

Assessing the California Fuel Tax Swap of 2010

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In 2010, California replaced its state sales tax on gasoline with an annually adjusted per gallon excise tax designed to produce as much revenue each year as the sales tax did previously. This gas tax swap was intended to (a) relieve the state's general fund during a period of fiscal emergency by circumventing the narrowly defined transportation purposes for which gasoline sales tax revenues could be legally spent and (b) protect the existing revenue streams for transportation purposes. Experience to date reveals that this experiment has not met its objectives because of unanticipated volatility in the revenue stream resulting from dramatic fuel price fluctuations. Although the new revenues are protected from diversion to nontransportation uses, the unpredictability of such revenue presents many challenges for state transportation planning and programming. Other states considering similar shifts to price-based transportation taxes to address the continuing decline in purchasing power from fixed-rate fuel excise taxes may draw valuable lessons from the California experience.

For eight decades, federal and state fuel taxes have been the principal sources of revenue for transportation programs; however, revenues in relation to vehicle miles of travel have been declining for 20 years. The federal motor fuel tax rate has not increased since 1993, and national fuel consumption has declined in absolute numbers each year since 2008 (1). Faced with a depleted Federal Highway Trust Fund and poor prospects for new funding from a deficit-conscious Congress, states have been seeking new ways to increase revenues for transportation operations, maintenance, and capital investment.

Orski reports significant funding initiatives in 18 states (2). Some states have raised gasoline taxes. Others have shifted to a wholesale fuel tax. Still others have enacted dedicated sales taxes for transportation or issued toll revenue bonds. Reflecting the national crisis in transportation finance, California recently adopted one of the most dramatic changes in transportation finance in state history to protect its highway funds; the change is unique and one of the most complex undertaken by any state. Known colloquially as the “gas tax swap,” this action has given California one of the highest per gallon state gasoline excise tax rates in the nation (3). Yet, it has hardly been discussed in the transportation literature, is poorly understood by state residents, and has not been systematically evaluated by scholars or presented clearly in the mass media.

This paper summarizes select findings from a research report that studied and extensively documented the fiscal and programmatic

fallout from California’s “experiment” in price-based transportation finance (4). It reviews the events leading to the enactment of the swap, describes the elements that comprise it, and documents how the swap has caused unexpected and troublesome volatility in transportation revenues and tax rates. The paper closes with observations of current political reactions to this policy experiment and its results and makes recommendations for other states contemplating changes to their own transportation revenue mechanisms.

BACKGROUND

The federal government and all states except Pennsylvania charge a per gallon excise tax on gasoline and diesel fuel sales, most dedicating some or all of the revenue collected to transportation purposes. Also, most states impose additional taxes or fees on fuel suppliers, distributors, or consumers; however fuel purchases are typically exempt from general sales taxes on the grounds that they are already subject to an excise tax. Only a few states besides California collect general sales taxes on gasoline or diesel (3).

Excise taxes are flat-rate taxes pegged to the quantity sold, while sales taxes are calculated as a set percentage of the pretax sales price. Excise taxes are a type of user fee since they are paid by drivers in rough proportion to their use of the roads and increase as miles traveled rise. They are easy to collect, but the amount collected does not increase with fuel prices and therefore may not keep up with inflation. In addition, fuel excise taxes generate less revenue as fuel economy increases and drivers shift to alternative fuels. However, because fuel consumption tends to be fairly stable over time and changes have been relatively predictable, future revenue projections for excise taxes are reasonably accurate, at least in the short run. That aspect is especially valuable when it comes to transportation planning, which often involves multiyear projects. Sales taxes generally keep up with inflation better than excise taxes, but unlike excise taxes, sales tax revenues also decrease when prices fall.

As fuel-based revenues fall, it may be advisable, albeit perhaps politically unpalatable, for state legislatures to increase gas taxes. Levying a sales tax on gasoline purchases may be one way to address the declining value of a fixed excise tax. In addition, some economists have argued that exempting gasoline from general sales taxes is illogical on policy grounds and inconsistent with the tradition of imposing the social costs of automobile use on drivers (5, 6). One advantage of imposing an additional sales tax is that increased revenue collection is automatic and, therefore, less subject to political exigencies compared with periodically raising the excise tax to account for inflation. The chief downside is that sales taxes on gasoline tend to be particularly volatile because retail prices fluctuate more than do prices in general—sometimes dramatically, as has

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recently been the case—undermining their predictability for use in advance transportation planning.

CALIFORNIA EXPERIMENT

California has collected a per gallon gasoline excise tax since 1923 and has levied an additional sales tax on each gallon of gasoline sold in the state since 1972. The state also collects excise and sales taxes on diesel and other fuels.

During the early 2000s, nearly all fuel-based sales taxes were set aside for transportation, much of it to support mass transit. As gasoline prices rose toward the end of the decade, the sales tax added significant revenues to the state treasury, as shown in Figure 1. At the time of the swap, tax collections from the \$0.18 per gallon state excise tax and the 6% fuel sales tax were roughly of the same order of magnitude and constituted the majority of state funding for transportation programs. Using two different taxes provided some hedge against long- and short-term revenue volatility, much the way investors attempt to diversify their portfolios. This experiment in transportation finance worked fairly well for a time, although because most of the sales tax revenue was earmarked for mass transit, the effects of the sales tax’s inherent volatility were concentrated largely in that sector.

Article XIX of the state constitution limits the use of gas excise tax revenues to transportation purposes. Since 2003, voter-approved Proposition 42 (Article XIX B) has extended this antidiversion protection to a portion of gasoline sales tax revenues; however, certain fuel sales tax funds could be borrowed for other purposes if the governor declared a “fiscal emergency” (8). Shortly after passage of Proposition 42, with California facing growing budget concerns and a record \$34.6 billion budget shortfall, Governor Gray Davis declared such an emergency and the state legislature appropriated \$1.7 billion in transportation revenues for the General Fund relief. Concerned transportation advocates worried that, alongside stagnant motor fuel excise tax revenues, the loss of transportation funds would have severe consequences.

Concerns about the potential loss of transportation funding generated several vigorous debates in the legislature, resulting in legislative changes to better protect future sales tax revenues. However, by the

end of the decade, during the deep economic recession, the legislature again attempted to balance the state budget by tapping growing gasoline sales tax revenues originally dedicated to mass transit. Legislators hoped to use those monies to instead satisfy massive payments due on voter-approved state transportation bonds and to pay for other transportation programs previously funded by general revenues. The California Supreme Court rejected that aim as outside the narrow limits for which gasoline sales taxes could legally be spent, prompting legislators to approve a plan to eliminate state sales taxes on gasoline in favor of a new variable or price-based excise tax to maintain the fiscal advantage of tying transportation revenues to then rising gasoline prices. By law, the new excise taxes must still be used for transportation but at the time could cover debt service on outstanding highway and mass transit bonds. This so-called gas tax swap as enacted by the legislature and signed by Governor Arnold Schwarzenegger affected four different taxes: the state portion of the sales tax on gasoline, the excise tax on gasoline, the state portion of the sales tax on diesel fuel, and the excise tax on diesel fuel (Assembly Bill No. 6. 2010. http://www.leginfo.ca.gov/pub/09-10/bill/asm/ab_0001-0050/abx8_6_bill_20100322_chaptered.pdf). Local sales taxes on gasoline and diesel fuel remained unchanged. The key changes, which are presented in greater detail in a research report, were as follows (4):

1. Beginning July 1, 2010, the 6% statewide sales tax on gasoline was eliminated and with it the principal source of state funding for public transit.
2. The \$0.18 per gallon excise tax on gasoline was increased by \$0.173 on July 1, 2010, for a total excise tax of \$0.353 per gallon. Starting March 1, 2011, and each March 1 thereafter, the law authorized the State Board of Equalization (BOE) to estimate how much revenue would have been raised by the eliminated sales tax on gasoline and to adjust the gasoline excise tax to produce an equivalent amount of revenue. Under this provision the new excise tax may sometimes have to be lowered and sometimes raised to maintain revenue neutrality.
3. The existing sales tax on diesel fuel was retained and raised by another 1.75% on July 1, 2011, to generate about \$120 million in additional funds for public transit. This action was intended in part

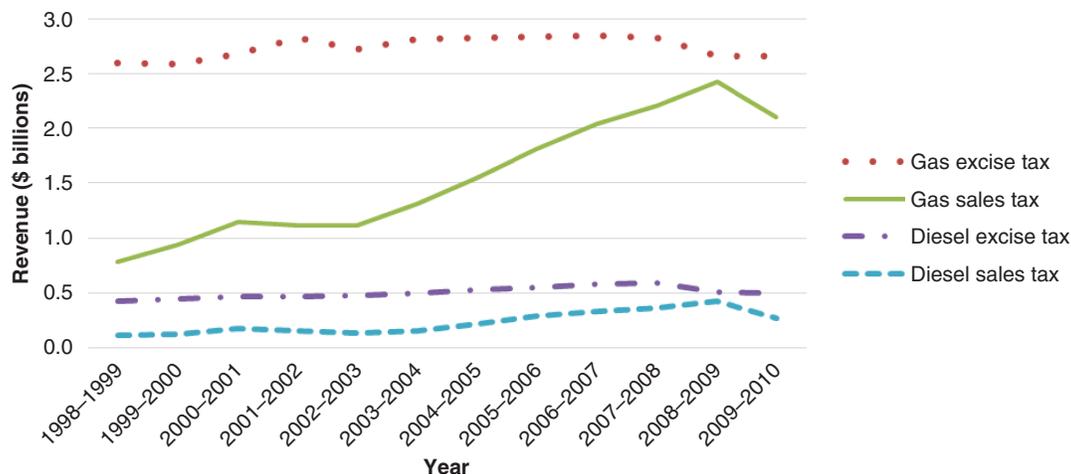


FIGURE 1 Fuel excise and sales tax revenues (7).

to compensate for the loss of gasoline tax revenues that previously funded transit.

4. The diesel sales tax increase was offset by lowering the diesel excise tax from \$0.18 per gallon to \$0.136 cents, effective July 1, 2011. Similar to the gasoline excise tax, the diesel excise tax is now adjusted by the BOE on March 1 of each year to maintain revenue neutrality (9, 10).

The tax swap was in the aggregate revenue neutral by design to allow the legislature to pass it by a simple majority vote rather than a two-thirds supermajority, which is required for new and special taxes. While some uncertainty in future revenue collections would have also existed under the eliminated sales tax because of fuel price variations, the tax swap introduced a degree of complexity into the transportation planning process that did not previously exist. The process adopted by the swap to ensure revenue neutrality (of the excise tax with respect to the forgone sales tax revenues) also magnified revenue stream volatility. The controversy leading up to and continuing since the swap also reignited a simmering debate over how automobile-related tax revenues should be distributed and what they should pay for. In effect, the fuel tax swap allowed a portion of the state debt incurred for transportation infrastructure to be placed off-budget and to be paid from fuel-based revenues that would otherwise have gone to current transportation planning and mass transportation projects. The swap thus freed general funds for other nontransportation purposes.

The program briefly described above is controversial, but it is so complex that it is not well understood by California residents or the larger national transportation research community. The new fuel tax provisions remain in effect and are having unexpected but significant repercussions on state transportation programs, particularly funding for mass transportation. The study summarized here is the only known scholarly analysis of the swap that represents a unique transportation finance policy and one of the most complex undertaken by any state (4). Other states considering a shift to price-based transportation taxes may draw valuable lessons from the California experience.

MANAGING AND SETTING THE VARIABLE EXCISE TAX

The California BOE is responsible for setting and adjusting the new variable excise tax by majority vote on or before March 1 of each year for the upcoming fiscal year (July 1 to June 30) (10). The board consists of four members elected in districts by state voters, plus the state controller, who is elected to a statewide office and is the highest fiscal officer of the state. The BOE relies heavily on short-term forecasts of gasoline and diesel sales and prices—estimated by the California Department of Finance—to set the variable excise tax. The method for adjusting the variable excise tax consists of three primary steps aimed at ensuring revenue neutrality. The following list outlines this three-step method and illustrates its use with the calculations for the FY 2014–2015 variable gasoline excise tax (11):

Step 1. The BOE must forecast the forgone sales tax revenue, that is, the revenue that would have been generated had the sales tax remained in effect. The BOE uses projections for the coming fiscal year of gallons sold (14,151) and cost per gallon excluding tax (\$3.37), which are both estimated by the Department of Finance. The BOE then multiplies this estimate by the eliminated sales tax

rate (5%) to calculate the total forgone revenues that would have been generated under the sales tax, equaling \$2,384.

Step 2. To arrive at revenue neutrality, the BOE calculates a per gallon excise tax, in this case \$0.17, that would generate revenues equivalent to the forgone sales tax. The BOE does this by dividing the estimated sales tax revenues lost by forecast gallons sold.

Step 3. Any over- or underprediction of gallons sold, or more commonly per gallon gasoline prices, results in the state collecting either more or less excise tax revenue than it would have collected under the eliminated sales tax. If so, the variable excise tax would no longer be revenue neutral and instead could be interpreted as a tax increase or decrease. To ensure revenue neutrality the BOE must take a final step called the “true-up.” In the true-up, the BOE adjusts the calculated variable excise tax rate according to previous fiscal years’ actual revenues to account for any over- or undercollection. For example, to offset a \$188 million revenue shortfall during FY 2012–2013, an extra \$0.01 tax needed to be levied per each forecast gallon of gasoline in FY 2014–2015. The BOE then adds the calculated true-up cost (equaling –\$0.01) to the newly set excise tax rate (\$0.17) to calculate a final adjusted variable excise tax rate for the upcoming fiscal year, or \$0.18 (4).

REVENUES UNDER THE GAS TAX SWAP

While BOE methods are sound, they have resulted in unanticipated short-term revenue swings that have proved extremely problematic for transportation planning and operations. Figure 2 compares (a) the base to the variable gasoline excise tax revenues available to the State Highway Account and (b) the variable tax rates since the swap to the base \$0.18 excise tax. Evident in these graphs are the relative stability in the base excise tax revenue and the large variation in variable gasoline excise tax revenues. Figure 3 shows a similar story of revenue volatility emerging in the diesel variable excise tax, which like for gasoline, must be adjusted to offset changes in the sales price of diesel. Because the price of fuel has changed far more dramatically than has the quantity consumed, both variable excise taxes are more volatile than base excise taxes.

Large revenue swings play out at the program and agency levels. For example, the State Transportation Improvement Program (STIP), which funds capital improvements, and the State Highway Operations and Protection Program (SHOPP), which funds maintenance, both rely on variable excise tax revenues from the State Highway Account. Under the gas tax swap, revenues for each of these programs diverged widely between FY 2010–2011 and FY 2015–2016, as shown in Figure 4. These revenue fluctuations impede local agencies’ ability to establish dependable revenue streams to finance multi-year projects. The annual variations in revenue for the STIP and the SHOPP are exacerbated by the variable gasoline excise tax allocation structure, which dedicates the first \$1 billion of revenue to debt service and divides the remaining funds between the STIP (44%), cities and counties (44%), and the SHOPP (12%). For example, in FY 2014–2015, the variable excise tax generated about \$2.5 billion, which left about \$1.5 billion to be divided among the STIP, cities and counties, and the SHOPP. However, as shown in Figure 5, because of the decline in fuel prices, projected revenue fell to about \$1.7 billion in FY 2015–2016 and effectively halved the amount that each of the three programs received. Operations funded by the SHOPP, in particular, suffered from dramatic revenue swings, ranging from a high of about \$246 million in FY 2013–2014 to only \$88 million

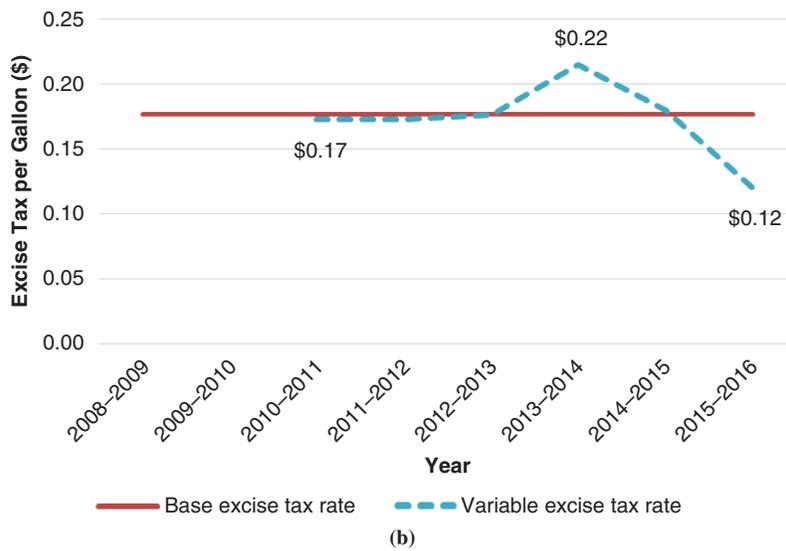
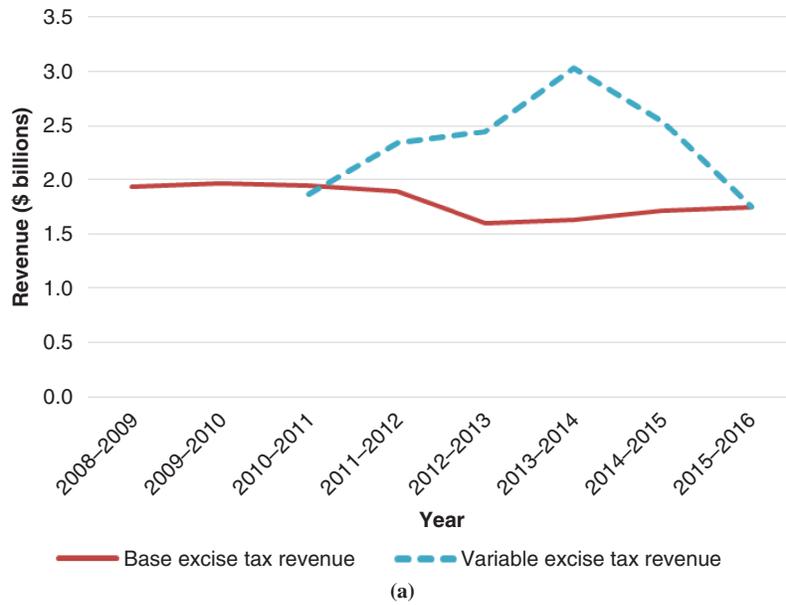


FIGURE 2 Gasoline excise tax revenues and rates (12).

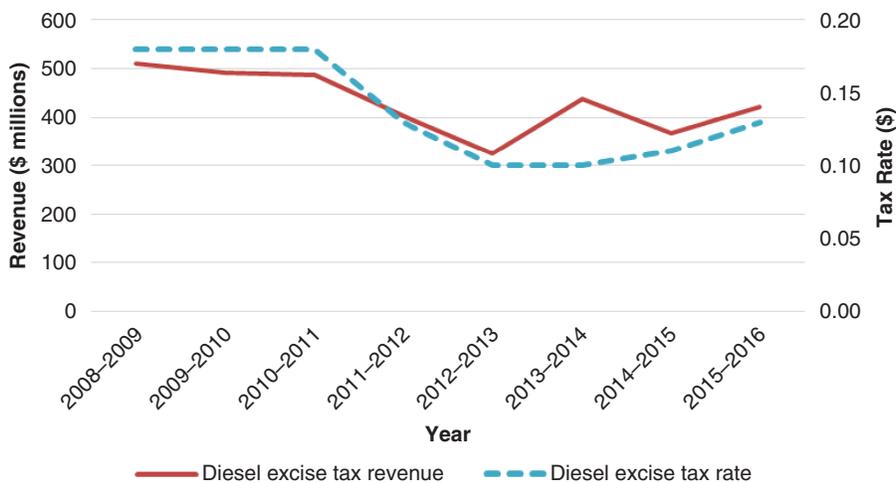


FIGURE 3 Diesel excise tax rate and revenues (13).

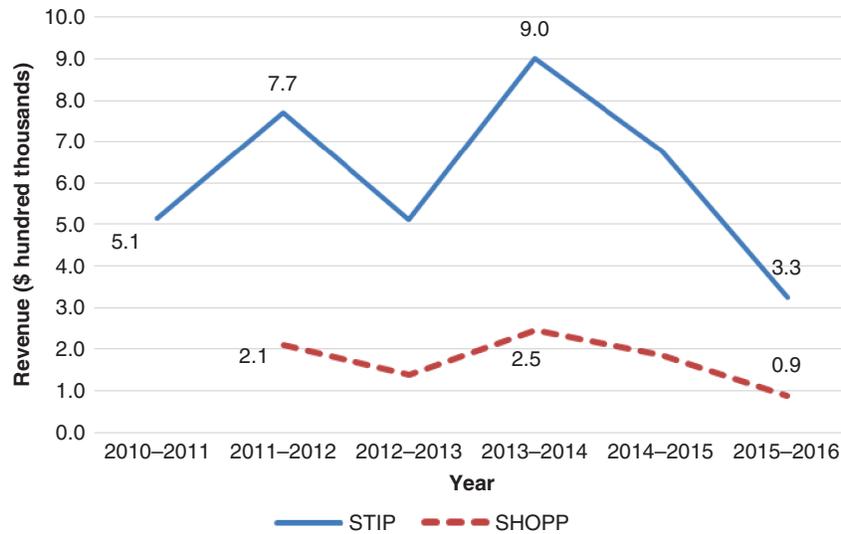


FIGURE 4 STIP and SHOPP revenues under gas tax swap (12).

in FY 2015–2016. Substantial drops in SHOPP revenue are particularly problematic given the state’s backlog of maintenance needs. As of 2015, 68% of the state’s roads were deemed to be in “poor” or “mediocre” condition, ranking California 43rd of all states with respect to road conditions. In addition, nearly one-quarter of its bridges are structurally deficient. Without maintenance, the conditions will continue to worsen, and rehabilitation and reconstruction costs will continue to rise (14). If the state prioritizes funding road maintenance, it would have to draw substantially on general funds to replace reduced SHOPP revenues.

The inherent instability associated with gasoline prices makes them difficult to forecast. They reflect worldwide variations in petroleum output and prices, which are often erratic. As a result, variable revenue streams would have similarly occurred even in the absence of the swap because the sales tax is inherently dependent on price. The swap was not motivated by volatility in the sales tax revenue stream, and thus did not correct for it. Figure 6 compares forgone gasoline sales taxes with collected variable gasoline excise

taxes; the figure shows that while the variable excise tax mirrors the sales tax—as it is intended to do—it is more peaked because of errors in forecasting that must be corrected post hoc through the subsequent true-up process.

The true-up process can, however, either smooth or exacerbate revenue spikes and drops that would have occurred naturally under the sales tax before the swap. For example, if more variable excise tax revenues were collected than would have been collected under the sales tax in 1 year and gas prices were expected to rise (meaning that the variable excise tax would need to be adjusted upward to make up for the overcharge) in the next year, then the resulting variable excise tax rate adjustment would not be as great. If, however, gas prices were projected to drop (meaning the variable excise tax rate should be lowered to reflect lower sales tax collections), then an even greater downward adjustment of the variable excise tax would occur. In the years following the gas tax swap, the latter scenario has proved problematic. Dramatic changes resulted from changes in the global economy (reflected by

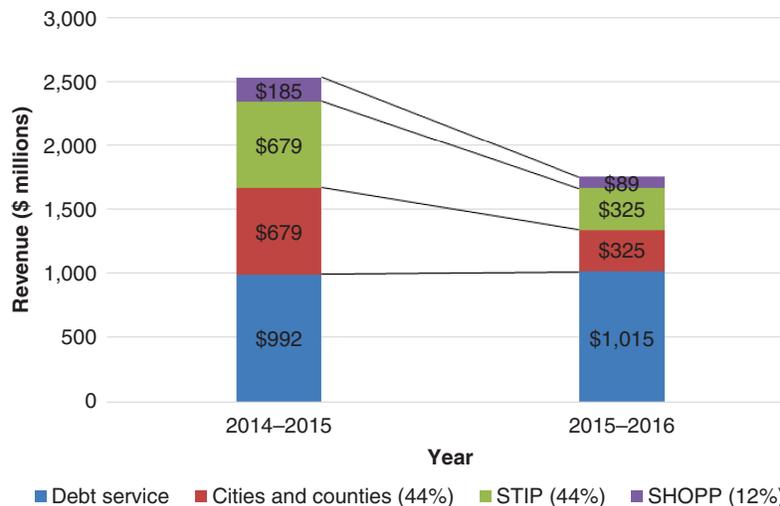


FIGURE 5 Revenue allocations (11, 12).

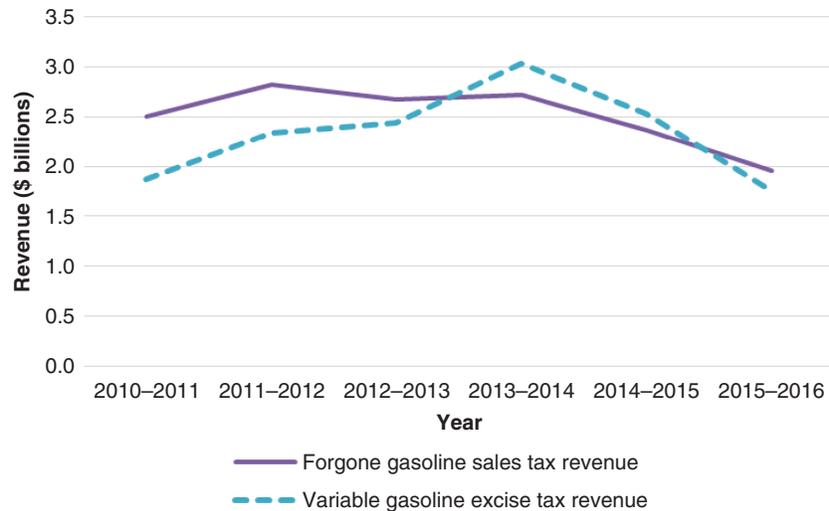


FIGURE 6 Eliminated gasoline sales tax versus variable gasoline excise tax revenues (11, 13, 15).

falling gasoline prices) and how far off previous predictions were. For example, plummeting gasoline prices between FY 2013–2014 and FY 2015–2016 caused the BOE to lower the per gallon variable excise tax from \$0.18 to \$0.12.

To summarize, as the fiscal crisis brought on by the Great Recession prompted the state to repeal a portion of its sales tax on gasoline and replace it with a higher excise tax, legislators tried to maintain overall revenue flows by tying the new variable or “price-based” excise tax to the pump price of fuel in the expectation that it would continue to rise. For a few years, they succeeded as shown in Figure 2; however, revenues slipped significantly after the swap as prices later tumbled producing an especially volatile revenue stream for transportation in California as pump prices rose and fell. This event was not foreseen and would have affected sales tax revenues had the swap not been enacted, but even so the intended financial benefits of the swap were never realized. As a result, California has a more complex and politicized revenue collection system that has produced declining revenue and failed to solve the state’s growing transportation finance crisis. While Department of Finance staff estimate (personal communication with the authors) that various transportation stakeholders have received funding similar to what they would have received under the sales tax, revenue volatility remains problematic.

FORECASTING FUTURE REVENUES UNDER CURRENT GAS TAX SWAP, 2016 TO 2040

How much variable gasoline excise tax revenue can California expect to collect under the existing taxation structure? This section outlines three potential revenue streams based on consumption estimates by the U.S. Energy Information Administration and gasoline cost scenarios. These forecasts demonstrate the inherent uncertainty in basing revenue projections on ever-changing prices. To understand how much revenue California could expect to collect from the variable gasoline excise tax, one first calculates how much revenue would have been generated by the sales tax. Because the variable gasoline excise tax must by law raise the same amount of revenue that

the sales tax would have, the sales tax revenues will equal the variable gasoline excise tax revenues.

In this exercise, one considers how gasoline prices and consumption influence revenue. While consumption changes gradually and is relatively predictable, price varies much more widely. The U.S. Energy Information Administration forecasts national gasoline consumption between 2016 and 2040. The administration also reported that California consumed 344 million barrels of oil in 2014, or 10.7% of national consumption (16). Assuming that its consumption proportion remains relatively constant during the next 25 years and that gasoline consumption is inelastic with respect to price, how many barrels of gasoline California is expected to consume in the coming years is calculated. Estimated barrels consumed are then multiplied by 42, the number of gallons of gasoline per barrel.

Four alternative scenarios are considered, including three pricing and one consumption scenario: average, maximum, and minimum gasoline prices and reduced consumption at average price. Each scenario considers statewide California gasoline prices following the gas tax swap (July 2010 to February 2016) and uses the maximum and minimum prices across those years to calculate prices for future years. The average price of gasoline since the swap is \$3.60 per gallon, with a maximum price in October 2012 of \$4.66 per gallon and a minimum of \$2.30 per gallon in February 2016 (17). Because California is adopting alternative fuels and establishing high fuel efficiency standards faster than are other states, the state could reduce its gasoline consumption quite substantially in the future. To reflect that factor, a reduced gasoline consumption scenario was also tested; this scenario assumes that California’s fuel consumption decreases 10% more than for the nation as a whole. To generate the four forecast scenarios, projected gallons of gasoline consumed were multiplied by each of the three prices.

Figure 7 shows the results of the four forecast scenarios. While the smooth revenue lines project an image of constancy, great uncertainty exists in regard to price assumptions. For example, if one assumes that gasoline prices are \$4.66 per gallon (maximum price scenario), the gasoline sales tax would generate about \$3.3 billion in 2016. However, under the minimum price scenario—which better reflects today’s reality—the tax would generate only \$1.6 billion in revenue, about half that under the maximum scenario. While



FIGURE 7 Forecast variable gasoline excise tax revenues (15, 17).

revenues decline gradually over time as a result of projected declines in consumption, the intrinsic uncertainty in revenue owing to price remains. In other words, the revenue generated by the gas tax may be predicted to fall somewhere between the minimum and maximum price scenarios. However, the difference between these two represents a high level of uncertainty that makes transportation planning and project budgeting difficult. These forecasts reinforce the inherent difficulty in forecasting revenues from any price-based tax. However, the swap added to this existing uncertainty through the true-up process, which exacerbated the revenue spikes and drops that would have occurred under the sales tax.

LOOKING AHEAD: FUTURE OF GAS TAX SWAP AND CALIFORNIA TRANSPORTATION FINANCE

Fluctuations in the price of gasoline at the pump mean that variable excise tax revenue is difficult to predict for the following year, let alone 5 or 10 years in the future. As a result, volatile transportation revenues have exacerbated difficulties in planning continuity for transportation operations, maintenance, and new construction across the state, which are typically multiyear programs that rely on steady and predictable funding streams. While uncertainty would have existed under the preexisting sales tax, the true-up process added complexity to the revenue process while doing little to stabilize revenue flows. For example, the BOE announced a further \$0.02 reduction to the gasoline excise tax in February 2016 (18). While many citizens are rejoicing over lower pump prices, decreased revenue for state transportation infrastructure and maintenance will nevertheless be harmful to transportation in California.

In response to revenue volatility under the gas tax swap, efforts are under way to “stabilize” revenue from diesel, and especially

gasoline, excise taxes. The legislature recently increased vehicle registration fees by \$10 per year and stipulated that they be annually adjusted according to the California consumer price index (19). Another proposal under consideration is to have the Department of Finance rather than the BOE conduct the annual fuel tax adjustments, presumably because it collects and provides to the BOE the data on which the changes are based (personal communication with California Department of Finance staff). Senate Bill 321, introduced by Senator James Beall, proposes to reduce revenue volatility from frequent and unanticipated changes in gasoline price by using a 4-year price average to project revenues for the next fiscal year (20). The bill also proposes to increase the frequency of the price-based adjustment and the true-up. Another option to supplement and stabilize state transportation revenue is to replace fuel taxes with mileage-based user fees; a statewide pilot test involving more than 5,000 vehicles began on July 1, 2016 (21). If adopted, these proposals could drastically alter the state’s transportation finance program. Their goals include increasing revenue flows and creating a more stable and predictable flow of revenue.

In January 2016, Governor Jerry Brown proposed replacing the current variable excise tax on gasoline with a flat \$0.18 per gallon excise tax starting in 2017, to be indexed and adjusted annually to the rate of inflation (22). His proposal, which has not been adopted by the legislature, would bring the total gasoline excise tax rate to \$0.36 (\$0.18 base excise tax plus \$0.18 flat gasoline excise tax to replace the variable gasoline excise tax). No new sales tax would accompany this new excise tax. The diesel variable excise tax would likewise be converted to a flat inflation-adjusted tax, which would result in an \$0.11 increase in the tax per gallon of diesel.

While revenue shortfalls would remain problematic under the proposed flat excise tax, removal of the variable tax aims to correct for the current revenue unpredictability, reduce complexity, and

provide greater assurances of future funding streams to enable better planning. Replacing the variable excise tax with one that increases at the rate of inflation would help to smooth the volatile revenue streams experienced since enactment of the gas tax swap. The governor's proposal would effectively bring California's short gas tax swap experiment to an end. Although the legislature has yet to act on these proposals, the future course of transportation finance in California remains a topic of lively discussion.

While this experiment in transportation finance arose from political and fiscal motivations in a time of budget crisis, it protected more gasoline tax revenues from diversion to the state's general fund. However, the swap did not resolve the main problem with the sales tax: potentially volatile revenue. This unresolved problem led to an unanticipated volatility in revenue as world petroleum prices dropped dramatically. Variable excise tax revenues proved to be very unpredictable after the swap, which negatively affected the capacity of state agencies, counties, and cities to plan for future transportation operations, maintenance, and new construction.

CONCLUSION AND RECOMMENDATIONS

Revenues produced by per gallon excise taxes on motor fuel can grow in only two ways: (a) by increasing the rate of taxation or (b) by increasing fuel consumption. The long-term trend has been toward reduced consumption of fuel in relation to travel, and this trend is likely to continue because it reflects national policy related to energy security and climate change. For that reason, several states have considered shifting from an excise tax to a price-based tax on fuel sales, which produces increasing revenue when fuel prices rise, but might also decline or fluctuate erratically as California's experience with the gas tax swap has shown. States contemplating such a change might consider some of the following options and lessons from the California experiment.

First, states that do consider adopting new variable fuel sales taxes, as California did, should consider incorporating some sort of tax "floor," or minimum tax rate, to protect against dramatic falls in revenue, and possibly upper limits on any increases to avoid charges of price gouging in highly inflationary periods. Second, rather than relying on volatile fuel sales taxes to finance transportation, states could adjust existing excise taxes either by increasing current rates or by indexing the tax. Indexes could be pegged to the general rate of inflation or a rate based on the cost of providing transportation infrastructure, such as a construction cost index, though obviously any increases in tax rates may cause political turmoil. Third, states considering changes to fuel taxes should be wary of any mechanism that requires official action to raise or lower tax rates, which can be politically problematic as the California experience has shown. Finally, states could consider moving away from fuel taxes altogether to mileage-based user fees. Such fees are currently under consideration in California and elsewhere and would charge drivers for actual road use rather than fuel consumption—an increasingly important issue as vehicle fuel efficiencies continue to improve. Although all new fuel-pricing options entail some political risk, creative action is clearly needed to reverse the decaying condition of the nation's crumbling transportation infrastructure.

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