

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
TECHNICAL REPORT DOCUMENTATION PAGE
 TR0003 (REV. 10/98)

1. REPORT NUMBER CA 06-0590	2. GOVERNMENT ASSOCIATION NUMBER	3. RECIPIENT'S CATALOG NUMBER
4. TITLE AND SUBTITLE Transportation Pricing and Finance Options for California	5. REPORT DATE June 2006	6. PERFORMING ORGANIZATION CODE
	8. PERFORMING ORGANIZATION REPORT NO.	
7. AUTHOR(S) Brian D. Taylor (UCLA), Martin Wachs (RAND), Bill McCullough (System Metrics Group), Eric Morris (UCLA), Alexandra Evans (UCLA), Megan Smirti (UC Berkeley), Michael Gougherty (UC Berkeley), and Paul Sorenson (RAND)	10. WORK UNIT NUMBER 191	
9. PERFORMING ORGANIZATION NAME AND ADDRESS California Department of Transportation Division of Research and Innovation, MS-83 1227 O Street Sacramento CA 95814	11. CONTRACT OR GRANT NUMBER 65A0190	
	12. SPONSORING AGENCY AND ADDRESS California Department of Transportation Sacramento, CA 95819	13. TYPE OF REPORT AND PERIOD COVERED Final—June 2006
14. SPONSORING AGENCY CODE		
15. SUPPLEMENTAL NOTES		
16. ABSTRACT The objective of this research project was to conduct research on the merits, costs and application potential of various transportation pricing approaches, to better inform decision makers and the public about transportation financing/pricing option in California. The research emphasis will be on processes and techniques by which pricing can be made acceptable to public officials and lay citizens in California. Through rigorous analysis and the development of accessible resource materials, this work will support better public policymaking in California related to transportation finance, congestion management, and transportation pricing. The concept of "congestion pricing" has been the subject of lively intellectual debates in the field of transportation since 1920. Economic theory suggests that variable tolls can influence travel decisions so that roads are more efficiently utilized. While economists have vigorously promoted congestion tolls for years, wary politicians and interest groups, including automobile clubs and trucking associations, have usually coolly received congestion-pricing proposals. The situation has changed rapidly during the past decade, however, and roadway pricing is now seen by an increasing number of stakeholders as an important dimension of future transportation policy. There are several reasons for the recent shift in attitudes, including changes in circumstances facing transportation decision makers and fundamental changes in the nature of pricing proposals themselves. This research was supported by the University of California, Los Angeles, the University of California, Berkeley and Systems Metrics Group and funded by the California Department of Transportation under Agreement Number 65A0190.		
17. KEY WORDS	18. DISTRIBUTION STATEMENT No restrictions. This document is available to the public through the National Technical Information Service, Springfield, VA 22161	
19. SECURITY CLASSIFICATION (of this report) Unclassified	20. NUMBER OF PAGES 46	21. PRICE



Final Draft



Transportation Pricing and Finance Options for California



June 2006



for: The California Department of Transportation

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Preface

Efficient, effective transportation systems are essential for the well-being and prosperity of all Californians. There is not a challenge we face – from improving public health and education to growing our economy – that is not dependent on the timely, reliable, and affordable movement of people, goods, and information. Poorly functioning transportation systems can be a drain on our society and all we hope to accomplish.

When elected officials make transportation decisions on behalf of the public, they face a heavy responsibility. Often the most important of these decisions concern the finance of transportation. While the politics of transportation finance may seem arcane, they help determine whether projects are built, where they are built, how they are used, and who will pay for them. The stakes involved in making wise finance choices are high.

Making good choices is deceptively difficult. There are daunting technical complexities involved. In order to understand the impacts of different transportation funding mechanisms, we need a strong grasp of travel behavior, demographic trends, technology, economics, finance, and even psychology. Moreover, we must be able to forecast how these factors will change and interact in an uncertain future.

Transportation finance choices are also subject to the political process. Even the most well-thought-out revenue raising program will go nowhere if its backers are unable to navigate the complexities inherent in the democratic system. Compromises must often be made; in addition to weighing concerns about equity, effectiveness and efficiency, decision-makers must always keep in mind what is politically feasible.

Perhaps the most daunting questions involve values:

- ❖ **Efficiency:** Should we rely on revenue-raising measures that are relatively straightforward to implement, simple to administer, and easy to collect, despite the fact that they might have other drawbacks?
- ❖ **Equity:** Should disadvantaged populations (the poor, the elderly, or the geographically remote) contribute less than those who can more easily bear the burden?
- ❖ **Growth vs. Sustainability:** Should economic concerns like promoting development take center stage? Or should environmental or social issues be foremost in our thinking?
- ❖ **Changing Behavior:** Should transportation finance methods be used as a tool to influence travelers' modal choice, discourage low-value trips, change motorists' routes and times of travel, or even to alter land use patterns? Or should finance programs strictly be judged on their ability to raise revenue?

These lead to more specific questions:

- ❖ Should travelers pay for the transportation facilities they personally use (through tolls or transit fares), should all travelers pay into a pool that funds the entire system (e.g. through the taxes on fuel) or should society as a whole fund the transportation system (e.g. through sales taxes or similar general taxes)?
- ❖ Should revenue raised from transportation-related sources (e.g. the fuel taxes) be spent exclusively on transportation, or should transportation tax money be diverted to other important programs when the need arises?
- ❖ Should we pay for today's transportation needs ourselves, out of our current revenues, or should we place at least part of the burden on future generations, by financing facilities through bonds?
- ❖ How should we divide fiscal responsibility for transportation systems between the federal, state, regional, and local governments? Should some political districts be required to subsidize others based on efficiency or equity arguments, or should each region pay its own way?

Because of the urgent financial difficulties that currently confront our state and its transportation systems, these questions are of more than just academic importance. In the very near future, California's decision-makers will have to make some difficult choices regarding the future of transportation finance in the state. This handbook is designed to help them, and all who are concerned about mobility in California, weigh our options and reach informed decisions about what finance methods are most appropriate for the future.

First, we examine the California transportation system's current and future financial needs. Next, we outline the system's financial outlook and the chronic funding shortfall that looms in the future. We then discuss the methods that can be used to close the gap, including fuel taxes, sales taxes, bond financing, and tolls. We explore the pros and cons of each of these methods, examining the implications each of them have for efficiency, effectiveness and equity in all their many dimensions.

Armed with this information, we hope that decision-makers and all those who want to keep our state moving will make thoughtful and well-informed decisions in the coming years. California deserves no less.

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Growth: California Style

California has 37 million residents and produces \$1.5 trillion in annual economic output. If it were a nation, it would have the sixth largest economy on the globe. California's location on the Pacific Coast makes it a trade gateway connecting North America and the burgeoning economies in Asia. Its air and seaports are among the fastest growing and most congested in the world. Goods movement and warehousing are two of the most important components of the California economy.

All current projections are that travel is going to increase dramatically in the coming years because of population growth, increased trade and economic activity, and the fact that miles traveled per person rises each year.

Planned transportation capacity expansions lag far behind expected increases in travel. Worsening traffic congestion is the likely result. The California highway system is, by far, the most congested in the U.S. While Texas has a larger road network, no other state has anywhere near California's population, number of drivers, number of vehicles, or amount of vehicular travel (Table 1).

The principal transportation user fee – the motor fuel tax – plays a smaller role in California transportation finance than it does in most other states; California's state fuel tax rate ranked 39th nationally in 2003 (see Table 1).

The growing population and economy will increase total revenues for transportation in the coming years, but funding for transportation does not cover current programmatic needs^[0].

Without big changes to the transportation finance system, this fiscal gap will widen further in the years ahead.

TABLE 1. How Does California Compare?

Key Characteristics (in 2003)	Rank
State Highway System Miles	2 nd
State Highway System Lane Miles	2 nd
Vehicle Miles of Travel	1 st
Number of Registered Vehicles	1 st
Licensed Drivers	1 st
Population	1 st
Motor Fuels Consumed	1 st
Documented Transportation Needs (in dollars)	1 st
Share of Transportation Revenue from State Fuel Tax	26 th
State Fuel Tax Rate	39 th

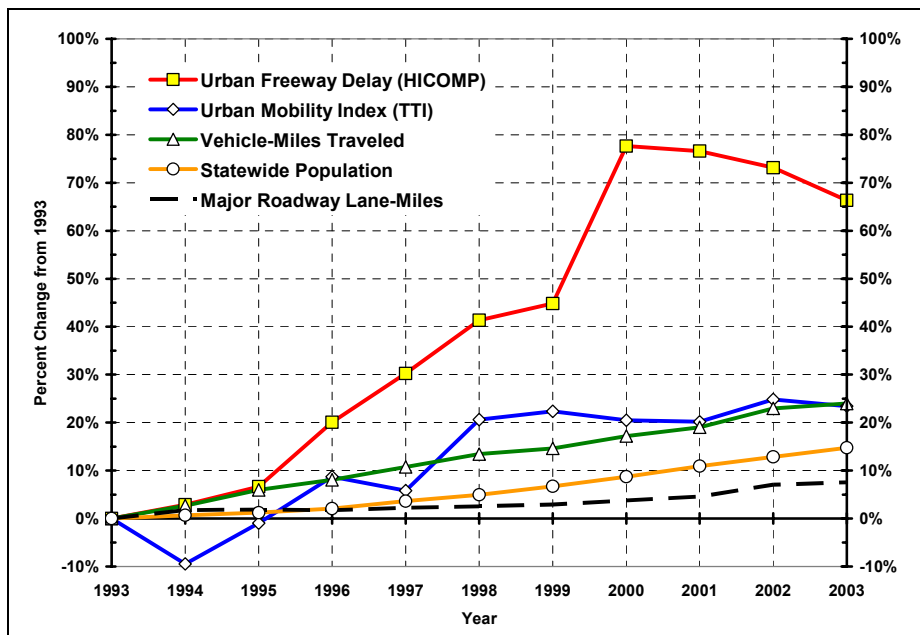
Stuck in Traffic

Most people move by cars, most freight by truck. Eighty-five to 90 percent of California commuters use some form of road-based travel to get to work (drive alone, carpool, or road-based public transit). This appears unlikely to change. Despite all our efforts to increase the use of alternative modes (walking, biking, transit use, and carpooling), the share of drive-alone commuters in California has actually increased in recent years.

Traffic in California's cities is bad, and almost certain to get worse. Delay is increasing fastest in the burgeoning suburbs of the Inland Empire and San Joaquin Valleys.

California has seen a major increase in population, vehicles, and economic activity in the last decade. All are positive developments, but they come with a price. The predictable result of our state's growth has been increased traffic congestion. And the situation is even worse than the demographic figures might suggest. By two principal measures of congestion, delays for motorists have grown far more rapidly than the population has. As Figure 1 shows, road construction has simply not kept pace with the number of miles driven.

FIGURE 1. Trends in California Population, Road Capacity, Vehicle Travel, and Two Measures of Congestion Delay – 1993 to 2003



Source: System Metrics Group, Inc. Note: There are several methods available to measure congestion levels, but two methods allow for statewide estimates of congestion measured by travel delays: the Caltrans Highway Congestion Monitoring Program (HICOMP) and the Texas Transportation Institute's (TTI) Urban Mobility Program.

Cash Crunch

A 1999 report by the California Transportation Commission estimated \$160 billion in unfunded transportation needs between 2000 and 2010. Subsequent reports by Transportation California and the Lieutenant Governor's office have identified similar, alarming shortfalls. Nearly every aspect of our fragile transportation system is affected:

Transportation needs are growing faster than revenues...

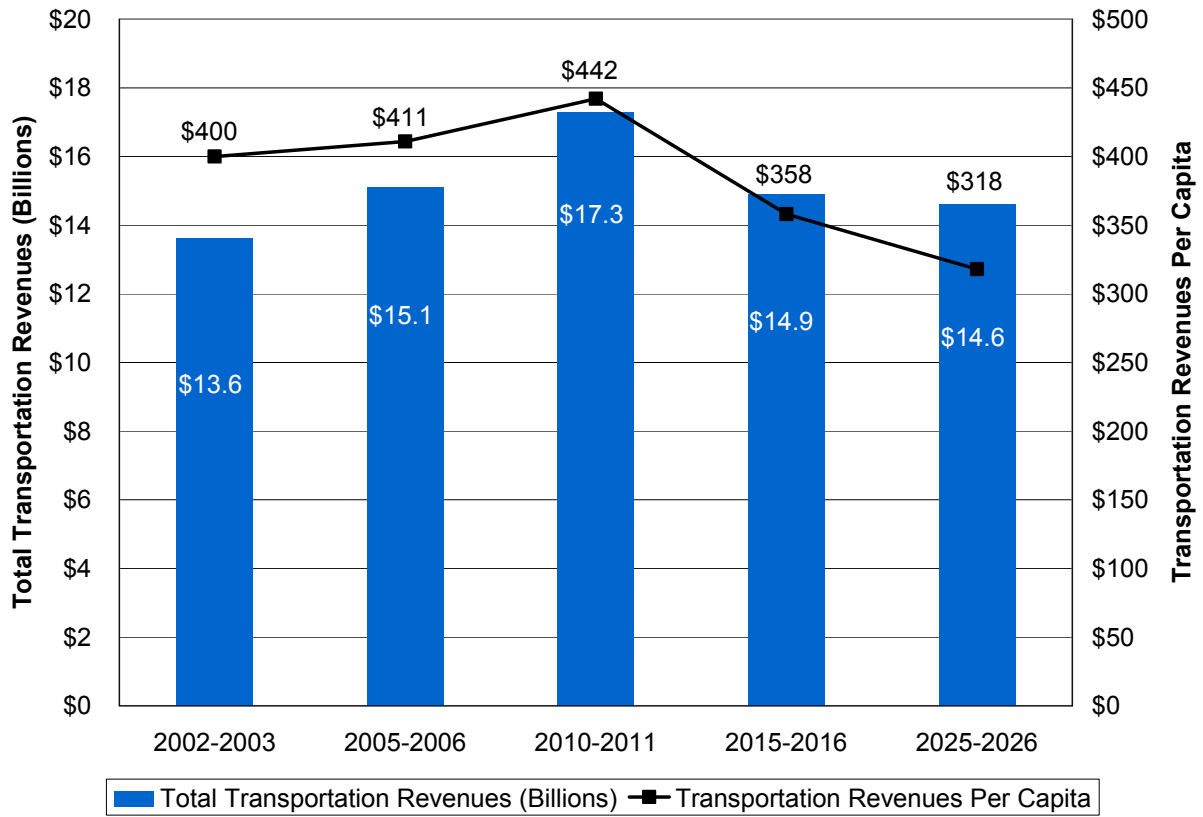
TABLE 2. 1999 California Transportation Commission 10-Year Needs Projection
(Figures in Billions of Dollars)

Area of Need	Funds Required
Regional Agencies	53.6
Highways	47.6
Arterials and Local Streets	24.4
Bus and Rail Transit (lowest estimate)	22.3
Bicycle and Pedestrian	1.3
Railroads	6.8
NAFTA Transportation Infrastructure	0.4
Airports: Ground Access Improvements	2.9
Seaports: Ground Access Improvements	1.1
TOTAL STATE FUNDING SHORTFALL	160.4

Source: California Transportation Commission, 1999. Inventory of Ten-Year Funding Needs for California's Transportation Systems.

But even as our needs grow, transportation revenues per capita and per mile traveled are projected to decrease by over 20 percent in the next 20 years.

FIGURE 2. Total Transportation Revenues versus Per Capita Transportation Revenues



How We Pay For Transportation...

To understand how we came to our current difficulties and how we can extricate ourselves from them, it is important to understand our current methods for raising money and their various strengths and weaknesses. California transportation finance is a complex topic, but in general our funds come from four major sources:

- ❖ **User Fees** are paid directly by travelers, and are related to their use of the transportation system. These include fuel taxes, sales taxes on fuels, truck weight fees, transit fares, and tolls.
- ❖ **Local Property Taxes** fund most local street operations and maintenance. As these revenue sources typically do not finance highways or major transit projects, they are not considered in this report.
- ❖ **Property Access Charges** are collected from property owners and developers to reflect the costs of providing transportation access to parcels. Like property taxes, these are primarily used for local streets, not the arterial or highway networks.
- ❖ **Subsidies** are revenues for transportation drawn from non-transportation sources. In California the principal source of subsidies for transportation are dedicated general sales taxes.

Finally, there is another financing method which, properly speaking is not a revenue source at all:

- ❖ **Bond Financing** in which the state assumes debt to complete projects. The bonds are then retired using funds raised from one or more of the funding sources above.

The current breakdown of funding for transportation in California is as follows:

TABLE 3. Current Transportation Revenue Sources in California

User Charges		2002-2003	
	Federal Fuel Taxes	\$3,202,511,000	16.2%
	Federal Tire Taxes, Sales Taxes on Trucks, Weight Fees	\$240,305,000	1.2%
	State Fuel Taxes	\$3,141,653,000	15.9%
	State Registration, Weight, and Driver's License Fees	\$3,827,398,000	19.4%
	Transit Fares	\$1,029,395,000	5.2%
	Sales Tax on Gasoline and Diesel		
	State Transportation Assistance Fund	\$99,466,000	0.5%
	Local Tolls	\$196,527,000	1.0%
	State Tolls	\$330,440,004	1.7%
	Total User Fees	\$12,067,695,004	61.1%
Property Access Charges			
	Local Property Taxes		
	Local Highways Transportation	\$238,721,000	1.2%
		\$72,671,000	0.4%
	Developer's Fees	\$38,432,382	0.2%
	Total Property Access Charges	\$349,824,382	1.8%
Subsidies			
	Local Sales Taxes		
	Permanent Sales Taxes	\$1,679,139,181	8.5%
	Expiring Sales Taxes	\$1,418,527,534	7.2%
	Local Transportation Fund	\$1,084,062,000	5.5%
	Local General Fund		
	Streets	\$1,531,404,000	7.8%
	Transit	\$1,142,626,543	5.8%
	State General Fund		
	Highways	\$5,411,000	0.04%
	Transit	\$462,360,000	2%
	Federal General Fund		
	Transit & Highways	\$18,282,000	0.1%
	Total Subsidies	\$7,341,812,258	37.2%
	Total Transportation Revenues	\$19,759,331,644	100%

Note: Since certain revenue streams have been excluded because of the difficulty of making reliable forecasts, the total revenues here do not match those in table 4.¹

¹ Sources[0]: Alameda County Transportation Authority 2002; Contra Costa Transportation Authority 2004; Fresno County Council of Governments 2004; Orange County Transit Authority 2004b; Riverside County Transportation Commission 2003; Sacramento Transportation Authority 2005; San Bernardino Associated Governments 2003; San Diego Association of Governments 2005; San Francisco County Transportation Authority 2003; San Joaquin Council of Governments 2005; San Joaquin Hills Transportation

Absent changes to various transportation levies, overall funding for transportation in California is expected to grow more slowly than travel for the next few years. Even more alarming, the tax intake will actually begin to decline in absolute terms in the decades ahead. In other words, the transportation finance system requires action to avoid gradually “sunsetting” over time.

The figures in Table 4, developed for this study, project some growth (+12.1%) in inflation-adjusted user fees and a small decrease (- 5.4%) in inflation-adjusted subsidies between now and 2025, resulting in a 7.4% increase in overall revenues – far below even the most pessimistic projections for the growth in population and travel.

If we are to meet our state’s transportation needs in the future, we simply have no other choice than to find ways to raise more revenue through these or other methods.

While no form of tax or toll increase is going to be politically popular, we do at least have options. Each has its own strengths and weaknesses, and each merits serious consideration.

Most of the remainder of this handbook examines four options for raising funds for transportation in the coming years:

- (1) Increasing fuel taxes.
- (2) Increasing tax subsidies.
- (3) Increasing bonding.
- (4) Increasing variable tolls and fares for transportation.

Corridor Agency 2004; San Mateo County Transportation Authority 2004; Transportation Authority of Marin 2004; Orange County Transit Authority 2005a; Highway Statistics 1945-2003; Benedict 2005a. California Transportation Commission 2004; Adams et al. 2001; State Controller’s Office 2003a; West 2005; Hambrick 2004; Fulton 1999; Metropolitan Transportation Commission 2005; Federal Highway Administration 2003; Transportation Corridor Agencies 2004; Waggle 2005; California Department of Transportation 2004; Brown, 2003; State Controller’s Office 2003a; State Controller’s Office 2003b; Highway Statistics 1945-2003, Table FE-221; Legislative Analyst’s Office 2005.

TABLE 4. Projected Inflation-adjusted Transportation Revenues for California State Highways (in thousands)²

User Charges		2002-03	2005-06	2010-11	2015-16	2025-26
	Federal Fuel Taxes	\$3,202,511	\$3,068,563	\$3,127,301	\$3,387,692	\$3,394,220
	State Fuel Taxes	3,141,653	2,943,607	2,997,934	3,245,298	3,247,227
	State and Federal Fees	2,216,974	2,088,537	2,067,294	2,169,483	2,038,516
	Transit Fares	1,029,395	1,005,382	1,063,521	1,181,077	1,216,130
	Sales Tax on Gasoline and Diesel	99,466	1,300,000	1,116,354	1,116,354	958,651
	Local Tolls	196,527	216,661	237,526	272,722	316,282
	State Tolls	330,440	282,289	313,186	320,909	282,207
	Repaid Loan	N/A	N/A	3,300,000	N/A	N/A
	Total User Fees	\$10,216,966	\$10,905,039	\$14,223,115	\$11,693,535	\$11,453,234
Property Access Charges						
	Local Property Taxes	\$311,392	\$286,579	\$275,654	\$282,523	\$254,411
	Developer's Fees	38,432	36,142	34,006	34,006	29,202
	Total Property Access Charges	\$349,824	\$322,721	\$309,660	\$316,529	\$283,613
Subsidies						
	Local Sales Taxes					
	Permanent Sales Taxes	1,679,139	2,545,938	1,646,076	1,700,183	1,902,617
	Expiring Sales Taxes	1,418,528	1,327,277	1,195,247	1,195,247	1,026,399
	Total Subsidies	\$3,097,667	\$3,873,214	\$2,841,323	\$2,895,430	\$2,929,016
	Total Transportation Revenues	\$13,626,024	\$15,064,833	\$17,340,092	\$14,871,488	\$14,636,662

Projections generated for this report. Note that some revenue sources (such as general fund monies) have been excluded because they cannot be forecast reliably.

²

These projections are based on the following assumptions:
 No change in the state or federal per gallon fuel tax rates.
 A 95 percent donor/donee return rate from federal fuel taxes.
 An annual increase in vehicle fuel efficiency of 1.6 percent for gasoline vehicles and 2.4 percent for diesel vehicles.
 A 1.8 percent annual increase in vehicle miles of travel.
 No more diversions of motor fuels sales tax revenues to the general fund.
 Continued historical rates of toll increases.
 Continued historical trends in transit fare levels.
 Changes in state and federal fees for transportation projected by the Legislative Analysts Office.
 Little change to property tax rates and developer fees.
 Continued historical growth in taxable sales and renewal of most, though not all, of the local option county transportation sales taxes.



OPTION 1 – RAISE THE FUEL TAXES

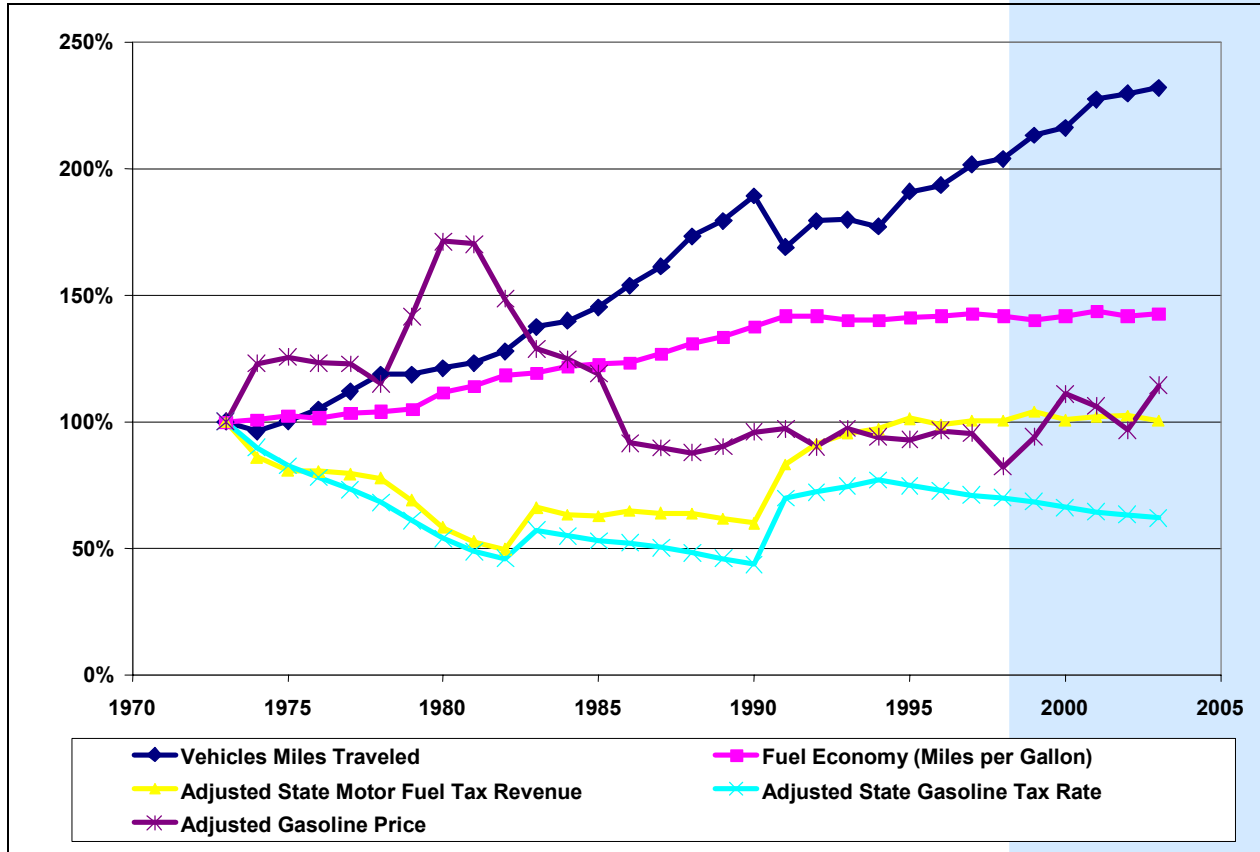
At the time gasoline taxes were introduced to fund the road system in the late 1920s, they were extremely popular. Gas taxes were easy to collect and were considered fair, since road users paid for the network in rough proportion to how much they used it. For these reasons fuel taxes have remained the workhorse of our transportation finance system for many decades. But for several reasons, today they are running out of gas.

Fuel taxes are levied on a per gallon basis. They are not based on how many miles a car drives or on the price of the fuel itself. Moreover, they are not indexed to inflation. So when people buy more fuel-efficient cars, they purchase less gas and there is a drop in tax revenue. Also, when the costs of labor, construction materials, land, and other inputs required to build and maintain our transportation network rise, fuel tax rates do not automatically adjust to reflect these increased costs. Finally, fuel tax revenue does not rise as we confront new programmatic challenges, such as seismic retrofitting of bridges or the construction of major new public transit lines.

Not only do fuel taxes not have any automatic stabilization mechanism to allow them to keep up with rising costs and increasing fuel efficiency, but they are difficult to raise legislatively. Political inertia means that the rate is rarely updated to keep pace with inflation, vehicle travel, or program needs. For obvious reasons, elected officials are loath to go on record as voting for repeated increases in the fuel tax levy, regardless of the transportation system's needs.

This has meant that, in real terms, the buying power of the fuel tax (when considered on a per gallon basis) has declined over the years. While total revenues have gradually risen because more miles are being driven, these revenues have fallen far short of matching enormous increases in vehicle miles traveled and ever-growing infrastructure needs.

FIGURE 2. Trends in Vehicle Travel, Vehicle Fuel Efficiency, and Inflation-Adjusted (1) Fuel tax Revenues, (2) Gasoline Prices, (3) Gas Tax Rate in California – 1970 to 2005



Source: Wachs and Kim, 2006

Just how far has the fuel tax eroded?

In 1957 California's fuel tax rate was \$0.06/gallon. In inflation-adjusted terms, this would be \$0.40/per gallon in 2005. But today the per gallon fuel tax rate in California is \$0.18. To simply match the per-gallon buying power the motor fuel tax had in 1957, California would have to raise the fuel tax by \$0.22.

The Pros and Cons of Fuel Taxes for Transportation

PRO: THE FUEL TAXES ARE AN ESTABLISHED REVENUE-RAISING METHOD

They are accepted by voters as a legitimate revenue source, particularly if the proceeds are used for transportation. Raising them will be an easier “sell” than implementing an entirely new financing mechanism would.

CON: THE VOTERS RESENT FUEL TAXES

This tax is not politically popular, particularly since motorists are highly sensitive to fuel price increases and believe driving is a necessity in our society.

PRO: THE POLITICAL SITUATION IS FAVORABLE TO A FUEL TAX INCREASE

Given concerns over greenhouse gas emissions and our dependence on foreign oil, a tax which would cut fuel consumption may be more acceptable to voters than it has been in the past.

CON: THE POLITICAL SITUATION IS UNFAVORABLE TO A FUEL TAX INCREASE

The present high gasoline prices have consumers clamoring for relief at the pump, not new taxes.

PRO: A FUEL TAX INCREASE WOULD BE ADMINISTRATIVELY SIMPLE

We could implement the new rate with almost no difficulty or expense, since the administrative infrastructure needed to collect the tax is already in place.

CON: FUEL TAX REVENUES DROP AS FUEL-EFFICIENCY INCREASES

This makes it a tenuous and ultimately unreliable funding source.

PRO: RAISING THE GAS TAX WILL HELP INCREASE FUEL ECONOMY

Though it may reduce revenue, better fuel economy is a good thing. Fuel price hikes, such as those which took place in the 1970s, have been shown to be a powerful and effective inducement for consumers to buy more fuel-efficient vehicles.

CON: HIGHER FUEL TAXES WILL PROBABLY NOT REDUCE DRIVING MUCH

Research shows motorists do not respond to increases in the price of gas by driving much less over the long run. Instead, they shift to more fuel-efficient vehicles. Higher fuel taxes would not directly impact congestion as much as we might hope.

PRO: ONCE ENACTED, A FUEL TAX INCREASE COULD BE IMPLEMENTED ALMOST OVERNIGHT

Unlike some other funding methods, a fuel tax increase would help our problems here and now.

CON: FUEL TAX INCREASES ARE ONE-TIME FIXES

As has happened in the past, it will prove very difficult to summon the political will to keep passing the increases needed in the future.

PRO: THE NEED FOR FREQUENT HIKES COULD BE

CON: EVEN INDEXING CAN BE POLITICALLY

ELIMINATED

Other states have developed ways of updating the tax rate automatically, for example by indexing it to inflation. This can help avoid the need for frequent action by the legislature.

DIFFICULT TO MAINTAIN

States that have indexed fuel taxes have tended to abandon indexing during times of rapid fuel price increases in response to public clamor over high prices.

PRO: FUEL TAXES ARE FAIR

Roughly speaking, they tax drivers in proportion to their use of the road network. Depending on one's definition of equity, the "user pays" principle might be the fairest way of paying for our needs.

CON: FUEL TAXES ARE UNFAIR

Fuel taxes are income regressive. Despite the fact that the wealthy generally drive more than others, and thus pay more total tax per person, fuel taxes nevertheless tend to hit those lower down the income scale harder when the tax paid is considered as a percentage of income. Also, fuel taxes tax all driving equally, not discriminating between drivers who use congested roads and those who put less strain on the network by driving on less congested routes and at less congested times.



OPTION 2 – INCREASE SUBSIDIES (ESPECIALLY LOCAL OPTION SALES TAXES)

With the revenue from fuel taxes shrinking, a different type of funding mechanism has stepped into the gap. Subsidies, which are revenues for transportation collected independently of transportation system use, have increasingly been used for our transportation needs. Subsidies can come from state or local general fund monies, but the most popular trend is toward the imposition of Local Option Taxes (LOTs), particularly on sales.

LOTs are collected not at the state level but by localities, usually counties. They are typically approved directly by voters through ballot initiatives. LOTs generally hike the local sales tax, with the extra revenue earmarked for transportation.

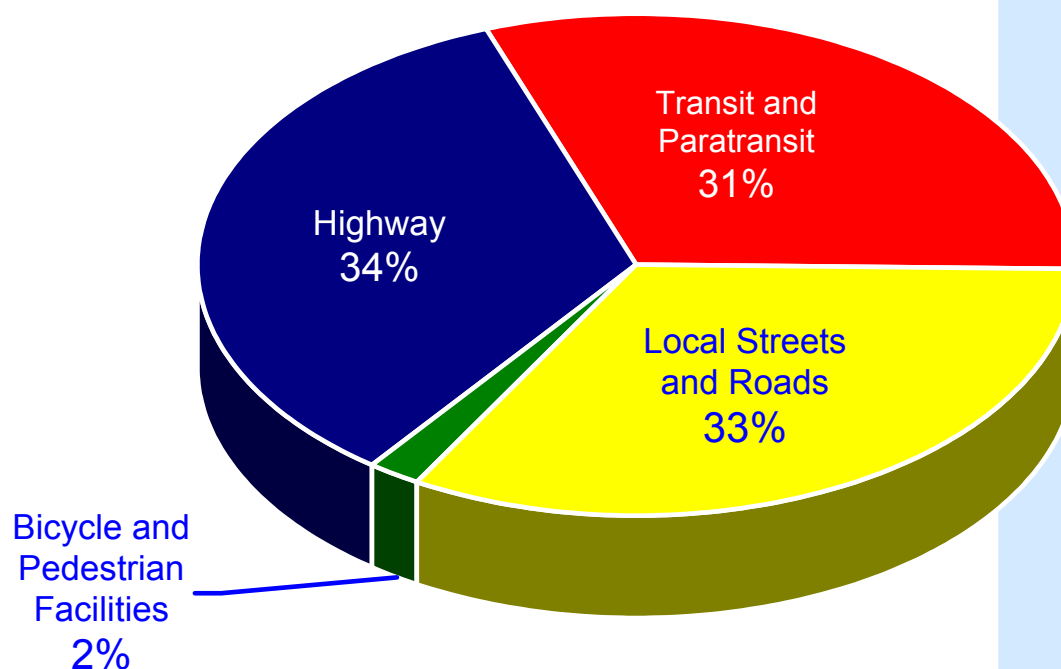
These incremental tax increases are small in percentage rate terms, but can raise considerable amounts of revenue since they are broadly levied on nearly the whole range of goods and services in the county. Since they are paid in small increments over a very large number of transactions, they are often less visible to voters than other types of taxes.

LOT revenues are usually dedicated to specific, local projects by law. Voters are typically presented with a package of road and/or transit spending proposals specified in the ballot measure.

LOTs have had mixed success at the polls. Voters in 17 California counties have approved local option sales taxes for transportation since 1984, eight recently by super-majorities.

The 17 currently active sales tax measures generated \$1.4 billion in 2002-2003 for transportation projects in Alameda, Contra Costa, Fresno, Imperial, Madera, Marin, Orange, Riverside, Sacramento, San Bernardino, San Diego, San Francisco, San Joaquin, San Mateo, Santa Barbara, Santa Clara, and Sonoma Counties.

FIGURE 3. LOTs Have Funded a Wide Variety of Transportation Projects, Covering All Modes



In most cases, LOTs "sunset," meaning they need to be periodically renewed by the voters. The Bay Area Rapid Transit (BART) sales tax in Alameda, Contra Costa, San Mateo, and San Francisco Counties, which was enacted in the 1960s, is permanent, but the funds are dedicated specifically to BART and it preceded the passage of county-specific LOTs beginning in the 1980s. Only Los Angeles County has a local option sales tax that is permanent and can be used for a variety of transportation purposes.

Most of the local option transportation sales taxes in California were enacted when only a simple majority was required for approval. But a voter-approved change in state law now requires that dedicated sales taxes for transportation be approved by 2/3 of those voting. This has made re-enactment a bigger, though not insurmountable, challenge. In many cases, reauthorization has been approved (Table 6), but in other cases it has failed to garner the required 2/3 majority.

Are LOTs the mechanism we should use to close our funding shortfalls?

TABLE 6. Sales Tax Initiatives

County	Date Original Vote	Original Percent Voting Yes	Date Recent Vote	Percent Voting Yes
Santa Clara*	1996	52%*	2000	70%
Alameda	1986	56%	2000	81%
San Diego	1987	53%	2004	67%
San Mateo	1988	62%	2004	76%
San Francisco	1989	65%	2003	75%
Contra Costa	1988	57%	2004	71%
Sacramento	1988	57%	2004	75%
San Bernardino	1989	60%	2004	80%
Fresno	1986	57%	2002	54% (failed)
Madera	1990	62%	2005	51% (failed)
Solano	2002	60% (failed)	2004	64% (failed)

* Santa Clara has had 3 votes: 1984, 1996 and 2000, all of which passed.

2006 is a busy year for LOT initiatives. Five proposals were on the ballot in May; eight will be decided at the November general election. Nine are measures for the imposition of new levies. Four are for extensions of existing taxes.

2006 LOT Ballot Initiatives

County	Description	Date On Ballot	Result
Merced	After failing to garner the required 2/3 majority vote in 2002, officials presented a revised expenditure plan to voters.	May 16 2006	Defeated 63%- 37%*
Monterey	The Transportation Agency for Monterey County placed a half cent sales tax on the ballot. The new tax would have funded 14 different transportation plan projects, including rail and bus service.	May 16 2006	Defeated 57%- 43%*
Napa	After an unsuccessful attempt in 2004, voters were asked to fund transportation improvements in the county with a half cent sales tax. The tax would have generated \$537 million over thirty years. Six percent of the revenue would have been dedicated to transit.	May 16 2006	Defeated 52%- 48%*
Santa Clara	County officials put a quarter-cent sales tax measure on the ballot. The revenue would have funded a variety of projects, including a BART extension to San Jose.	May 16 2006	Defeated 42%- 58%*
Solano	The County Board of Supervisors unanimously approved a proposed 30-year, half-cent sales tax increase, and placed it on the ballot. Nineteen percent of the total funding would have supported commuter and senior transit. The measure would have raised an estimated \$1.57 billion.	May 16 2006	Defeated 46%- 54%
Fresno	The Measure C Reauthorization Steering Committee will attempt to extend Measure "C", a half-cent sales tax for transportation. The current tax is scheduled to expire at the end of the year.	Nov. 2006	
Kern	Voters will consider a 20-year, half cent sales tax increase in November. The measure would generate an estimated \$1 billion over the life of the tax. Projects would	Nov. 2006	

County	Description	Date On Ballot	Result
Marin	The Sonoma-Marine Area Rail Transit agency has placed a two-county, quarter-cent sales tax measure on the ballot. It would fund passenger rail service from Cloverdale to Larkspur. The system is expected to cost \$340 million to build and \$10 million to \$12 million a year to operate and maintain.	Nov. 2006	
Orange	OCTA officials have placed a 30- year extension of Measure M, a half-cent sales tax, on the ballot. The extension would raise an estimated \$11.8 billion. Without an extension, Measure M will expire in 2010.	Nov. 2006	
San Joaquin	Voters will consider a renewal of Measure K, a half cent sales tax. The renewal would set aside 30% of total revenue for public transportation. The measure could generate \$2.5 billion over 30 years.	Nov. 2006	
Santa Barbara	Local officials are asking voters to extend Measure D, a half cent sales tax for transportation. The 30-year extension would raise an estimated \$1 billion. Officials are also considering a new quarter cent levy to supplement local projects. The funding plan calls for increased funding for transit, bicycle and safe routes to school.	Nov. 2006	
Sonoma	The Sonoma-Marine Area Rail Transit Agency has placed a two-county, quarter-cent sales tax measure on the November ballot to fund passenger rail service from Cloverdale to Larkspur. The system is expected to cost \$340 million to build and \$10 million to \$12 million a year to operate and maintain.	Nov. 2006	
West Placer	County officials have placed a proposal for a half cent sales tax increase from 7.25% to 7.75% to fund transportation projects on the November 2006 ballot.	Nov. 2006	

*2/3 Supermajorities Were Required
Source: Center for Transportation Excellence

Clearly, LOT proposals did not fare well in the June election. None cleared the supermajority hurdle, and two measures failed to garner even a simple majority. It is difficult to say whether this is the result of rising voter antipathy toward LOTs in general, or a reaction against the specific projects proposed in each county. Regardless, this is a sobering result for those who advocate sales taxes as a means of transportation finance.

The Pros and Cons of LOTs for Transportation

PRO: LOTs ARE A FAIRLY POPULAR AND FEASIBLE REVENUE-GENERATING DEVICE

At a time when voter antipathy to taxes is high, citizens voluntarily impose these levies on themselves with some regularity. Thanks to their perhaps surprising popularity, LOTs may be the most politically feasible method of raising new finance.

CON: LOTs ARE AN UNSTABLE FUNDING SOURCE

Since they must be periodically reauthorized by supermajorities, this money cannot be counted on in the future.

PRO: LOTs ARE IMPOSED BY DIRECT DEMOCRACY

A proposal directly approved by voters is perhaps the most democratic and fairest method of financing transportation.

CON: LOTs ARE INFLEXIBLE

Because LOTs can only be approved or modified at the polls, they are inflexible. LOTs and the transportation packages to which they are usually attached are difficult to adapt to rapidly changing circumstances.

PRO: LOTs KEEP THE REVENUE AT HOME

By one definition of equity, it is only right that revenue raised in a jurisdiction stays in that jurisdiction.

CON: LOTs KEEP THE REVENUE AT HOME

LOTs are geographically inequitable. Since revenue is not transferred between jurisdictions, poorer counties with small tax bases will be less able to fund needed programs.

PRO: LOTs FUND THE PROGRAMS VOTERS VALUE MOST

Voters have clearly shown that they like to vote

CON: THE MOST POPULAR PROGRAMS MAY NOT BE THE BEST ONES

The transportation programs tend to be presented to voters as “take-it-or-leave-it”

on a specific package of transportation projects to be funded with LOTs; they are a direct form of planning democracy.

propositions. Voters may not be well-positioned to decide which transportation priorities are most important or which projects are feasible given the revenue being raised. Sometimes, LOT initiatives promise more than they can deliver.

The Pros and Cons of LOTs for Transportation cont.

PRO: LOTs ARE NOT DIFFICULT TO ADMINISTER

The mechanism for collecting sales taxes is already in place, meaning the implementation of the tax is comparatively simple and inexpensive.

CON: LOTs ARE REGRESSIVE

Because the wealthy spend a smaller proportion of their income on items subject to sales taxes than the poor do, less well-off voters actually pay a higher percentage of their income than the wealthy do. By most measures of equity, this is unfair.

PRO: LOTs ARE DEDICATED TO TRANSPORTATION

While state sales taxes on fuels cannot normally be diverted to general fund expenditures, such funds can currently be transferred in periods of budget crisis. Those who believe transportation-related revenues should go only to transportation argue that LOT revenues, because they are locally administered, cannot be similarly diverted.

CON: LOTs TIE THE HANDS OF PLANNERS AND POLICYMAKERS

LOTs substantially reduce public officials' and transportation planners' flexibility to fund projects that reflect changing conditions and up-to-date analyses. The result is that poorly-conceived projects are often funded ahead of better and more urgently-needed projects. Further, LOT revenue for transportation reduces a general fund revenue source that may well be needed for non-transportation programs.

PRO: LOTs WILL RAISE REVENUE QUICKLY

Like fuel taxes, once they are passed LOTs can generate revenue quickly to fund our immediate needs.

CON: LOTs ARE UNCONNECTED TO TRANSPORTATION SYSTEM USE

Because LOTs have virtually no relationship with transportation system use, they violate the "user pays" principle of equity. Also, since the affluent tend to drive more, they benefit more from transportation spending – even as they pay a lower effective tax rate. Heavy system users who contribute more to congestion, resource depletion, road wear and air pollution pay less per mile of travel than those who travel little.

OPTION 3 – BOND FINANCE

As a result of our revenue shortfalls, we are borrowing at increasing levels to fund our current transportation needs. Passage of the \$20 billion infrastructure bond package that will be on the ballot in November would fund needed transportation programs yet at the same time increase debt service obligations for transportation.

This method is sometimes referred to as “innovative finance,” but the process of government borrowing to fund pressing present needs is in fact an ancient one. In many cases it has been highly successful; in other cases, the results have not justified the expense.

Common examples of bond-financed projects are schools, dams, and sewage treatment plants, which are often financed by bonds because they require large lump-sum payments up front and generate a steady stream of benefits over many generations. Typically, the heaviest reliance on bonds comes in wartime, when the present benefits of victory are deemed so worthwhile and lasting that part of the costs are billed to future generations.

While bonds have an important and long-established role in public finance, it is important to remember that bonds are not a revenue source; they are a finance technique. In the end, bonds must be repaid (with interest) from one or more of the revenue sources described elsewhere in this booklet.

Bonds raise funds from private capital markets, which require certain assurances. Typically, government must guarantee that the bonds will be repaid from a dedicated fiscal source, often a user fee or general revenue source. Bonds can be backed by future fuel tax revenue, future income from weight fees, projected toll revenue, or general tax revenues.

Bonds may also be backed by federal funding that the state expects it will receive in the future. For example, “grant anticipation revenue vehicles” (GARVEEs) and “grant anticipation notes” (GANs) are short-term loans to transportation agencies which will be repaid using anticipated future federal and state trust fund distributions.



State infrastructure banks also have been created to provide “revolving funds” that enable projects to be built through borrowing; the banks are repaid from future revenue.

While so-called revenue bonds are common in transportation, bonds can also be repaid from general funds. While this can be a politically attractive option, doing so, in effect, limits future decisions about the expenditure of general funds for non-transportation purposes in order to finance transportation projects today.

While there can be strong justifications for borrowing money via bonds to pay for large up-front expenditures on projects that will provide many years of benefits, there may be less justification for borrowing money to pay for ongoing operating and maintenance expenditures. Doing so simply puts off the uncomfortable task of raising revenues or cutting expenditures by saddling future generations (who will have to pay for their own ongoing operating and maintenance expenditures) with debt service unconnected to any stream of future transportation benefits. Bonding to pay for ongoing expenditures, in other words, is a costly way to put off difficult fiscal decisions.

The Pros and Cons of Bonds for Transportation

PRO: BONDS MAY MAKE SOLID FINANCIAL SENSE

Crucial investments that will generate a high rate of return (in terms of time savings, economic growth, etc.) are worth borrowing for, even if we must make interest payments on the money.

CON: THERE'S NO SUCH THING AS A FREE LUNCH

Bonds must be repaid with interest. To do so, we will eventually have to increase tax revenue or scale back future investment.

PRO: BONDS ALLOW US TO ACCELERATE THE CONSTRUCTION OF NEEDED PROJECTS

Essential projects can be funded quickly with bond finance, allowing their completion dates to be moved up.

CON: BONDS DO NOT ALLOW US TO BUILD MORE, JUST MORE QUICKLY

Any project for which we would use bond finance could eventually be built by waiting to collect the revenue that would otherwise go to bond service. Thus, we can only consider the benefits of building a project sooner, not the entire benefit of the project over its lifetime.

PRO: BUILDING SOONER MIGHT BE WORTHWHILE

In the past, costs for construction and land acquisition have risen rapidly, at a rate that greatly exceeded even the general level of inflation. By accelerating the completion of transportation projects, the state can lock in today's costs, potentially saving money even when the cost of interest payments is considered.

CON: BONDS HAVE A HIGH PRICE TAG

The proposed California bond issue will raise \$20 billion, but will cost \$32 billion to retire. In future years, already inadequate revenue streams will be devoted to debt service in addition to capital, maintenance, and operations needs.

PRO: BONDS ARE POLITICALLY VIABLE

In general, it is easier to sell voters on borrowing than on tax increases. Politics is "the art of the possible"; if we have no other options, bonds might be our best hope for funding essential projects.

CON: THE POLITICALLY EXPEDIENT PATH MAY NOT BE THE BEST ONE

Voters and elected officials may prefer bonds for the wrong reasons; they allow us to put off tough choices by saddling future generations with the consequences. Term limits mean today's legislators will not be around to pick up the tab when bond payments come due, making bond finance a convenient political "out."

PRO: BONDS CAN LITERALLY SAVE LIVES

The proposed California bond initiative will not only reduce congestion. It will fund badly needed safety improvements, such as bridge seismic retrofitting. It will also reduce air pollution by, among other things, replacing polluting school buses. It is difficult to put a price tag on the damage to property and the injury to human beings that accelerating these improvements would prevent.

CON: BOND REVENUES WILL BENEFIT A SELECT FEW

As is the case with other forms of transportation spending, the bond revenue will only benefit travelers in certain corridors. Yet the entire state will be asked to foot the bill. Only bonds for tolled projects would address this departure from the “user pays” principle.

PRO: IT IS ONLY FAIR THAT REPAYMENT BE MADE IN THE FUTURE

Projects built using bond finance will last for generations. There is no reason that future taxpayers, who will benefit from using them, should not bear at least part of the burden.

CON: EXCESSIVE BOND ISSUES MAY EXHAUST THE STATE’S BORROWING CAPACITY

There is a limit to the amount of debt the state can assume, which depends on its future revenues. Bond issues, particularly if they are backed by general fund revenue, will tie our hands in the future should new needs arise. Moreover, heavy reliance on bonds will drive up interest rates for all state borrowing, making essential spending more difficult to fund.

PRO: STATE BOND ISSUES ARE TAX-EXEMPT

Depending on California’s bond rating, interest costs to the state may be comparatively reasonable.

CON: THE MARKETS MAY DEMAND A HIGH RISK PREMIUM

Depending on the revenue source dedicated to repayment, bonds may be viewed as a risky proposition by investors. When bonds are to be repaid from toll revenue, projects selected for political reasons, as opposed to economic merit, may be difficult to finance. Also, given the inadequacy of our current fuel tax revenues, private investors may be wary of holding transportation bonds backed by this source. As a result, the state may have to pay high interest rates or assume risk by guaranteeing that the bonds will ultimately be backed by the general fund.

PRO: BOND ISSUES GUARANTEE REVENUES WILL BE SPENT ON TRANSPORTATION

By obligating the state to devote future income to today's transportation projects, bond issues ensure that transportation will get its fair share of funding. This will end the situation that has often existed in the past, when transportation has fallen down the state's list of priorities.

CON: FUTURE TAX REVENUES ARE DIFFICUT TO FORCAST

In the recent past, tax revenues have shown a great deal of volatility. If future revenues take a drastic dip because of a downturn in the economy or lower-than-expected revenue from capital gains, the state may face a crisis.

PRO: BONDS MAY BRING GREATER FISCAL DISCIPLINE

The need to meet externally-imposed financial targets may focus the efforts of the public sector.

CON: BONDS MAY RELAX FISCAL DISCIPLINE

Because bonds are relatively politically easy to issue, we may come to depend on them instead of making tough choices about revenue and spending. The long-established pay-as-you go system of fuel taxes, tolls, and fares provides useful fiscal discipline that bonds do not.

PRO: BONDS MAKE SENSE WHEN EXPENDITURE IS "LUMPY"

Bond finance is justified for projects – like schools, major bridges, water treatment facilities, subways, prisons, and so on – that are not built in equal numbers every year and which have long "life spans." Individual transportation capital projects fall into this category.

CON: BONDS DO NOT MAKE SENSE WHEN EXPENDITURES ARE CONSTANT FROM YEAR TO YEAR

While transportation projects can be large and long-lasting, total statewide capital expenditures don't vary much from year to year. Therefore, it may make more sense to simply fund them out of current revenues.



Option 4 – Tolls and Other Direct User Fees

Economists and many transportation analysts have long argued that charging users directly for the transportation services they consume is the fairest and most effective method of financing transportation.

Tolled transportation facilities are hardly new; turnpikes have existed for thousands of years. However, in the past the application of tolling was limited by its administrative difficulty. Tolls were expensive to collect, since booths had to be staffed by paid employees. Efforts to avoid paying tolls were common, as was pilfering by toll collectors. The time it took to collect the tolls caused delays, making toll roads less attractive to motorists than they might otherwise be.

As a result of these drawbacks, in the 1920s and 1930s policymakers turned to fuel taxes as an acceptable, second-best substitute. They too were a use toll – albeit an indirect one – that was much easier to collect and administer.

But advances in technology have put direct tolling back on the agenda. Today, tolls can be collected electronically with low administrative overhead and little or no delay. Vehicles equipped with transponders can pass a checkpoint and have their prepaid accounts directly debited, without interaction with a toll collector and without even reducing speed.

And the pay-for-what-you-get aspect of tolling is increasingly attractive to elected officials wary of voter backlash against transportation tax increases. As a result, toll projects are mushrooming around the world.

TYPES OF DIRECT USER FEES

Many types of user fee are in existence on transportation facilities here and abroad. These include:

- ❖ **FACILITY FEES** on specific routes
 - Tolls on roads and bridges
 - Fares on public transit
- ❖ **AREA OR CORDON FEES**
 - Tolls to enter specific areas, usually dense city centers
- ❖ **TERMINAL FEES** levied at the beginning or end of journeys
 - Airport landing and takeoff fees
 - Parking fees
 - Port access fees for trucks
- ❖ **VEHICLE FEES**
 - Registration fees
 - Vehicle sales taxes
 - Truck weight fees

DEMAND MANAGEMENT THROUGH DIRECT USER FEES

Tolling and other forms of user fees can do more than simply raise revenue. Because they charge more for some trips than for others, user fees and tolling can change behavior. For example, levying tolls on a congested roadway can deter enough drivers to allow free-flowing traffic (and, contrary to intuition, not many vehicles need be diverted to substantially improve traffic flows).

In response to tolls, drivers may choose to move their trips to less congested times, to less congested routes or to less expensive modes (like public transit). Drivers may even choose to forego some of their least important trips altogether. In the first six months after it was implemented, the Central London congestion charge reduced the number of non-exempt vehicles in the area by 30%. Around 50–60% of this was attributed to drivers switching to mass transit,³ 20–30% to drivers avoiding the zone, and the remainder to more carpooling, fewer trips, the shifting of travel to different times of day, and the increased use of motorcycles and bicycles.⁴

Parking meters that vary the price in response to demand can also ensure that there are always street spaces available, even in congested districts, by persuading some travelers to park at more distant locations, walk, use public transit, or avoid unnecessary

³ It should be noted that Central London is well-served by the existing transit system.

⁴ Transport for London, "Congestion Charging 6 Months On," October 2003, <<http://www.tfl.gov.uk/tfl/downloads/pdf/congestion-charging/cc-6monthson.pdf>>.

trips to the congested area altogether. Research has shown that a surprising amount of traffic in congested areas is due to drivers circling the streets in search of parking.

Although fuel taxes also encourage travelers to be more judicious in the use of their vehicles, tolling and direct user fees can be much more specifically targeted, down to the level of the individual roadway or neighborhood. This precision makes them potentially far more powerful as a tool to increase transportation system efficiency.

Tolls can be fine-tuned as conditions warrant. Toll levels can vary not only from place to place, but across time as well. Some new tolling projects vary the toll based on the time of day or the day of the week, meaning tolls can be raised during peak travel hours when demand control is needed most, and lowered (or even eliminated) at times of low demand.

Perhaps the most advanced use of tolling currently in operation is on the I-15 in San Diego. Its priced lanes use sensors to monitor traffic volumes and speeds in real-time, adjusting the tolls every few minutes to prevent congestion and maintain optimal flow.

Thus variable tolls and fares can dramatically increase transportation system efficiency even as they raise funds to pay for capital improvements. This is important to note, because tolls and variable transit fares are sometimes incorrectly viewed as ways to punish travelers by simply increasing the cost of driving. Not so; variable tolls would more than reward drivers by cutting their travel times while at the same time replacing other transportation taxes. By better managing existing capacity, they could even lower our capital needs and thus reduce the total amount of revenue government would need to collect.

The Pros and Cons of Variable Tolls and Fares for Transportation

PRO: USER FEES ARE EFFICIENT

Economic theory and numerous studies have shown that in total, society will make great gains under a variable tolling system. By greatly reducing the time motorists spend stuck in traffic, tolling can eliminate a tremendous amount of waste. When motorists pay tolls for free-flowing traffic, revenues are generated to improve the transportation system; but when motorists “pay” instead with time stuck in traffic (as most do now), no one benefits and no revenues to fix problems are generated.

CON: USER FEES MIGHT INVADE PRIVACY

Electronic tolling means there is a record of which cars use which roads at what times. Such systems might mean new and ominous levels of government invasiveness via the transportation system.

PRO: PRIVACY CONCERNS CAN BE ADDRESSED

There are a number of methods which can keep a user’s travel record private, and these have been implemented on many tolling systems.

CON: USER FEES DON’T NECESSARILY DEDICATE FUNDS FOR TRANSPORTATION

There is still considerable debate as to what uses toll revenues should be put. Should toll funds only be used in the corridor in which they are raised? Should they be used for the transportation system as a whole? If so, is it acceptable to divert them to transit? Or should toll revenues go straight to the general fund, to be used for whatever purpose society deems necessary? Until these questions are answered, it is difficult to determine whether tolling will be just or effective.

PRO: USER FEES INCREASE EFFECTIVE CAPACITY

Because tolls can reduce congestion and allow traffic to move faster, road throughput during congested periods is higher when tolls are in place. Although it may seem paradoxical, if the tolls are set at the right level *more* cars will use a road after tolls are imposed. The reason for this

CON: THE DEMAND FOR TRAVEL MAY NOT ALWAYS BE EASY TO MANAGE

Many trips – to work, school, appointments, and so on – are not discretionary. Commute trips, for example, often must be made at a specific time to a specific destination, regardless of how transportation systems are managed through variable tolls and fares. Transit options are

is the time savings; more cars will come onto the road because the ride is faster than will exit because they are deterred by the toll. If managed correctly, tolls will meter this new traffic, so that bottlenecks do not occur. In sum, tolls mean we can reap the benefits of expanding capacity without the often enormous expense of constructing new roads.

limited or nonexistent in many corridors, meaning there are few choices besides driving. Therefore, tolls would have to rise to politically unacceptable levels, or additional transportation capacity would have to be built, in order for variable tolls and fares to make travel free-flowing on the most congested routes.

The Pros and Cons of Variable Tolls and Fares for Transportation cont.

PRO: EVEN SMALL CHANGES IN DRIVER BEHAVIOR MAKE A BIG DIFFERENCE

The mechanics of congestion are such that the last few cars to enter a congested roadway can have an extremely powerful effect in slowing traffic flow. Thus, keeping even a few cars from entering fully-occupied roads can make a big dent in congestion.

CON: USER FEES ARE AN UNFAMILIAR FORM OF FINANCE

While fuel taxes and sales taxes are understood by the public and are grudgingly accepted, tolling will require a new leap in thinking. Currently, free roads and free parking are seen as something to which drivers are entitled, almost by right. Persuading motorists otherwise will be difficult, especially for a comprehensive general distance-based fee system.

PRO: USER FEES ARE FAIR

It is only just that those who use a facility pay for its construction and/or upkeep. Tolls ensure that those who place the most demands on the system pay accordingly. For example, trucks can be tolled at high rates to reflect the large amount of damage they inflict on the roadways. And drivers who use congested routes, thus creating congestion themselves, can be charged appropriately to reflect the costs they impose on others.

CON: USER FEES ARE UNFAIR

Tolls are unfair to the poor, who are least able to afford to pay them. The wealthy will be able to pay for faster commutes, but some lower-income motorists will be tolled off congested facilities.

PRO: THE TOLL BURDEN WILL ACTUALLY FALL MOST HEAVILY ON THE WEALTHY

Wealthier drivers tend to live farther out in the suburbs and to make more trips. They use the system disproportionately. Under tolling, the wealthiest would pay the most – a system that is especially fair in comparison to transportation sales taxes.

CON: TOLLING IS STILL REGRESSIVE

Even if the wealthy do pay more under tolling for transportation than they do now, they will still be paying a lower share of their income than the poor do. Tolls are thus regressive, and also violate the “ability-to-pay” principle of equity.

The Pros and Cons of Variable Tolls and Fares for Transportation cont.

PRO: TOLLING MAY BE REGRESSIVE, BUT SO ARE OUR CURRENT FORMS OF FINANCE

While legitimate concerns are often raised over the fairness of tolling, our current fuel taxes and sales taxes are both regressive with respect to income. While it depends on the circumstances, tolling can in many cases be less income regressive than current means of transportation finance.

CON: JUST BECAUSE OTHER FINANCE METHODS ARE UNFAIR, THAT DOES NOT MAKE TOLLS ANY FAIRER

Comparing tolls to other inequitable taxes is hardly a ringing endorsement. Perhaps it would be better to find a revenue stream that is progressive in its own right as opposed to being simply the best of an array of bad options.

PRO: EVEN IF THEY ARE SOMEWHAT REGRESSIVE, USER FEES CAN BENEFIT THE POOR AS WELL

Studies of the State Route 91 Express Lanes in Orange County find that while the wealthy do use the toll lanes more than others, they pay more for them than others as well. Also, even relatively low-income travelers chose to pay the toll and bypass traffic with surprising frequency, suggesting that people at all income levels are willing to pay to avoid being stuck in traffic, at least some of the time.

Also, HOT lane projects (like SR 91), which have toll and free lanes side-by-side on the same facility, eliminate much of the potential inequity. Drivers have a choice: pay or wait. No driver is excluded from the facility for financial reasons, and no one is compelled to pay. Yet all can choose to move quickly when necessary.

CON: TOLLS SPREAD THE BENEFITS UNFAIRLY AS WELL AS THE COSTS

Because an individual's "value of time" tends to increase with income, the economic benefits of travel time savings will flow disproportionately to those higher up the income scale. By one measure, then, lower-income travelers pay a disproportionate share of the costs under variable tolling (and nearly every other transportation finance method, for that matter), but receive less than proportional shares of the benefits of congestion reductions.

PRO: SOMETIMES THE VALUE OF TIME IS EXTREMELY HIGH FOR ALL

People's so-called "value of time" varies from day-to-day and trip-to-trip, regardless of

CON: USER FEES ARE POLITICALLY DIFFICULT TO ENACT

Polls consistently show that widespread tolling is

whether one is rich or poor. Even the poorest among us would gladly pay a toll to avoid traffic on occasion – such as when late for work or to pick up children from daycare. That a surprising share of lower-income people voluntarily choose to use the State Route 91 Express Lanes, rather than travel in the adjacent, congested free lanes, is proof of this.

not a popular idea.

The Pros and Cons of Variable Tolls and Fares for Transportation cont.

PRO: MOTORIST OPPOSITION TENDS TO FADE ONCE PRICING IS IN PLACE

Motorist antipathy toward variable tolling tends to dissipate when drivers experience the reduction in congestion and faster travel times that tolling can bring. Also, drivers find tolled lanes far more acceptable if there are parallel free lanes as well (as in the HOT lane concept). Tolled travel is more palatable if it is a choice, not a requirement.

CON: USER FEES ARE DOUBLE-TAXATION

Motorists have already paid for the construction of existing facilities through fuel taxes and other levies. Some view tolling on those same roads as double-taxation, which they perceive to be unfair.

PRO: THANKS TO NEW TECHNOLOGY, TOLLING IS EASIER TO IMPLEMENT THAN EVER BEFORE

Delays to motorists, toll collector salaries, administrative costs and pilfering can now be kept to a minimum. The expense of administration and equipment continues to drop, and with each new project the efficiency and effectiveness of the tolling rises.

CON: COMPARED TO OTHER METHODS, INSTITUTING ELECTRONIC TOLLING IS STILL QUITE DIFFICULT

As opposed to hikes in existing taxes for which collection mechanisms are already in place, electronic tolling means the implementation of an entirely new system. Vehicles would in most cases have to be equipped with transponders. Overhead gantries must be built, control centers must be constructed and equipped, billing systems must be put in place, and staff must be hired. In addition, the cooperation of the highway patrol or municipal police is often needed for enforcement.

PRO: TOLLING MAY HELP THE ENVIRONMENT

Tolls can be structured to encourage more fuel-efficient and cleaner vehicles (as they are in Germany). Further, by reducing the amount of time vehicles spend idling in traffic, variable tolling can cut emissions and reduce our dependence on foreign oil.

CON: TOLLING MAY ACTUALLY HURT THE ENVIRONMENT

There is no guarantee that tolls will be structured to encourage cleaner, more fuel-efficient vehicles. If the current fuel tax were replaced with a flat, per-mile fee, for example, then the effect of the current fuel tax, which encourages more fuel-efficient vehicles, would be lost.

ROAD PRICING & PUBLIC-PRIVATE PARTNERSHIPS

Because toll facilities generate a revenue stream, they can be an attractive investment for the private sector. So as more toll projects are undertaken, there is increasing interest in Public-Private Partnerships (PPPs), in which government and the private sector work together to fund, design, construct, maintain, and/or operate tolled facilities.

PPP advocates believe that the private sector can bring investment dollars, expertise, entrepreneurialism and efficiency to transportation projects. At the same time, government can bring *its* strengths, such as its concern with the overall public good, its inclusive and democratic decision-making process, its long-term time perspective, and, of course, its powers of eminent domain.

Investment by the private sector was once a significant source of transportation finance in America, but it is now generally restricted by state and federal law. California was a national pioneer in drafting legislation to encourage private investment in transportation during the 1980's and 1990's, but it is currently without enabling legislation for public-private partnership projects. Efforts to pass new enabling legislation are currently stalled.

States that *do* permit PPPs have a very wide variety of legal frameworks for them. Currently, Virginia and Texas are seen as “state of the art” in their PPP legislation.

In order for PPP projects to succeed, important questions must be addressed. Who will control the project? What kind of financial returns will the private entity be permitted? Who will assume the risks for cost overruns or if the projected toll revenues do not materialize? Will the private participant be granted a “non-compete clause,” in which government pledges it will not build any new road infrastructure that might compete with the project?

California's SR 91 Express Lanes are an example of both the promise and the pitfalls of PPPs. In a highly congested corridor, a private sector firm created the nation's first variable toll facility. The design, construction and management of the facility were all highly successful. It was technologically innovative, congestion was successfully managed by the tolls, operations were smooth, and demand from drivers was high. As a result, the project moved into the black and its value rose.

However, the presence of a restrictive non-compete clause, which prevented any new improvements in the corridor, raised considerable public protest. As a result, the Orange County Transportation Authority was forced to step in and buy out the private firm.

Although most transportation analysts judge the project a major success, the political controversy has left many opposed to future private participation in transportation projects. PPP has a considerable upside—but also considerable risks.

Roads More and Less Traveled

Confronted with difficult choices, it's often tempting to hedge one's bets. Let the ever-diminishing fuel tax limp along for another year with no change in the levy. Encourage counties to place more transportation sales tax measures on the ballot and hope for local voter approval. Borrow more money to finance backlogged transportation projects and worry about rising debt service obligations down the road. Allow a small number of electronic road pricing experiments where they don't meet with much political resistance. And then next year, do it all again.

But such a politically expedient, incremental approach to transportation finance does not do California justice. Transportation finance is simply too important a question to be left to the forces of inertia and a desire to take the easiest path no matter what the cost. Reasoned consideration of the state's options is essential if we are to have the most effective and equitable system.

There are no single "right" answers to these questions. All of California's options—fuel taxes, sales taxes, bond finance, and tolling—have their strengths and weaknesses. Many of the most fundamental questions are value-laden and can't be simply boiled down to a spreadsheet or a mathematical equation. Should taxes and fees be based on the "user pays" principle or should society as a whole share the costs? Should taxes be based on the benefits users receive from the transportation system? On the costs travelers impose on the system? On travelers' ability to pay? Should political and administrative ease of collection be the most important factor? Should geographical entities be entitled to keep funds they have raised locally, or be required to share? Should economic growth or environmental or social concerns take center stage? Should we encourage more travel, or less? These questions are not easy ones and thus must be answered by the reader him/herself.

These are not just academic questions. Whatever the best methods are, we need to choose them today. California's transportation needs in the decades ahead are crushing. Tough choices will have to be made, and this will entail political pain. Nobody wants to pay more fees or taxes. But there is no other choice. Not acting is simply not an option.

Yet California has surmounted great transportation challenges in the past, and has always shown the will and ability to innovate and excel. Today's challenges are actually opportunities that, if confronted with intelligence and vigor, give us a chance to lay the foundation for a prosperous and thriving state in the decades to come. With clear thinking and a solid understanding of the tools at our disposal, we can effectively and fairly raise the funds to keep California moving.

About the Authors

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Alexandra Evans is now a Transportation Planning Consultant at Kaku Associates, Inc. in Santa Monica, CA. She performs a full range of transportation consulting services including traffic studies and comprehensive analysis of transit, highway, and local roadway improvements. She has experience in statistical analysis and transportation operations and pricing modeling. She earned her master's degree in Urban Planning from UCLA in 2006, where she served as a transportation research assistant specializing in equity in transportation finance and pricing, the politics of road pricing, and the travel behavior of California immigrants. She was also a teaching assistant for real estate development.

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For Further Reading

Evans, Alexandra. [Politics and Perceptions of Transportation Pricing Worldwide](#)

Evans, Alexandra, Eric Morris, and Michael Gougherty. [Current Perspectives on Transportation Pricing in California](#)

McCullough, Bill. [Travel and Congestion Trends in California](#)

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Gougherty, Michael. [Public/Private Partnerships in Transportation Pricing](#)

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