Planning for a Better Future

CALIFORNIA 2025

2010 UPDATE

Budget

Climate Change

Economy

Education

Population

Transportation

Water

Workforce

The Public Policy Institute of California is dedicated to informing and improving public policy in California through independent, objective, nonpartisan research.

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CALIFORNIA BUDGET

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CALIFORNIA'S BUDGET PROBLEMS ARE LONG STANDING

To many Californians, the state's current budget woes are distressingly familiar. California contended with huge budget shortfalls during the recessions of the 1980s and 1990s. And the state has struggled to live within its means since the recession of 2001–2002, when tax receipts dropped by 15 percent in a single fiscal year. Since then, California has faced multibillion-dollar gaps between projected revenues and expenditures at the start of every budget cycle.

Despite signs of early recovery in the state and national economies, California will continue to face hard budget choices in the near term. Nevertheless, the current crisis may also offer opportunities. In particular, Californians are unusually attuned to the state's finances—since the fall of 2008 the PPIC Statewide Survey has consistently shown that more than three-quarters of residents characterize the state's budget imbalance as a "big problem." This public attention may help policymakers address California's perennial budget woes and confront longer-term fiscal challenges, such as costly retiree health benefits and rising debt.

BUDGET SHORTFALLS WILL CONTINUE TO BE LARGE

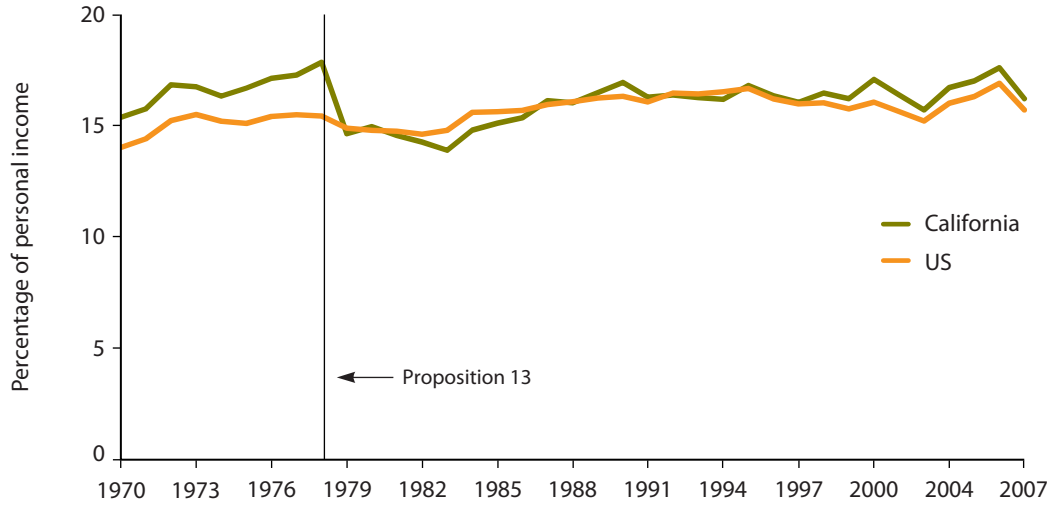
SOURCE: Based on Legislative Analyst Office projections at the start of each budget cycle and estimates through FY 2015.

CALIFORNIA HAS A NARROW AND VOLATILE REVENUE BASE

California spends more than the average state, and it collects more in revenues. It is also distinct in the way it raises revenues, relying more on income and sales taxes and less on property taxes. Tax experts have repeatedly urged flattening and simplifying California's revenue system by broadening tax bases, lowering tax rates, and eliminating certain tax preferences.

- **California is a moderate tax burden state.**
  In fiscal year 2006–2007, the latest year for which comprehensive data are available, California's state and local governments collected $255 billion, or $7,029 per capita, from taxes, fees, charges, and other miscellaneous sources. By this measure, California had the ninth-highest revenue burden in the nation. However, as a high-income state, California also has a large tax base. When state and local general revenues are expressed as share of economic activity or personal income, California's ranking drops to 20th nationally.

CALIFORNIA'S REVENUE BURDEN HAS CHANGED OVER TIME



SOURCE: Brookings-Urban Tax Policy Center.

- **Revenue volatility is an issue in California.**
  California's revenue system is highly dependent on personal income taxes, corporate taxes, and sales and use taxes. The income tax is a volatile revenue source because it relies on a narrow slice of taxpayers (in 2007, the top 1% of filers paid 48% of the tax) whose earnings tend to fluctuate with the economy. Sales and use taxes are also subject to economic fluctuations—they have been hard hit in the current recession. Moreover, compared to the rest of the nation, California relies less on a relatively stable revenue source, the property tax, because of Proposition 13.

WHY DO WE KEEP GETTING INTO THIS MESS? HIGH AND RISING SERVICE DEMANDS

As the largest state in the nation and one of the largest economies in the world, it is perhaps not surprising that California spends more than the average state. Less well known are the reasons for California's higher expenditures.

- **California state government is a nearly $200 billion enterprise.**
  In the fiscal year ending June 30, 2009, the state spent $196 billion, of which $91 billion came from the state's main discretionary fund, the General Fund. Another $73 billion came from federal funds (including stimulus funds), $24 billion from special funds, and $8 billion from bond funds..

- **The bulk of state spending funds local government activities.**
  About three-quarters of state spending goes to local governments for K–12 education, health and social services, public safety, and other programs. The remaining 25 percent finances state operations, including the University of California and California State University systems, correctional facilities, and administration.

EDUCATION DOMINATES STATE SPENDING

SOURCE: California Department of Finance. NOTE: "Other" includes tax relief, resources, environmental protection, state consumer services, and other expenditures.

- **California spends more in certain areas . . .**
  Many of California's public programs have larger caseloads, or workloads, because of demographics—in particular, more school-age children and low-income families. Also, the state has also made policy decisions to expand program eligibility and use in some areas—health and social services and higher education, for example. In addition, California pays some public employees—such as those in K–12 education, public safety, and administration—more generously than other states do.

- **. . . but saves in others.**
  In some programs, California's higher participation rates are offset by expenditures per case that are lower than in other states. Examples include K–12 and higher education, Medi-Cal, and CalWORKs. In some cases, such as K–12 education, higher salaries are offset by larger class sizes and lower staffing in general.

LOOKING AHEAD

California's current budget problems significantly distract from long-term planning. But the state will face many fiscal challenges in the years ahead. Some key areas to consider:

Pension funds and OPEBs. The state and many local governments pay monthly pensions to their retirees. In addition, retired public employees often receive health, dental, and other benefits collectively known as "other post-employment benefits" or OPEBs. Longer life expectancies and rising health care costs have made pensions and OPEBs a ballooning cost for state and local governments throughout the nation. A recent report commissioned by the State Controller's Office estimated California's state liabilities at $51.8 billion. The state's Public Employee Post-Employment Benefits Commission estimated combined state and local OPEB liabilities at $118 billion. Recent stock market declines may leave public pensions in need of additional contributions.

Debt service. Given the pressures of an aging infrastructure, increasing population, and service demands, the state treasurer has estimated that voters will need to approve $226 billion in general obligation bonds over the next 20 years. As a result, debt service costs may reach 10 percent of projected revenues.

The two-thirds requirement. California is one of three states to demand a two-thirds vote for passing a budget. Research suggests that political or fiscal institutions such as supermajority voting requirements have limited effects on overall spending. However, in California, the two-thirds rule is a roadblock to timely budgets and, perhaps, to taking on difficult issues.

Tax reform. Californians may be loathe to reconsider certain aspects of their tax code, such as the progressivity of the income tax or restraints on the property tax. However, the economy is also shifting, for example, to services and Internet or catalogue sales. Sensible modifications to the tax code (such as extending the sales tax to services) may improve efficiency, equity, and reliability.

Budgeting for volatility. Californians may also want to consider ways to budget for peaks and troughs in revenues, which appear to be a fact of life in the state. Improvements to budget forecasting could also help to orient voters and lawmakers to future needs. In particular, the state could expand the forecasting period from four or five years to ten years and make projections more transparent, highlighting the tough choices needed to maintain voters' priorities.

We invite you to dig deeper at ppic.org**. Related PPIC resources include:**

Statewide Survey: Californians and Their Government
California's State Budget
California's Debt: What Does It Pay For?
Public Bond Financing in California

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This publication is part of PPIC's Planning for a Better Future **project.**

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CALIFORNIA CLIMATE CHANGE

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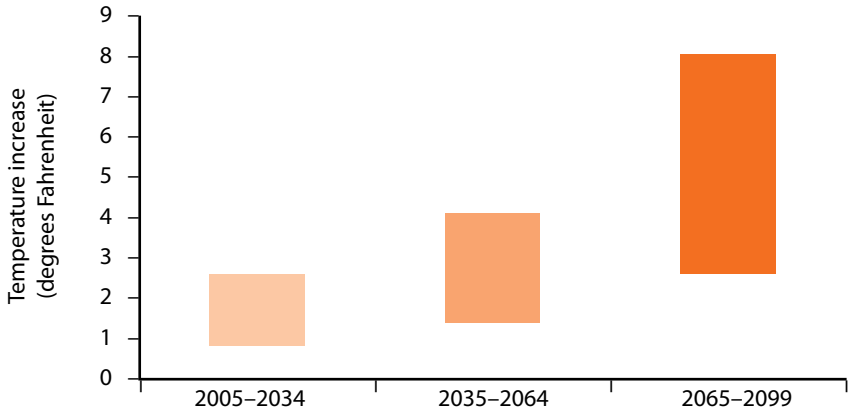
CLIMATE CHANGE THREATENS CALIFORNIA'S FUTURE

Increases in global emissions of greenhouse gases are leading to higher air and water temperatures as well as rising sea levels, with serious consequences for California. Air temperatures are projected to increase throughout the state over the coming century. Sea level is expected to rise 20 to 55 inches by 2100, and the frequency of extreme events such as heat waves, wildfires, floods, and droughts is expected to increase. Higher temperatures will result in more rain and less snow, diminishing the reserves of water held in the Sierra Nevada snowpack. Even if all emissions of greenhouse gases ceased today, some of these developments would be unavoidable because the climate system changes slowly.

AIR TEMPERATURES ARE PROJECTED TO RISE IN CALIFORNIA, ESPECIALLY UNDER HIGH EMISSIONS SCENARIOS



SOURCE: D. R. Cayan, A. L. Luers, et al., "Overview of the California Climate Change Scenarios Project," *Climatic Change* 87 (2008): S1–S6.
NOTE: Projected temperature increase relative to 1961–1990.

In the face of these threats, California has taken the lead in global efforts to reduce emissions. Assembly Bill (AB) 32, the Global Warming Solutions Act of 2006, requires the state to reduce greenhouse gas emissions to 1990 levels by 2020; this would result in emissions roughly one-third less than what would be expected under "business as usual." An executive order calls for emissions to be reduced to 80 percent below 1990 levels by 2050. Reductions of this magnitude are needed on a global scale to stabilize the earth's climate. California now faces a twofold policy challenge: finding the least expensive ways to reduce emissions and preparing for the climate changes that are expected even if emissions are successfully reduced.

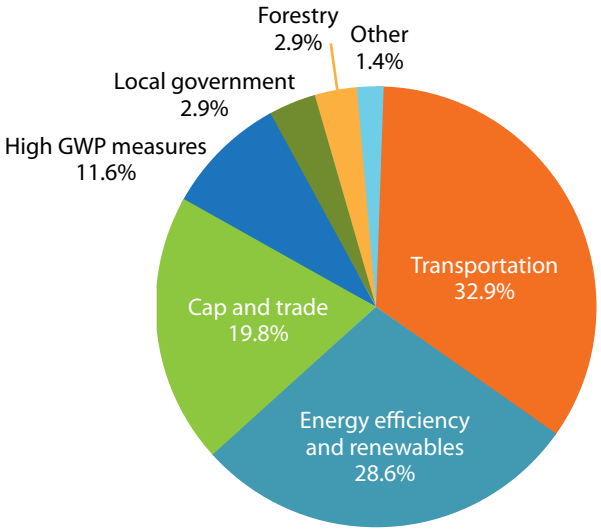
California is not alone in tackling this global issue. But its actions are crucial, because they set an example for other states, regions, and the rest of the world, and others are already following its lead. To be effective, the state must continue to forge new strategies, even though the nature and timing of climate change are uncertain and global efforts to reduce emissions may or may not be successful.

CALIFORNIA IS CHARTING NEW TERRITORY WITH ITS PLAN TO REDUCE EMISSIONS

- **California's climate change plans generate interest . . .**
  The California Air Resources Board (CARB) is responsible for implementing the Global Warming Solutions Act. In late 2008, CARB adopted a Scoping Plan, outlining the programs designed to reach the 2020 target. Because this is the first comprehensive plan of its kind within the United States (and one of the first such plans internationally), many are looking to California as a model for efforts elsewhere.

- **. . . and controversy.**
  Some legislators and interest groups have urged delaying compliance with AB 32 (and other environmental regulations) until the economy improves. Updated economic analysis by CARB shows that implementation will have little effect on the state's economy. At the same time, the Legislative Analyst has reported that the short-term impact on jobs is likely to be negative. Nonetheless, analysis of the potential impacts of climate change shows that large reductions in global emissions will be needed soon to avoid the most severe effects.

ENERGY AND TRANSPORTATION ARE THE LARGEST COMPONENTS OF THE SCOPING PLAN



SOURCE: CARB, "Climate Change Scoping Plan: A Framework for Change" (2008).
NOTE: GWP = global warming potential; gases with high GWP include refrigerants and solvents.

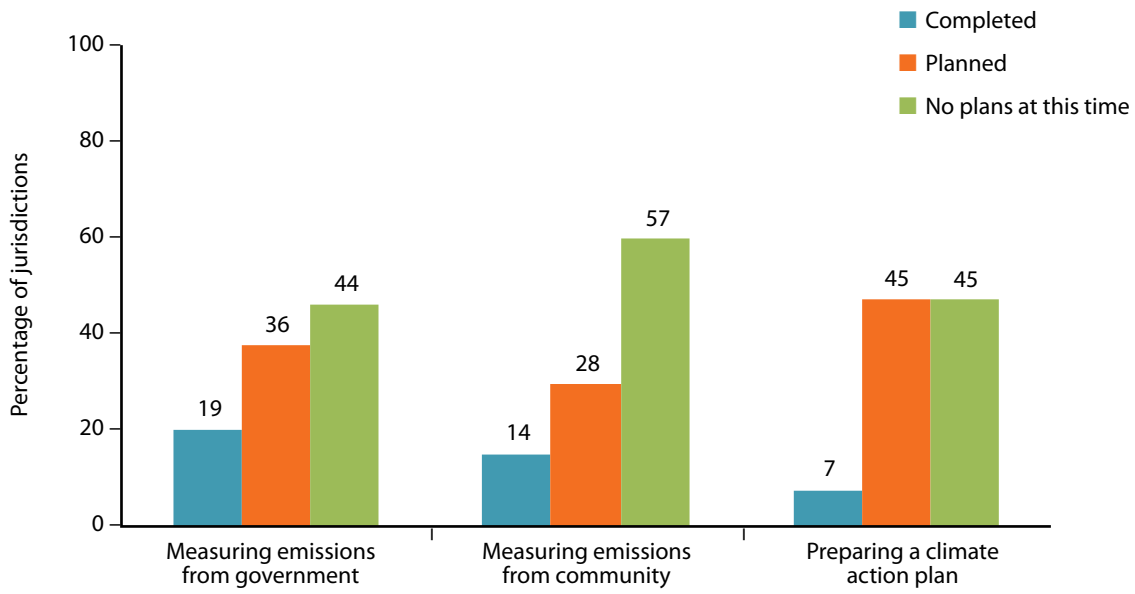
- **New standards for passenger vehicles are key.**
  California adopted the first-ever greenhouse gas emission standards for passenger vehicles in 2004. These standards will reduce emissions from new passenger vehicles by approximately 30 percent by 2016. The federal government has chosen to set standards equivalent to California's by 2016.

- **Partnerships to develop a cap and trade program are also in the works.**
  California is reaching out to other states and Canadian provinces, through the Western Climate Initiative, to develop a cap and trade program. Under this program, firms that would need to spend a lot to reduce emissions would be allowed to trade emission reduction credits with firms that can reduce emissions at lower cost.

- **California has recently adopted more pathbreaking strategies.**
  Adopted in 2008, Senate Bill (SB) 375 aims to reduce emissions by integrating investments in land use and transportation. This bill provides incentives to encourage regional transportation planning agencies and local governments to develop ways to reduce passenger vehicle use. Targets for 2020 and 2035 will be finalized by September 30, 2010.

- **California's local governments are also addressing climate change.**
  Three-quarters of California's cities and counties, encompassing over 90 percent of the state's population, are taking measures to address climate change. In many instances, these measures are also promoted as ways to reduce energy costs and to promote broader sustainability goals. Moving forward, local governments would like more information on the costs and benefits of different actions, information on funding, and greater clarity in state law.

LOCAL GOVERNMENTS ARE TAKING ACTION ON CLIMATE CHANGE



SOURCE: Hanak et al., *Climate Policy at the Local Level: A Survey of California's Cities and Counties* (PPIC, 2008). NOTE: "Don't know" responses not shown.

DESPITE THE RECESSION, CALIFORNIANS' SUPPORT FOR THE STATE'S CLIMATE POLICIES IS STRONG

	% Favor (all adults)
Global Warming Solutions Act of 2006	66
Emission standards for new passenger vehicles	78
Increasing the use of renewable energy	85
Requiring local governments to change land-use patterns so people drive less	78
Requiring an increase in energy efficiency for residential and commercial buildings and appliances	76
Requiring industrial plants, oil refineries, and commercial facilities to reduce emissions	80

SOURCE: Baldassare et al., *Statewide Survey: Californians and the Environment* (PPIC, July 2009).

CALIFORNIA NEEDS TO PREPARE FOR THE EFFECTS OF CLIMATE CHANGE

California is well ahead of other states in developing information on the effects of climate change. But much work must be done to prepare for these effects.

- **The effects of climate change are already being seen around the state.**
  Spring runoff from snowpack is occurring earlier now than it did in the first part of the 20th century. Some plant and animal species normally found in the southern part of the state have been observed in more northern locations.

- **Sea level rise threatens coastal infrastructure, homes, and habitat.**
  Sea level is projected to rise 8 to 16 inches by 2050 and 20 to 55 inches by 2100. The Pacific Institute finds that at the higher end of this range, 1,750 and 1,800 miles of highways and roads along the ocean coastline and San Francisco Bay, respectively, are at risk of inundation. Coastal armoring (e.g., sea walls or breakwaters) can help protect infrastructure and homes along the coast, but these are expensive remedies and would eliminate some recreational and ecological uses of the coastline.

- **Water management faces challenges.**
  The diminishing mountain snowpack reduces water storage and increases the risk of Central Valley flooding. Rainfall variability is also expected to increase, leading to more frequent droughts and floods. In addition, sea level rise poses threats to fragile Delta levees, currently important for the state's water supply.

SEA LEVEL RISE

THREATENS THE BAY AREA

- Innundation with 16-inch sea level rise
- Innundation with 55-inch sea level rise

SOURCE: Noah Knowles, "Potential Inundation Due to Rising Sea Levels in the San Francisco Bay Region" (California Climate Change Center, 2009).

NOTE: The map illustrates the potential inundation of 16 inches of sea level rise by 2050 and 55 inches by 2100.

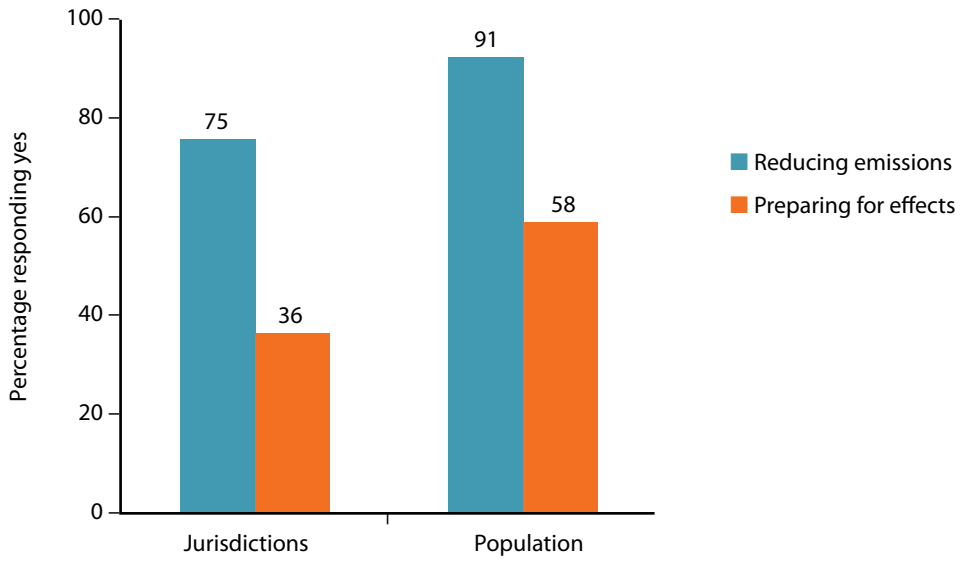
- **Public health will be at risk.**
  An increase in extreme events—heat waves, wildfires, and floods—will pose challenges to public health and the state's emergency preparedness agencies and health infrastructure. Case in point: A prolonged heat wave in 2006 resulted in over 140 confirmed deaths and a significant increase in emergency room visits and hospitalizations.

- **Air quality will worsen.**
  The San Joaquin Valley and the Los Angeles area already have some of the worst air quality in the nation. Increasing temperatures and other effects of climate change will worsen air quality, likely requiring additional pollution controls to attain state and federal air quality standards.

- **Biodiversity is under threat.**
  Climate change places an additional burden on many of the state's plants and animals. As temperatures rise, many species will need to migrate to more hospitable areas. Current development patterns could hinder this movement and threaten extinction for some species.

- **Readiness to cope is variable.**
  Water and electric utilities have begun to consider climate change in their long-range planning and have tools available to develop adaptation strategies. But in areas such as ecosystem management and flood control, the institutional and legal frameworks are ill-equipped to handle the changes. Some regions are taking the lead in thinking about adaptation (e.g., San Diego and the Bay Area). The Natural Resources Agency has developed an adaptation strategy for the state.

CALIFORNIA'S LOCAL GOVERNMENTS ARE LESS FOCUSED ON PREPARING FOR CLIMATE EFFECTS



SOURCE: Hanak et al., *Climate Policy at the Local Level: A Survey of California's Cities and Counties* (PPIC, 2008).
NOTE: Survey covered 310 cities and counties. "Jurisdictions" shows the share of cities and counties covered, and "population" shows the share of sampled population covered by the action.

LOOKING AHEAD

To lessen the effects on California, emission reductions will be needed on a global scale. Even with these reductions, the state needs to prepare for some inevitable effects of climate change.

- **Develop an integrated climate change policy.**
  An integrated climate change policy that includes efforts to reduce emissions and plans to prepare for climate change will ensure that mitigation and adaptation policies are complementary.

- **Achieve near-term greenhouse gas emission reductions.**
  Actions taken today will affect the concentration of greenhouse gases in the atmosphere several decades from now. Therefore, near-term emission reductions are needed to work toward future climate stabilization.

- **Undertake some "no regrets" measures now.**
  In some areas, failure to consider future climate changes in current planning will result in unacceptably high costs. For example, considering climate change in today's land-use planning decisions could facilitate species' migration as the climate changes. Limiting development in areas at increasing risk of flooding will avoid future costs.

- **Tap into local enthusiasm for undertaking climate action.**
  The state should build on local momentum to implement state-level climate policies. Local governments' experience and learning will be especially important in meeting the greenhouse gas emission reduction targets set under SB 375, the state's transportation and land-use law.

- **Continue to develop information to reduce policy uncertainties.**
  Better information is needed to assess progress toward meeting emission reduction targets and the cost-effectiveness of policy options. Assessments of climate effects at a local or regional scale will help pinpoint vulnerabilities and develop priorities for adaptation.

- **Continue to play a leadership role.**
  California is a leader on environmental policy. Climate change is no exception. This leadership is important for encouraging other governments to take actions to reduce climate change. Without global cooperation to reduce emissions, the consequences for California's economy and society may be severe.

We invite you to dig deeper at ppic.org**. Related PPIC resources include:**

Climate Change Challenges: Vehicle Emissions and Public Health in California
Preparing California for a Changing Climate
PPIC Statewide Survey: Californians and the Environment (July 2009)
Climate Policy at the Local Level: A Survey of California's Cities and Counties
Latino Attitudes and the Environment

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CALIFORNIA ECONOMY

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THE ECONOMY REMAINS A BIG CONCERN FOR CALIFORNIANS

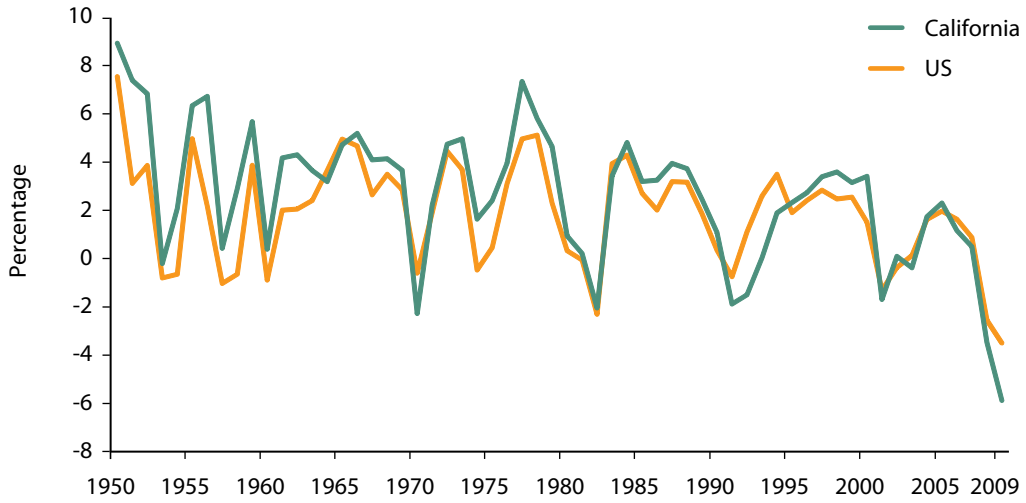
The current recession reveals important fundamentals about California's economy and shows where some longer-term challenges and growth opportunities lie. Californians remain worried about the economy: in PPIC's March 2010 Statewide Survey, 65 percent of respondents thought that the economy will face bad times over the next year, only a slight improvement over 71 percent in March 2009. But the current downturn is neither an indicator of trouble unique to California's economy nor a harbinger of long-term economic weakness in the state. Despite the state's frequent booms and busts, historical patterns are the best guide to California's economic future. Economies tend to return to growth rates and unemployment levels established over the long term, and major industry shifts—such as the transition from manufacturing to services—can take place over decades.

CALIFORNIA'S LONG-TERM ECONOMIC PROSPECTS ARE FUNDAMENTALLY STRONG

The California economy generally keeps pace with the U.S. economy. California consistently experiences higher unemployment and higher costs of doing business than other states, but these are explained or offset by the state's strengths and are likely to remain permanent features of the California economy.

- **California's economic performance closely tracks that of the nation as a whole.** The broadest measure of California's economic performance—employment growth—follows the nation's growth rate very closely. Job growth over the past 30 years has averaged 1.2 percent annually for the nation and 1.1 percent annually for California. In 2009, California's job loss of 5.7 percent was worse than the U.S. job loss of 3.5 percent. Although California might emerge from the recession on a slightly different timetable, its long-term growth rate is likely to remain similar to that of the nation.

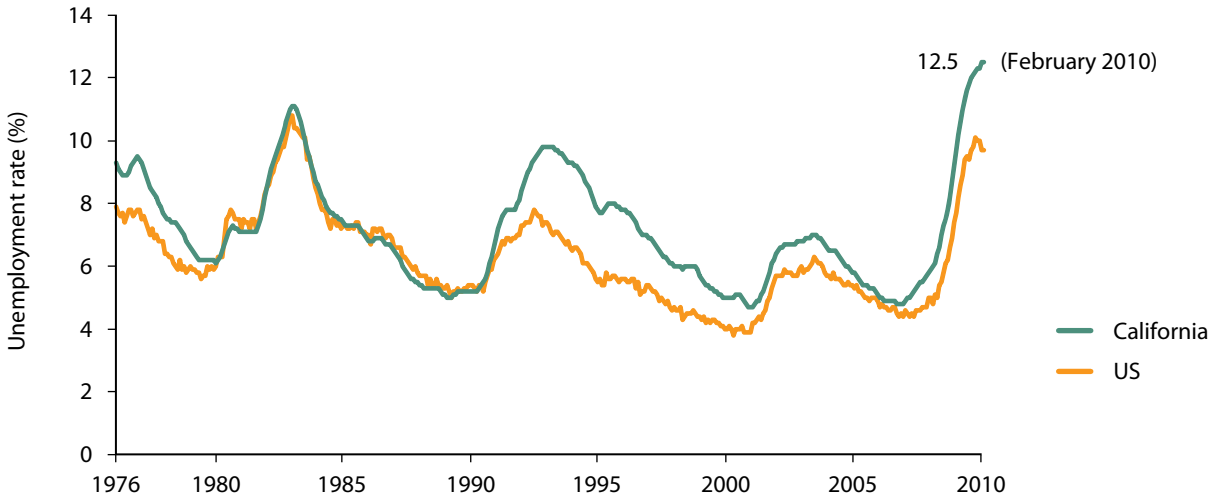
CALIFORNIA JOB GROWTH TRACKS GROWTH IN THE NATION OVERALL



SOURCES: U.S. Bureau of Labor Statistics and California Employment Development Department.
NOTE: Annual change in nonfarm employment, December to December.

- **Unemployment is persistently higher in California than in the nation.**
  In the current recession, California's unemployment is higher and rising faster than the U.S. rate, even though employment growth is similar for the state and the nation. In February 2010, California's unemployment was 12.5 percent; it was 9.7 percent for the nation. But California's unemployment rate consistently exceeds the U.S. rate, even when California's employment growth surpasses U.S. growth, as it did during the technology boom in the late 1990s.

UNEMPLOYMENT IS THE HIGHEST IN DECADES



SOURCE: U.S. Bureau of Labor Statistics and California Employment Development Department.
NOTE: Monthly unemployment rate, seasonally adjusted.

This seeming paradox arises because California's labor force grows faster than the U.S. labor force. The state's economy, therefore, generates jobs at a rate similar to the national rate, but this is not enough to keep up with California's faster-growing population. California unemployment is likely to remain above the U.S. level even after the effects of the current recession have been forgotten.

- **California is a high-cost, high-benefit state.**
  California workers, on average, earn 12 percent more than the national average—even when adjusting for differences in workers, occupations, and industries. However, output per worker in California is 13 percent above the national average. Thus, California's higher productivity fully offsets the higher average wages. California's immediate neighbors—Nevada, Oregon, and Arizona—all pay their workers less and have lower output per worker.

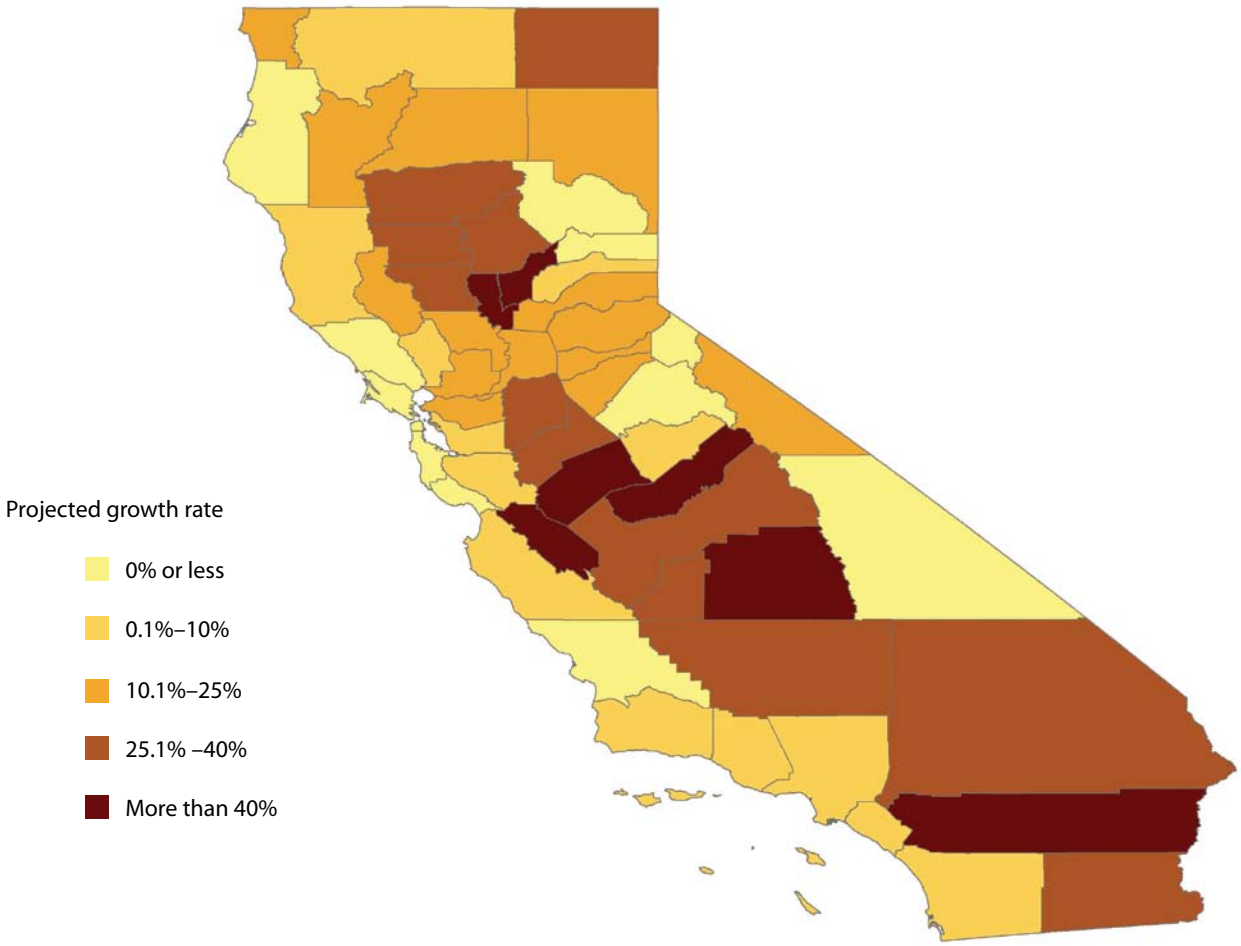
- **Businesses are not fleeing the state.**
  Rhetoric aside, California loses very few jobs to other states. Businesses rarely move either out of or into California and, on balance, the state loses only 11,000 jobs annually as a result of relocation—that's just 0.06 percent of California's 18 million jobs. Far more jobs are created and destoyed as a result of business expansion, contraction, formation, and closure than because of relocation. Business relocations, although highly visible, are a misleading guide to the overall performance of the California economy. The employment growth rate, which takes into account job creation and destruction for all reasons—not just relocation—is a much better measure of the state's economy.

- **The "business climate" debate understates California's strengths.**
  California consistently scores poorly in business climate rankings. These rankings, however, focus primarily on tax and regulatory costs, which are only one part of the business climate. The business climate should instead be defined to include all costs and benefits that businesses face from locating in California. The business climate also should take into account the skill level of the workforce, the availability of capital and support for new business, and the amenities that make California an attractive place to live.

GROWTH WILL BE UNEVEN

- **Regional economic differences are dramatic—and persistent.**
  Economic differences within California are likely to continue. Unemployment tends to be higher in the Central Valley —sometimes considerably higher—than in the urban, coastal parts of the state. These unemployment differences are due to a different industry mix and to the faster-growing workforce in the inland parts of the state. Even among urban, coastal areas, California's regional economies don't move in concert: aside from the current recession, in most years some regions of the state grow quickly while others grow slowly or contract. Although the recession has hit inland California hardest, the region's low housing costs will still contribute to high growth of the workforce there. The working-age population is projected to grow more than 25 percent between 2010 and 2025 in much of inland California; in California overall, that growth will be 13 percent.

INLAND CALIFORNIA'S LABOR FORCE WILL GROW FASTEST

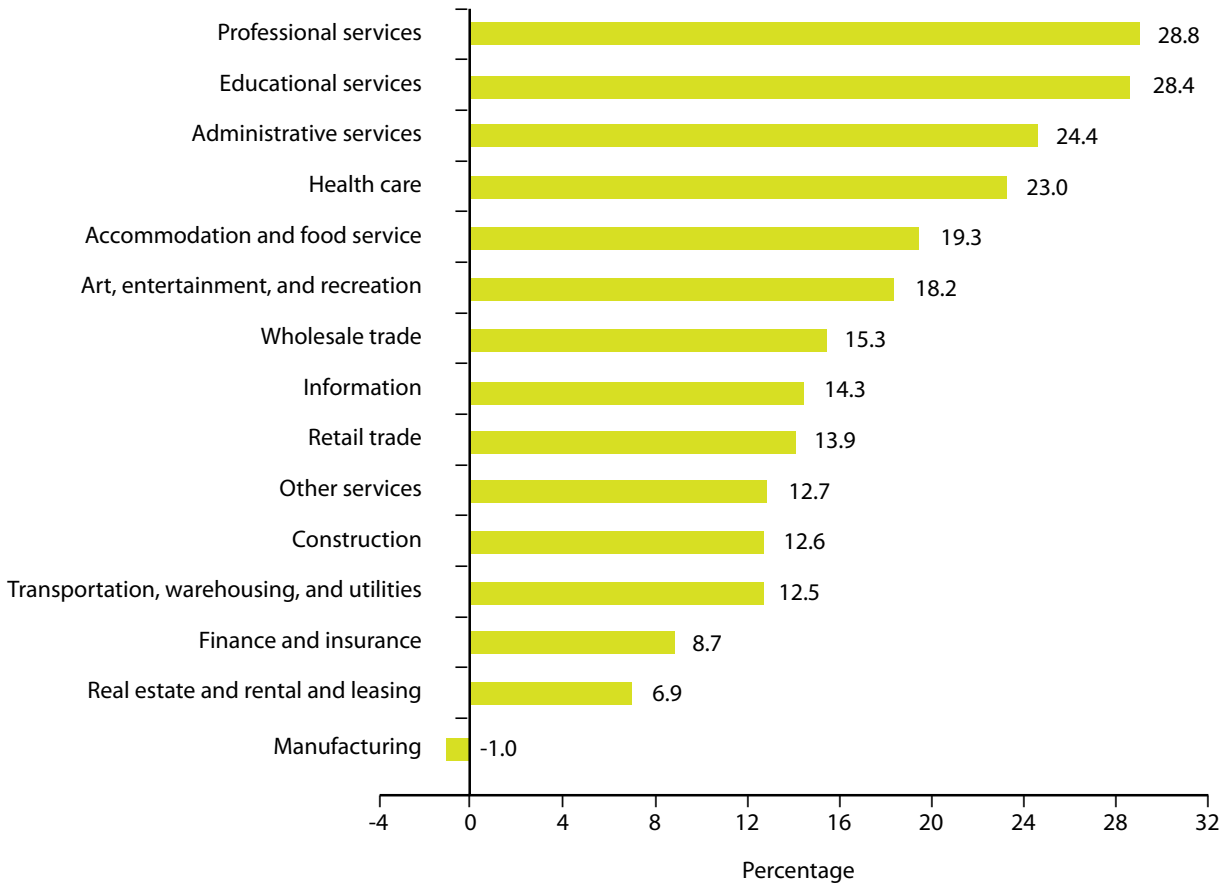


SOURCE: California Department of Finance.
NOTE: California's projected growth rate, by county, of working-age population, 2010–2025.

- **Housing is expensive still and probably always will be.**
  Even before this decade's real estate bubble, housing in California was much more expensive than in the nation as a whole. And although housing prices have fallen more in California than in the nation during this recession, housing remains far more expensive in California, especially in its coastal cities. At the end of 2009, the average U.S. home was worth $185,000; in metropolitan Los Angeles, the average home was worth over $400,000, and in the Bay Area, over $500,000, according to Zillow. Expensive real estate makes it harder for some businesses to locate in California and attract workers, pushing growth out of state. The growing gap between high house prices on the coast and rapidly falling prices inland could accelerate the movement of businesses and households inland.

- **Services will continue to grow; manufacturing will continue to stagnate.**
  Manufacturing accounted for only 9 percent of California's employment at the end of 2009; its share has been declining for decades, and it will continue to be California's slowest-growing sector. In the current recession, the construction industry has contracted most sharply, but once the existing housing stock has been absorbed by California's growing population, construction employment will rise again, although it will not reach its boom-time levels. The fastest-growing industries over the longer term are projected to be professional services, administrative services, education, and health care; these are also the sectors least hurt by the current recession.

PROJECTED PRIVATE-SECTOR INDUSTRY GROWTH



SOURCE: California Employment Development Department.
NOTE: EDD Employment Growth Projections, 2006–2016 (private sector only).

LOOKING AHEAD

California's long-term economic trends reflect strengths but also create pressures that policy must respond to. The most effective economic policies require accurate assessments of California's economic performance, a balanced view of the state's business climate, and a realistic sense of the state's strengths and weaknesses.

- **Focus on the right economic measures.**
  To know how well California's economy is doing, the best measure to examine is employment growth or gross state product growth. The unemployment rate is also an important indicator, showing how households are faring in the labor market and the demand on government services. Other indicators—such as whether businesses leave the state—can be misleading.

- **Take a broad view of the business climate.**
  Assessments of the state's business climate should take into account all of the costs and benefits of doing business in California. Because California is a high-cost, high-benefit state, looking only at the cost side—as many business climate indices focused on taxes and regulation tend to do—fails to explain why California's growth tends to keep up with or surpass national economic growth.

- **Review housing policies that do harm.**
  California's expensive real estate is a major cost for businesses and their workers. Housing is expensive partly because California's climate, natural features, and topography both raise the demand for land and constrain supply. Regardless of policy, California's housing prices will remain well above the national average, especially along the coast. But regulations that discourage new housing construction push prices up further, especially in expensive coastal cities, and raise the cost of doing business in California. Local efforts to review restrictions on housing development could boost California's economic growth in the long term.

- **Don't pin all hopes on one industry.**
  Although many industries—such as motion picture, high-technology, and wine-making—are highly concentrated in California, the state's economy is in fact very diversified, and its industry mix is quite similar to the national industry mix. Economic policy should reflect the breadth and diversity of the state's economy. Tempting as it is to identify the next boom industry—such as clean technology—and focus economic development efforts there, booms usually don't deliver stable, steady growth, as the Internet and housing industries demonstrate. And some hyped industries fail to take off at all. Economic development policy needs to nurture both new, innovative industries that might constitute California's next boom and established, steadily growing industries such as health care.

We invite you to dig deeper at ppic.org**. Related PPIC resources include:**

Business Location Decisions and Employment Dynamics in California
Do California's Enterprise Zones Create Jobs?
The California Economy: Housing Market Update
Are the Rich Leaving California?
Does Broadband Boost Local Economic Development?

Contact a PPIC expert:

Jed Kolko

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CALIFORNIA EDUCATION

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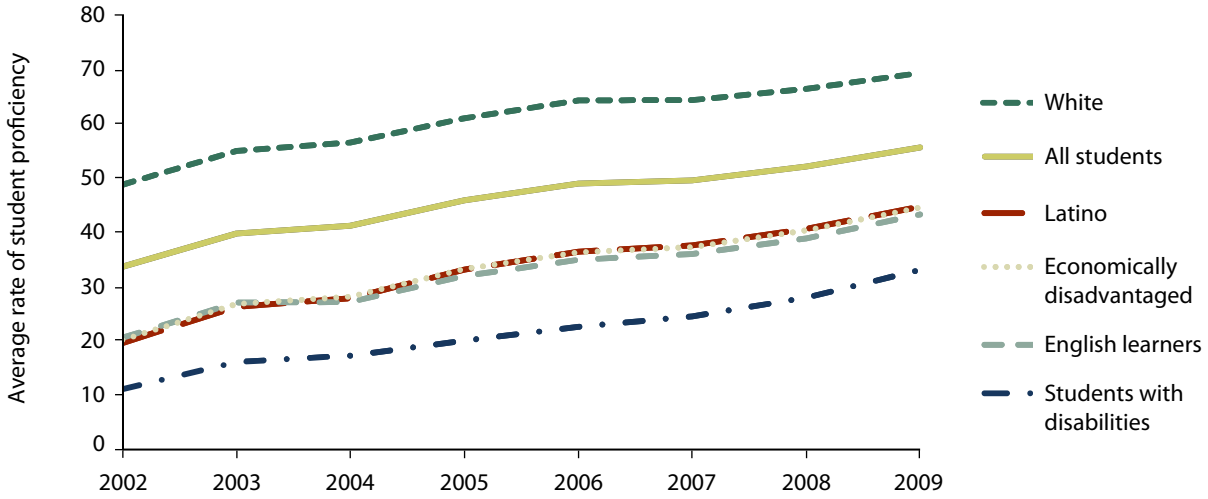
PROFICIENCY RATES ARE INCREASING, BUT MANY STUDENTS DO NOT ATTAIN PROFICIENCY

Proficiency rates among California students continue to rise. At the end of the 2008–09 school year, the share of students who demonstrated proficiency on the California Standards Test was greater than 50 percent in both English language arts (ELA) and math. California's proficiency rates have increased more than 20 percentage points over the last seven years, and rates of proficiency growth have been similar across all student subgroups.

California schools appear to be heading in the right direction, but the fact that nearly half of all students are not proficient in ELA and math suggests that we still have a long way to go. And although all proficiency rates have increased in all subgroups, significant proficiency gaps—such as the gap between white and Latino students—remain. Moreover, budget cuts may make it difficult to maintain the rate of progress we have seen since 2002.

CALIFORNIA MATH PROFICIENCY HAS RISEN STEADILY



SOURCE: California Department of Education (2002–2009).

CALIFORNIA STUDENTS FACE MANY CHALLENGES

- **Gaps in school readiness and academic skills are evident in kindergarten.** Low-income, African American, Latino, and English-learner (EL) students—and students who have parents with low education levels—begin school less prepared. These groups score lower on standardized tests that begin in second grade, and the achievement gaps persist.

- **California students are more disadvantaged than their peers in other states.**
  Fewer than one in ten students in the United States are ELs; in California, one out of every four students is an EL. Half of all students in California are eligible for free or reduced-price meals; this share is higher than the national average of 42 percent.

- **Early, high-quality interventions are critical.**
  A growing body of research indicates that investments in pre-kindergarten programs can produce both short- and long-term benefits that exceed costs. Programs targeted at low-socioeconomic-status children have the greatest returns. High-quality preschool shows particular promise, as do programs that target families. Currently, only about half of eligible children receive subsidized early care and education, and investments in early education lack statewide coordination.

- **Appropriately targeted interventions may help graduation rates.**
  A recent PPIC study found that students likely to fail the California High School Exit Exam (CAHSEE) can be identified as early as fourth grade. A strategic focus on support for elementary school students may reduce the need for later, more costly remediation.

THE CALIFORNIA ECONOMY PRESENTS A CHALLENGE TO CALIFORNIA SCHOOLS

- **California school districts face significant budget challenges.**
  K–12 education, which makes up the largest share of the state budget, has faced significant cuts in recent years. Between 2007–08 and 2009–10, the K–12 funds guaranteed by the state decreased by 12.4 percent. District reserves, $6 billion in federal stimulus aid, and eased restrictions on the allocation of categorical funds have partially mitigated the effects of these cuts. But it is likely that 2010–11 will be even more difficult, as federal stimulus funds and district reserves begin to dry up.

- **California spends less per pupil—but more per capita—than other states.**
  California spends less per pupil than the national average but spends more per capita on K–12 education than the average state, including other large states with large EL populations. These higher per capita expenditures result in lower per pupil expenditures because California has more students per capita.

- **Adjusting for costs, California's per pupil spending ranks near the bottom.**
  Differences in spending across states do not account for differences in costs across states. For example, California teachers earn about 40 percent more than their Florida peers, but teacher salaries in both states are about 5 percent lower than the salaries of similar state residents—individuals of the same age, gender, and ethnicity, with comparable educational attainment, hours worked per year, and so on. California's pupil-teacher ratios are among the highest in the nation, and the high cost of labor in California may prevent significant reductions in class sizes.

	Expenditures per pupil (2006–2007)	Rank	Expenditures per capita (2006–2007)	Rank	Average teacher salary (2006–2007)	Rank	Student teacher ratio (2006–2007)	Rank
California	$8,952	29	$1,569	21	$63,640	1	20.9	48
Florida	$8,567	35	$1,254	45	$45,308	29	16.4	38
New York	$15,546	2	$2,263	3	$58,537	6	12.8	7
Texas	$7,850	44	$1,510	27	$44,897	30	14.8	26
All other states	$9,689		$1,556		$47,641		15.1	

SOURCES: National Center for Education Statistics; U.S. Census Bureau Population Estimates.

THE SCHOOL FINANCE SYSTEM COULD BE LESS COMPLEX AND MORE EQUITABLE

- **Per pupil expenditures differ widely across districts.**
  The vast majority of funding is based on past expenditures on particular programs, not on the needs of the district. For example, district revenue limits, which determine each district's entitlement to state funding and which make up about two-thirds of a district's revenue, are based on a district's per pupil spending in 1972–73. Despite efforts to equalize revenue limits, there are still large differences across district types and sizes. For example, Fresno Unified, which is at the 75th percentile in per pupil expenditures across all unified districts, spent $9,413 per student in 2007–08, whereas Livermore Valley Joint Unified, which falls at the 25th percentile, spent $7,850 per student—a difference of more than $1,500.

- **Districts with greater challenges do not always receive greater funding.**
  On average, districts with more disadvantaged students get more funding per pupil, but this is not by design: less than 2 percent of the state's K–12 budget is allocated solely on the basis of the number of disadvantaged students in a district. An equitable funding formula would acknowledge not just differences in students but also cost differences among districts. Specifically, funding formulas should take into account regional cost differences that could affect the level and quality of services provided.

ACCOUNTABILITY PROGRAMS ARE IN NEED OF IMPROVEMENT

- **School demographics are a strong predictor of school success.**
  Accountability grades may reveal more about the type of students who attend a school than they do about the effectiveness of teachers and administrators at that school. In 2007, 50 percent of elementary schools with the highest share of low-income students met their proficiency targets; 98 percent of elementary schools with the lowest share of low-income students met their targets. Schools that met their targets also had greater shares of white students and lower shares of Latino students.

- **School report cards based on achievement levels may not accurately distinguish between effective and ineffective schools.**
  Schools with persistently low levels of achievement are not necessarily schools with ineffective teachers and administrators. In schools with students who enter with very low ability levels but improve dramatically, the success of teachers and administrators is likely to go unnoticed by official measures. Until California evaluates schools on the basis of individual student achievement gains, it will not be possible to distinguish between schools where teachers and administrators are effective and where they are not.

LOOKING AHEAD

To improve the state's economic well-being and to ensure that California's children are equipped to succeed in the economy of the 21st century, California policymakers need to adopt policies that will change the current trajectory of the state's school systems.

- **Continue to improve the California Longitudinal Pupil Achievement Data System (CALPADS).**
  Good data is essential to finding out what works in both the short and the long run. California is decades behind states like Texas, Florida, and North Carolina, which have implemented comprehensive data systems and used them to improve educational quality. California should continue to improve CALPADS by linking the data system with community college, CSU, and UC data systems, as well as with data systems from other state entities, such as the Employment Development Department, the Department of Social Services, and the California Department of Corrections. Steps should be taken to ensure that accurate data is put into the system. Although valid concerns have been raised about sharing student information with outside researchers, other states have found ways to protect the privacy of their students and work with the research community to improve educational quality. CALPADS has been designed to maintain confidentiality, and additional safeguards could be added to the system.

- **Reform school finance.**
  Replacing the current school finance system with one more closely tied to the costs of educating students—known as a weighted student formula—could greatly reduce the complexity and increase the transparency of the current system. A weighted student formula could also ensure that schools with higher costs per student—such as schools in higher-wage areas or schools with larger shares of students from low socioeconomic backgrounds—receive greater funding per student.

- **Evaluate schools and districts on achievement growth, not achievement levels.**
  When evaluation is based on growth, the focus is on how much students learn from one year to the next. Because students' levels of achievement are determined to a large extent by their abilities at the time they enter school, growth models provide a better measurement of school effectiveness. Tracking the achievement of individual students over time is much more complicated than the current system of simply tracking student proficiency rates from year to year. But as states develop longitudinal student data systems, individual growth models are becoming increasingly feasible.

- **Discover what works by building smart evaluations into interventions.**
  Accountability sanctions and other interventions that are implemented state- or nationwide without first being piloted may end up wasting scarce education dollars. Policymakers should support efforts to collect information about promising interventions, use random assignment to pilot these interventions at a small number of schools across the state, rigorously evaluate the programs by comparing "pilot group" schools to "control group" schools, and then roll out the successful programs at underachieving schools statewide.

We invite you to dig deeper at ppic.org**. Related PPIC resources include:**

Higher Education in California: New Goals for the Master Plan
Closing the Gap: Meeting California's Need for College Graduates
Predicting Success, Preventing Failure: An Investigation of the California High School Exit Exam
Funding Formulas for California Schools: Simulations and Supporting Data
Full-Day Kindergarten in California
PPIC Statewide Survey: Californians and Education
PPIC Statewide Survey: Californians and Higher Education

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CALIFORNIA POPULATION

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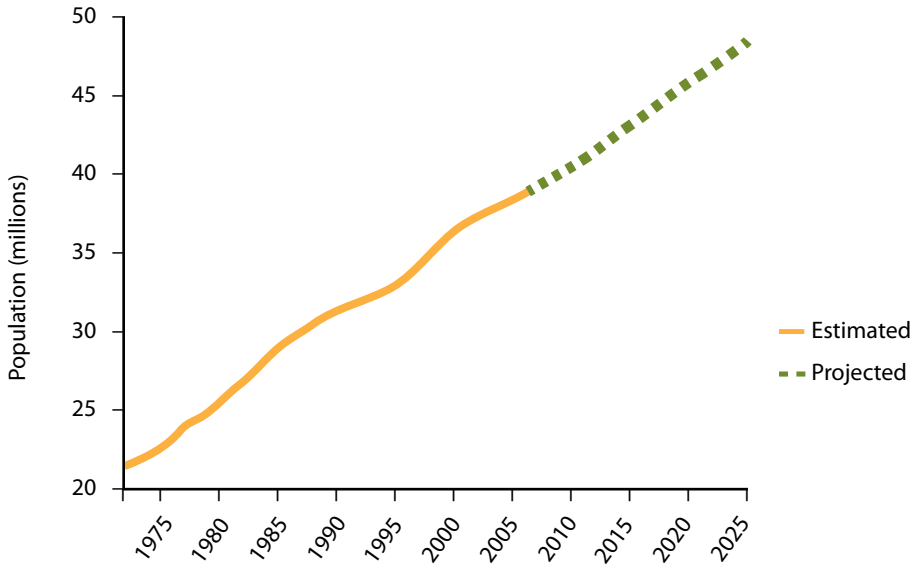
GROWTH WILL PUT PRESSURE ON INFRASTRUCTURE

California has long been known for and even defined by its tremendous population growth. No other developed region of the world that is California's size has sustained so much growth over such a long a period. Equally remarkable has been the increasing diversity in the state's population. California is home to large groups of immigrants from more than 60 nations, and no race or ethnic group constitutes a majority of the state's population. Although growth rates have slowed during this decade, the state is still growing faster than the nation.

During the next 20 years, California's population will continue to increase, as millions of new residents are added each decade. In all areas of infrastructure and public services—including education, transportation, corrections, housing, water, health, and welfare—population growth will lead to new demands.

CALIFORNIA'S POPULATION WILL CONTINUE TO GROW



SOURCE: California Department of Finance.

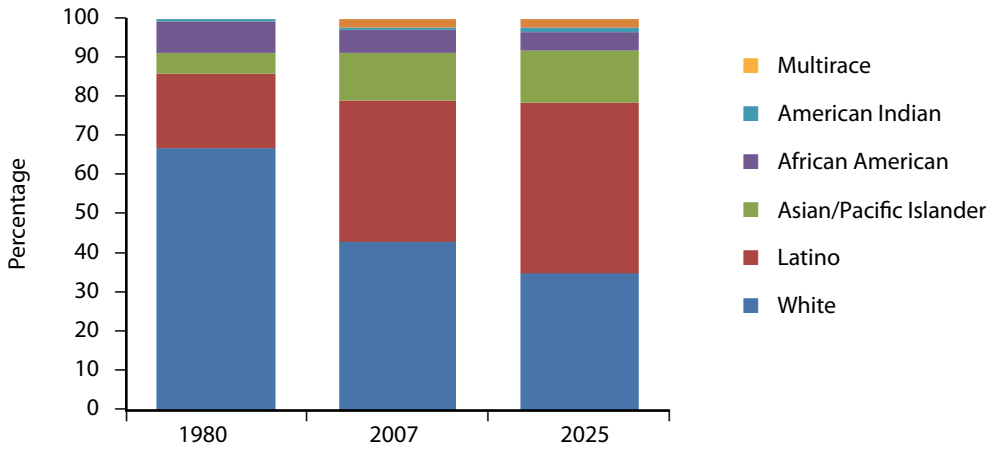
GROWTH CONTINUES AS REGIONAL, RACIAL/ETHNIC, AND AGE GROUPS SHIFT

- **Large population gains are projected to continue.**
  Between 2009 and 2025, California's population is projected to increase from 38.5 million to 46.7 million. Annual increases will be about 500,000 people, equivalent to adding a city the size of Long Beach to the state's population each year. Annual growth rates will average 1.2 percent, similar to growth experienced in the 1990s but slower than in earlier decades.

- **Inland areas will see higher growth.**
  The inland areas of California have grown faster than the coastal areas for many decades, but coastal counties are still home to most of the state's population. Projections indicate that the Inland Empire, the Sacramento region, and the San Joaquin Valley will grow much faster than other areas of the state. The population will increase by 3.5 million in coastal counties (including the San Francisco Bay Area) and by 4.7 million in inland counties. Key milestones expected by 2025:
  - ▲ Los Angeles County will reach 11.5 million residents.
  - ▲ Riverside County will reach 3 million residents.
  - ▲ Santa Clara County will reach 2 million residents.
  - ▲ San Joaquin County will surpass 1 million residents.

- **California's population will continue to diversify.**
  The 2000 Census found that no ethnic group in the state made up a majority of the population; non-Hispanic whites were the largest group. The California Department of Finance projects that in 2016 Latinos will replace whites as the largest ethnic group. Among children ages 5 and under, Latinos already make up 52 percent of the population. Latino increases are due to both immigration and relatively high birth rates. Immigrants are projected to make up 29 percent of the state's population in 2025, a modest increase from 27 percent in 2007.

LATINOS WILL BECOME CALIFORNIA'S LARGEST ETHNIC GROUP



SOURCES: 1980 Census; 2007 American Community Survey; California Department of Finance projections.

- **Large numbers of Californians will soon reach retirement age.**
  In 2008, about 11 percent of Californians were age 65 and over, compared to only 9 percent in 1970. By 2025, that share will grow to 16 percent. The total number of adults age 65 and over is projected to grow from 4.2 million in 2008 to 7.6 million in 2025.

- **The number of children will change very slowly.**
  From 2008 to 2015, the number of children is projected to increase only 3 percent, from 10.0 million to 10.3 million. In contrast, during the 1990s, the number of children grew by almost 20 percent. Growth in the child population will resume from 2015 to 2025 but will not exceed overall population growth rates for the state.

LOOKING AHEAD

The state's growing and changing population will put pressure on a variety of infrastructure needs and public services. Key areas to watch:

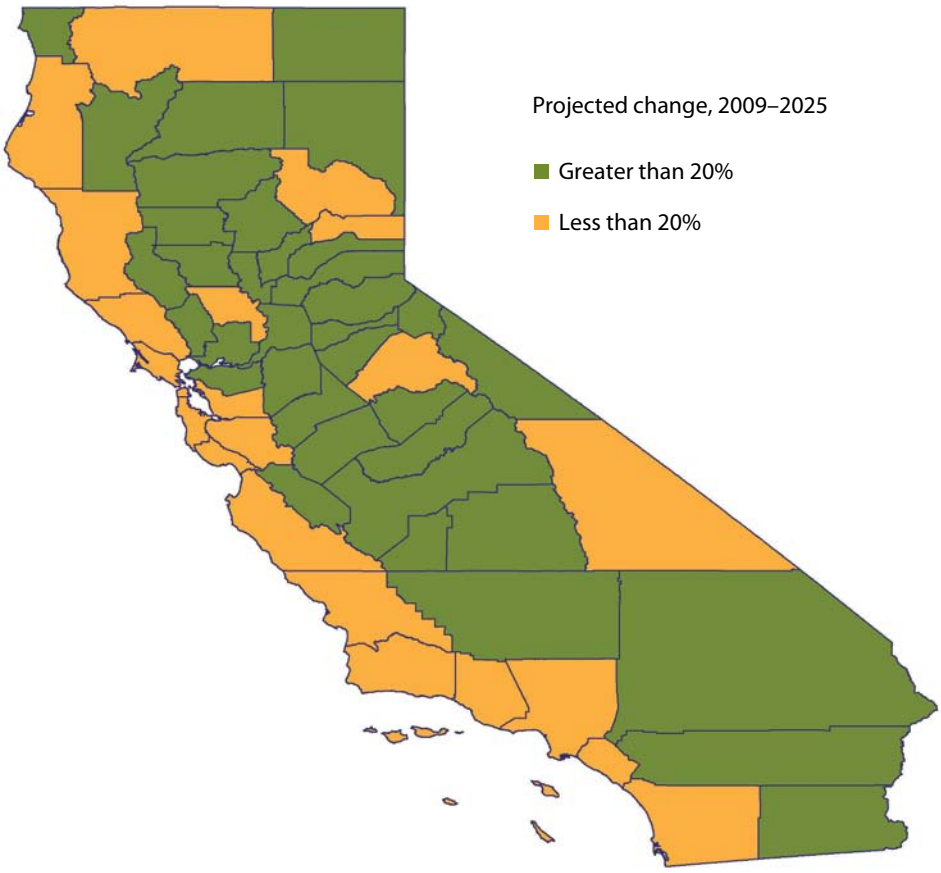
Schools. The relatively slow growth in the number of school-aged children could give the state time to catch up on school infrastructure needs and a chance to adjust school budgets, perhaps increasing per student expenditures. Higher education enrollments should continue to increase in the near term but will subside around 2015.

Housing. After the elderly, adults in their late 20s and early 30s will be the fastest-growing age group. Between 2008 and 2025, the number of adults ages 25 to 35 will increase by almost one-third. This is the age at which young adults typically get married, start families, and establish their own households—driving up housing demand.

Health and human services. Meeting the needs of a large and growing elderly population will pose more challenges. For example, even though Medi-Cal enrolls a far larger share of children, elderly adults account for a much higher share of expenditures. Annual costs per enrollee are at least five times higher for adults over age 50 than for children. Nursing home care is especially expensive.

The 2010 Census. The California Department of Finance population estimates for 2009 are 1.5 million higher than U.S. Census Bureau estimates, which is the greatest discrepancy ever between the two agencies and equivalent to two seats in the House of Representatives.

INLAND COUNTIES WILL EXPERIENCE FASTER POPULATION GROWTH



SOURCE: California Department of Finance.

We invite you to dig deeper at ppic.org**. Related PPIC resources include:**

New Patterns of Immigrant Settlement in California
PPIC Statewide Survey: Californians and Population Issues
Are the Rich Leaving California?
California's Future Population
Immigrants in California
The Inland Empire in 2015

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CALIFORNIA TRANSPORTATION

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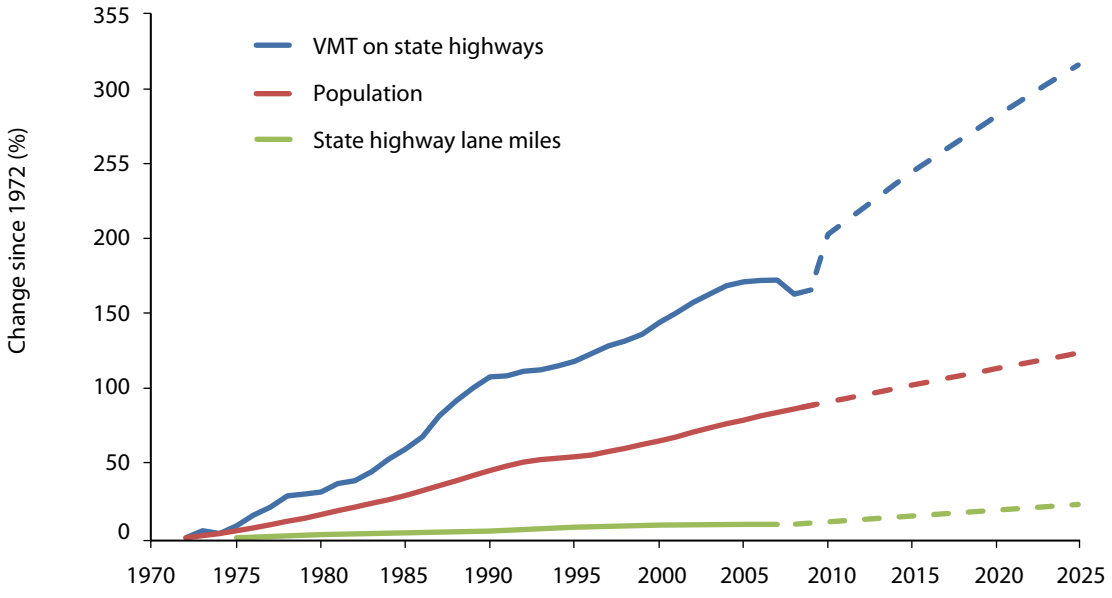
CALIFORNIA MUST REDUCE POLLUTION, IMPROVE MOVEMENT OF PEOPLE AND GOODS

California's love affair with the car is legendary. But the state suffers from some of the worst air quality in the nation, and transportation is a major culprit. Not only is it the state's largest source of greenhouse gas (GHG) emissions, it also contributes the most smog-forming pollutants to the air, causing high rates of respiratory illness.

The state is not ignoring this problem. For instance, California must reduce smog-forming emissions to bring its regions into compliance with federal and state air quality standards. In addition, the transportation sector is expected to generate the largest reductions in GHGs under California's plan for meeting the targets established in the Global Warming Solutions Act of 2006 (Assembly Bill 32). Both reductions will demand great changes from the transportation sector.

On state highways in the coming decades, vehicle miles traveled (VMT) are expected to continue to outstrip population growth under "business as usual" scenarios. In addition, goods movement on California's roads, spurred by the growth in port traffic, will continue to contribute significantly to the growth in VMT. Meanwhile, the number of state highway lane miles grew by only 6 percent between 1980 and 2006, contributing to increased congestion in the state's metropolitan areas. Congestion not only costs the economy in lost time, but by raising fuel consumption it also contributes to higher emissions.

DESPITE A RECENT DECLINE, VMT ARE PROJECTED TO RISE FASTER THAN POPULATION



SOURCES: VMT and highway lane mile data are from Caltrans and population data are from the California Department of Finance.
NOTE: Dashed lines indicate projections.

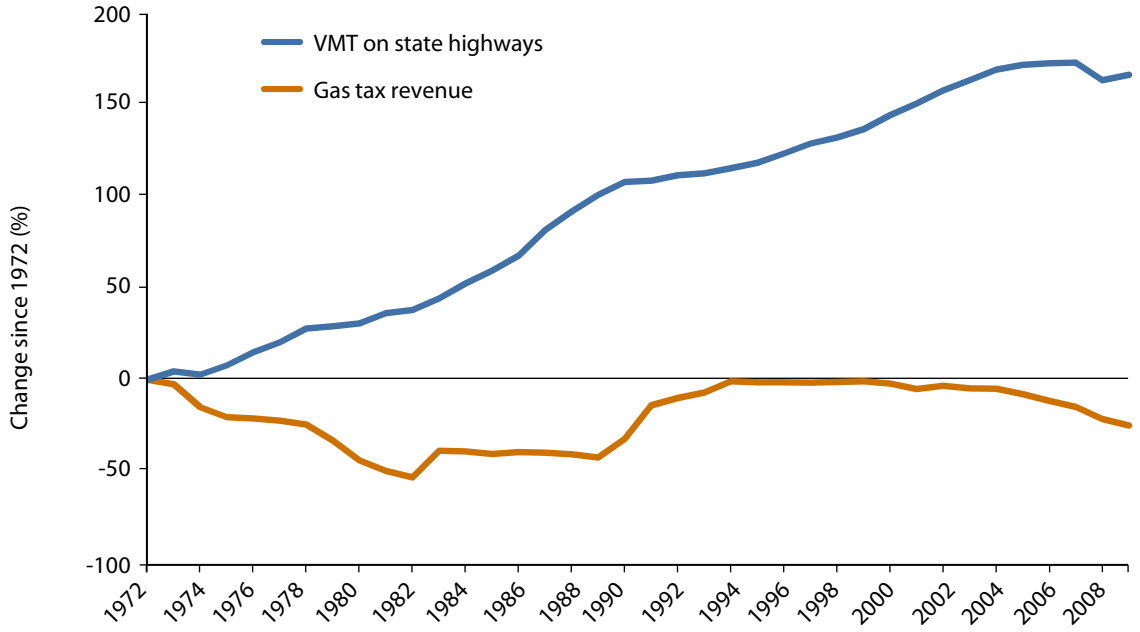
Declining revenues from traditional funding sources (notably the gas tax) have hampered the state's ability to invest in transportation networks. Looking ahead, California needs to reduce the environmental effects of the transportation sector while improving mobility. To achieve both goals simultaneously, technological, organizational, and funding innovations will be needed.

PAYING FOR TRANSPORTATION INVESTMENTS IS A GROWING CHALLENGE

Accommodating growth in transportation demand will require new investments in roads and other transportation alternatives, particularly public transit. New infrastructure will also be needed as the state explores new fuel and technology options. But California's transportation funding system is broken. Although general obligation bonds and federal stimulus funds can help in the near term, new funding strategies will be needed to meet future demands.

- **Gas taxes can no longer fund all transportation needs.**
  California's gas tax has been $0.18 per gallon since 1994, yet raising it is politically difficult. User fees such as the gas tax provide multiple benefits—in addition to raising revenues, they encourage more efficient use of infrastructure, thereby lowering overall investment needs and reducing harmful emissions. Surveys indicate that high fuel costs affect driving patterns and may influence vehicle purchase decisions, suggesting that the public weighs its choices differently when driving costs are higher. And transit ridership increases when driving costs are higher.

FUEL TAX REVENUE HAS NOT KEPT PACE WITH THE INCREASE IN HIGHWAY USE



SOURCES: Gasoline and diesel sales data are from the California Department of Finance and VMT estimates are from Caltrans.

- **Local agencies have filled some of the gap with sales taxes.**
  Nineteen counties now use county sales taxes to support local road and transit projects. Sales taxes are a useful stopgap measure, but they do not provide the same incentives as user fees, because everyone pays irrespective of how much they use transportation infrastructure.

- **State general obligation bonds have also become a major revenue source.**
  In 2006, Californians approved $20 billion in state general obligation bonds for transportation projects. Although useful, this is not a durable source of funding, because it puts pressure on the state's General Fund without increasing revenues. As with county sales taxes, general obligation bonds, which are repaid through general tax revenues, do not provide incentives to use facilities more efficiently.

- **Toll roads can raise revenues while managing congestion.**
  New electronic toll collection (ETC) technology makes it possible to collect fees for actual miles traveled—an improvement over the gas tax. Transportation experts foresee widespread use of this technology within one to two decades. In the near term, ETC facilitates the expanded use of "express" or HOT (high-occupancy toll) lanes on California's highways. On these roads, solo drivers can pay to drive in the less-congested managed lanes, which carpoolers and buses use free. Several express lanes in Southern California have already proved successful, and many more are planned both there and in the Bay Area.

CONGESTION CHALLENGES: LAGGING INVESTMENTS AND LOW PUBLIC TRANSIT RIDERSHIP

- **California's cities consistently rank among the most congested in the nation.**
  The Los Angeles metropolitan area has been at the top of the list for over a decade, and the San Francisco Bay Area is not far behind. Traffic delays have also been on the rise in the rapidly growing inland areas of the state. Californians living in all of these areas routinely identify traffic congestion as a major problem. Reducing bottlenecks can save time and lessen the environmental effects of driving, since fuel use and emissions are generally higher when traffic is backed up. Investment per VMT on state highways declined 79 percent between 1965 and 1980 and has remained relatively constant since then.

- **Public transit has not caught on.**
  The share of the workforce commuting on public transit in the state's four largest metropolitan areas barely increased from 5.5 percent in 1990 to 5.6 percent in 2006, despite the introduction and expansion of several light rail and commuter rail systems.

REDUCING EMISSIONS IS THE KEY TO MEETING STATE ENVIRONMENTAL GOALS

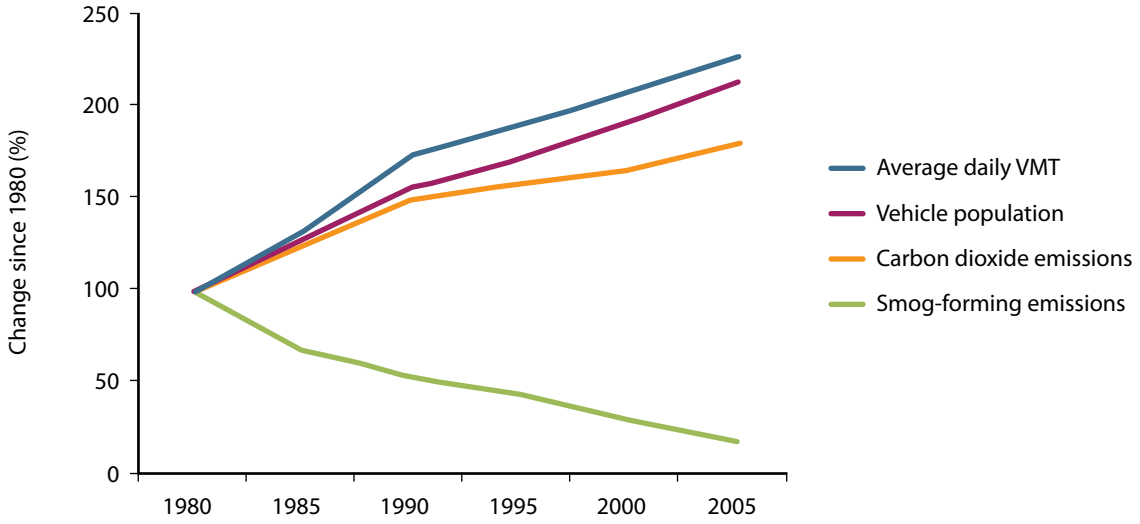
Emissions of hydrocarbons and oxides of nitrogen contribute to smog formation. Greenhouse gas emissions contribute to global warming. Although some strategies can reduce both types of pollutants (such as electric vehicles powered with clean sources), others can lead to conflicts (for example, some biofuels reduce GHGs but increase smog).

California is a leader in designing policies to reduce emissions from transportation sources. Many states have chosen to follow California's emissions standards for passenger vehicles, which are more stringent than federal standards. More recently, the state has launched programs to limit emissions by reducing the carbon content of transportation fuels and by encouraging people to drive less.

- **California's passenger vehicle regulations have helped reduce smog.**
  The state's Low Emission Vehicle programs have been very successful in reducing smog-forming emissions from passenger vehicles. Even as vehicle miles traveled have increased, these emissions have been reduced substantially. These improvements are largely attributable to improved vehicle emissions control technology. However, greenhouse gas emissions from passenger vehicles have increased as VMT and the vehicle stock have grown. New regulations will reduce GHG emissions from new passenger vehicles by 30 percent by 2016.

- **Passenger vehicles are no longer the biggest polluters.**
  Heavy-duty vehicles (trucks and buses) and off-road sources (construction equipment, trains, farm equipment, and the like) are now the largest contributors to transportation-related smog-forming emissions. These sources have been less-regulated than passenger vehicles, and their emissions have been growing. A leading source of growth is

SMOG-FORMING EMISSIONS HAVE DECLINED, BUT GHG EMISSIONS HAVE CONTINUED TO INCREASE



SOURCES: Vehicle population data are from the California Air Resources Board, 2009 Almanac. Emissions and VMT data are from the state's mobile source emission factor model.
NOTES: All data are for passenger vehicles only. Carbon dioxide is the predominant greenhouse gas emitted by vehicles.

increased goods movement through the state's ports and along its freeways. New regulations set tighter emission standards for on- and off-road heavy-duty vehicles, and efforts are under way to reduce emissions from the state's ports.

- **New fuels can reduce emissions from the entire vehicle fleet.**
  California is developing a low-carbon fuel standard. Some of these fuels, such as blends of gas or diesel with sustainable biofuels, can be used in existing cars and trucks, which would immediately reduce GHGs. Others, such as electricity, will require new types of vehicles. The transition to low-carbon fuels will likely require investment in new refueling infrastructure.

HEAVY-DUTY AND OFF-ROAD SOURCES NOW CONTRIBUTE 80 PERCENT OF SMOG-FORMING EMISSIONS

SOURCE: Emissions data are from the California Air Resources Board. NOTE: Graph includes transportation emissions only.

- **Groundbreaking new legislation encourages regional action.**
  Under Senate Bill 375, the California Air Resources Board is adopting regional greenhouse gas emission reduction targets for 2020 and 2035. The targets will be finalized by late September 2010 and will be met through reductions in VMT. These reductions can be achieved through changes in land use, investments in transit and other alternatives to driving, and pricing programs that discourage driving.

- **Californians support the state's efforts to limit emissions from transportation …**
  Close to 80 percent of Californians support efforts to reduce emissions from vehicles and 78 percent of Californians support requiring local governments to change land-use patterns so that residents can drive less.

- **… but strong environmental support conflicts with other preferences.**
  When asked about housing and infrastructure spending, many Californians continue to prefer single-family homes and freeway expansion over construction of denser, more transit-friendly housing that would reduce VMT. In January 2006, top-ranked transportation investment choices were freeways and highways (38%), followed by transit (29%), local roads (34%), and carpool lanes (7%).

LOOKING AHEAD

A well-functioning transportation system is vital for California's future. Finding the appropriate mix of investment, pricing, and regulatory solutions will be key to meeting the state's environmental and mobility goals.

- **Experiment with new user-based transportation funding tools.**
  After years of hesitation, California is finally making progress in implementing toll-based express lanes. The state should also begin experimenting with broader use of electronic toll collection on all roads, following the lead of Oregon and some European countries.

- **Increase the gasoline tax.**
  Raising the gas tax is an important near-term solution for increasing transportation revenues. A higher gas tax will also reinforce state efforts to reduce emissions by sending a price signal to drivers.

- **Look for win-win policies for controlling emissions.**
  Policies should be made with full consideration of all emission effects and efforts should be made to maximize the benefits for both air quality improvement and mitigation of climate change.

- **Design policies to encourage innovation.**
  Addressing the environmental and infrastructure challenges faced by the transportation sector will require innovations in technologies for vehicles and fuels and in transportation and land-use planning. Regulatory and financial incentives are needed to encourage and facilitate this innovation.

We invite you to dig deeper at ppic.org**. Related PPIC resources include:**

Climate Change Challenges: Vehicle Emissions and Public Health in California
Paying for Infrastructure: California's Choices
Learning from California's Zero-Emission Vehicle Program
Time to Work: Commuting Times and Modes of Transportation of California Workers
Sizing Up the Challenge: California's Infrastructure Needs and Tradeoffs

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CALIFORNIA WATER

PPIC PUBLIC POLICY INSTITUTE OF CALIFORNIA

CALIFORNIA FACES GROWING WATER MANAGEMENT CHALLENGES

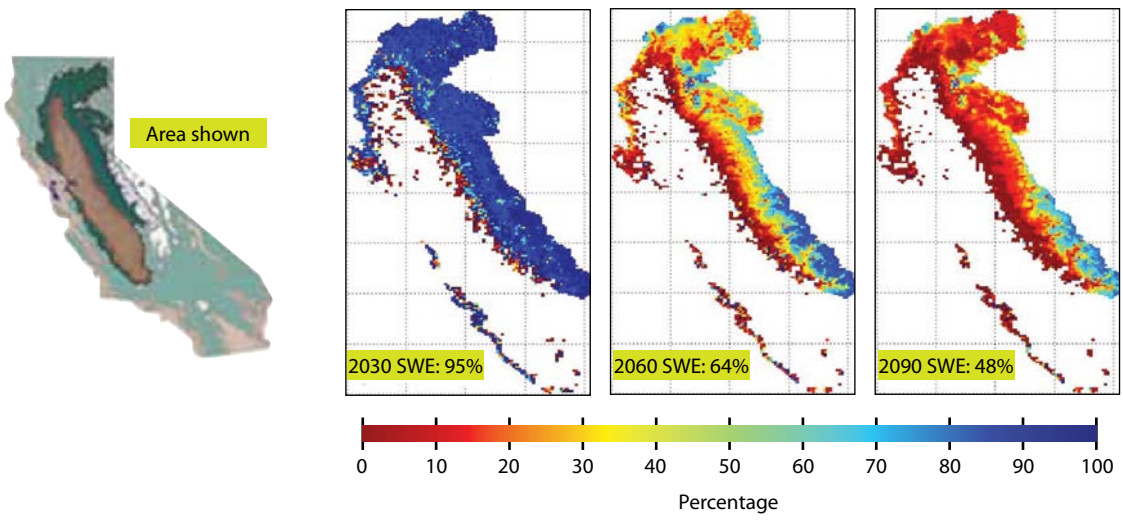
Water management in California has always been difficult, especially because the state's variable climate is marked by long droughts and severe floods. The state also features stark regional differences in water availability and demand; it relies on a vast network of storage and conveyance facilities to deliver water from the wetter parts of the state (mostly the northern and eastern mountains) to population and farming centers in the Bay Area, the San Joaquin Valley, and Southern California. This supply network is now threatened by the physical and biological fragility of the system's hub in the Sacramento–San Joaquin Delta.

Other challenges are also on the horizon. Population growth is increasing water demand in urban areas and this demand is likely to increase even if current efforts to reduce per capita water use are successful. At the same time, conflicts are growing between human water uses and water necessary to maintain fish and other wildlife. In addition, California faces serious and growing threats to life and property from flooding, particularly in the Central Valley.

Climate change will play an important, if uncertain, role. California's natural variability is likely to increase, accentuating droughts and floods. Rising air temperatures are expected to significantly reduce the Sierra Nevada snowpack, affecting water storage as well as winter and spring flood flows. Higher water temperatures may make it harder to maintain aquatic habitats for native fish species.

Over time, all of these challenges are likely to intensify. Potential solutions will involve difficult and sometimes costly tradeoffs and inconvenient legal and political changes.

RISING TEMPERATURES WILL DIMINISH THE SIERRA NEVADA SNOWPACK

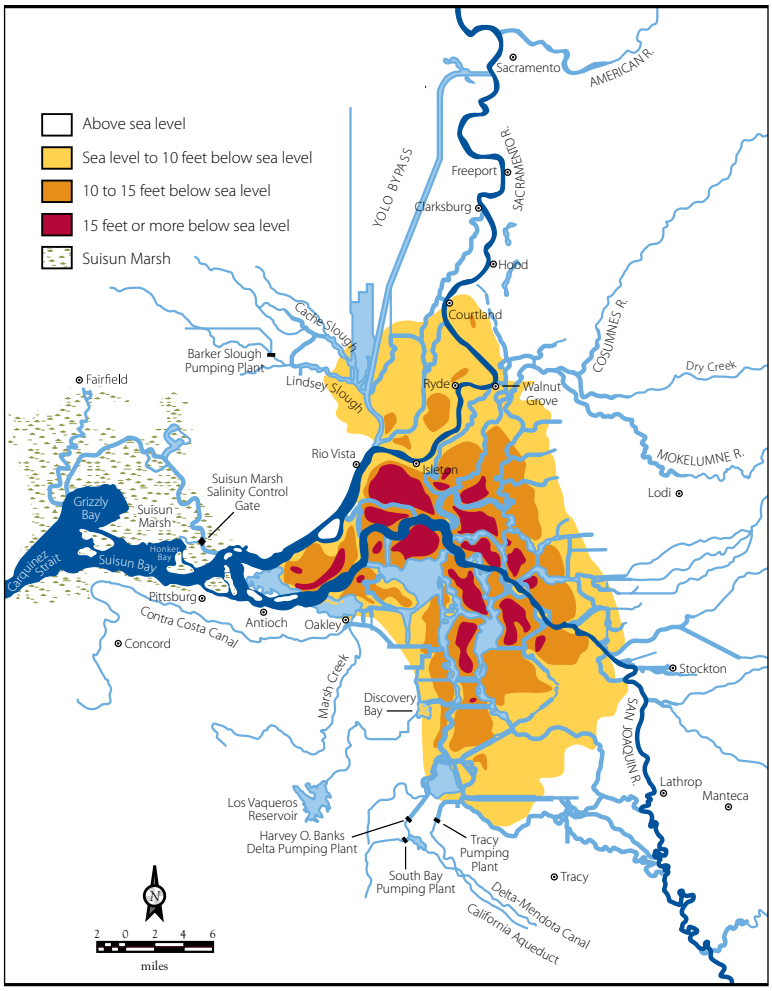


SOURCE: N. Knowles and D. R. Cayan, "Potential Effects of Global Warming on the Sacramento/San Joaquin Watershed and the San Francisco Estuary," *Geophysical Research Letters* 29, no. 18 (2002). NOTE: Projected temperature increases: 0.6˚C (2020–2039), 1.6˚C (2050–2069), and 2.1˚C (2080–2099), expressed as a percentage of estimated present conditions (1995–2005). SWE is snow water equivalent.

CALIFORNIA'S BIGGEST WATER CHALLENGE: INSTABILITY IN THE DELTA

As the fragile hub of California's water supply, the Delta now poses serious risks to the economies of the Bay Area, Southern California, and the San Joaquin Valley. Sea level rise and earthquakes threaten the weak Delta levees that keep salt water at bay. Environmental concerns further affect water supplies. Since 2007, the collapse of native fish species has led to court-ordered cutbacks of pumping from the southern Delta. The Delta's physical deterioration will not be delayed by political indecision: the state faces inevitable, fundamental change in this region.

AN EARTHQUAKE COULD CAUSE SALT WATER TO FILL THE DELTA'S LOW-LYING ISLANDS AND DISRUPT WATER SUPPLIES



SOURCE: Department of Water Resources, *Sacramento–San Joaquin Delta Atlas* (1995).

- **A peripheral canal is the best approach for addressing both ecosystem and economic risks.** Instead of pulling water through the Delta to the pumps (the current system), a peripheral canal (or tunnel) would tap water upstream on the Sacramento River and move it around (or underneath) the Delta to the pumps. This change would be good for fish: fewer would be trapped in the pumps and most would benefit from an increase in natural tidal flows within the Delta. It would also be good for the economy, improving both water quality and water supply reliability. Dual conveyance (combining a peripheral canal with continued through-Delta pumping) is a potential near-term solution. But over the longer term, sea level rise and levee failures will make Delta waters too salty to sustain through-Delta pumping.

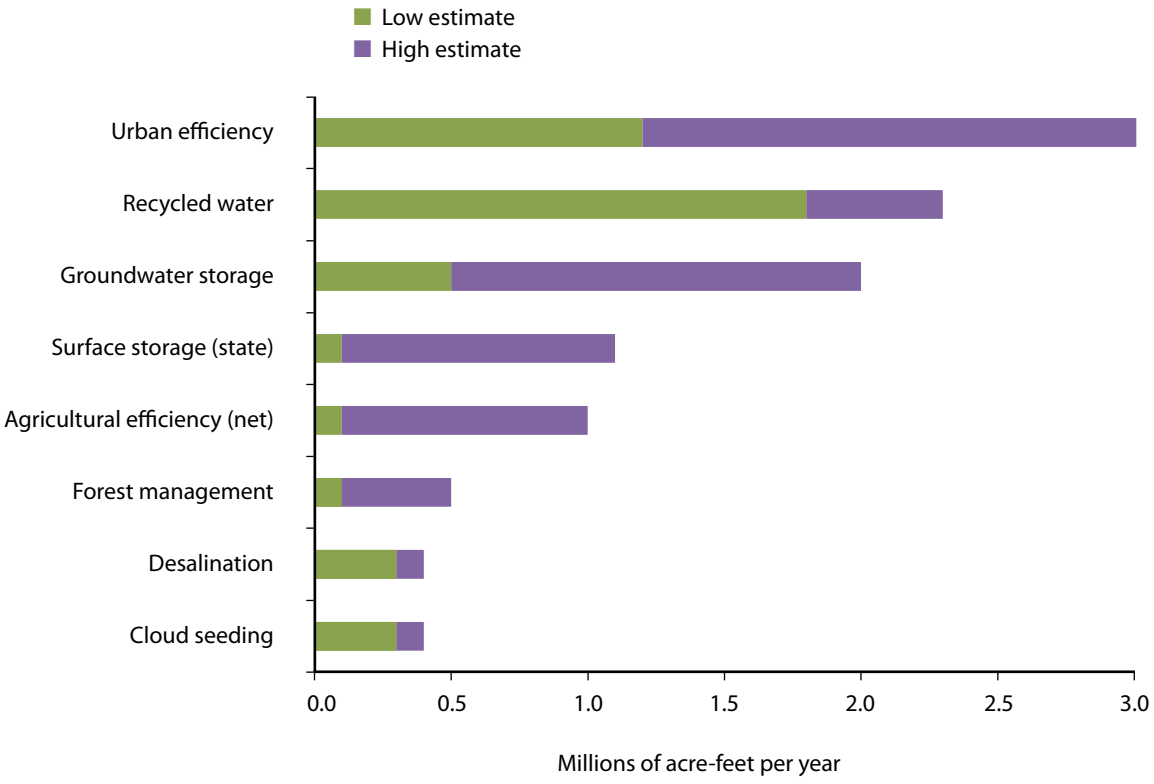
- **Governance and finance solutions are needed; so is attention to the Delta economy.**
  Safeguards are needed to ensure that the canal is managed for environmental benefits and to prevent a "water grab" by those who rely on Delta exports. Giving fish managers a share of canal capacity can provide environmental safeguards. Financing mechanisms are needed to ensure that water users fund the new infrastructure and support ecosystem restoration. Funds will also be needed to support transitions in the Delta. The region will lose some agricultural islands from levee failures, whether or not there is a canal, but it could benefit from new recreation opportunities.

WATER SUPPLY PLANNING NEEDS TO RELY ON A PORTFOLIO APPROACH

Since the 1980s, water supply planning has been moving toward a portfolio approach: instead of looking for "silver bullets," planners are developing multiple supply sources and water conservation strategies, balancing costs and reliability.

- **California is fortunate to have many options for meeting new demands.**
  Expanding traditional supply sources—particularly surface reservoirs and native groundwater supplies—is more difficult than in the past. But there is considerable scope for cost-effective expansion of nontraditional supplies, such as recycled wastewater, and for improving water use efficiency. Water marketing, which involves the sale or leasing of water, allows water to be transferred from lower- to higher-value farming and to growing urban areas.

CHANGING WATER DEMANDS CAN BE MET IN MANY WAYS



SOURCE: Department of Water Resources, California Water Plan Update 2009 (Bulletin 160-09).
NOTE: Annual production potential from new water sources and conservation by 2030.

- **Much progress has been made since the drought of the early 1990s.**
  Water markets have been valuable in supplying water to cities and high-value agriculture during droughts and for long-term growth. Urban water use efficiency has risen in most areas thanks to new plumbing codes, better technology, and better pricing incentives. Regional cooperation is helping local utilities cope with supply emergencies.

- **Underground storage has great potential but faces institutional obstacles.**
  Where space is available in aquifers, storing water underground can be a cost-effective way to save water for dry years. This "groundwater banking" will become increasingly important as the snowpack declines. The current lack of state regulation makes success dependent on agreements among local parties. Groundwater banking has increased in some areas, but much more could be done, particularly in the Central Valley.

- **Surface storage expansion has been very contentious.**
  Increased surface storage could make up for some loss of storage in the snowpack and could also provide more flexibility in managing floodwaters and environmental flows. However, new storage has not been proven to provide large new supplies of water, and it will be less valuable if climate change reduces overall precipitation. Large financial and environmental costs also raise concerns. Public opinion appears split: 50 percent of all adults feel that California should focus on improving water use efficiency; 43 percent prefer building new storage (PPIC Statewide Survey, July 2009).

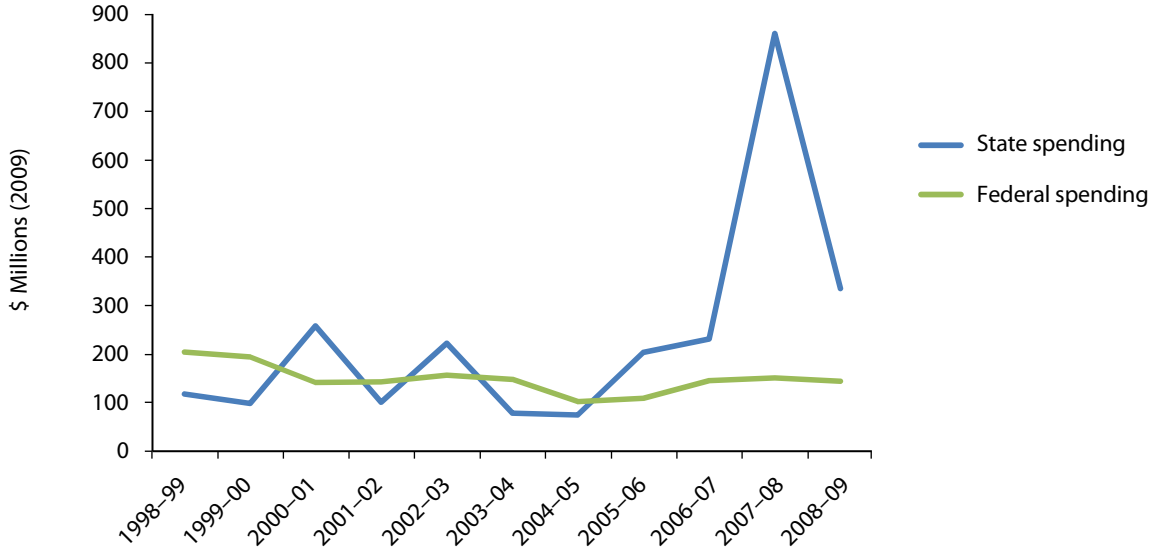
- **California needs to decide how to pay for water investments.**
  State general obligation bonds (funded by tax dollars) have funded some local water supply investments in recent years. When investments lead to true public benefits, such as ecosystem restoration, relying on tax dollars makes sense. But this takes general revenue funds away from education and other state budget categories. One alternative is the "user pays" principle, which guided investments in the State Water Project. Also, higher water rates create incentives to use water more efficiently.

CALIFORNIA HAS ONLY JUST BEGUN TO ADDRESS THE CHALLENGE OF EXTREME FLOOD RISKS

Sacramento has the highest flood risk of any major U.S. city, and many other areas in the Central Valley are at extreme risk of flooding. These risks are expected to grow with climate change. Although the state has recently increased investments in flood control infrastructure, more work is needed to keep new development out of harm's way.

- **The state has taken important steps to reduce flood risk.**
  After Hurricane Katrina, state investments in flood prevention increased considerably, thanks to voter approval of two state general obligation bonds, but the recession and resulting budget woes have made it difficult to sell the bonds. These investments are important, because federal contributions have been lagging. Local contributions are difficult to increase given that local bonds and assessments require supermajority votes.

STATE GOAL TO RAMP UP FLOOD INVESTMENTS HINDERED BY RECESSION



SOURCES: U.S. Army Corps of Engineers; Governors' Budgets.

- **Local governments have few incentives to limit flood risk exposure.**
  Since a 2003 court decision, the state is considered liable for damage from failure of most Central Valley levees, even those maintained by local agencies. A legislative package passed in 2007 requires that locals make land-use decisions that will reduce flood risk to new homes, but implementation is still several years off. Moreover, it is unclear whether climate change will be taken into account in setting new rules.

- **Residents also have few incentives to limit flood risk exposure.**
  As long as buildings are located behind levees deemed to provide protection against a "100-year flood," there is no requirement to disclose flood risks to residents, even though many areas would face serious flooding if levees were breached. Few Californians hold flood insurance, which is required only in areas with extreme flood risk. Fifty-five percent of Californians are very (27%) or somewhat (28%) concerned that flood risks will increase with climate change (PPIC Statewide Survey, July 2009).

LOOKING AHEAD

California has the tools to help secure a safe and reliable water supply, improve conditions for aquatic species, and reduce flood risks. In recent years, water managers have made significant progress toward these goals. But the challenges are increasing with population growth and climate change.

In the final months of 2009, the state legislature passed a comprehensive package of water legislation that begins to address some key issues. For example, groundwater basins will now have to be monitored throughout California, and penalties against illegal diversions of surface water have been strengthened, as have staffing resources to enforce water rights. In addition, a new governance structure for the Delta sets the stage for more integrated management of this critical region. The legislation also requires per capita conservation targets for urban water users and better measurement by agricultural water users. Stakeholder resistance to state oversight weakened the legislation considerably in the final weeks of negotiations. Nevertheless, these are important first steps toward more sustainable management of California's water.

The package includes an $11.14 billion bond measure that is slated for the November 2010 ballot. Whether or not voters approve this bond, the state will need to find ways to pay for water infrastructure and for critical improvements in aquatic habitat. Local funding will need to increase under any circumstances. If public policy discussions focus solely on the water bond, we'll miss an opportunity to build on the other reforms.

In short, the legislative package is a good beginning. Increased momentum in policy reform—coupled with new investments—is essential to the state's future. Some needed changes will be politically difficult. The following issues still require sustained attention:

The Delta. A peripheral canal or tunnel has the best potential for safeguarding the Delta's environment while maintaining water supply reliability. But this solution requires solid policies on governance, finance, and mitigation for Delta landowners and residents. Given the extreme environmental degradation of this region, water users must be prepared to take less water from the Delta, at least until endangered fish populations recover.

Water efficiency. Better pricing policies—such as tiered water rates, which charge higher prices for greater use—can heighten incentives to conserve.

Groundwater management. Better basin management is a prerequisite to realizing the significant potential of groundwater banking. Many groundwater basins have effective local management protocols, especially in Southern California and Santa Clara County. But progress is needed elsewhere.

Flood risk exposure. To reduce risks to new development, state floodplain mapping should account for climate change and increasing flood risks. To boost homeowner awareness, the risks from living behind levees should be disclosed and flood insurance requirements should perhaps be strengthened. More forward-looking federal policies will also be important, to account for changing flood risks.

Climate change. Higher water temperatures and sea level rise will alter aquatic habitat in significant but largely unexplored ways. Environmental laws will require that water users respond to these changes with potentially costly management actions (e.g., changing reservoir operations). Anticipating the likely changes would allow the design of more cost-effective responses.

We invite you to dig deeper at ppic.org**. Related PPIC resources include:**
California Water Myths
Paying for Infrastructure: California's Choices
Comparing Futures for the Sacramento-San Joaquin Delta
Water for Growth: California's New Frontier
Flood Control
Water Supply and Quality

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This publication is part of PPIC's Planning for a Better Future **project.**

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CALIFORNIA WORKFORCE

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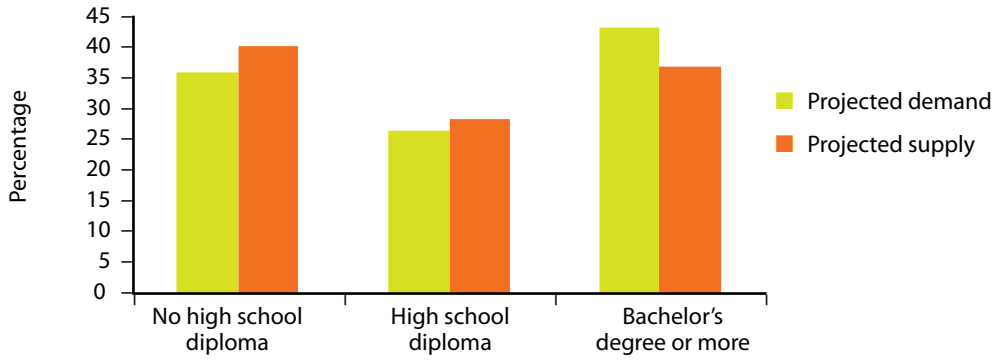
CALIFORNIA FACES A SKILLS GAP

California's education system is not keeping up with the changing demands of the state's economy—soon, California will face a shortage of skilled workers. Projections to 2025 suggest that the economy will continue to need more and more highly educated workers, but that the state will not be able to meet that demand. If current trends persist, only 35 percent of working-age adults in California will have a college degree in 2025, but 41 percent of jobs will require a degree. Substantial improvements in educational outcomes are needed to meet the demands of tomorrow's economy and to ensure the economic prosperity of Californians. Failure to make improvements will result in a less-productive economy, lower incomes for residents, less tax revenue for the state, and more dependence on social services.

BY 2025, DEMAND FOR COLLEGE-EDUCATED WORKERS WILL OUTSTRIP THE SUPPLY



SOURCE: PPIC projections.

POPULATION TRENDS COLLIDE WITH GAPS IN ECONOMIC DEMAND

- **California's economy increasingly demands more highly educated workers.**
  For decades, California employers have needed more workers with bachelor's degrees or more. This shift toward more highly educated workers has occurred as a result of changes both within and across industries.

- **The supply of college graduates will not keep up with demand.**
  Two demographic trends will work against future increases in the number of college graduates. First, the baby boomers—a well-educated group—will reach retirement age, marking the first time that large numbers of college graduates will leave the workforce. Second, the population is shifting toward groups with historically lower levels of educational attainment. In particular, Latinos—who now make up the largest group of young adults—have historically had low rates of college completion. And there will not be enough newcomers to California—from abroad or from other states—to close the skills gap.

- **California's college enrollment rate is among the lowest in the nation.**
  Among the 20 most populous states, California ranks 18th in the share of high school graduates who go directly

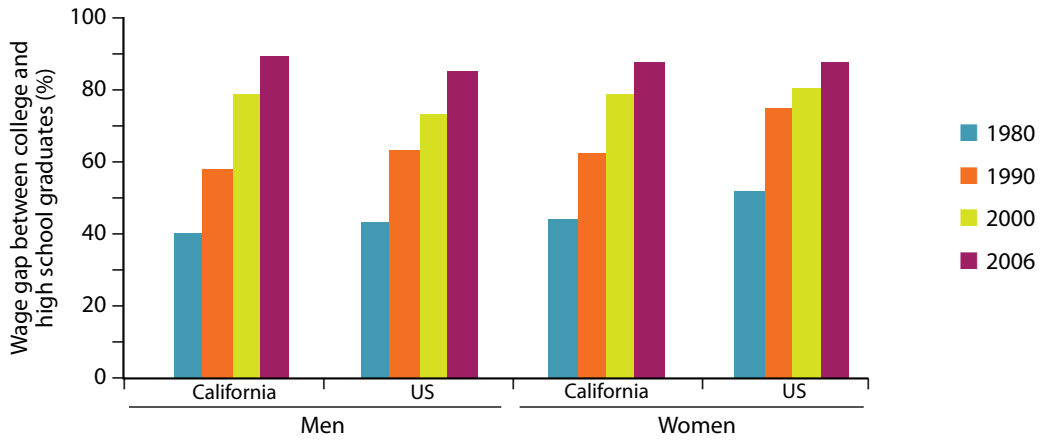
to college. In 2006, 55 percent of California high school graduates went to college, compared to more than 70 percent in the leading states of New York and Massachusetts. Of California's high school graduates going to college, most went to community colleges; only 26 percent went to four-year universities.

- **Transfer rates from community colleges to four-year universities are low.**
  Only about one in ten community college students transfers to a four-year university. Even among those taking transfer-eligible courses, only about one in four eventually succeeds in transferring. Lack of preparation for college-level work and lack of financial resources impede many students' ability to move ahead in the higher education system.

- **Only half of California State University students graduate.**
  About half of CSU students graduate within six years of entering as freshmen. Completion rates for transfer students are similar to those of other CSU juniors, with about three in four transfer students completing a bachelor's degree. Graduation rates are much higher in the University of California (UC) system, with four of every five students earning a degree within six years of entering university.

- **Higher education is largely a public endeavor in California.**
  More than four of every five college students in California are enrolled in one of the state's three public education systems: the community colleges, the California State University, or the University of California. Three of every four bachelor's degrees awarded annually come from either CSU or UC.

CALIFORNIA COLLEGE GRADUATES EARN MORE, AND THE GAP IS WIDENING

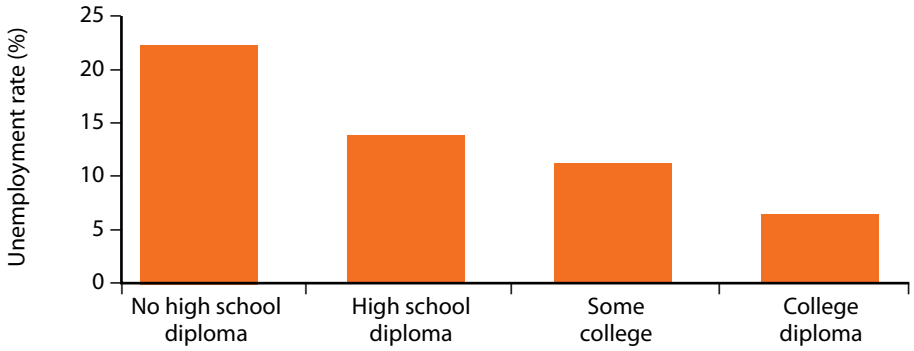


SOURCE: D. Reed, *California's Future Workforce* (PPIC, 2008).

- **Most Californians believe that a college degree is necessary for success . . .**
  Two of every three adults believe that a college education is necessary for success in today's work world. Latinos are especially likely to hold this view, with 84 percent believing in the value of a college education.

- **. . . and they are right.**
  Census Bureau data show that the wages of college graduates are about 90 percent higher than the wages of workers with only a high school diploma. The value of a college degree has grown rapidly over the past quarter century, and in the current economic downturn, unemployment rates are far lower for college graduates than for adults with less education.

UNEMPLOYMENT RATES ARE MUCH LOWER FOR COLLEGE GRADUATES



SOURCE: U.S. Census Bureau, Current Population Survey (March 2009).

LOOKING AHEAD

California is facing a serious shortfall in its supply of college-educated workers. In a future with fewer college-educated adults, unemployment rates will be higher and wages will be lower. Improving the educational attainment of the state's young adults will foster greater individual success and increase economic growth for the state.

- **Modest improvements can result in substantial gains.**
  Gradual increases in college enrollment rates from California's current level to the national average, a 20 percent improvement in transfer rates, and an improvement in completion rates at CSU would, together, reduce the skills gap by one-half by 2025.

- **Reductions in higher education funding will make things worse.**
  Without concerted efforts to improve college attendance and graduation in California, the state's economic future will be much less bright. Shortchanging education for quick budget fixes could seriously shortchange California's economic future. One alternative would be to increase fees so that students from higher-income families pay more in fees, and to increase aid so that students from lower-income families face a lower financial burden.

- **Alternative forms of postsecondary training are needed.**
  Because it is unlikely that the state will be able to completely close the skills gap by increasing the number of college graduates, other forms of postsecondary training and workforce skills development are essential to the state's future.

We invite you to dig deeper at ppic.org**. Related PPIC resources include:**

Higher Education in California: New Goals for the Master Plan
Educating California: Choices for the Future
Closing the Gap: Meeting California's Need for College Graduates
California's Future Workforce: Will There Be Enough College Graduates?
PPIC Statewide Survey: Californians and Higher Education

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