The Parcel Tax

Eric J. Brunner

San Diego State University

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Summary

In the aftermath of school finance reform in California, the parcel tax emerged as the only source of discretionary tax revenue available to school districts. This report attempts to answer four key questions related to its use. First, where did the parcel tax come from? Second, how widespread is its use? Third, how do the characteristics of districts that have levied a parcel tax differ from those that have not? Fourth and perhaps most importantly, is the parcel tax a viable source of discretionary school funding for California's school districts?

The first section of the report examines the origins of the parcel tax, which can be traced to Proposition 13. The main purpose of Proposition 13 was to limit the tax on property values. The parcel tax, however, is a tax on real estate parcels, not on the value of those parcels. Prior to the passage of Proposition 13, the California State Constitution prohibited the use of parcel taxes by local governments. However, parcel taxes became legal under an interpretation of Section 4 of Proposition 13, which allowed local governments to levy "special taxes" subject to the approval of two-thirds of the electorate. The first parcel tax was passed by a school district in 1983. Between 1983 and 1999, 249 parcel tax elections were held in 130 school districts. Of these, 122 elections were successful, and 53 districts passed at least one parcel tax measure.

The second and third sections of the report examine the use of the parcel tax by California school districts. In 1998-99, school districts raised over $56 million in supplemental school funding through the parcel tax. Although a substantial sum, it nevertheless constituted less than 0.2 percent of total school funding that year. If that revenue had been distributed equally across all school districts, each pupil would have received less than $11. Of course, parcel tax revenue is not equally distributed across all school districts. In the 48 school districts that levied a parcel tax in 1998-99, parcel tax revenue per pupil averaged over $500 per pupil. How do the characteristics of these 48 districts differ from others? In general, the parcel tax is levied in districts with high-

income families and parents with high levels of educational attainment. In the 37 elementary school districts that levied a parcel tax between 1983 and 1999, family income in 1990 averaged $88,335. In contrast, family income in school districts that did not levy a parcel tax averaged $45,660.

Although some school districts have raised substantial supplemental funding through the parcel tax, its use has been quite limited. Among California's 987 school districts in 1998-99, only 48 levied a parcel tax. Moreover, these 48 districts served less than 2 percent of the students attending public schools statewide. Why isn't use of the parcel tax more widespread? The fourth section of the report provides one answer to that question, an answer related to the transformation of California's system of public school finance. School finance reform and Proposition 13 changed the source of discretionary school revenue from the local property tax to the parcel tax. Estimates based on a sample of Los Angeles school districts indicate that this change increased the marginal cost of school spending to homeowners, in some cases up to 47 percent. Such a substantial increase may have made the parcel tax unattractive to all but the wealthiest districts.

The final section of the report discusses the long-term viability of the parcel tax as a source of discretionary district revenue in California. In its current form, the parcel tax has several drawbacks. First, the marginal cost of school spending under the parcel tax is high compared to the corresponding cost under the property tax. Although that problem could be solved through a matching state aid program, there is a second and more fundamental problem: The parcel tax is highly regressive. Because most parcel taxes are levied on a per parcel basis, low-income homeowners bear a disproportionate share of the tax burden. Finally, several districts have levied parcel taxes that depend on the square footage of a parcel. Although this type of parcel tax does not suffer from either of the problems discussed above, it has one major drawback. A tax on the square footage of a parcel is very similar to a property tax. As a result, its widespread use

would probably raise equity issues reminiscent of *Serrano v. Priest* and put California's system of public school finance back on trial.

The report concludes by proposing a model school finance system that is based on a square footage parcel tax and is consistent with the *Serrano* requirements. It has at least two attractive features. First, it would be relatively easy to implement; it requires few adjustments to the current system other than the establishment of a district power equalization program. Second, it would provide school districts with a more attractive source of discretionary revenue than is available to them now.

Introduction

California has transferred the responsibility of financing its public schools from local school districts to the state. The transfer began in 1971, when the California Supreme Court ruled in *Serrano v. Priest*, that inequities in the distribution of educational resources resulting from differences in property wealth violated the equal protection clause of the state constitution. The transfer was completed in 1978, when California voters passed Proposition 13. By restricting property tax rates to 1 percent of assessed valuation and assigning the distribution of property tax revenues to statute, Proposition 13 essentially turned the property tax into a state tax. As a consequence, school districts lost control over their largest source of discretionary revenue. Although this transformation has certainly led to a more equal distribution of school funding, it has undermined the ability of school districts to respond to local demand for public school spending. Before *Serrano* and Proposition 13, school districts chose their own level of spending and financed that spending through the local property tax. Now the state controls 90 percent of school district revenue and school districts themselves have few options for raising their own revenue.

Although *Serrano* and Proposition 13 severely restricted the ability of school districts to respond to local demand, they did not eliminate it. Even as Proposition 13 eliminated the property tax as a source of discretionary revenue, it gave birth to a new source -- the parcel tax. The main purpose of Proposition 13 was to limit the tax on the value of property. The parcel tax, however, is a tax on real estate parcels, not on the value of those parcels. Section 4 of Proposition 13 gave local governments the authority to levy parcel taxes subject to the approval of two-thirds of the voters. The first parcel tax for a school was enacted in 1983. Since that time, the parcel tax has become the largest source of discretionary tax revenue available to school districts.

Even so, the use of the parcel tax has been quite limited. Of the 987 school districts operating in California in 1998-99, only 48 levied a parcel tax. Furthermore, if

the $56 million raised by the parcel tax that year were distributed equally across all districts, each pupil would receive less than $11. Of course, parcel tax revenue is not equally distributed across school districts. In the 48 school districts that levied a parcel tax in 1998-99, parcel tax revenue averaged over $500 per pupil. How do the characteristics of these districts differ from others, and why isn't the use of the parcel tax more widespread? This report attempts to answer those questions.

The Origins of the Parcel Tax

The origins of the parcel tax can be traced to Proposition 13. Although the primary purpose of the initiative was to limit taxes on the value of property, it also sought to limit the ability of local governments to enact new non-ad valorem taxes by requiring that "special taxes" be approved by two-thirds of the electorate. Specifically, section 4 of the proposition states that, "Cities, counties and special districts, by a two-thirds vote of the qualified electors of such district, may impose special taxes on such district, except ad valorem taxes on real property or a transaction tax or sales tax on the sale of real property within such city, county or special district."

Although the provision would seem to limit the ability of local governments to make up lost property tax revenue with new taxes, the initiative did not define "special taxes." The interpretation of this term was important for two reasons. First, under state law, cities and counties could enact general taxes with a simple majority vote of the electorate. Thus, the distinction between a general tax and a "special tax" determined whether a new tax required a simple majority or a two-thirds majority for approval. Second, before Proposition 13, special districts had virtually no discretionary taxing authority other than the local property tax.[1] Section 4 of Proposition 13, however, gave special districts the authority to enact "special taxes" subject to the approval of two-thirds of the electorate.

[1] Doerr (1997,1999) provides a detailed description of the taxing authority of local governments prior to the passage of Proposition 13.

One possible definition of a special tax is one that is levied on a specific product or class of taxpayers. According to this definition, the distinction between a general and a special tax is the incidence of the tax. A tax with a wide incidence, such as a sales tax, is a general tax and does not require a two-thirds majority. San Francisco appealed to this definition when it raised payroll taxes in 1980 to pay for improvements at a municipally owned hospital. Because the tax had a wide incidence, the city and county of San Francisco deemed it to be a general tax. As such, it required the approval of only a simple majority of the electorate.

A second possible definition of a special tax is one that is earmarked for a particular purpose. The state legislature appealed to this definition in 1979 when it granted local governments the authority to levy parcel taxes for police and fire protection subject to the approval of two-thirds of the electorate. Until the passage of Proposition 13, parcel taxes were illegal, as the state constitution explicitly required property to be taxed in proportion to its full value. However, the legislative counsel argued that parcel taxes were special taxes as long as they were earmarked for a particular purpose. As such, they became legal under section 4 of Proposition 13 (Doerr, February 1997).

In 1982, the question of what constituted a special tax reached the California Supreme Court in the case of the *City and County of San Francisco v. Farrell*. In its decision, the court ruled that the difference between a general tax and a special tax depends on the purpose to which the revenue is put. If the revenue is allocated for a special purpose, it is a special tax. Based on that definition, the court invalidated the payroll tax increase enacted by San Francisco because it was earmarked for a particular purpose and thus required a two-thirds majority.

As noted by Sonstelie, Brunner, and Ardon (2000), the court's ruling had serious implications for school districts. Under the court's definition, taxes for school districts

were special taxes because they were earmarked for schools. Thus, Section 4 of Proposition 13 gave school districts the authority to levy parcel taxes subject to the approval of two-thirds of the electorate.[2]

Between 1983 and 1999, 249 parcel tax elections were held in 130 school districts. In each election, the district proposed a tax rate and a period of time for which the tax would apply. Although the time period could be unlimited, the vast majority of districts have proposed parcel taxes with durations of four to ten years.[3] Of the 249 elections held, 122 (49 percent) received the necessary two-thirds vote for passage. Furthermore, of the 127 elections that failed, 76 percent received enough support to have passed under a simple majority vote. Figure 1 illustrates the number of successful and unsuccessful elections by year. Since 1993, there has been a marked increase in the number and percentage of successful parcel tax elections. Between 1983 and 1992, only 53 of the 147 parcel tax elections held by school districts were successful. In contrast, 69 of the 104 elections held between 1993 and 1999 were successful.

School districts have imposed parcel taxes primarily on a per parcel basis. The lowest tax rate, levied by West Sonoma County High School District in 1998, was $12.08 per parcel. The highest rate, levied by Ross Elementary School District in 1999, was $495 per parcel. Two districts, Albany Unified School District and Berkeley Unified School District, levied parcel taxes that depended on square footage and whether the parcel was used for commercial or residential purposes. In 1984, Shoreline Unified School District

[2] The definition of a "special tax" was further clarified in 1996 with the passage of Proposition 218. The proposition defines a special tax as any tax imposed for a specific purpose and requires any special tax be approved by two-thirds of the electorate. The proposition also defines school districts as special districts, which can levy only special taxes.

[3] In practice, the limited duration of parcel tax measures is due to the requirement that a district must enact an override of its Gann limit in order to spend parcel tax revenue. Overrides of the Gann limit are limited to no more than four years, although they can be renewed indefinitely. Interestingly, it only takes a simple majority vote to enact a Gann limit override. Thus, a school district could enact a permanent parcel tax and then renew the tax ever four years thereafter with a simple majority vote. I am indebted to Raymond Reinhard for pointing this out.

imposed a parcel tax of $300 per parcel on new development and $50 per parcel on existing development. Legislation passed in 1987 subsequently banned school districts from imposing different tax rates on existing and new development. The legislation, however, allowed school district to provide an exemption for taxpayers aged 65 or older. Since that time, 12 school districts have imposed parcel taxes that exempt seniors from the tax.[4]

In most cases, school districts have used parcel taxes to supplement general-purpose revenues. In particular, parcel taxes have been used primarily to hire additional teachers, to support libraries, music, and arts programs, and to maintain and enhance instructional programs. However, seven school districts have used parcel taxes to fund capital improvements. For example, in 1989, Mojave Unified School District imposed a parcel tax of $56.27 per parcel for two years to fund the construction of a new middle school. Similarly, in 1991 Oak Grove Elementary School District imposed a parcel tax of $68 per parcel for three years to fund facility modernization, and Knightsen Elementary School District imposed a parcel tax of $40 per parcel for five years to purchase new school buses.

School Districts and Parcel Taxes

Although 122 successful parcel tax elections were held between 1983 and 1999, many of them occurred in the same districts. For example, there have been five successful parcel tax elections in Davis Joint Unified School District. The first election, held in 1984, authorized a levy of $45 per parcel for four years. Voters subsequently approved new levies of $91 per parcel for four years in 1987, $104 per parcel for four years in 1991, $120 per parcel for four years in 1995, and $114.36 per parcel for four years in 1999. Overall, 130 school districts held parcel tax elections during this time, and 53

[4] Details of the 1987 legislation are contained in Section 50079 of the Government Code.

were successful in passing at least one parcel tax measure. A complete listing of all school districts that have levied a parcel tax is provided in Table 1A of the Appendix.

Figure 2 shows the number of districts with a parcel tax (in parentheses) and the total parcel tax revenue raised by those districts by year. Revenue figures are expressed in millions of constant 1999 dollars.[5] As the figure indicates, there has been a steady increase in the number of districts with a parcel tax. In 1987-88, only eight school districts had a parcel tax. By 1992-93, 38 school districts had a parcel tax, and that number rose to 48 by 1998-99. Figure 2 also illustrates that, with the exception of 1994-95, there has been a steady increase in the total amount of parcel tax revenue raised by school districts. In 1987-88, total parcel tax revenue amounted to only $5.49 million. In 1993-94, that figure had grown to $50.74 million. After a slight fall in 1994-95, parcel tax revenue resumed its ascent and reached a high of $56.57 million in 1998-99.

Table 1 documents the amount of parcel tax revenue raised by school districts in 1998-99 in more detail. Column 2 lists the total number of school districts in operation in 1998-99 by school district type. Column 3 lists the number of school districts that levied a parcel tax, while column 4 gives the average parcel tax revenue per pupil raised by those districts. For example, of the 572 elementary school districts, 33 levied a parcel tax in 1998-99. In those 33 districts, parcel tax revenue per pupil averaged $508. Similarly, of the 93 high school districts, 4 levied a parcel tax in 1998-99. In those districts, parcel tax revenue per pupil averaged $768.

[5] Revenue figures were adjusted for inflation using the CPI. Data on parcel tax revenue was obtained from school district accounting records provided by the California Department of Education. Before 1987, the school district accounting records lumped parcel tax revenue in with all other local revenues. As a consequence, Figure 2 illustrates the amount of parcel tax revenue raised by school districts beginning in 1987-88, the first year parcel tax revenue was reported separately.

The Characteristics of Districts with Parcel Taxes

On average, the parcel tax generated more than $500 per pupil in the 48 school districts that levied it in 1998-99. In eight of those districts, parcel tax revenue per pupil exceeded $900. This fact raises the question: Which districts have been most successful in using the parcel tax? One interesting characteristic of these districts is their geographic location. More than four out of five are located in the San Francisco Bay Area,[6] and nearly 25 percent are in Marin County. Why have Bay Area districts been so successful in passing parcel taxes while most other districts in the state have not? Among the many plausible explanations, one in particular stands out: Bay Area school districts, especially those in Marin County, have a high concentration of high-wealth and high-income families that found their demand for public school spending severely constrained by school finance reform. The introduction of the parcel tax in 1983 allowed school districts to supplement their revenues and thus respond to this local demand for school spending. According to this explanation, the parcel tax should be most prevalent among those school districts most constrained by school finance reform.

One measure of these constraints is revenue limits, which the legislature introduced in the early 1970s to equalize general-purpose revenue per pupil across districts. Each district's revenue limit was based on the sum of its property tax revenue plus non-categorical state aid in 1972-73. The annual growth rate of a district's revenue limit was determined by it current limit. Districts with lower revenue limits were permitted higher growth rates, and districts with higher revenue limits had lower growth rates. Over time, revenue limits caused a convergence in spending per pupil. If parcel taxes have been used to offset the equalizing effects of school finance reform, they should be most prevalent in districts that initially had the highest revenue limits.

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[6] The San Francisco Bay Area is defined to include the following counties: Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, and Sonoma.

Figure 3 provides evidence consistent with that hypothesis. For each type of school district, the figure gives the average revenue limit in 1974-75 for districts that:

- Never held a parcel tax election,
- Held an election but never passed a parcel tax, and
- Passed a parcel tax. [7]

As the figure illustrates, school districts that were most constrained by reform were more likely to use the parcel tax. In particular, both the probability of holding a parcel tax election and the probability of passing a parcel tax are positively related to 1974-75 revenue limits. For example, elementary school districts that never held a parcel tax election had an average revenue limit of $878. In contrast, elementary school districts that held an election but never passed a parcel tax had an average revenue limit of $947, and districts that passed a parcel tax had an average revenue limit of $1,110. A similar relationship between 1974-75 revenue limits and use of the parcel tax holds for high school and unified school districts. For example, in unified school districts that never held a parcel tax election, the average revenue limit in 1974-75 was $1,025. In contrast, in unified school districts that passed a parcel tax, the average revenue limit was $1,205.

Although this evidence is compelling, it should be interpreted with caution. In particular, measuring how constrained school district are today by looking at their 1974-75 revenue limits is problematic for several reasons. First, as noted by Sonstelie, Brunner, and Ardon (2000), the spending levels that existed in the 1970s reflected the choices districts made when spending was financed through the property tax. Districts with a high percentage of commercial and industrial property faced lower marginal prices of school spending and therefore chose relatively high levels of spending per

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[7] Data on 1974-75 school district revenue limits are from *A Compilation of School District 1975-76 Revenue Limits Computed Pursuant to Senate Bill 90 and Assembly Bill 1267 by County Superintendents of Schools*, a report prepared by the California Department of Education. Due to the formation of new school districts or the consolidation of existing districts, 1974-75 revenue limits were

pupil. Proposition 13 eliminated the property tax as a source of discretionary revenue and thus eliminated this subsidy. As a consequence, 1974-75 revenue limits may not accurately reflect the demand for school spending under state finance. Second, the demographics of districts have changed over the past 25 years. For example, many of the wealthy Bay Area communities that exist today were largely undeveloped in the 1970s. Numerous studies have shown that the demand for school spending is positively related to both income and the education levels of parents.[8] Thus, changes in family income and the educational attainment of parents over the past 25 years may have changed the demand for school spending. These facts suggest that family income and parental education may be better measures of the demand for school spending under state finance.

unavailable for nine elementary school districts, eight high school districts, and 59 unified districts. Only one of those districts -- West Sonoma Union HSD—has levied a parcel tax.

[8] See for example, Bergstrom and Goodman (1973), Bergstrom, Rubinfeld, and Shapiro (1982), Jones (1996), and Poterba (1997).

Figure 4 illustrates the relationship between family income and use of the parcel tax. Like the previous figure, it considers districts that never held a parcel tax election, districts that held an election but never passed a parcel tax, and districts that passed a parcel tax.[9] Use of the parcel tax appears to be positively related to family income. In elementary school districts that never held a parcel tax election, family income averaged $45,087. Family income in elementary districts that held an election but never passed a parcel tax averaged $51,766, and the corresponding figure for elementary districts that passed a parcel tax was $88,335. A similar relationship between family income and parcel tax use holds for high school and unified school districts. In unified school districts that never held a parcel tax election, family income averaged $45,625; in those that passed a parcel tax, that figure was $74,611.

Use of the parcel tax and parental education in 1990 also display a strong positive relationship. In elementary school districts that never held a parcel tax election, 17 percent of parents had a college education compared to 49 percent of parents in districts that passed a parcel tax. Similarly, in high school districts that held a parcel tax election, 16 percent of parents had a college education. For high school districts that held an election but never passed a parcel tax, that figure was 27.8 percent; in high school districts that passed a parcel tax, 50.44 percent of parents had a college education. A similar relationship holds for unified school districts.

Table 2 shows how 1974-75 revenue limits, family income, and the percentage of parents with a college education varies across the 33 elementary school districts that levied a parcel tax in 1998-99. The first column gives four ranges of parcel tax revenue per pupil, and the second column shows the number of elementary school districts with

[9] Data on average family income if from the School District Data Book, a special tabulation of the 1990 census, was produced by the National Center for Educational Statistics. The Data Book excluded districts in 12 of California's 58 counties. As a result, district-level family income data is unavailable for 231 of the 987 districts in the sample. None of the districts missing from the Data Book levied a parcel tax. The excluded counties are Butte, El Dorado, Humbolt, Kings, Madera, Monterey, Napa, San Benito, Santa Barbara, Siskiyou, Tehama, and Trinity.

parcel tax revenue per pupil within each range. For example, eight elementary school districts had parcel tax revenue per pupil of $199 or less. Similarly, eight elementary school districts had parcel tax revenue per pupil of $800 or more. The third column shows the average 1974-75 revenue limit among school districts within each range of revenue limit funding per pupil. As the third column illustrates, parcel tax revenue per pupil appears to be positively related to 1974-75 revenue limits. Revenue limits are lowest among districts that raised the least parcel tax revenue and they increase steadily with the amount of revenue raised. This pattern is consistent with the hypothesis that parcel tax revenue has been used to offset the equalizing effects of revenue limits.

The fourth column illustrates the relationship between family income and parcel tax revenue per pupil while the fifth column illustrates the relationship between the percent of parents with a college education and parcel tax revenue per pupil. As those columns illustrate, parcel tax revenue per pupil appears to be positively related to both family income and the percentage of parents with a college education. For example, family income averaged $52,515 among school districts with parcel tax revenue per pupil of $199 or less. In contrast, family income averaged $114,400 among school districts with parcel tax revenue per pupil of $800 or more. Similarly the percentage of parents with a college education averaged 28 percent among school districts with parcel tax revenue per pupil of $199 or less. In contrast, the percent of parents with a college education averaged 65 percent among school districts with parcel tax revenue per pupil of $800 or more.

Parcel Taxes and the Marginal Price of School Spending

As we have seen, some school districts have been quite successful in raising supplemental funding through the parcel tax, particularly those most constrained by school finance reform. However, the question still remains: Why isn't the parcel tax used more widely? The limited use of the parcel tax is particularly perplexing given the relative decline in school spending that occurred in California in the aftermath of school finance reform. Before *Serrano* and Proposition 13, spending per pupil was about 10 percent higher in California than in the rest of the county. Over the next two decades, however, spending per pupil in California fell about 15 percent relative to the national average. In 1997-98, spending per pupil was about 6 percent lower in California than in the rest of the country, even though the median household income in California was about 9 percent higher than in the rest of the country. California is a relatively wealthy state, and one would therefore expect higher, not lower, levels of spending per pupil.

California's relative decline in spending per pupil is illustrated in Figure 5. That figure gives 1972 and 1992 average spending per pupil in California and the rest of the country for all students attending unified school districts and for students attending a high-income unified school district.[10] In 1972, high-income districts correspond to districts with a median household income of $10,965 or more in 1970. Of all the students attending a unified school district in the United States in 1972, 25 percent attended one of these high-income districts. Similarly, in 1992, high-income districts correspond to districts with median household income of $41,420 or more in 1990. Of all the students attending a unified school district in the United Sates in 1992, 25 percent attended one of these high-income districts. To account for differences in district size, 1972 and 1992

[10] I wish to thank Sheila Murray for providing the data on household income and spending per pupil used to construct Figure 5. A detailed description of the data can by found in Murray, Sheila E., William N. Evans, and Robert M. Schwab, "Education Finance Reform and the Distribution of Educational Resources," *American Economic Review* **88** (September): pp. 789-812, 1998.

spending per pupil is weighted by district enrollment.[11] In addition, for comparison purposes, 1972 spending per pupil is expressed in constant 1992 dollars.

As Figure 5 illustrates, in 1972, spending per pupil in California roughly equaled the level in other states. In 1992, however, spending per pupil in California was about 13 percent lower than in the rest of the country ($4,107 compared to $4,744). Furthermore, relative to high-income districts in other states, California's high-income districts suffered a particularly sharp decline in spending per pupil. Specifically, in 1972, high-income districts in California spent about the same amount as high-income districts in other states. By 1992, however, that situation had changed dramatically. The average spending per pupil in California's high-income districts was $3,845, whereas the corresponding figure for high-income districts in other states was $5,408. Thus, by 1992, high-income districts in California were spending approximately 29 percent less than high-income district in other states.

Why haven't California's school districts used the parcel tax to close that difference? One answer is directly related to California's transformation in school finance.[12] In other states, the source of discretionary school revenue is still the local property tax. In California, however, school finance reform and Proposition 13 changed the source of discretionary revenue from the local property tax to the parcel tax. That change altered the marginal price of school spending, which may have decreased the demand for public school spending.

The marginal price of school spending may be defined as the additional tax burden a homeowner faces when spending per pupil is increased by $1. When school spending is financed through the property tax, that additional tax burden manifests

[11] Weighting by district enrollment changes the unit of observation from the district to the student. Thus, weighting by district enrollment allows one to make comparisons of the number of *students* living in high-income districts rather than comparisons simply of the number of districts that are high-income.

itself in higher property tax payments. For example consider a district with S students. To increase spending per pupil by one dollar, the district needs to raise S dollars. Now consider a homeowner that lives in a home with an assessed value of V dollars. If the total assessed value of all property in the district is T dollars, the homeowner's share of total district taxes is $\frac{V}{T}$. Thus, the cost to the homeowner of increasing spending per pupil by one dollar is $\frac{V}{T} * S$. [13]

To illustrate that point, consider a school district with 100 students and 100 owner-occupied homes, each with an assessed value of $100,000. In that case, the marginal price of school spending is $\frac{100,000}{10,000,000} * 100$, or exactly $1. Now suppose that in addition to the 100 owner-occupied homes, the district also contains 20 nonresidential parcels that have a total assessed value of $10 million. In that case, the marginal price of school spending is $\frac{100,000}{20,000,000} * 100$ or only $.50. Although this example is simplistic, it illustrates an important point. The marginal price of school spending depends on the share of property that is nonresidential. That is, homeowners in districts with high concentrations of nonresidential property face a relatively low marginal price of school spending because part of the additional tax burden is shifted to the nonresidential property owners. In that sense, nonresidential property taxes subsidize homeowners by reducing their marginal price of public school spending.

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[12] Poterba (1997) and Schrag (1998) offer another explanation, one – an explanation rooted in the growing reluctance of white voters to fund public schools that were becoming increasingly nonwhite.

[13] Note that the marginal price of school spending is inversely related to the amount of assessed value per pupil ($\frac{T}{S}$) -- an aspect of the property tax that was ultimately deemed unconstitutional in the *Serrano* decision.

School finance reform and Proposition 13 changed the marginal price of that spending. Almost all parcel taxes are a fixed dollar tax per parcel of land. As a result, the marginal price of school spending with the parcel tax depends on the number of students per parcel. Specifically, the marginal price of school spending is $\frac{1}{N} * S$ where S is the number of students within the district and N is the number of parcels within the district. Consider once again a school district with 100 students and 100 owner-occupied homes. The cost facing homeowners of increasing spending per pupil by $1 is exactly $1. Now suppose that in addition to the 100 owner-occupied homes, the district also contains 20 nonresidential parcels. In that case, the cost facing homeowners of increasing spending per pupil by one dollar is $\frac{1}{120} * 100$ or approximately $.83. With the parcel tax, nonresidential property still acts as a subsidy to homeowners, because the owners of commercial and industrial parcels still pay for part of the increase in spending per pupil. However, the nature of the subsidy has changed. With the property tax the value of the subsidy depends on the *value* of nonresidential parcels as a percentage of total assessed value. With the parcel tax, the value of the subsidy depends on the *number* of nonresidential parcels as a percentage of the total number of parcels.

How does the subsidy from nonresidential property under the property tax compare to that under the parcel tax? Figure 6 provides a partial answer to that question. For the fiscal year ending June 2000, the figure gives the percentage of assessed value that was nonresidential and the percentage of parcels that were nonresidential in four representative counties: Los Angeles, San Diego, Marin, and San Mateo.[14] In all four counties, the average subsidy from nonresidential property under the property tax is larger than the average subsidy under the parcel tax. In Los Angeles County, for example, nonresidential property accounted for 34 percent of assessed value. In contrast, nonresidential parcels accounted for only 11 percent of the total

[14] The percentages illustrated in Figure 6 were constructed using data from annual assessment roll reports produced by each county's Office of the Assessor.

number of parcels. Thus, on average, changing the source of discretionary school funding from the property tax to the parcel tax reduced the subsidy from nonresidential property by 23 percent in Los Angeles County.

If this change in the source of discretionary school spending reduces the subsidy from nonresidential property, it should also increase the marginal price of school spending. That point is illustrated in Table 4. The table shows how the marginal price of school spending under the property tax compares with the marginal price under the parcel tax for school districts located in Los Angeles County. The data used to construct the marginal price figures comes from the Dataquick Property Data CD-ROM for Los Angeles County. The Dataquick database includes information on the assessed value and use (residential, commercial, industrial, etc.) of every property in Los Angeles County as of August 2000. To construct estimates of the marginal price of school spending, the data was first aggregated to the school district level, yielding estimates of the total number of parcels within each school district and the total assessed value of property within each school district. The marginal price of school spending under the property tax was then constructed by first dividing the average assessed value of a single-family home within a district by the total assessed value of all property within a district. This provided an estimate of the average single-family homeowner's share of total district taxes ($\frac{V}{T}$). That share was then multiplied school district enrollment in 1999-2000 to obtain an estimate of the marginal price of school spending under the property tax ($\frac{V}{T} * S$). Similarly, the marginal price of school spending under the parcel tax ($\frac{1}{N} * S$) was constructed by dividing district enrollment in 1999-2000 by the total number of parcels within a district.

The second column of Table 4 gives the marginal price of school spending under the property tax for each type of school district, and the third column gives the same

price under the parcel tax.[15] The fourth column gives the percentage increase in price that occurs when the source of discretionary revenue is changed from the property tax to the parcel tax. For each type of school district, the marginal price of school spending under the parcel tax is substantially higher than corresponding price under the property tax. For example, consider the cost facing the average single-family homeowner in an elementary school district of increasing spending per pupil by $1. If the increase in spending per pupil were financed through the property tax, the cost to the homeowner would by $.44. In contrast, if the increase in spending per pupil were financed through the parcel tax, the cost to the homeowner would be $.58 cents, or almost 32 percent more. A similar pattern holds for high school and unified school districts, where the increases are 47 percent and 34.5 percent, respectively.

This increase in the marginal price of school spending to homeowners may explain why only a small proportion of California's school districts have chosen to impose parcel taxes. The demand for public school spending depends on more than just income and preferences; it also depends on the marginal price of that spending. Most other states still use the property tax as the primary source of discretionary school revenue. As are result, homeowners in those states face lower marginal prices for school spending. These lower marginal prices, in turn, increase the demand for public school spending.

The Future of the Parcel Tax

If the parcel tax only made additional school spending unappealing to all but the wealthiest districts, that problem could be solved through a matching state aid program. For example, suppose that for every dollar a district raised through the parcel tax, the

[15] Los Angeles County contains 29 elementary school districts, six high school districts and 46 unified school districts. Eleven of those districts were dropped from the sample due to data limitations. As a result, the final sample consists of 25 elementary districts, five high school districts and 40 unified school districts. A detailed description of the data restrictions is available from the author upon request.

state were to contribute $.50 cents. In that case, the marginal price of school spending would fall by 33 percent, making the marginal price of school spending under the parcel tax roughly comparable to the marginal price under the property tax. Unfortunately, the parcel tax suffers from a second, more fundamental, problem. In terms of its economic incidence, the parcel tax is regressive. Because almost all parcel taxes are levied as a fixed dollar tax per parcel of land, the burden of the tax is proportionately larger for low-income homeowners than it is for high-income homeowners.[16]

Both these drawbacks are directly related to the way most parcel taxes are levied: namely, as a fixed dollar tax per parcel of land. However, two school districts, Albany Unified and Berkeley Unified, have levied a parcel tax that avoids both drawbacks. That version is a parcel tax that depends on the square footage of a parcel. Because commercial and industrial parcels tend to be larger than residential parcels, the owners of commercial and industrial parcels pay a larger share of any increase in spending per pupil. In that sense, a tax on the square footage of parcels restores the subsidy from nonresidential property that existed under the property tax. Furthermore, because parcel size tends to increase with homeowner income, a tax on the square footage of parcels is less regressive than a fixed dollar tax per parcel of land.

Should the state promote broader use of this sort of parcel tax? To answer that question, one must travel full circle to *Serrano vs. Priest*, the event that began the transformation of the school finance system. Under the guidelines set forth by the California Supreme Court ruling in that case, difference across districts in spending per pupil could not be systematically related to property wealth. In essence, the *Serrano* decision mandated a system of fiscal neutrality -- identical property tax rates should produce identical revenue per pupil, regardless of a district's property wealth. Would a tax based on the square footage of parcels satisfy the court's interpretation of fiscal

[16] The parcel tax may not be as regressive in districts that contain a large proportion of renters, who tend to have lower incomes than homeowners and do not pay the parcel tax. Nevertheless, if landlords can pass

neutrality? It seems unlikely. Imagine two school districts with the same number of students and the same number of parcels. The only difference between the two districts is the size of the parcels that make up the districts. Whereas the first district is made up entirely of 1,000 square foot parcels, the second district is made up entirely of 2,000 square foot parcels. If both districts levy the same tax rate, the first district would raise only half as much revenue as the second district. Although artificial, this example drives home an important point: the broader use of parcel taxes that depend on the square footage of parcels would most likely put California's system of public school finance back on trial.

What do these problems imply for the future of the parcel tax? Is there a way to transform the parcel tax into a viable source of discretionary school funding for California's school districts? In the last section of this report, I present a model school finance system, based on a square footage parcel tax, that provides school districts with a flexible source of discretionary school revenue, yet satisfies *Serrano*. In many respects the model mirrors the model school finance system developed by Sonstelie (2001). However, there is one major difference between the two models. In the model developed by Sonstelie, the source of discretionary school revenue is the property tax whereas I this model, the source of discretionary school revenue is the parcel tax.

As in Sonstelie's property tax model, this one has two levels of revenue: primary and secondary. Primary funding is determined by a base level of funding per pupil sufficient to provide adequate resources to schools under average conditions. In terms of the current system, base revenue per pupil is a district's revenue limit funding. The base level of funding could be further adjusted to accommodate differences in district need, as is done under the current system with categorical state aid. In that case, a district's primary aid would be the sum of its revenue limit funding per pupil plus categorical state aid per pupil.

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the tax along by increasing rents, it seems likely that renters would end up paying at least some portion of the tax.

Districts may supplement this base revenue with secondary revenue raised through a square footage parcel tax. Districts could set their own parcel tax rates, and the proceeds would be subject to district power equalization. This equalization is accomplished through a secondary state aid program. The state establishes a standardized total square footage per pupil, and secondary aid is the difference between the revenue a district would receive if its parcel tax rate were applied to the standardized tax base and the revenue it actually receives from its parcel tax rate. For districts with total square footage per pupil greater than the standardized value, secondary state aid would be negative and thus would reduce the district's primary aid.

The system can be described in more detail using the following definitions:

- BR is a district's base revenue per pupil established by the state.
- DTP is the total square footage of all parcels within a district divided by the number of pupil. That is, $DTP = \frac{T}{S}$, where T is the total square footage of all parcels in the district and S is the number of students in the district.
- STP is the standardized total square footage per pupil established by the state.
- t is the parcel tax rate chosen by the district.

Using these definitions, total district revenue per pupil would be the sum of the following sources of district revenue:

- Primary State Aid = BR
- Secondary State Aid = $t*(STP - DTP)$
- District Parcel Tax Revenue per Pupil = $t*DTP$

Adding these three sources of revenue together yields:

- Total District Revenue per Pupil = $BR + t * STP$

Note that the system is fiscally neutral, as districts leveling the same tax rate have the same revenue per pupil. Thus, the system satisfies the *Serrano* requirements. Furthermore, the system provides districts with a flexible source of discretionary tax revenue, as they may increase their revenue by choosing a higher tax rate. Of course, the model outlined above raises at least two important questions. First, would a tax based on the square footage of parcel be appealing to district residents? Specifically, how does the marginal price of school spending under a square footage parcel tax compare to the marginal price of school spending under a property tax? If the marginal price of school spending under a square footage parcel tax was relatively high, the system outlined above could easily be modified to include a matching state aid program. Such a program would reduce the marginal price of school spending, making the parcel tax more attractive to district residents. Second, what is the economic incidence of a tax based on the square footage of parcels? Is it a fair tax? One concern with such a tax is its effect on owners of large parcels with low market value. Because the tax is based on the square footage of a parcel and not the parcels value, these owners would pay a disproportionate share of the tax. Once again, the system described above could be modified to address this issue, perhaps by allowing districts to apply different tax rates to different types of parcels (for example, residential parcels and nonresidential parcels).

In conclusion, the system outlined above has several attractive features. First, it would be relatively simple to implement, as it requires few adjustments to the current system other than the establishment of a district power equalization program. Second, compared to the parcel tax as it now stands, this model would provide districts with a more attractive source of discretionary school revenue.[17] Before the legislature considers

[17] In principle, a system similar to the one described above could be developed for the most popular type of parcel taxes: namely, parcel taxes levied as a fixed dollar tax per parcel of land. In that case, the state would need to establish a standardized total number of parcels per pupil. Secondary aid would then be the difference between the revenue a district would receive if its parcel tax rate were applied to the standardized base and the revenue it actually receives from its

implementing such a system, however, several questions would need to be addressed. First, how high is the marginal price of school funding under a square footage parcel tax? Second, what is the economic incidence of a square footage parcel tax? It would be a relatively simple task to answer those questions in subsequent research.

parcel tax rate. The state would also need to address two fundamental problems associated with such a tax. First, to make such a tax more appealing, a matching state aid program similar to the one described above would need to be established. Second, to deal with the regressive nature of the tax, a lower tax rate or a complete exemption from the tax could be established for low-income households. In fact, several districts that currently levy a parcel tax already provide an exemption for low-income taxpayers and those aged 65 and older.

Figure 1: School District Parcel Tax Elections: 1983 through 1999

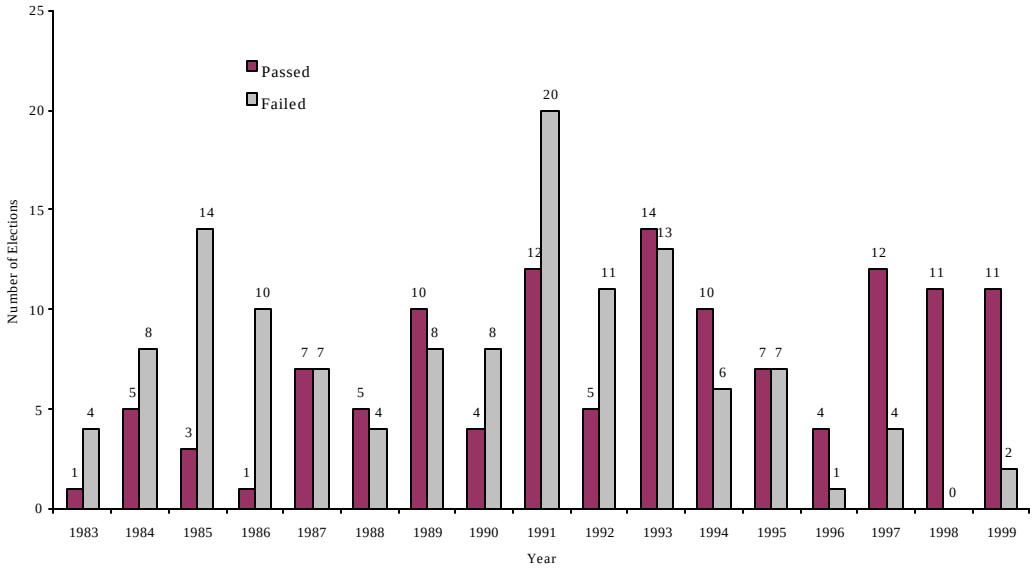

Figure 2: Parcel Tax Revenue, 1987-88 to 1998-99

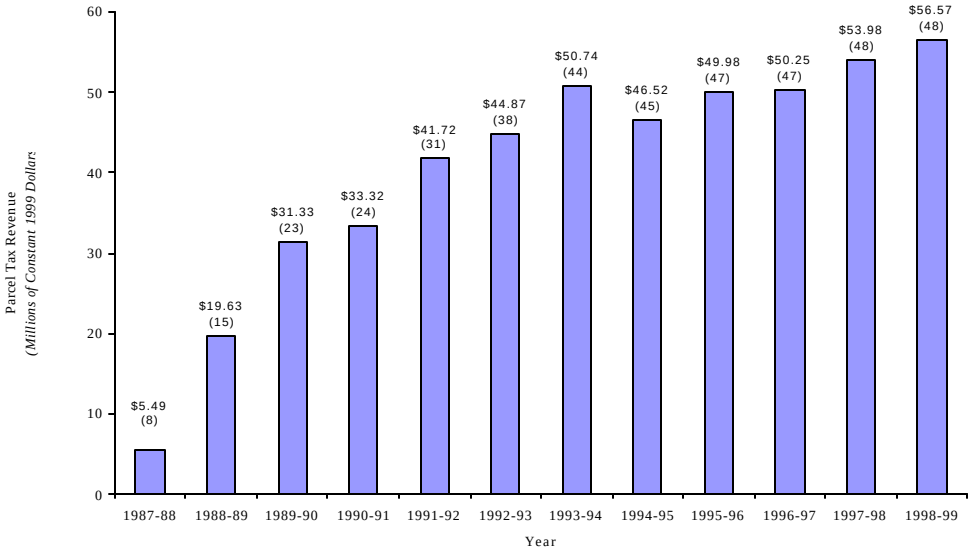

Table 1

Parcel Tax Revenue by School District Type: 1998-99

School District Type	No. of School Districts	No. with a Parcel Tax	Average Parcel Tax Revenue per Pupil
Elementary	572	33	$508
High School	93	4	768
Unified	323	11	398

Figure 3: Parcel Taxes and 1974-75 Revenue Limits

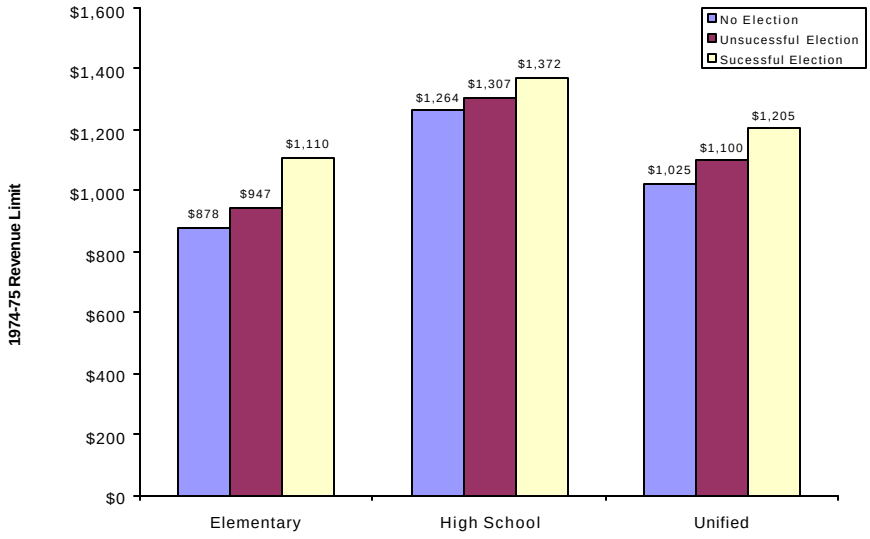

Figure 4: Parcel Taxes and Family Income

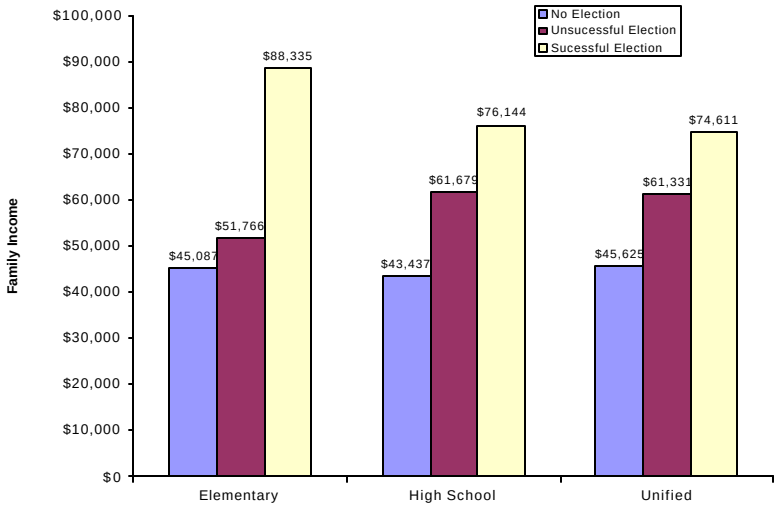

Table 2
Characteristics of Districts with Parcel Taxes, by Ranges of Parcel Tax Revenue Per Pupil in 1998-99

Parcel Tax Revenue Per Pupil $	No. of School Districts	1974-75 Revenue Limit	Average Family Income	% of Parents with a College Education
1-199	8	820	52,515	28.2
200-349	8	1,192	95,102	54.8
350-799	9	1,200	110,002	60.8
800 and above	8	1,311	114,400	64.8

Figure 5: Spending per Pupil in California Relative to the Rest of the U.S.

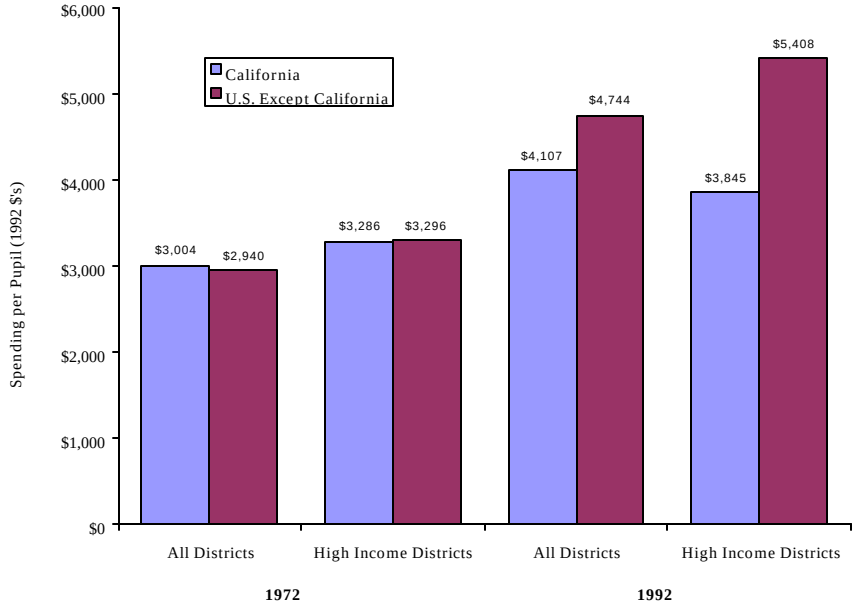

Figure 6: Subsidy from Nonresidential Property under Property Tax and Parcel Tax

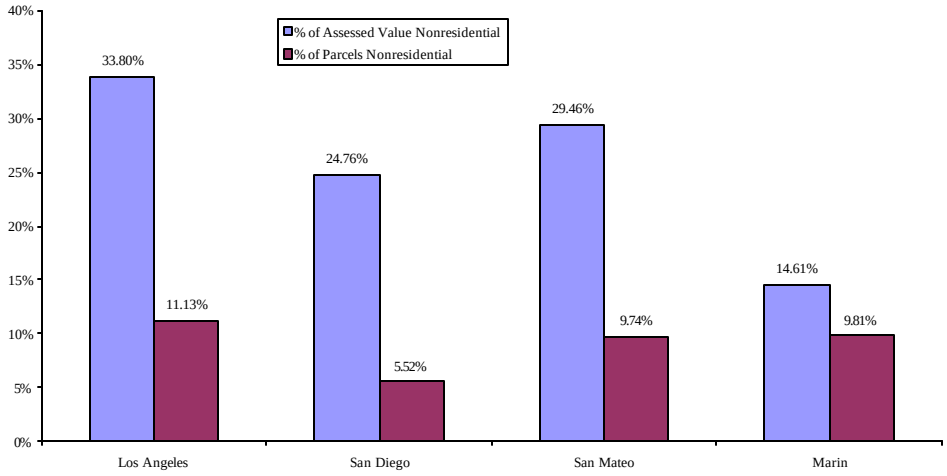

Table 4

The Marginal Price of School Spending, LA County School Districts

School District Type	Marginal Price with Property Tax	Marginal Price with Parcel Tax	Percent Change in Marginal Price
Elementary	0.44	0.58	31.8%
High School	0.19	0.28	47.4%
Unified	0.55	0.74	34.5%

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Appendix

Table 1A
Districts with a Parcel Tax: 1983-1999

County	District	County	District
Alameda	Albany City Unified	Placer	Tahoe Truckee Joint Unified
Alameda	Berkeley Unified	San Mateo	Brisbane Elementary
Alameda	Oakland Unified	San Mateo	Burlingame Elementary
Alameda	Piedmont City Unified	San Mateo	Hillsborough City Elementary
Contra Costa	Acalanes Union High	San Mateo	Las Lomitas Elementary
Contra Costa	Knightsen Elementary	San Mateo	Menlo Park City Elementary
Contra Costa	Lafayette Elementary	San Mateo	Portola Valley Elementary
Contra Costa	Moraga Elementary	San Mateo	San Mateo Foster City Elementary
Contra Costa	Orinda Union Elementary	San Mateo	Woodside Elementary
Kern	Buena Vista Elementary	Santa Clara	Loma Prieta Joint Union Elementary
Kern	Mojave Unified	Santa Clara	Los Altos Elementary
Los Angeles	San Marino Unified	Santa Clara	Los Gatos Union Elementary
Los Angeles	Santa Monica Malibu Unified	Santa Clara	Oak Grove Elementary
Marin	Bolinas Stinson Union Elementary	Solano	Dixon Unified
Marin	Dixie Elementary	Sonoma	Forestville Union Elementary
Marin	Kentfield Elementary	Sonoma	Fort Ross Elementary
Marin	Lagunitas Elementary	Sonoma	Harmony Union Elementary
Marin	Larkspur Elementary	Sonoma	Kenwood Elementary
Marin	Mill Valley Elementary	Sonoma	Liberty Elementary
Marin	Novato Unified	Sonoma	Rincon Valley Union Elementary
Marin	Reed Union Elementary	Sonoma	Sebastopol Union Elementary
Marin	Ross Elementary	Sonoma	Twin Hills Union Elementary
Marin	Ross Valley Elementary	Sonoma	West Sonoma County Union High
Marin	San Rafael City Elementary	Tulare	Three Rivers Union Elementary
Marin	San Rafael City High	Tulare	Tulare City Elementary
Marin	Shoreline Unified	Yolo	Davis Joint Unified
Marin	Tamalpais Union High		