UC Berkeley

Earlier Faculty Research

Title

Statewide Transportation Planning: Lessons from California

Permalink

https://escholarship.org/uc/item/5j13w0bg

Author

Brown, Jeffrey

Publication Date

2002

Statewide Transportation Planning: Lessons from California

State DOTs are grappling with how to meet federal mandates that they engage in multimodal transportation planning with metropolitan planning organizations and other governmental agencies. The experience of one state, California, shows that the recent round of soul-searching is nothing new. California's experience is one of episodic, triage-style planning undertaken in response to a recurring series of fiscal or physical crises and external mandates. The only exception to this pattern was the long-range planning surrounding the California Freeway System plan adopted in 1959. But given today's transportation policy environment and prevailing public attitudes about building large transportation facilities, the ability of state DOTs to craft far-reaching, long-range plans along the lines of the 1959 example is a Herculean task. Today's round of organizational soul-searching could represent the first hesitant steps toward an era of thoughtful, proactive planning, or it could simply be the latest example of reactive planning. Past experience suggests that the latter is more likely the case.

by Jeffrey Brown

ince passage of the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991, federal surface transportation legislation has mandated that state departments of transportation (DOTs) engage in multimodal transportation planning with metropolitan planning organizations and other governmental agencies. For the past 10 years, state DOTs have grappled with how to reorient themselves to meet this mandate. Given modal competition for resources and some enduring cases of interjurisdictional wrangling, one might conclude that these federal mandates and the state DOT responses to them represent a watershed change without historic precedent.

But this is not the case. Actually, the decade-long struggle to develop a new, collaborative approach to state transportation planning is entirely consistent with a long history of planning by state DOTs. While there are at least 50 different histories of

transportation planning at the state level, the experience of one state, California, can be taken as exemplary of the others.² California's story is one of episodic, triage-style planning undertaken in response to crises or outside mandates, and the story suggests that the recent organizational soul-searching in California is nothing new. While the particulars of the story may be unique to California, cursory research suggests that the general themes are consistent with the experiences of other states.

This study carefully analyzes the publicly available transportation planning documents developed by the California Department of Transportation (Caltrans) and predecessor agencies over the past century, including reports to the legislature, periodic reviews of highway construction progress, and the official state transportation plans themselves, to answer three questions:

1. What have been the driving forces shaping state transportation policy?

- 2. How have state DOTs responded to these forces?
- 3. What have been the outcomes of the DOT responses?

The research finds that the driving forces behind statewide planning in the past have resurfaced in subsequent years. The state's responses to these forces have usually taken the form of short-term fixes designed to deal with the immediate crisis-at-hand. A period of short-term stability then ensues until the arrival of the next crisis and a subsequent round of crisis-response planning. The only exception to this pattern is the long-range planning surrounding the California Freeway System plan adopted in 1959. But given today's fiscal environment and public attitudes about building freeways and other large transportation facilities, the ability of state DOTs to craft far-reaching, long-range plans along the lines of the 1959 example is an almost impossible task.

A Century of Statewide Transportation Planning

Statewide transportation planning has a long, though episodic history in California. State transportation agencies have generally practiced crisis management, or triage style planning. Statewide plans have been prepared in response to perceptions of fiscal or physical crisis, or under external pressure from the federal government. Most plans have been reactive: focusing on remedying accumulated deficiencies rather than laying out a long-term planning vision. Typically, the transportation agency of the day followed these plans with shorter-term, narrowly focused follow-up documents that drove year-to-year operations until the next crisis arose. An important and still significant exception to this pattern, however, was the ambitious California Freeway System plan adopted in 1959.

Statewide transportation planning in Cal-

ifornia encompasses seven distinct eras, which are summarized in Table 1. As the table shows, the forces driving transportation policy in the past have often reappeared in later decades. Between the 1890s and 1900s and again in the 1940s, statewide transportation planning was driven by a pervasive belief that deteriorating roads were undermining California's economic position. In the 1920s and 1990s, pressure from the federal government led to a sudden upsurge in planning activity. In the 1970s and today, dramatic changes in the policy environment forced Caltrans to rethink the fundamental assumptions behind state transportation policy and to demonstrate the relevance of its own institutional role.

Era 1: Creating the State Highway System (1895-1919)

The first era of statewide transportation planning was marked by the efforts of legislators, officials, and interest groups to create a state highway system. These individuals believed that poor roads posed a threat to California's future prosperity. And, because counties lacked the financial resources needed to maintain the roads and the statewide perspective needed to ensure the development of a system of roads for inter-county transportation, they believed that direct state involvement in highway development was essential (Office of the Bureau of Highways 1896).

A proposal to develop a system of state-administered, financed, constructed, and maintained highways represented a radical break with tradition and encountered serious opposition from interest groups wary of increasing the power of the state at the expense of the counties (ACSC and CSAA 1921). Such concerns defeated a highway bill in 1896 and delayed the creation of a state highway system for more than a decade (Highway Advisory Committee 1925). But the public's belief that bad roads could have

Table 1: Eras of Statewide Transportation Planning in California

Years	Policy/Planning Era	Driving Forces	Significant Products	Outcomes
1895-1919	Creating the State Highway System	Poor condition of roads seen as threat to state economic growth	• 1896 Bureau of Highways Plan • 1909 State Highway Act	State highway created to boost economic growth Escalating system costs soon result in fiscal crisis
1920-1933	A Golden Age for California's (Rural) Highway Program	Fiscal pressures on highway program prompt legislators to tighten route selection criteria and to find a new revenue source	1920s new route selection criteria adopted 1927 Breed Act Fiscal stability	1923 Gas Tax State highway engineers make steady construction progress
1933-1941	From Long-Range Planning to Short-Term Fixes	Severe urban fiscal crisis leads urban interests to demand state highway aid	State commits to urban road aid in 1933 & 1935. Plans chronicle growing im- balance between state high- way revenues and needs	Expanded state commitments without additional resources lead to new fiscal crisis
1941-1955	Planning for Post-War Highways	 Accumulated highway needs and growing urban traffic congestion prompt state officials to conduct an extensive examination of all facets of the state highway program 	1940s critical highway deficiencies reports 1947 Collier Committee recommendations 1947 Collier-Burns Highway Act	 Expanded highway program with enhanced highway funding New state commitment to metropolitan freeway construction
1955-1975	Mass Production of Highways	Growing highway revenues prompt state officials to think about long-term highway needs	1959 adoption of visionary California Freeway System Plan	Dramatically expanded commitment to freeway construction Fiscal pressures and socio-economic and environmental concerns rise to challenge highways—only focus of California transportation
1975-1992	Multi-modal Transportation in an Era of Declining Resources	Concerns about the impact of the state highway program on metropolitan areas leads to funda- mental policy shift	AB 69 and creation of Caltrans 1970s California Transportation Plan 1980s state fiscal pressures lead to increased local transportation funding 1989 Transportation Blueprint	New multi-modal focus for state transportation Fiscal pressures lead to retrenchment of state program and newfound assertiveness of local officials
1992- present	ISTEA and Its Aftermath	Enhanced fiscal and planning independence of local agencies leads to fundamental rethinking of state agency role	• 1993 California Transport- ation Plan	To Be Determined

dire economic consequences soon overcame concerns about the dangers of increasing state power. The State Highway Act of 1909, which created a 3,052-mile rural state highway system and authorized the issue of bonds to fund its construction, won easy passage.³

The creation of the state highway program marked the beginning of a sometimes uneasy relationship between state and local governments over control of highways. Initially, the counties resisted the creation of a state program. But when the program materialized, the possibility of receiving state aid prompted many county officials to lobby for the inclusion of additional roads in the state highway system. During the late 1910s, nearly 2,500 additional miles were added to the system, and most of the mileage consisted of routes of purely local importance (Highway Advisory Committee 1925). The state issued additional bonds in 1915 and 1919 to finance the increased mileage, but engineering changes necessitated by increasing motor vehicle traffic and post World War I inflation combined to overwhelm the state's highway finances (Brown et al. 1999).

Era 2: A Golden Age for California's Rural Highway Program (1920-1933)

During the 1920s, state highway planners and their legislative allies faced three planning challenges. First, they had to find a more stable instrument to finance highways. Second, they had to short-circuit politically motivated system expansion. And, third, they had to address the growing anger of southern legislators who felt their constituents were being shortchanged by the state highway program.

Legislators and interest groups agreed that using 40-year bonds to finance roads that frequently had to be rebuilt in six or seven years did not make for a fiscally sound highway program. The automobile clubs recom-

mended imposing a gasoline tax as a more stable revenue source (ACSC and CSAA 1921). And, in 1923, California instituted a gasoline tax that quickly became the engine of a reinvigorated highway finance system.⁴

The key challenge of the mid-1920s was the need to reassert the primacy of statewide planning criteria over purely political motives in route selection. The mileage additions of the late 1910s added many roads of purely local importance into a system designed to serve statewide travel (Highway Advisory Committee 1925). The gasoline tax provided additional resources to counties that might otherwise have been tempted to add local roads to the state highway system, but a stricter set of route selection criteria was also required. The state highway commission devised new route selection criteria, which required state highways to serve statewide transportation needs (California Highway Commission 1930).5 These criteria slowed the addition of new system mileage for a time. The apparent resolution of these two challenges enabled engineers to make steady construction progress on the state highway system, and the construction program received an unexpected boost with the expansion of the federal aid highway program. A veritable golden age of rural highway construction began.

The golden age began to lose its luster, however, when geopolitical conflict arose. An uneasy truce in the long-running geopolitical struggle between the northern and southern parts of the state was arranged through the Breed Act in 1927, which required that 51% of state highway money be allocated to the 45 primarily rural northern counties and 49% to the 13, increasingly urbanized southern counties (Brown et al. 1999). This compromise temporarily cooled the heated rhetoric from the south about the unfair distribution of highway resources but also hamstrung state discretion in highway resource allocation.

Era 3: From Long-Term Planning to Short-Term Fixes (1933-1941)

In the 1930s, California's focus on long-term highway planning was supplanted by a short-term focus on alleviating the employment and fiscal crises of the Depression. The Depression wreaked havoc on local government finance as property tax revenues plummeted, and local road budgets shrank as a result. But the gasoline tax proved remarkably resilient, and this drew the attention of county officials who pressured the state for increased financial assistance and urban groups who called for an end to the prohibition against spending state highway funds in urban areas (Brown et al. 1999).

The state responded by (1) adding 6,600 miles of county roads to the state highway system and (2) setting aside one-quarter cent of the three cents per gallon gasoline tax for use on state highways in cities (Zettel 1946). The state commitment to urban areas made under the pressures of the Depression proved permanent and, by the end of World War II, urban highway needs began to supplant the rural program as the focal point of the state's highway efforts. But when the state made these watershed, and enormously expensive, decisions, legislators made no provision for raising additional revenue. By the early 1940s, the Depression-induced local and county government fiscal crisis had been supplanted by a state-induced highway finance crisis (Division of Highways 1942).

Era 4: Planning for Post-War Highways (1941-1955)

During the 1940s and 1950s, California made significant progress identifying and remedying highway deficiencies accumulated during the 1930s and early 1940s, and the state redefined the mission of the Division of Highways to include metropolitan freeway planning and construction. Statewide plan-

ning in the early 1940s consisted almost entirely of chronicling highway deficiencies (Division of Highways 1942). But during the legislative session of 1947, two changes were made that fundamentally altered the state highway program.⁶ First, an increase in highway user fees and the creation of a state highway account (a trust fund) to receive and dispense revenues helped stabilize highway finance. But as the price for their assent to gasoline tax increases, southern legislators demanded a revision of the 1927 fiscal compromise. They received a guarantee that 55% of state highway expenditures would be made in the 13 southern counties.8 The creation of "county minimums," inserted to gain rural legislative support, made sure that each county received a minimum amount of annual highway aid. The net result of these geopolitical arrangements was relative peace between the various sections of the state, but it also tied the hands of the Division of Highways when it came to system planning and expenditure prioritization (Brown 1998).

Second, pressure from urban interests clamoring for a larger share of state highway revenues led the state to hand responsibility for metropolitan freeway construction to the Division of Highways. Prior to 1947, local governments had complete responsibility for urban freeway construction, and state involvement had been limited to modest financial or in-kind assistance on a handful of individual facilities (Brown 1998) The decision to hand control over metropolitan freeway development to the state had longterm repercussions for the Division of Highways (and later Caltrans) and for the state's metropolitan areas. The rural-oriented Division of Highways was charged with responsibility for highway planning and construction in an urban setting with which highway planners and engineers were, at the time, unfamiliar. By and large, they simply transferred their rural practices to cities, with sometimes unfortunate results.9

By the mid-1950s, the state's transportation mission included a metropolitan—as well as a rural and inter-city—focus. The finance arrangements of 1947, modest fuel tax increases in 1953 and the expansion of federal highway spending in the post-war period combined to fill state trust fund coffers and allowed the Division of Highways to gear up for the mass production of urban freeways. The 1956 federal legislation that financed the interstate highway system soon inspired state transportation officials to dramatically expand their own mission to include building an extensive statewide freeway system.

Era 5: The Mass Production of Highways (1955-1975)

By the late 1950s, an influx of new highway money allowed the Division of Highways to shift from a short-range focus on chronicling highway deficiencies to long-range statewide highway planning. The rosy financial picture allowed legislators and planners to think about the state's highway system in terms that would have appeared grandiose, even fanciful, only a few years earlier. They responded with the ambitious California Freeway System plan that drove the highway program for the next 15 years. But by the 1970s, a new fiscal crisis and the erosion of public support for freeways combined to force a fundamental reevaluation of the state's role in transportation.

In 1957, the state legislature charged the highway planners with developing a statewide freeway plan. Legislators, administration officials, the business community, highway interests, and the general public shared the belief that an enlarged statewide freeway program was required to accommodate California's growing population and assure its continued economic growth (Taylor 1992). The Division of Highways unveiled a dramatic 12,240-mile statewide

rural-urban freeway system plan (Division of Highways 1958).

In developing the plan, the Division of Highways took a 20-year view of state transportation needs. This long-term focus allowed the agency to anticipate future transportation needs and cast its work in a more proactive stance—as opposed to the historic pattern of reacting to past crises. However, the long-term planning perspective and development of a concrete plan locked into place many routing and design decisions that could have been handled with greater flexibility and more attention to the circumstances surrounding each case.¹⁰ A legislative study reported that no tax increases would be needed to finance the program, and this led to nearly unanimous legislative support for the plan when it was adopted in 1959 (Zettel 1958; Brown et al. 1999).

The California Freeway System plan became the raison d'être of the Division of Highways during the 1960s. Highway engineers made steady progress on the plan but they soon confronted a series of seemingly insurmountable obstacles to its completion. First, the Division of Highways exhausted the relatively easy jobs, the facilities built in long-established transportation corridors or in industrial parts of the city, and began to plan and construct facilities in residential neighborhoods. As design geometry and highway capacity were upgraded to accommodate projected increases in high-speed traffic—and became reflected in much larger facilities—it became harder to integrate the facilities in the surrounding landscape without substantial community disruption. First in San Francisco, and soon in other cities, freeway opponents mobilized and gained the support of local officials who used their political clout to delay or cancel once-desired freeway projects (Jones and Taylor 1987).

Simultaneously, the fiscal health of the highway program deteriorated in the face of inflation, increased vehicle fuel efficiency, and political reluctance to increase the gasoline tax (Brown et al. 1999). Between 1964 and 1982, inflation eroded the buying power of the gasoline tax by more than two-thirds. The inflation of the late 1960s and 1970s coupled with a shift to more fuel-efficient vehicles in the 1970s revealed the inherent structural weaknesses of the gasoline tax at just the time inflation and new design requirements were sending the cost of highway projects skyrocketing (Taylor 1992). The fiscal crisis forced the state to cancel nearly 600 miles of the freeway plan, and state officials said that other routes would have to be eliminated unless additional highway revenues were found (Caltrans 1975).

Era 6: Multi-modal Transportation in an Era of Declining Resources (1975-1992)

Growing public concern about the environment, political pressure from central city politicians, and the energy crisis of the 1970s stimulated a dramatic shift in transportation policy across the United States. The states and federal government responded by creating multimodal departments of transportation, which were charged with taking a much wider view of transportation than had state highway departments. In California, the changed policy environment was heralded with the passage of Assembly Bill (AB) 69 in 1972. AB 69 required regional transportation planning agencies to develop their own multimodal transportation plans that would then be combined into a statewide document to be known as the California Transportation Plan (Caltrans 1975). This requirement shifted the balance of planning power between the state agency and local officials.

In 1973, California created a multimodal department of transportation (Caltrans) to replace the Division of Highways. The state transportation role was suddenly expanded beyond the traditional highways-only focus, and planners spent the next few years trying to define the new agency's vision (Caltrans 1974, 1975, and 1977). The new state trans-

portation vision included an emphasis on land use-transportation coordination, air quality improvement, and the strengthening of alternative modes such as public transit—goals that were fundamentally different from prior road building objectives (Caltrans 1975). Not surprisingly, these events brought with them traumatic changes for the Division of Highways' highway engineering culture, and produced strains that were evident in the organization for decades (Jones and Taylor, 1987).

The 1970s and 1980s were a period of retrenchment in state highway construction, expanded state involvement in mass transit, and increased local control over transportation planning and finance. The state began to eliminate controversial segments of the freeway plan during the early and mid-1970s and abandoned any pretense that the remaining routes could be built during the late 1970s. With the abandonment of the freeway plan, statewide transportation planning returned once again to the job of chronicling deficiencies on the established state road systems. Illustrative of this shift is the 1984 California State Highway System Plan Report which estimated traffic on the state highway system, determined levels of service on the route segments, and calculated the amount of money required to bring the system up to various levels of performance—all in a somewhat transparent attempt to obtain additional resources for transportation (Caltrans 1984). Caltrans produced similar plans for highways and mass transit throughout the 1980s.

The passage of the *Transportation Blue-print for the 21st Century* package of bonds and user tax increases in 1989 brought additional resources to transportation and marked the advent of an era of project-list planning. The Blueprint proposed the eventual development to freeway standards of a 3,300-mile Interregional Road System consisting of the most important state highways, capacity additions on critical trunk-line

routes, and modest design upgrades on an additional 1,800 miles of "priority routes" not formally part of the interregional system (Caltrans 1990). While the report's authors asserted that the interregional road system was developed as part of a long-range statewide planning effort, the report is clearly structured as an amalgamation of loosely connected, locally desired highway projects. This is very different from the 1959 California Freeway System Plan that focused on defining long-range goals and needs and then designed a transportation system to meet these goals.

Ongoing fiscal pressures forced a retrenchment of state involvement in transportation and brought a resurgence of local finance and control during the 1980s. Between 1980 and 1990, 18 mostly urban California counties adopted dedicated sales taxes to finance a wide variety of highway, transit, and other transportation projects (Brown et al. 1999). With the new means of local transportation finance came a new assertiveness in planning and project selection and increased pressure for more local and regional control over the use of state transportation revenue.

Era 7: ISTEA and its Aftermath

Federal transportation legislation in 1991 and 1998 introduced programmatic changes that have increased the planning challenges faced by state DOTs. Federal legislation has shifted the balance of power between state and regional transportation agencies by granting regional agencies a significant measure of financial and planning independence. ISTEA and TEA-21 have transformed state departments of transportation into a statewide coordinator of metropolitan area plans, overseer of rural and inter-city transportation projects, and compiler of separate plans into one 20-year, statewide planning document.12 These changes have introduced uncertainty into established inter-governmental relationships between local, regional, state, and federal transportation agencies, and left many state DOTs struggling to redefine their purpose and mission.

Caltrans worked hard during the 1990s to redefine its role in statewide transportation—and to at times argue in a rearguard fashion that a statewide focus on transportation is a necessary and desirable thing. Caltrans' first post-ISTEA plan, the 1993 California Transportation Plan, testifies to the uncertainty over its new role and responsibilities (Caltrans 1993). The plan embraces ISTEA's rhetoric about intergovernmental partnerships, multimodal transportation approaches, and the need for balance between transportation needs and environmental concerns, but it reads like a laundry list of potential policies and objectives (Caltrans 1993). One gets the impression of an agency tentatively and hesitantly casting about for its future direction. More than a decade after the passage of ISTEA, Caltrans is still struggling to redefine its transportation role, and the same uncertainties that characterized statewide planning in 1993 continue to characterize statewide transportation planning in the 21st Century.

As if the changes introduced with ISTEA were not enough to send Caltrans into a period of organizational crisis, the adoption of Senate Bill (SB) 45 would have been. The theme of the legislation was the need to increase local and regional control over project selection, project design, and the use of transportation resources. The bill's author, Senator Kopp, argued that it represented a veritable revolution in transportation planning, because it brought the planning process closer to the voting public and paved the way for the greater use of local taxes for transportation, including sales taxes, general obligation bonds, and regional gas taxes (Brown and Garrett 1998).

The combination of ISTEA (and TEA-21) and SB 45 has brought a fundamental restructuring of the balance of power between

Caltrans and local and regional governments over transportation issues. In the 1950s and 1960s, the state Division of Highways was able to go about its task of meeting its definition of state transportation needs, with a clearly constrained local role in the planning process. In the 1970s and 1980s, Caltrans stressed the need for cooperation and intergovernmental partnership but many local critics argued that rhetoric about cooperation was all style and had little substance. In the post-ISTEA era, however, rhetoric became reality.¹³

Conclusion

With the exception of the California Freeway System plan adopted in 1959, statewide transportation planning in California has been characterized primarily by the irregular production of reactive plans focusing on fiscal shortfalls and project backlogs. In other words, state transportation "plans" have typically been backward looking; they have been tools to lobby for increased funding to complete already adopted projects.

The *California Freeway System* plan was the great exception to this generalization. It was ambitious, visionary, and captured the imagination of the motoring public. The power of this plan unleashed an unprecedented era of transportation investment in

California. The scale and rapidity of freeway construction is seen by some as evidence of the potential of visionary planning and concerted public action, and by others as evidence of the dangers of unchecked government power.

The abandonment of both the *California Freeway System* plan and the Division of Highways in favor of a fiscally constrained, multimodal Caltrans resulted in a series of planning efforts in the 1970s to redefine the role of the state highway department and develop a more collaborative model of transportation planning. These early efforts produced some thoughtful appraisals of the appropriate state role in transportation planning and development, but these appraisals have had little obvious connection to the more program-oriented plans that followed in the 1980s and early 1990s.

Recent federal policy changes have prompted Caltrans and other state DOTs to again reexamine their roles in an environment where control over transportation planning and finance has become increasingly fragmented. But whether this latest round of organizational soul-searching represents the necessary first step toward the advent of a new era of thoughtful, proactive statewide transportation planning or simply another short-term response to outside pressure remains to be seen.

Endnotes

- 1. Schweitzer and Taylor (2001) discuss some practical consequences of ISTEA and TEA-21 statewide transportation planning requirements.
- 2. I selected California because it is the most populous state with the most heavily used transportation system.
- 3. Urban roads were not eligible for inclusion in the state highway system until the 1930s.
- 4. Proceeds of the original two cents per gallon gas tax were split equally between the state and the counties. The tax was increased to three cents per gallon in 1927—with the additional cent dedicated to state highways.
- 5. The new criteria required state highways to be roads carrying a large volume of traffic, affording relief to heavy traffic on present state roads, and/or serving as important interstate links.
- 6. A more detailed discussion of the events of 1947 may be found in Price (1949) and Brown et al. (1999).
- 7. Jones (1989) argues that California's trust fund arrangement was so successful that it was simply copied by other states and the federal government.
- 8. The north-south compromise was again revisited in the 1970s and the 1990s. The current arrangement splits most state highway funds 60:40 between the southern and northern counties (Brown et al. 1999).
- 9. Taylor (1995) discusses the effect of this finance-driven decision on urban freeway planning.
- 10. The Division of Highways' reputation in the eyes of critics as an unresponsive and inflexible bureaucratic monster was acquired when it attempted to put the precepts of the freeway plan into practice, while emphasizing statewide standards and needs and at times running roughshod over local concerns. Some people would argue that Caltrans is still paying a price in its relations with local governments for people's impressions of this experience.
- 11. The passage of the Blueprint was driven by public concerns about traffic congestion and given an added push by the Loma Prieta earthquake, which severely damaged transportation infrastructure in the Bay Area.
- 12. Consultation, coordination, and consistency are the bywords of the new statewide long-range planning inaugurated by ISTEA (23 USC 135).
- 13. A document prepared in 1998 illustrates Caltrans' recent, post-ISTEA soul-searching (Caltrans 1998).

References

Automobile Club of Southern California (ACSC) and California State Automobile Association (CSAA). *Report on California State Highways*. Automobile Club: Los Angeles, 1921.

Brown, Jeffrey. Trapped in the Past: The Gas Tax and Highway Finance. Unpublished master's thesis in Urban Planning, UCLA, 1998.

Brown, Jeffrey and Mark Garrett. *Financing the Future*. Summary of Proceedings, Annual Symposium Series on the Transportation, Land Use, Air Quality Connection, Lake Arrowhead, California. UCLA Extension Public Policy Program, 1998.

- Brown, Jeffrey, et al. *The Future of California Highway Finance*. California Policy Research Center, University of California: Berkeley, 1999.
- California Department of Transportation (Caltrans). California Transportation Plan Progress Report. Caltrans: Sacramento, 1974.
- California Department of Transportation (Caltrans). California Transportation Plan (Draft), Volume 1: Choices for California Transportation. Caltrans: Sacramento, 1975.
- California Department of Transportation (Caltrans). California State Highway System Report. Caltrans: Sacramento, 1984.
- California Department of Transportation (Caltrans). California Transportation Plan. Caltrans: Sacramento, 1993.
- California Department of Transportation (Caltrans). *Interregional Transportation Strategic Plan*. Caltrans: Sacramento, 1998.
- California Highway Commission. Report on the Orderly Addition of New Roads to the State Highway System. State Printing Office: Sacramento, 1930.
- California Transportation Plan Task Force (Caltrans). California Transportation Plan: Recommended Statewide Transportation Goals, Policies and Objectives. Prepared for the State Transportation Board by the California Transportation Plan Task Force. Sacramento, 1977.
- Division of Highways. California Highway Needs. State Printing Office: Sacramento, 1942.
- Division of Highways. The California Freeway System. State Printing Office: Sacramento, 1958.
- Highway Advisory Committee. *Report of a Study of the State Highway System of California*. State Printing Office: Sacramento, 1925.
- Jones, David W. *California's Freeway Era in Historical Perspective*. Institute of Transportation Studies, University of California: Berkeley, 1989.
- Jones, David W. and Brian D. Taylor. Mission and Mix: A Study of the Changing Tasks and Staffing Requirements of the California Department of Transportation. Research Report UCB-ITS-RR-87-8, 1987.
- Office of the Bureau of Highways. *Biennial Report of the Bureau of Highways (1895-1896)*. State Printing Office: Sacramento, 1896.
- Price, Nelson. Digest of Testimony and Reports Considered in Enacting the Collier-Burns Highway Act of 1947. State Printing Office: Sacramento, 1949.
- Schweitzer, Lisa A. and Brian D. Taylor. "Comparative Analysis of State-Regional Relations in Statewide Transportation Planning After ISTEA." Prepared for presentation at the 81st Annual Meeting of the Transportation Research Board, 2001.
- Taylor, Brian D. When Finance Leads Planning. Unpublished Ph.D. dissertation in Urban Planning, UCLA, 1992.
- United States Code. Chapter 23, Section 135. Statewide Transportation Planning.
- Zettel, Richard. An Analysis of Taxation for Highway Purposes in California, 1895-1946. State Printing Office: Sacramento, 1946.
- Zettel, Richard. Appendix B: The California Freeway Program, An Economic and Fiscal Analysis. Prepared for the Joint Interim Committee on Highway Problems, California Legislature. State Printing Office: Sacramento, 1958.

Acknowledgments

I would like to thank Brian Taylor for his many helpful suggestions on this article. I would also like to acknowledge the generous financial support of the University of California Transportation Center and its funding partners.

Jeffrey Brown is a Ph.D. candidate in urban planning and a graduate student researcher in the Institute of Transportation Studies at the University of California, Los Angeles. His research interests include highway and public transit finance, transportation policy analysis, and the connections between finance and the design, development, and operation of the transportation system. He is a 2001 Fellow of the Eno Transportation Foundation Leadership Development Conference.