revenues are dedicated exclusively to transportation purposes.

### **NATIONAL ENVIRONMENTAL POLICY ACT (NEPA)**

Federal law that establishes national policy for the environment and requires environmental-impact studies before projects can be approved.

### **PARATRANSIT**

Flexible forms of transit services that are not confined to a fixed route and that are usually used to provide door-to-door service for the elderly and people with disabilities in compliance with the Americans with Disabilities Act of 1990 (ADA).

### **RAIL, COMMUTER**

A rail line or system that uses diesel locomotives to pull or push large passenger cars for longer-distance trips, typically from outlying suburbs to a central city. Local commuter-rail systems include Metrolink, which provides services in Los Angeles, Orange, Ventura, San Bernardino, and Riverside counties, and the Coaster, which operates in northern and central San Diego County.

### **RAIL, HEAVY**

An electric railway with the capacity to transport a heavy volume of passenger traffic and characterized by exclusive pathways (in tunnels, on overhead structures, and within fenced rights-of-way),



multicar trains, and high speed. Southern California's only heavy rail system is the Metro Red Line subway in Los Angeles.

**RAIL, HIGH SPEED**

A rail transportation system with an exclusive right-of-way that serves densely traveled, and usually inter-city, corridors at speeds of 124 miles per hour and greater.

**RAIL, INTERCITY**

A rail line or system that transports passengers from one urban area to another. In Southern California, AMTRAK operates intercity rail service between Los Angeles and San Diego.

**RAIL, LIGHT**

A streetcar-type vehicle operated on city streets or exclusive rights-of-way. Southern California light rail systems include the Metro Blue, Green, and Gold (under construction) lines in Los Angeles County and the San Diego Trolley.

**REGIONAL TRANSPORTATION PLANNING AGENCY (RTPA)**

A state-designated public agency responsible for various aspects of the transportation planning, funding, and decision-making process. Examples include Los Angeles County Metropolitan Transportation Authority (MTA), Orange County Transportation Authority (OCTA), San Bernardino Associated Governments (SANBAG), Riverside County Transportation Commission (RCTC), and Ventura County Transportation Commission (VCTC).

**RIGHT-OF-WAY**

The land used by, or reserved for, transportation systems, including streets, sidewalks, bike paths, busways, and rail lines.

**STATE HIGHWAY OPERATION AND PROTECTION PROGRAM (SHOPP)**

Caltrans's annual program of projects and activities designed to operate, repair, and maintain the state highway system in a safe and reliable condition.

**STATE TRANSPORTATION IMPROVEMENT PROGRAM (STIP)**

The State of California's primary decision-making process and document for allocating a portion of the state's share of state and federal transportation funds primarily to road and transit construction projects.

**SUPER STREET**

An urban street with a high capacity for traffic and transit movement, often including added lanes, coordinated traffic signals, priority bus movements, grade separations, restricted turns, and other improvements.

**TRAFFIC MANAGEMENT CENTER (TMC)**

A Caltrans, city, or county control center that uses technology, in-pavement (and other) sensors, closed-circuit video cameras, and communications equipment to monitor the performance of streets and freeways, to directly operate traffic signals, and to dispatch emergency and maintenance crews.

**TRANSIT (PUBLIC TRANSIT)**

Transportation by bus, rail, or other

conveyance, either publicly or privately owned, which provides to the public general or special service on a regular and continuing basis.

**TRANSPORTATION DEMAND MANAGEMENT (TDM)**

Policies and programs intended to reduce congestion and improve air quality by decreasing vehicle use. TDM strategies typically seek to achieve this by increasing vehicle occupancy (for example, increasing transit use or carpooling), increasing bicycling or walking, or decreasing the need for trips (for example, telecommuting and flexible work schedules).

**TRANSPORTATION RESEARCH BOARD (TRB)**

Part of the National Academy of Sciences, National Research Council, TRB serves to stimulate, correlate, and make known the findings of transportation research.

**TRANSPORTATION SYSTEM MANAGEMENT (TSM)**

Strategies, projects, and services designed to improve the efficiency of the existing transportation system.

**VEHICLE LICENSE FEE (VLF)**

A state tax based roughly on the value of privately owned motor vehicles that goes to state and local government general funds for a variety of purposes.

**VEHICLE MILES TRAVELED (VMT)**

A measurement of the total miles traveled for all vehicles within a specified area and for a certain time period.



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## **NEWS** from the Auto Club

**FOR RELEASE:** Immediately

**CONTACT:** Carol Thorp or Jeffrey Spring  
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### **Auto Club Warns California Headed For Transportation Crisis** *Launches "Quiet Crisis" Initiative*

**(Los Angeles, October 2, 2002)** — The Automobile Club of Southern California warned today that California is facing a traffic congestion crisis that will have "enormous and unacceptable impacts on its economy and quality of life," if not addressed with comprehensive planning at all levels of government within the next two decades.

"As traffic congestion increases in California, residents will have increasingly difficult commutes to work, goods and services will be delayed in reaching the marketplace and leisure travel may be restricted," said Thomas V. McKernan, Jr., president and CEO of the Auto Club. "Our current process is not effectively anticipating and addressing this looming transportation crisis. For too long we have put off critical transportation decisions and innovative solutions because we are still moving, however slowly. The Auto Club wants to put the issue on the front burner so California doesn't hit a mobility roadblock."

The Auto Club today released "The Quiet Crisis," a report which looks at transportation problems in California and possible solutions. The report makes five key recommendations for dealing with the state's transportation future:

- Southern California must have additional road capacity — including new roads, increasing the efficiency of current roads and improving maintenance to improve safety and travel time.
- Improvements must be made in automobile use — including reducing energy use, continuing to meet clean air goals and using technology to make vehicles safer.
- Better alternatives to the automobile must be found — including new and flexible forms of public transit.
- California needs to improve its decision-making processes for transportation.
- California needs to get more from its transportation investments and provide more resources for transportation.

"The Quiet Crisis" report points out that California's congestion rate is 65 percent higher than the national average and is increasing by 10 percent annually. In Southern California alone, drivers spend between 50 to 140 hours a year stuck in traffic jams at a cost of up to \$2,500 in wasted time and fuel.

"Southern California has four of the top ten most congested freeway interchanges in the nation," said McKernan, "yet the state ranks last in the nation in per-capita transportation spending. With 10 million more Californians expected to be using highways, streets and public transit over the next two decades, we can't put off planning for the future."

As part of its effort to build a transportation consensus in California, the Auto Club is forming a Mobility Advisory Council. The Auto Club, along with council members, will hold meetings throughout Southern California over the next year to help facilitate ongoing public dialogue and involvement in identifying viable solutions to the state's transportation problems.

"There is no single answer to solving congestion problems," said McKernan. "We hope our recommendations will start much needed dialogue toward building consensus. Creating comprehensive and cohesive transportation policy is a formidable task, but one we believe is achievable and essential."

"The Quiet Crisis" report is available on the Auto Club's web site at [www.aaa-calif.com](http://www.aaa-calif.com).

The Automobile Club of Southern California, the largest affiliate of the AAA, has been serving members since 1900. Today, the Auto Club's members benefit by roadside assistance, insurance products and services, travel agency, financial products, automotive pricing, buying and financing programs, automotive testing and analysis, trip planning services and highway and transportation safety programs. Information about these products and services is available on the Auto Club's Web site at [www.aaa-calif.com](http://www.aaa-calif.com).

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October 2, 2002

## More Freeway Lanes, Transit Spending Urged

*Traffic: Auto Club calls for action to combat increasing gridlock, and says transportation must become a priority with policymakers in Southern California.*

By HUGO MARTIN, TIMES STAFF WRITER

The Auto Club of Southern California has added its voice to the public debate over the region's worsening traffic congestion by issuing a plan that calls for increased spending on transportation, the construction of more freeway lanes and routine evaluations of existing transportation programs, among other ideas.

The plan, which will be released today, is the first comprehensive traffic blueprint issued by the 102-year-old organization and signals a growing frustration among its 5 million members over the region's increasing gridlock.

"We are not prepared to tell our members that we are just going to wait until traffic stops dead," said Auto Club President Thomas V. McKernan Jr.

Dating back to the 1930s, the Auto Club has endorsed transportation initiatives, such as bond measures and ballot proposals.

But for the most part, the organization has limited its public policy initiatives to promoting safe driving programs, such as reducing teen drunk driving.

Over the last three years, McKernan said, Auto Club members have urged the organization--through surveys and polls--to play a bigger role in solving Southern California's worsening traffic problems.

In response, a committee of the club's board of trustees drafted the 48-page plan with the consultation of various academics and transportation planners.

Most of the recommendations are short on specifics and echo ideas proposed by local public transportation agencies.

Still, Auto Club leaders say they hope the plan will spur Southern California policymakers to put traffic on the top of their agenda.

"California transportation needs champions--leaders who will consistently and effectively seek and implement solutions," the plan states.

Transportation experts who have read advance copies of the plan give it positive reviews, saying it proposes--for the most part--common-sense ideas.

"What they are proposing is nothing radical," said Brian Taylor, director of the Institute of Transportation Studies at UCLA. "Its tone is moderate and promotes

consensus-building."

Taylor agreed that Southern California's worsening traffic congestion should receive more attention from state lawmakers.

"Until a crisis occurs, there tends to be not much action," he said. "Unfortunately that is the nature of politics."

Evidence of the worsening conditions on Southern California freeways is without dispute.

Motorists in Los Angeles County spent an average of 136 hours on gridlocked freeways in 2000, making it the most congested county in the nation for the 15th year in a row, according to an annual study by the Texas Transportation Institute.

Based on current trends, average freeway speeds in Los Angeles County are expected to drop to about 20 mph by 2025.

The Auto Club's recommendations include:

- \* Build more freeway lanes. The study notes that from 1967 to 1997, California's population increased 70%, the number of licensed drivers jumped 91% and annual vehicle miles traveled shot up by 184%. At the same time, roadway capacity--or miles of new lanes--increased by only 29%, according to the report.

The Auto Club study does not specify how many miles of roadway should be built each year, but McKernan said additional lanes could be built by widening or double-decking existing freeways.

- \* Devote more money to transportation. The Auto Club supported Proposition 42, an initiative adopted by voters in March that permanently designates gasoline sales tax for transportation projects.

In addition to that funding, the plan suggests that the state increase the use of bond money and general fund dollars to pay for transportation improvements.

The plan also recommends eliminating the two-thirds majority needed to adopt or reenact a local transportation sales tax.

"Putting more money into transportation is absolutely necessary," said Mark Pisano, executive director of the Southern California Assn. of Governments, who has seen an advance copy of the plan.

- \* Approve and fund public transit projects that give the greatest benefits. Although the plan describes automobiles as the "backbone" of Southern California's transportation system, it calls for continued funding of cost-effective transit programs such as buses and rail lines.

McKernan said the Auto Club believes the traffic problem can be fixed only with a combination of strategies, including cars, buses, trains and bicycles.

"We don't believe there is a magic bullet," he said.

\* Streamline the funding and construction process. The federal environmental review required to build a major freeway project takes an average of 5 1/2 years.

\* Prioritize potential transportation projects. The plan recommends that transportation spending give priority to those projects that move the most people efficiently. The plan also calls for regular evaluations and audits to weed out those projects that are not meeting their goals.

"We want to support what is the best cost-efficient way to move the most people," McKernan said.

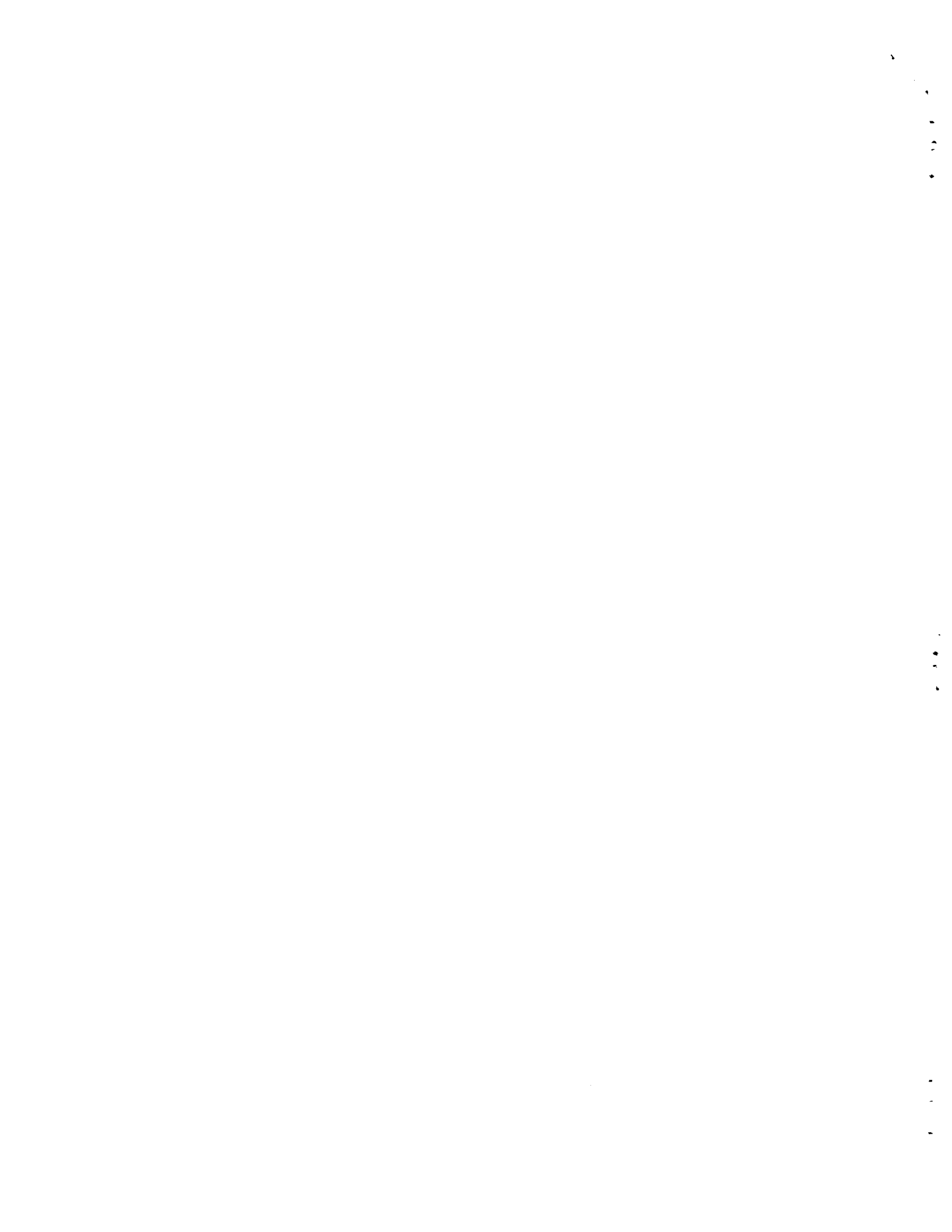
He complained about what he sees as a lack of leadership on the problem.

McKernan also noted that traffic is not the sole responsibility of one elected official or one public agency.

SCAG, the California Department of Transportation, Metropolitan Transportation Authority and dozens of local agencies all take a supporting role in managing and building Southern California's transportation system.

But Pisano said all of those agencies cooperate well together.

"Our strategies are integrated," he said. "We have a game plan."



## **Road crisis grows, says Auto Club** *Underfunded, crowded, freeways need major help*

**By Troy Anderson, Staff Writer**

Calling traffic congestion a "quiet crisis" that will dramatically worsen in the years ahead, the Automobile Club of Southern California called Wednesday on state and federal lawmakers to work harder to solve the region's transportation problems.

"Southern California has four of the top 10 most-congested freeway interchanges in the nation,' Auto Club CEO Thomas V. McKernan Jr. said while releasing the "Quiet Crisis" report on California's traffic problems.

"Yet the state ranks last in the nation in per-capita transportation spending. With 10 million more Californians expected to be using highways, streets and public transit over the next two decades, we can't put off planning for our future."

Los Angeles City Councilman Hal Bernson, chairman of the Metropolitan Transportation Authority, said local officials need to call on state and federal lawmakers to make transportation their top priority.

"Despite all the elected officials we have in Sacramento and Washington, D.C., they don't act as a team to get the transportation improvements we need,' Bernson said. "We are not getting our fair share of the funding."

The report calls for a major effort to achieve a regional consensus on congestion relief, pushing for more freeway lanes, more money for transit projects and more innovative ways to relieve congestion.

The report comes on the heels of a study by the respected Rose Institute of State and Local Government at Claremont McKenna College which found Los Angeles gets less per person in state and federal funds than most large cities in California.

The new report, issued by the Automobile Club of Southern California, found that between 1967 and 1997, California's road capacity increased by 29 percent while the population skyrocketed 70 percent. But highway spending has dropped from \$60 per 1,000 vehicle miles driven in the 1960s to \$4 in 2002.

It said the state has a 10-year, \$70 billion backlog in road construction and maintenance needs. In 2001, the state's roads were rated the worst of all 50 states, and Californians spent an average of \$500 a year on vehicle repairs related to bad road conditions.

Bernson said state and federal lawmakers need to focus on the growing gridlock crisis on the Ventura Freeway in the San Fernando Valley. Transportation planners have three proposals for improving traffic on the Ventura Freeway that include double-decking, putting a rail line down the middle, adding car-pool lanes and widening it in sections.

"A lot depends on the funding being made available to us by the federal government," Bernson said. "But our delegates in Sacramento and Washington, D.C., are not working together as a team."

State Sen. Tom McClintock, R-Thousand Oaks, vice-chairman of the Senate Transportation Committee, said he welcomes the Auto Club's fight to expand freeway and road construction.

"Californians bear the third heaviest highway taxes in the country and yet we're dead last in our per capita spending on highways," McClintock said. "That is a not a lack of resources, but badly skewed priorities at both the state and federal level."

Rep. Brad Sherman, D-Sherman Oaks, said Congress needs to make transportation a top priority.

"We need to fund all the different elements," he said. "We need the east-west Valley busway. We need park-and-ride opportunities in lots for both for east-west Valley busway and the Metro Rapid Bus on Ventura Boulevard."

David Fleming, chairman of the Economic Alliance of the San Fernando Valley and co-chairman of the Valley Transportation Strike Force, said traffic congestion is the No. 2 issue for people behind public safety. He said lawmakers need to make it a top priority.

The task force was instrumental in getting the city to begin a traffic-signal synchronization project in the Valley that is expected to coordinate lights at 700 intersections by 2003.

"This will turn major east-west and north-south roads into mini-freeways so at peak times you can get across the Valley in 20-25 minutes or north-south in a matter of 20 minutes," he said.



The Auto Club appreciates the contributions to California's transportation system of a number of researchers, writers, and practitioners. We wish to acknowledge some of the sources consulted during preparation of *The Quiet Crisis*.

*Administration on Aging • Alternative Fuels Data Center • American Association of State Highway and Transportation Officials • American Highway Users Alliance • American Public Transit Association • American Society of Civil Engineers • Anthony Downs • Automotive Research Center, Automobile Club of Southern California • Beverly Foundation • Bureau of Transportation Statistics • California Air Resources Board • California Alliance for Advanced Transportation Systems • California Department of Motor Vehicles • California Department of Transportation • California Legislative Analyst's Office • California Partners for Advanced Transportation and Highways • California Planning and Development Report • California Policy Research Center • California Transit Association • California Transportation Commission • California Trucking Association • Claremont Graduate University Research Institute • County Supervisors Association of California • Mark Delucchi • James A. Dunn, Jr. • Eno Transportation Foundation • Federal Highway Administration • Honda Motor Company • Hubert H. Humphrey Institute of Public Affairs, University of Minnesota • Innovation Briefs • Institute of Transportation Studies, University of California, Berkeley • ITS America • League of California Cities • Los Angeles County Metropolitan Transportation Authority • Los Angeles Times • National Conference of State Legislatures • National Energy Information Center • National Safety Council • Public Policy Institute of California • Orange County Transportation Authority • Alan Pisarski • Reason Public Policy Institute • Southern California Association of Governments • Texas Transportation Institute • The Road Information Program • Transportation California • Transportation Research Board • UCLA Extension Public Policy Program • University of California, Los Angeles • United States Census Bureau • United States General Accounting Office • University of Southern California • Urban Transportation Monitor*

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