Public Private Partnerships in California

Phase II Report

Section VII: California Political Environment

July 2012

Research Team
Dr. Genevieve Giuliano, Principal Investigator
Dr. Lisa Schweitzer, Co-Principal Investigator
Kevin Holliday, Project Administrator
Teddy Minch, Research Assistant
Mary Kuhn, Research Assistant

Sol Price School of Public Policy
University of Southern California
Los Angeles, CA 90089-0626

METRANS Transportation Center
USC | CSULB

Disclaimer

The contents of this report reflect the views of the authors who are responsible for the facts and the accuracy of the information presented herein. This document is disseminated under the sponsorship of the Department of Transportation, University Transportation Centers Program, and California Department of Transportation in the interest of information exchange. The US Government and California Department of Transportation assume no liability for the contents or use thereof. The contents do not necessarily reflect the official views or policies of the State of California or the Department of Transportation. This report does not constitute a standard, specification, or regulation.

Table of contents

List of figures

List of tables

Acknowledgements

The authors would like to acknowledge the generous assistance of Caltrans' supervising librarian, Janet Coles. Ms. Coles pulled many documents for us and we are grateful for her help. We would also like to thank two graduate research assistants, Matthew Kridler and Zachary Elgart. Mr. Elgart and Mr. Kridler assisted with the research on the SR-125 section, final editing, and with the references. Many thanks.

Acronyms and terms defined

In the following table we outline the acronyms and terms we will use in the paper.

Table 1: Definitions of acronyms and terms

Term or Acronym	Definition
AB 680	Assembly Bill 680. Signed into law in 1989, AB 680 was the enabling legislation first allowing the use of alternative infrastructure financing in the State of California.
CAGR	Compound Annual Growth Rate. Annualized theoretical growth of a compounding, multi-period investment. Factors in compounding whereas annualized average growth rates do not.
Caltrans	California Department of Transportation
CPTC	California Private Transportation Corporation. Private consortium responsible for design, financing, construction, and operation of SR-91, a private toll road in Orange County.
CTC	California Transportation Commission
CTV	California Transportation Ventures, Inc. Private consortium that built, operated, and financed SR-125 from 1991 to 2010 when the company was dissolved in bankruptcy court.
DB	Design-Build Contract. A contract type in which one contractor is retained for design and construction of a facility, in contrast to traditional procurement (Design-Bid-Build).
DEIS	Draft Environmental Impact Statement. Draft form of a legal document required under federal environmental law describing the impact a project will have on the community and the environment.
DIF	Development Impact Fee. A charge levied by the Transportation Corridor Agencies on real estate developers adjacent to the right of way for the new Orange County Toll Roads.
EIR	Environmental Impact Report. Legal document required under California environmental law that describes the impact a project will have on the community and the environment.
EIS	Environmental Impact Statement. Legal document required under federal environmental law describing the impact a project will have on the community and the environment.
EPA	Environmental Protection Agency
FEIS	Final Environmental Impact Statement
F/ETCA	Foothill/Eastern Transportation Corridor Agency. An organization composed of regional political leaders – mayors, city councilmen, and other elected officials – in charge of managing both initial planning and day-to-day operations of the Foothill/Eastern Transportation Corridor.
FHWA	Federal Highway Administration

Term or Acronym	Definition
FTC	Foothill Transportation Corridor. A public toll road (SR-241) in Southern California owned and maintained by Caltrans but operated by F/ETCA.
HOV	High-Occupancy Vehicle. A vehicle carrying two or more individuals, whose occupancy level allows access to special limited-access lanes of the freeway.
I-805	Interstate highway 805 outside of San Diego in San Diego County, California.
Laguna Freeway	Non-tolled portion of SR-73 in Orange County that existed before the design, construction, and opening of the San Joaquin Hills Transportation Corridor.
LOS	Level of Service. Letter grade designation (A-F) of traffic conditions for a given road, as per American Society of Civil Engineers traffic analysis.
MSCP	Multiple Species Conservation Program. One mitigation measure put in place to counter the negative environmental impacts of the SR-125 project.
MPAH	Master Plan of Arterial Highways
NEOCCS	Northeast Orange County Circulation Study. A study commissioned by OCTC in the 1970s to assess regional transportation needs for the next several decades.
NRDC	Natural Resources Defense Council. A non-profit legal organization which got involved in environmental litigation surrounding both the OC Toll Roads and SR-125.
OCTC	Orange County Transportation Commission
P3	Public-Private Partnership
ROW	Right-of-way. Land (or use of land) acquired for utility or transportation facility – power lines or freeways, e.g.
SANDAG	San Diego Association of Governments. Metropolitan planning organization for San Diego region.
SBX LP	SBX Limited Partnership. CTV's partner in running the toll road. Dissolved in 2010 in bankruptcy court.
SBX LLC	SBX Limited Liability Corporation. Toll road operating organization formed in 2010 by bankruptcy court.
SCAG	Southern California Association of Governments. Metropolitan planning organization for the Southern California region (Los Angeles/Orange/San Bernardino/Riverside/Ventura/Imperial Counties).
SEOCCS	Southeast Orange County Circulation Study. A study commissioned by OCTC in the 1970s to assess regional transportation needs for the next several decades.
SJHTC	San Joaquin Hills Transportation Corridor. Tolled portion of SR-73 which forms a public toll road in Orange County.
SJHTCA	San Joaquin Hills Transportation Corridor Agency. An organization composed of regional political leaders – mayors, city councilmen, and other elected officials – in charge of managing both initial planning and day-to-day operations of the San Joaquin Hills Transportation Corridor.

Term or Acronym	Definition
SR-125	State Route 125. Name of a toll road in eastern San Diego County; changed to "South Bay Expressway" in 2005.
TCA	Transportation Corridor Agency. An organization composed of regional political leaders – mayors, city councilmen, and other elected officials – in charge of managing both initial planning and day-to-day operations of either the F/ETC or the SJHTC.
TIFIA	Transportation Infrastructure Financing Innovation Act

Introduction

In this section we will discuss two California case studies. The first is the collection of toll roads in Orange County, CA that form the Orange County Toll Roads Network. The second is the Southbay Express way or SR-125. We chose these two case studies P3s because:

1) While the OC Toll Roads are not a true P3 they use alternative asset procurement and financing and they are tolled;
2) SR-125 was a straight P3 concession and was one of the AB 680 projects; SR-125 went bankrupt, offering not only key learning points on the implementation of concession P3s but also specific insight regarding how the public sector works with a bankrupt, privately-owned and operated regional transportation asset;
3) In theory, largely Republican jurisdictions like Orange County and San Diego would be more open to P3s as they are more likely to be anti-tax and generally amenable to market-based solutions like pricing; and
4) As per Caltrans request, we focused on Californian projects.

Our case studies for both the OC Toll Roads and the South Bay Expressway will chronologically examine: origins of the corridors and preliminary work undertaken; enabling legislation for financing and operation of the corridors; routing choices for the corridors and the environmental review process; corridor contractors, subcontractors, and physical construction; corridor performance; and future prospects.

We begin with the Orange county toll roads followed by the Southbay Expressway. Finally we offer a brief conclusion.

Orange County Toll Roads

Introduction

Owned by two distinct TCAs, the SJHTCA and the F/ETCA, the network consists of five individual toll roads. SR-73 is the SJHTC, while SR-241, SR-133, and SR-261 collectively form the F/ETC. The express lanes on SR-91 are tolled, and are located within Orange County, but they are not operated by a TCA and are not a part of the Orange County Toll Roads network. Each toll road, initially conceived as an un-tolled freeway and incorporated into the California Highway System as such, uses a mix of toll revenues and Developer Impact Fees (DIFs) to retire the debt issued to finance initial construction.

The Orange County Toll Roads network does not represent a P3. Rather it is a collection of public toll roads owned by public agencies; projects like the Orange County Toll Roads are often called public-public partnerships (Battaglio and Khankarli 2008; Lobina and Hall 2006). With a board of directors composed of Orange County elected officials, the Orange County Toll Roads do not leverage private sector resources beyond the use of DB contracts (a minor variant from DBB), the issuance of revenue bonds (some of which were bought by private investors, which is standard for most, if not all, infrastructure projects), and development impact fees levied on private residences. However, we chose to include these roads in the P3 case study section because of their innovative project management structure and financing mechanisms.

As a public-public partnership, the OC Toll Roads created smaller agencies "closer" to day-to-day management of the construction and operation of the roads, allowing the TCAs to leverage various other state agencies' operations while raising funding on its own. Such a management structure (independent from Caltrans) was intended to increase managerial performance, as well as the speed of initial project implementation (TCA 2011c). Financially, the Orange County Toll Roads network was innovative for its time as well. The network was financed using Developer Impact Fees (DIFs) and revenue bonds (to be repaid from future toll revenues). Proceeds from the bonds and DIFs were used to

finance construction; toll revenues were to retire the debt and to fund the ongoing costs of operating and maintaining the roads over the long term (TCA 2011c). Such a financial package sought to minimize "traditional" public sector resources committed to the project (state and/or local funds disbursed in a pay-as-you-go arrangement) and to secure delivery of the facility in a time of scant public sector capital financing capacity.

Origins and preliminary work

Formerly, the dry, "agricultural hinterland of the Los Angeles metropolitan area," Orange County, California attracted significant quantities of postwar housing development since the beginning of the 1960s (Hanson and Giuliano 2004, p. 261). The extension of freeways into the northern and central portions of the county only made this vast collection of Los Angeles "bedroom communities" that much more accessible, further fueling rapid suburban growth (Hanson and Giuliano 2004, p. 261). By 1970, development of all sorts (residential as well as commercial, industrial, and mixed-use) began to spread south from Los Angeles into Orange County; that continued development fostered the growth of new communities within the region, Mission Viejo, Laguna Beach, and Irvine chief among them. By 2000, Orange County, previously empty but for rolling, ocean-side farmland, "was home to 2.8 million persons and 1.5 million jobs," growing at one of the fastest rates of any region in the nation (Hanson and Giuliano 2004, p. 261).

Figure 1: Map of Orange County Toll Roads network

Note that the SJHTC is shown in blue and the F/ETC in red. Source, TCA 2004.

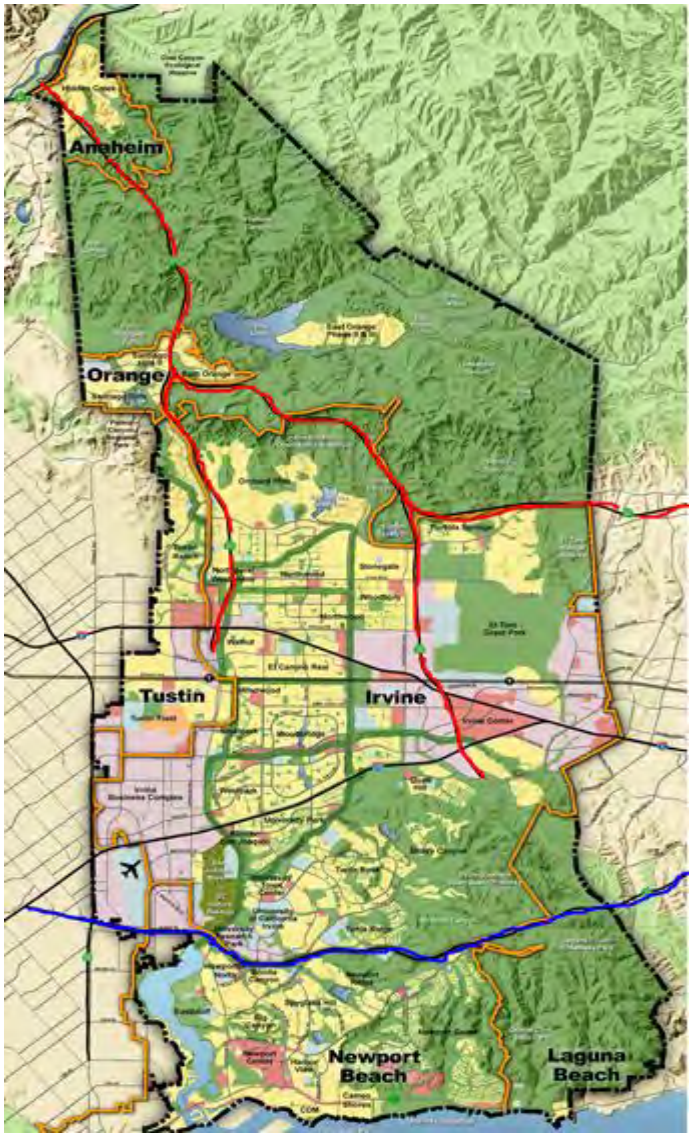
In order to accommodate increased traffic volumes, while also anticipating further growth in terms of both regional development and traffic, Orange County planners developed a series of circulation studies and recommendations for the southeast portion of Orange County, publishing the South East Orange County Circulation Study (SEOCCS) white paper in 1975. A similar study for the northeast portion of Orange County (NEOCCS) was also issued in 1980. Both SEOCCS and NEOCCS concluded that new freeways were needed to ease regional circulation, providing tentative alignments for the roads. Those roads identified in the studies evolved into F/ETC and SJHTC, and effectively served as the initial framework for the future OC Toll Roads Network (Hanson and Giuliano 2004, p. 261). At the time SEOCCS and NEOCCS were issued, the majority of the undeveloped land in the region (more so in the case of F/ETC than for SJHTC, for reasons discussed later) was owned by one of several large

landowners.[1] Chief among those landholders was The Irvine Company, controlling roughly 90,000 acres of land in Southeast Orange County – approximately one-fifth of the county's total land area (Hanson and Giuliano 2004, p. 261). The Irvine Company understood that without access, it could never fully leverage its land assets and, perhaps most importantly, that existing infrastructure supply in the region at the time simply could never meet then-future demand. Figure 2 underscores the centrality of the OC Toll Roads to The Irvine Company's development strategy. F/ETC's present-day route is in red, while SJHTC's is in blue. Both sets of roads traverse the core of The Irvine Company's principle landholdings: the Irvine Ranch; without the roads, transportation within this large swath of land would be very arduous and time-consuming – prohibitively so (Irvine Company 2012).

As such, the Irvine Company was very interested in seeing an increase in the number of regional freeways via whatever means possible when it sought to initially develop its landholdings in the 1970s and 1980s; it was an enthusiastic supporter of both sets of projects in a variety of ways. The manifestation of the Irvine Company's – and other developers' – support of the OC Toll Roads project will be discussed throughout the case study, as the involvement of major landowners in developing the OC Toll Roads is a primary limiting factor in the generalizability of the lessons learned from the projects.

[1] These large landowners included: The Irvine Company, The Santa Margarita Company, Hon Development Corporation, and The Mission Viejo Company

Figure 2: OC Toll Roads routing and The Irvine Company land holdings



Source: Irvine Company (2012)

Generally, the F/ETC project was a greenfield development, with the bulk of it running through still-undeveloped open land owned by the Irvine Company (Hanson and Giuliano 2004, p. 261). The initial alignments set forth in the studies traced a winding path that more or less paralleled I-5 south of SR-55. The FTC portion of the F/ETC project would serve as an alternate route to the already-congested I-5, providing congestion relief and increased traffic flow (F/ETCA 1991, p. I-2). As for the Eastern component of the joint F/ETC, NEOCCS recommended the implementation of a circulation system, to be in place by 1996, which relied on a major highway corridor parallel to SR-55 between I-5 to the south

and SR-91 to the north. This new freeway, the ETC, fed into the Western portion of FTC, providing increased access to the northwest portion of Orange County.

Right-of-way for the future SJHTC varied significantly over the course of the road's proposed route. At the northern end, SJHTC would run within close proximity to very densely-populated areas in Newport Beach, while further south running through greenfield and conservation areas in rapidly-developing Laguna Beach – a major source of future contention, discussed at length later in the report. SJHTC was added to the county's general plan, with a very loosely-defined routing paralleling I-5 to the South, in 1976, while F/ETC was added to the general plan in 1981 (Committee of Seven Thousand v. Superior Court 1988). The difference in general plan adoption dates reflected the popular characterization of the two roads: that SJHTC was needed in the near term for added capacity, while F/ETC was ultimately for future development, and future traffic volumes.

Shortly after addition to the Orange County general plan, the Orange County Board of Supervisors certified – and adopted – the early-phase EIR for F/ETC in August 1981. In hopes of ultimately expediting the planning process, OCTC elected to write a preliminary DEIR and FEIR for the loosely-defined combined F/ETC, rather than conduct two separate reviews of the individual alignments. Upon OCTC's adoption of this early-phase environmental review, F/ETC were both included in the Orange County Master Plan of Arterial Highways (MPAH) later that year; SJHTC had no such early-phase environmental scoping, despite a much earlier addition to Orange County's general plan (SJHTCA 1990a, p. 2). In the long term, OCTC planners envisioned these un-tolled limited-access roads (limited onramps and access points) would be incorporated into the state highway system, providing critical added capacity and links to the freeway network (Committee of Seven Thousand v. Superior Court 1988).

Enabling legislation for financing and operation

Just who would operate this proposed network, financed and funded with a yet-to-be-identified source of capital, remained the central issue surrounding the projects. Orange County did not have the

money to procure the project via a pay-as-you-go approach; nor could it afford the ongoing operations and maintenance over the course of the long-term. Because the roads were conceived in the post-interstate era – after widespread Federal financial support for new freeway construction – monetary support from Washington DC was assumed to be off the table. Caltrans, however, was not in position to offer large quantities of funding, either – the result of an array of state and local tax-limiting measures enacted in the 1970s and early 1980s. Given explosive growth and rapidly-growing congestion, planners eventually turned to a source of funding which had not been tapped since major turnpike construction had tapered off in the 1950s: tolls (Williams 2005, p. 3)

F/ETC and SJHTC were initially conceived exclusively as un-tolled facilities; both SEOCCS and NEOCCS studied the feasibility of a series of free roads funded with California gas tax revenues and/or federal funding. However, as the project evolved, planners were unsure as to whether or not the public would respond positively to a toll in exchange for faster travel, as suggested by their traffic forecasts. An un-tolled F/ETC was forecast to draw 117,000 VPD in 2010 whereas a tolled facility (assuming a $0.20 per mile toll) would see only 58,000, even if congestion system-wide continued to worsen (F/ETCA 1991, p. V-10).

But, only a few years after SEOCCS and NEOCCS, planners at OCTC were struggling to not only raise requisite capital for project financing but also to identify a stable source of long-term funding. Gas tax revenues were dwindling nationally, but the lack of resources for capital projects was particularly acute in California – given not only low gas tax receipts, but also rapidly-increasing demands for infrastructure at pace with high population growth (PPIC 2009, p. 2). These factors were becoming increasingly more significant at the same time that property tax revenues statewide had plummeted as a result of the limits imposed by the passage of Proposition 13 (Chapman 2000, p. 17). As such, OCTC planners began preliminary research on a potential contingency plan for financing and funding: levying a fee on new development adjacent to the roads, not unlike tax-increment financing (GOPR 1997).

Such a scheme would allow Orange County to "charge special subdivision fees to pay for bridges and major thoroughfares" (Around the Capitol 2011). In short, "the development fee program [was] based on the general principle that future development will benefit from construction of major highways and should pay for them in proportion to projected usage attributable to the development" (Committee of Seven Thousand v. Superior Court 1988). By early 1984, OCTC had become more or less certain that traditional financing and funding channels would not suffice, as "no state or federal funds had been committed to these projects" by the time financial plans should have been solidified (Committee of Seven Thousand v. Superior Court 1988). The dire financial situation only pushed OCTC to further research implementation of the development fee program it had been pondering since 1982 (Chapman 2000, p. 17). OCTC had, by late 1983, identified Section 66484 of the Subdivision Map Act as the legal justification for the program. Section 66484, according to the Act, "authorizes cities and counties to impose fees as a condition of subdivision map approval or building permit issuance, with the fees to be used to defray the cost of constructing major thoroughfares and bridges to service the new development" (Cal. Gov. Code §66484.3).

Chairman of the Assembly Transportation Committee Bruce Young (D-63rd/Norwalk) introduced Assembly Bill 2431 to "clarify and amend section 66484 so it could be used to provide funding for the corridors" in early 1984 (Committee of Seven Thousand v. Superior Court 1988). AB 2431 allowed for development fees to be imposed for facilities in a city's general plan located outside the city limits (Cal. Gov. Code §66484.3). AB 2431 was, however, succeeded by a new measure which further targeted the policy, specifying in an additional provision to the Subdivision Map Act – section 66484.3 – that the new ability to impose fees "would apply only to Orange County and cities located therein" (Cal. Gov. Code §66484.3). The new section 66484.3 was enacted as an urgency measure within weeks and became law in March 1984, providing OCTC with one potential source of funds for its roads.

In April 1984, the Orange County Board of Supervisors recommended OCTC spearhead efforts to create a coalition of eleven regional cities – Anaheim, Irvine, Newport Beach, Laguna Beach, Laguna Niguel, Mission Viejo, and San Juan Capistrano being the largest among them – that would finance, build, and fund the roads. The Board of Supervisors floated two methods for securing enough revenue for the projects: 1) a countywide sales tax increase, or 2) OCTC's untested (but newly legal) development fee program (Perlman 1987). In June, Proposition A was placed before voters on the ballot. The measure called for a countywide one-cent sales tax increase for 15 years; while Prop A would have generated enough revenue to finance the roads, their long-term funding security remained in question (Committee of Seven Thousand v. Superior Court 1988). Prop A was "overwhelmingly rejected by county voters" in the election, leaving OCTC to pursue its fallback, levying development fees, or face the prospect of scrapping the portfolio of road projects all together (Perlman 1987).

After reviewing the particulars of OCTC's new development fee for several months, the Board of Supervisors adopted OCTC's fee schedule and established areas of benefit along the proposed routes of the new roads (Caltrans 2008b, p. 87). Funds from fees levied on these areas of benefit were to be deposited into a special fund "established for each planned bridge [physical infrastructure, not financing vehicle] facility project or each planned major thoroughfare project … solely for the construction or reimbursement for construction of the improvement serving the area to be benefited and from which the fees comprising the fund were collected, or to reimburse the county or city for the cost of constructing the improvement" (Caltrans 2008b, p. 88). In addition to securing a source of financing for construction of the roads in the medium term, the fees were intended to also serve as a source of startup funding for the roads in the immediate, near term.

Later coined the Development Impact Fee (DIF), the fee program was not OCTC's first choice, principally because it was designed to raise less than half of the total construction cost needed for the roads (Perlman 1987). The DIF itself represented yet another politically-unpopular fee to be levied on

property owners at a time when Orange County was under "tremendous" financial pressure to fund ongoing services, turning to special fees and taxes to do so (PPIC 1998, p.9). OCTC preferred the one-cent sales tax increase, as it provided full coverage of construction costs for the roads – while also distributing monetary and political cost to the measure – whereas the DIF program was intended to serve merely as a supplement to other federal and/or state sources of revenue – funding sources that were only becoming less likely to materialize (Perlman 1987). That DIF revenues were conceived to cover only 48% of *initial capital cost* – not be used as a source of long-term funding for the projects – is important to stress. The key question for OCTC quickly became from where could the remaining 52% of capital financing be extracted, given existing funding sources and constraints (Perlman 1987)?

With state funds off the table, and pressure mounting from regional developers like the Irvine Company to bridge the remaining capital financing gap and get the roads built, planners were forced to turn to the least-preferred, but only remaining option: tolls (Berkman 1993). OCTC visualized toll plazas equipped with toll transponder technology, later evolving into the current FasTrak system (Logan 1989, p. 63). Furthermore, the tolls themselves were to be dynamically-priced – that is, prices would fluctuate in real time depending on the level of congestion – ensuring a minimum of LOS D at all times by altering prices accordingly (F/ETCA 1991, p. II-2).

In 1986, the local governments in Orange County adjacent to the new roads formed two transportation corridor agencies (TCA), F/ETCA and SJHTCA, to serve as joint power authorities overseeing and managing the three new roads (Margro 2011, p.3). The TCAs themselves are governed by a Board of Directors (one for each TCA) composed of 18 elected officials from cities adjacent to the roads as well as three members of the Orange County Board of Supervisors (TCA 2011c). TCA Board members are appointed/approved by the Board of Directors; while there are two separate boards for each TCA, one staff works under the direction of both boards. Those representatives on the F/ETCA Board of Directors hail from: Anaheim, Dana Point, Irvine, Lake Forest, Mission Viejo, Orange, Rancho

Santa Margarita, San Clemente, San Juan Capistrano, Santa Ana, Tustin, Yorba Linda, and the County's 3rd, 4th, and 5th Districts (TCA 2011c). For SJHTCA, the members of the Board of Directors have been drawn from: Aliso Viejo, Costa Mesa, Dana Point, Irvine, Laguna Hills, Laguna Niguel, Laguna Woods, Mission Viejo, Newport Beach, San Clemente, San Juan Capistrano, Santa Ana, and the County's 3rd and 5th Districts (TCA 2011d).

In short, "public oversight ensures that the interests of local communities and toll-road patrons are served, and that The Toll Roads continue to meet the region's growing need for congestion-free transportation alternatives" (TCA 2011d). How that public oversight manifests itself in day-to-day operations and management of the roads, however, is not entirely evident. The individual agencies are managed by the combined TCA Executive Board, who are in turn to be kept accountable by the public. However according to a 1997 *Los Angeles* Times staff editorial, the individual agencies and the Board have, in the past, appeared to be "openly contemptuous of public oversight," running the roads and engaging the public with a "we know best" mentality (Los Angeles Times 1997). The TCAs themselves maintain, however, that public oversight is effectively achieved because of the structure and makeup of the Board itself – elected officials drawn from towns and cities adjacent to the roads (TCA 2004).

The TCAs' powers were codified at the state level a year later, on September 29, 1987, when then-Governor George Deukmejian signed a measure pushed by Senator John Seymour (R-Anaheim) to allow the TCAs to leverage what state and local transportation capital resources were available, in addition to toll revenues (Weintraub 1987b). While Seymour qualified that "this will not be a panacea," the Republican Senator argued the TCAs would build roads which would "go a long way toward changing our highways and freeways from parking lots back into modes of transportation" (Weintraub 1987b). Despite gubernatorial support, the toll roads were still viewed as "a symbol of the eastern United States long spurned by independent and car-conscious Californians" (Weintraub 1987b). After "some name calling" including qualifications of the roads as "un-Californian" and a "U-turn to yesterday," Seymour's

bill sailed through both the Senate and the General Assembly (Weintraub 1987b). In fact, the only "major" private opposition came from the Automobile Club of Southern California, which dismissed the roads as merely forming a "patchwork quilt" of regional highways strategically placed to optimally serve major developers' regional landholdings (Weintraub 1987b).

Both TCAs were initially tasked with overseeing the environmental review process for all three roads and would be the lead agencies in charge of independently operating and maintaining the toll roads. The TCAs –not yet formally endowed with authority to raise funds for construction of the new roads – collectively signed a non-compete agreement with Caltrans regarding I-5 enhancements and maintenance (F/ETCA 1993, p. 9). That the TCAs would seek and sign a non-compete agreement with Caltrans indicates the seriousness with which the agencies were considering the idea of tolling the new roads, and using those revenues as a source of long-range funding rather than just initial capital financing. Furthermore, the inclusion of tolls made the projects eligible for a Federal "high priority demonstration project" designation – which Congress awarded to F/ETC in 1987. Two of seven nationwide proposed toll roads classified as a "high priority demonstration project," F/ETC were subsequently eligible for federal financial aid tantamount to roughly 35% of total construction cost, so long as the roads were constructed as tolled facilities (Perlman 1987). The TCAs pitched the two projects to Washington DC as forming one "beltway" throughout the county, providing a large swatch of Orange County's population with enhanced mobility and, accordingly, deserving of Federal assistance (Perlman 1987).

With the Demonstration Project designation, 83% of F/ETC's capital costs were accounted for: 35% coverage from Federal grants and 48% coverage from DIF fees. Only 17% of F/ETC's initial capital cost remained unsecured. At this point the TCAs used OCTC to – once again – seek state aid for the remainder of F/ETC's construction cost, despite the consistent rejection of such requests over the past

several years. The form that state aid[2] would potentially take had yet to crystallize. Then-CTC member and former Orange County Supervisor Bruce Nestande called for a half-cent Orange County sales tax for the TCA projects, while Santa Ana Mayor – and then-chairman of the League of California Cities – Dan Young cautioned against a "foolhardy" venture like raising taxes to finance infrastructure (Perlman 1987). However, Mayor Young ultimately acknowledged that, with a consensus, a sales tax increase could be a viable financing mechanism for the TCA projects; ultimately, however, state aid was – as had been the case for several years – not forthcoming for the roads (Perlman 1987).

Without the state aid, the TCAs settled on issuing toll revenue bonds to cover the remaining 17% of capital costs (Garvey 1998). For SJHTC, OCTC investigated the idea of tolling the road just to generate the remaining 52% of construction costs yet to be secured (Berkman 1993). OCTC presented its idea of tolling to Orange County citizens in the first half of 1987; the plan was to continue tolling the roads just until enough revenue had been collected to recover construction costs, and then convert the roads back to freeways (SJHTCA 1990a, p. 1). In October, "following recommendations of a citizens panel," OCTC voted unanimously to toll SJHTC (Perlman 1987).

Despite the institutional acceptance of tolling the three roads, some toll road observers and transportation financiers maintained serious doubts existed about the capacity to include private capital – proceeds from the toll revenue bonds, in this case – in the construction of the facilities (Perlman 1989). Regarding the financial viability of a toll road, Parsons, Brinckerhoff, Quade and Douglas consultant Michael Schneider asserted "I'm sure that we could build and operate a toll road profitably in Orange County. What I'm not sure of is the willingness of the financial markets to gamble on it" (Perlman 1989).

Schneider's comments reflected the inherent risks underlying the new roads – given that all three of the roads would be operating in parallel to free, already-established alternatives, the OC Toll

[2] Had the TCA received grants from the State for the 17%, the Federal funding would not be jeopardized, as tolls would still be in place to cover the operating expenses and maintenance.

Roads were to face competition and a diversion of users, though how much was uncertain. Such competition is, after all, why the non-compete was signed between TCAs and Caltrans. Even so, downside risk remained un-diversified – despite the fact that the contracts had some leeway for Caltrans to financially intervene, such an action was infeasible and unlikely given current political and financial constraints (Platte 1988). That risk was significant – a "gamble" as Schneider asserted, because of the highly-uncertain nature of traffic estimates, in addition to their centrality in dictating toll road success or failure; "in reality," Irvine Mayor Larry Agran said, "a lot of the ridership projections that involve paying tolls is sheer speculation," particularly the assumptions that nearly half of the forecasted traffic would come from local trips generated by The Irvine Company developments many of which were yet to be built (Platte 1988). Another major concern, in addition to highly uncertain toll projections, was the "massive bond issue" leveraged to finance the project, which required annual toll price increases of roughly *five percent per year* in order to meet ongoing obligations (Platte 1988). Schneider's comments about private sector risk appetite, to a great extent, foreshadowed the downside risk that would manifest itself within two decades and become a persistent problem for both sets of roads, and particularly for SJHTC (Platte 1988).

The TCAs were formally given the responsibility to build the toll roads, financed by a series of tax-exempt bond issues backed by both future toll proceeds and DIF revenues, later in 1987 with the aforementioned passage of SB 1413 (Cal. Gov. Code §66483.3). In the fall of 1987 the Orange County Board of Supervisors voted unanimously to provide the TCAs with the ability to issue debt for financing purposes, and signed the measure in November 1987 (Weintraub 1987a). The lone Orange County Democrat in the Senate – Cecil Green (Norwalk) – abstained during the proceedings (Weintraub 1987a).

The financing of the OC Toll Roads Network was an early form of GARVEE financing, with capital secured (debt issued, in this case) and guaranteed through the anticipation of future revenues, specifically toll and DIF revenues. By this point, Orange County residents had begun to realize that the

"temporary" tolls on the roads were not going to be all that temporary, citing some outcry that voters had been misled (Platte 1988). Ann Teachout, a Santa Ana resident who had attended several public meetings about the new roads, was concerned, saying "the only thing that bothers me is when the bonds are paid off and the tolls still stay. I hope that doesn't happen" (Platte 1988). The TCAs, in effect, double-dipped from the addition of tolls to its facilities, leveraging anticipated toll revenues to issue bonds *and* to fund long-term operating costs.

The roads themselves are owned and maintained by the State of California, as the new roads were incorporated into the California State Highway System. The TCAs, by contrast, control day-to-day operations and quarterly/annual financial management of the three facilities. While not formally awarded a "concession," the TCAs and Caltrans entered into a "cooperative agreement" to build and develop the roads – as per the stipulations laid out in state Streets and Highways Code §114 and §130 – and set the "contract" expiration date for January 1, 2040 (F/ETCA 1993, p. iii; SJHTCA 1994, p. 14). The TCAs were obligated to reimburse Caltrans for all maintenance costs out of the pool of funds generated from tolling the roads – the same source of revenue which was reserved to fund the TCAs' tolling operations (F/ETCA 1993, p. 16; SJHTCA 1994, p. 4).

Routing choices and environmental review

Foothill/Eastern Transportation Corridor

F/ETCA concluded Phase I of F/ETC's routing study in 1988, with the preferred route and no build alternatives identified for further review later in the year (F/ETCA 1991, p. 1). Route Location Study 451 laid out the five options (four build alternatives and one no-build), the length, cost, and link details of which are shown in Table 2. With traffic volumes on a tolled F/ETC forecasted to reach a level between 58,000 and 117,000 vehicles per day by 2010 (with much diverted from nearby I-5 and SR-55), maximizing the number of links (onramps, off-ramps, and other access points/intersections) included with the new freeway was paramount for F/ETCA (F/ETCA 1991, p. I-3).

Furthermore, given the Irvine Company's significant material support for the project – principally in the form of deeding Company-owned land to F/ETCA for FTC and ETC ROW, and their ultimate goal of increasing connectivity to and from their land parcels – maximizing total links was priority one. The Irvine Company – and other developers including the Santa Margarita Company, Hon Development, and the Mission Viejo Company – donated land to serve as toll road ROW totaling approximately $60 million in value (Pasco 1987). The Irvine Company in particular had a lot to gain from the new roads; it deeded land for both F/ETC, where it had residential development interests and SJHTC, where it was planning major retail and office space developments (Irvine Company 2011). The Irvine Company was, therefore, a staunch advocate of the road (Irvine Company 2011). The centrality of the toll roads' to circulation through the Irvine Company's landholdings is demonstrated in Figure 2. Nancy Coss-Fitzwater, Irvine Company government relations manager, asserted "[the toll road] is an option that has a lot of promise. With a toll road, traffic on existing freeways would be improved" (Hamilton 1987).

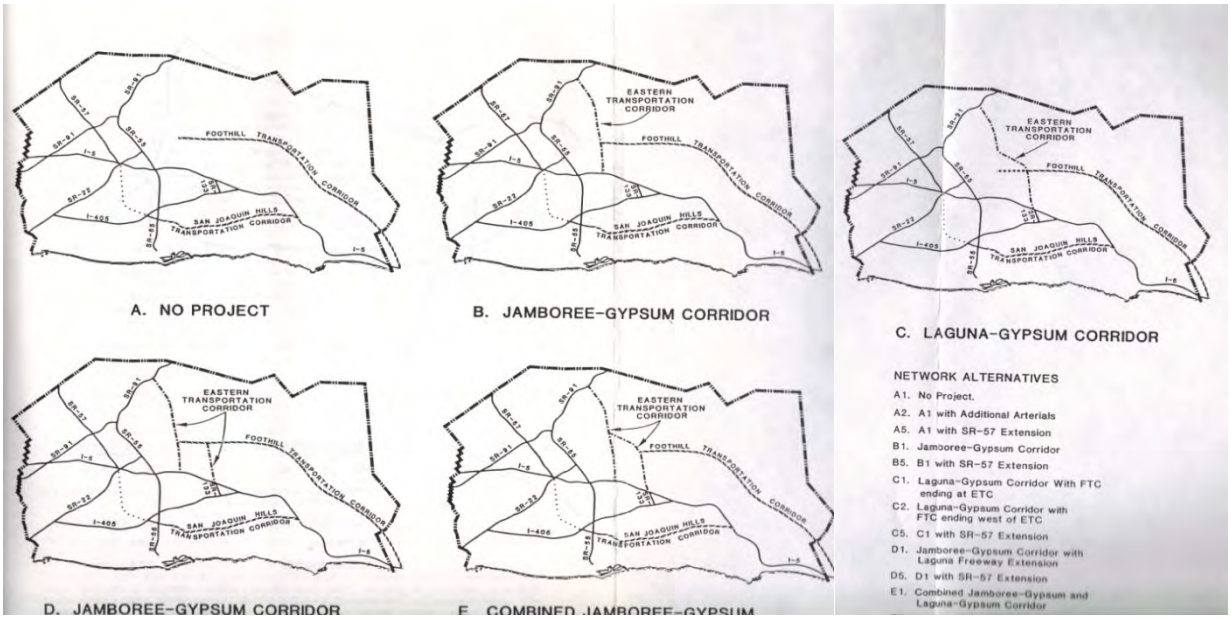
The other key component of choosing an ideal alignment for F/ETC was distributing planned links in such a way so as to optimally mirror forecasted peak facility demand. Wilbur Smith Associates forecasted 93,400 vehicles per day by 2010 in Peters Canyon near Chapman Avenue as the most in-demand stretch of ETC assuming an untolled F/ETC (Perlman 1988). The consultancy also forecasted upwards of 75,000 vehicles per day on FTC between Alton Parkway and Lake Forest Drive, near the newly-built community of Rancho Santa Margarita, again for an untolled F/ETC (Perlman 1988). As such, finding an alternative which would ensure a high number of links through the Peters Canyon area, where the highest traffic volumes were forecasted to materialize, was important to OCTC as well.

Table 2: Build alternatives for F/ETC

AltName	MinLength (Miles)	MaxLength (Miles)	MinCost ($mil)	MaxCost ($mil)	# Links	Comments
Jamboree-Gypsum	11.8	12.6	319	455.8	64	Shortest, least ROW needed
Laguna-Gypsum	15.3	16.1	348.1	374	24	More curves, more ROW
J-G w/Laguna Fwy Extension	15.1	16.4	434.8	578.3	192	Slightly more fill, 400 more acres ROW
Combo J-G and L-G	22.27	23.5	482.6	623.8	384	Longest, but lowest cost per mile

Source: McDougald and Allard 1988, Sec. 5

Figure 3: F/ETCA alternative alignments



Source, ETCA 1991, p. II-41

F/ETCA sought to divert as much traffic as possible from adjacent freeways and arterials onto the new F/ETC, thereby increasing regional circulation and traffic flow. To maximize vehicle diversion, OCTC focused on achieving a balance between cost-effectiveness and overall network links. Initial traffic forecasts included assumptions that:

a) A new Jamboree Road would be built;

b) A four-lane FTC would be built and operational before ETC was opened;

c) I-5 would be improved/ widened before the non-compete took effect; and,

d) SJHTC would be built.

The Jamboree-Gypsum alternative was essentially a straight-line of road parallel to I-5, with minimal curves to ensure a fast travel time. A number of onramps leading into as-of-yet undeveloped land would serve as the principal feeders into the region's circulation system via the new corridor, rather than via arterials and secondary streets. The Laguna-Gypsum alternative sought to avoid as much existing development as possible, minimizing construction cost variability. The curves away from populated areas, while lowering overall cost, also significantly decreased the alternative's total number of links and, most critically, the number of links in forecasted hot spots like Peters Canyon and the Rancho Santa Margarita area.

The Jamboree-Gypsum with a Laguna Freeway Extension alternative increased the corridor's total linkages largely by increasing ease of access via the Laguna Freeway. The final alternative was a combination of the Jamboree-Gypsum and Laguna-Gypsum alternatives, combining the links created by both alternatives and adding to them by extending the corridor to the Laguna Freeway (rather than including the existing Laguna Freeway as part of the new route).

By the start of 1989, F/ETCA had, internally, narrowed its list of preferred alternatives to the Jamboree-Gypsum/Laguna Freeway Extension and combination Jamboree-Gypsum/Laguna-Gypsum alternatives (Logan 1989). However, public frustration with both TCAs – but particularly F/ETCA – was growing in response to how the TCAs and the design/engineering work group were "operating in secrecy" and "refused to consider earlier designs whose costs were [already] paid by property owners along the route" (Platte 1989c). The TCAs' design/engineering consortium – in charge of formulating design specifications for both sets of roads – was composed of Fluor Daniel, Parsons Brinckerhoff Quade & Douglas, Church Engineering, and Howard Needles Tammen & Bergendoff. While the consortium settled on older specifications and plans for SJHTC, it dithered on the initial design of F/ETC, leading Gerald E. Buck, executive vice president of the Hon Development Company, to write a letter to the

Executive Director of the overarching TCA management staff, John Meyer, alleging the consortium was "reinventing the wheel at great public expense and to the enrichment of the firms involved" (Platte 1989c). Buck cited several onramps and interchanges whose designs were "wholly inadequate to serve their intended purpose" as but a few of the examples of wasted time and money associated with the engineering and design group's inefficiency (Platte 1989c).

At the same time, TCA executives became embroiled in two highly-public financial battles – both occurring within a week of each other. *The Orange County Register* ran a column on February 5, 1989 criticizing the traveling excesses of the TCA executive board, citing how the mayors of Santa Ana, Costa Mesa, and San Juan Capistrano, Executive Director John Meyer, and Tustin City Councilman Richard Edgar travelled to Washington DC for two days (including the inauguration of George H.W. Bush) to hold a meeting at a cost of about $3,000 (Platte 1989a). Five days later, TCA officials publically announced they had exceeded "nearly 90 percent of their $640,000 legal budget in only six months" and sought an additional $260,000 more for the remainder of the year (Platte 1989b). Local politicians and citizens alike were outraged, with Orange County Supervisor Gaddi Vasquez stating "obviously this is something that is due an explanation" (Platte 1989b). The public oversight mechanism intended to keep the TCAs in check – never fully empowered or well-defined – seemed to be breaking down only a few years after the agencies had been formed (Platte 1989a; Platte 1989b).

The public relations nightmares refused to go away for the TCA executives. Less than six weeks after the exposé of both the excessive travel expenses and the depletion of its annual legal budget within six months, TCA board members unanimously approved a $10,000 pay raise for Executive Director John Meyer (OC Register 1989). Meyer's new salary reached $95,000 a year – the equivalent of $173,000 a year in 2011 (OC Register 1989, US Bureau of Labor Statistics 2012). Tustin City Councilman Richard Edgar –involved in the travel funds imbroglio several weeks earlier along with Meyer – argued the raise was justified, saying "in the past two years, we've faced a lot of tough odds and we've won a

lot of things" (OC Register 1989). Thomas Riley, chairman of the County Board of Supervisors, stated "I wouldn't want to be responsible for recommending that type of raise," but voted for it anyway; of the unanimous vote, Meyer stated "I'm much more pleased that Riley didn't vote 'no' more than anything else" (Orange County Register 1989).

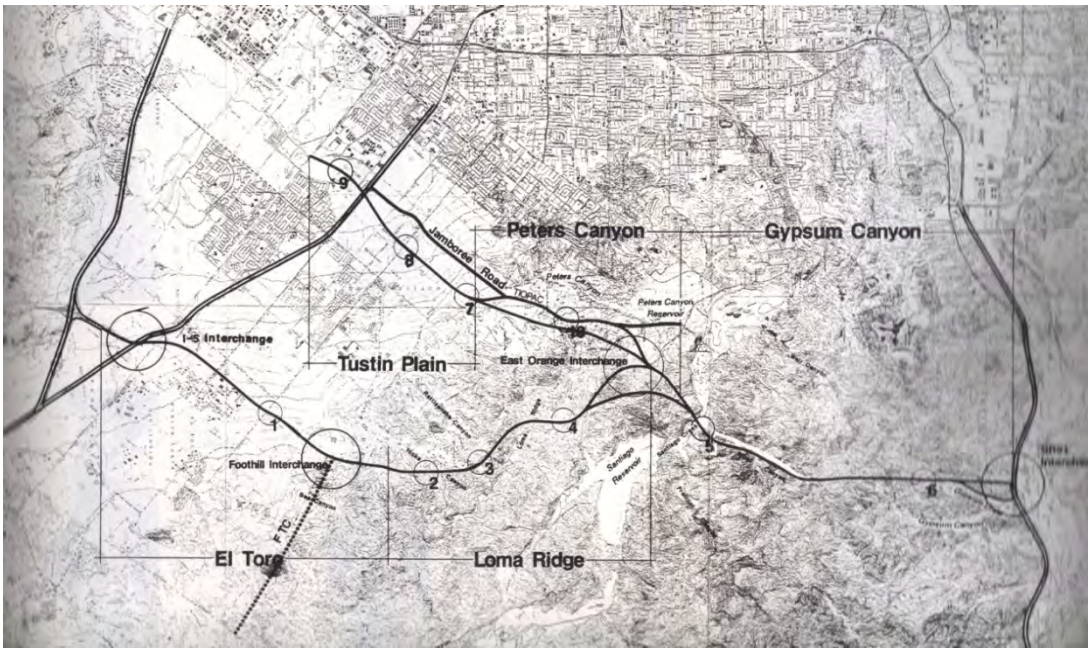
With public outcry over improprieties in management of the TCAs and the fact that little seemed to be getting done while costs continued to rise – doubling between 1984 and 1989 – Executive Director John Meyer resigned on June 9, 1989, contritely stating "I'm burned out" (Platte 1989d). Meyer would remain in the role, however, until the start of 1990, when San Juan Capistrano Mayor Gary Hausdorfer succeeded him following TCA Board approval. Due to these shockwaves rippling through TCA management, the alignment review process for F/ETCA ground to a halt. Once Hausdorfer became Executive Director, however, the principle focus returned to expediting the F/ETCA alignment review. F/ETCA quickly and quietly chose the Jamboree-Gypsum and Laguna-Gypsum alternatives as the preferred alignment for ETC at a final cost of roughly $1.4 billion, following the realization that costs had risen so significantly for the ETC that it would have to be opened in small chunks (Platte 1989e).

During the public commentary of the DEIS and FEIS, F/ETCA considered the implementation of alternate traffic management systems on F/ETC. The agency analyzed the potential for reversible HOV lanes as such an arrangement would ensure non-HOV traffic flowed constantly at LOS D or better, while doubling peak HOV capacity (F/ETCA 1991, p.S-2). Furthermore, given the financing crunch – especially for ETC – reversible lanes would allow the previously-anticipated eight-lane tollway to be built as a four lane road, providing flexible capacity for peak traffic volumes with fewer lanes.

Opponents, including Orange County slow growth advocates and such organizations as San Clementians Against the Tollway, didn't worry about the roads' collective environmental damage, per se. Specific areas of concern and controversy during the environmental review process included ETC's proximity to existing and planned residential neighborhoods, potential noise and air pollution impacts –

particularly in Peters Canyon, where Jamboree Road intersected with the western portion of ETC and where the eastern and western portions of ETC themselves met (Figure 4) – and overall aesthetic effects and costs of the projects (F/ETCA 1991, p. S-3).

Figure 4: Map of ETC project area, land forms



Source, ETCA 1991, p. II-22.

While the impact of the new roads on these and many other environmental factors represented a potentially serious problem for the region's environmental activists, the larger issue raised by opponents of the F/ETC was the rapid development of the region's previously-undeveloped open space – and the impacts of rapidly-disappearing land on "sensitive wildlife habitats" (McQueeny 1991). Concerned slow-growth advocates felt "the county is developer-controlled;" president of the County's Rural Canyon Resident's Association asserted "the politicians are just front men for the developers" i.e., the Irvine, Santa Margarita, Mission Viejo, and Hon Development Companies (Trombley 1988).

With consistently strong regional housing demand and the sustained outward growth of cities and towns in the region, the new Orange County Toll Roads Network represented the larger question of whether or not increased greenfield development should occur for the array of slow-growth advocates,

environmental activists, and concerned citizens opposed to new development. Many residents, particularly the Tustin Homeowner's Association, expressed concern over "whether the proposed project would actually improve traffic conditions in the long term or whether it will induce additional development, thereby leading again to facility overcrowding." (F/ETCA 1991, p. S-4). Additionally, "the loss of existing agricultural land, including prime or unique agricultural soils and continuing agricultural preserves" was identified as an "avoidable adverse impact," further reinforcing fears that loss of agricultural open space was accelerating far too rapidly (F/ETCA 1988, p. 5-1).

Individual cities and towns also took issue with the project's routing – particularly that many of the major intersections, be they with other TCA-operated roads or non-tolled freeways (like I-5), were placed in environmentally-sensitive areas. Such routing was initially done to avoid the financial and political burdens of consuming significant swaths of right of way adjacent to densely-populated areas. City of Anaheim Associate Planner Karen Freeman, for instance, expressed her concerns that "several significant plant species (e.g., Many-Stemmed Dudleys, and Tecate Cypress), are present in Gypsum Canyon and the surrounding area" (ETCA 1991, Appendix D).

In order to combat these growing concerns, Orange County governments collectively adopted a set of conceptual alignments of a potential F/ETC well before TCAs settled on the preferred alternative (F/ETCA 1991, p. S-5). Such an early planning adoption allowed affected cities (principally Anaheim, Irvine, Orange, Tustin, and Yorba Linda) to ensure the goals of their comprehensive zoning and land use planning were met, thereby streamlining the overall planning process for F/ETC. Conflicts between various local projects – what F/ETCA qualified as "major actions proposed by other government agencies in the same geographic area" – and the routing of F/ETC were identified early on in an effort to mitigate planning friction between TCAs and local governments (F/ETCA 1991, p. S-5). Among these local projects were jails, landfills, mixed-use parcel annexation, and a wide range of improvements to I-405, I-5, SR-55, SR-57, and a number of arterials as well (F/ETCA 1991, p. S-5).

F/ETC projects were to be phased into service; F/ETCA planned – despite earlier concerns that financial difficulties would hamstring project construction – to complete ETC in two phases, and FTC in four: the first two comprising "Foothill North" and the second two comprising "Foothill South." The two Foothill North phases were to be implemented first, followed by the two Foothill South phases; all told, FTC was planned to stretch from I-5 at the San Diego County Line in the south to SR-91 in Anaheim/Yorba Linda.

F/ETCA approved the road's FEIS – for all segments of ETC and just the northern portion of FTC – on October 11, 1991, with protestors standing outside the agency's Santa Ana offices protesting the ratification of the document. Said Beth Leeds, a resident of Laguna Beach and longtime opponent of the roads, "just because they approved it doesn't mean it's over" (McQueeney 1991). Don Kunze, a member of San Clementians Against the Tollway echoed similar sentiments, asserting that "they [F/ETCA] haven't left us any alternative but to put in an injunction to stop it" (McQueeney 1991). Despite protests and promises to file injunctions intended to stop the road's progress, none were filed within the thirty day window following the October 11 approval, and construction on the road began shortly after the FEIS was approved.

San Joaquin Hills Transportation Corridor

SR-73 – the portion of SR-73 to the West of Newport Beach and Costa Mesa was already built when OCTC planners first conceived of the San Joaquin Hills Transportation Corridor (SJHTC) following the countywide transportation scoping exercise, SEOCCS. SJHTC was incorporated into the Master Plan of Arterial Highways well before either ETC or FTC, with OCTC adopting the road into its MPAH in August 1976. The primary objectives of building SJHTC were to alleviate existing and projected peak period traffic congestion on I-5, I-405, and regional arterials, and to minimize regional through traffic use of arterial highways. Secondary objectives consisted of the following, a) providing an access route to UC Irvine, thereby relieving traffic impacts on SR-1, MacArthur Boulevard, and Laguna Canyon Road, and b)

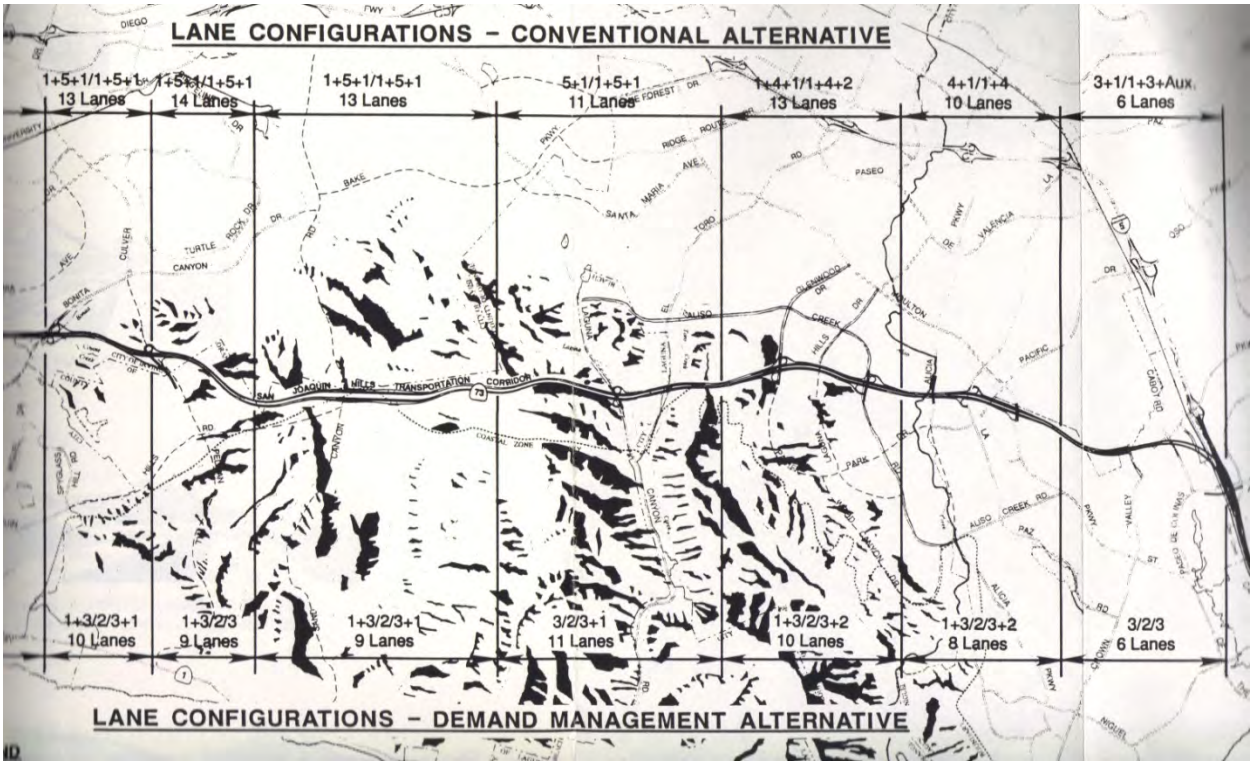
providing access from inland areas to recreational areas along the coast and various open space and greenbelt areas (SJHTCA 1990a, p. 5).

OCTC planned to extend SR-73 just across I-5 in San Juan Capistrano to the south, with the new extension forming the SJHTC; at the time OCTC was planning SJHTC, SR-73 terminated at Jamboree Road in Newport Beach, forming the Laguna Freeway (SJHTCA 1990a, p. 1). A series of freeway onramp improvements between Birch Street and Jamboree Road in the Newport Beach area were planned along with the extensions of SR-73.

Following adoption into MPAH in 1976, OCTC studied SJHTC from 1977 to 1982 – including potential routes and build alternatives; by 1982, the number of preferred alternatives had been internally winnowed down to three by OCTC (SJHTCA 1990a, p. 1). Two build, tolled alternatives – the Demand Management Alternative (DMA) and the Conventional Alternative (CA) – and a third, no-build alternative were considered. The DMA was designed to have three general purpose lanes in each direction – not counting auxiliary lanes for weaving and steep grades – and a median between 88 and 116 feet wide in order to accommodate HOV lanes and fixed rail transit in the future. At 17.5 miles in length (in addition to the stretch of SR-73 already in place), the DMA was forecasted to cost approximately $875 million (SJHTCA 1990a, sec 2).

The other build alternative, the CA, was designed to accommodate 3-5 general purpose traffic lanes in each direction with auxiliary lanes and a median 64-116ft wide – a minimum width enough for either new HOV lanes or fixed rail transit, but not both. Slightly longer than the DMA, the CA – at 19.4 miles – also was slightly more expensive, with an estimated price tag of $903 million (SJHTCA 1990a, sec 2).

Figure 5: Configurations of conventional/demand management alternatives



Source, SJHTCA 1990a, p. 2-21.

As bad as congestion was along the future routing of both ETC and FTC, traffic was significantly worse along the path where SJHTC was to be built. This disparity occurred in large part because the catchment area for SJHTC – and the stretch of SR-73 that was already in place – was much more developed than that of either ETC or FTC. The communities affected by the construction of SJHTC – Newport Beach, Irvine, Laguna Beach, Laguna Niguel, Mission Viejo and San Juan Capistrano – were densely populated ocean-side cities and towns.

Without SJHTC, Caltrans predicted, traffic on I-5 was expected to increase by approximately 39,000 to 65,000 additional vehicles per day between the El Toro Y intersection with I-405 and Avery Parkway (SJHTCA 1990a, p. 4). Built for a maximum capacity of 145,000 VPD, Caltrans predicted I-5 would, within ten years – without SJHTC – need to accommodate 330,000 VPD, roughly 225% of its maximum capacity (SJHTCA 1990a, p. 4). I-405, without SJHTC, would have to carry a total of 170,000 to 220,000 VPD as compared to its maximum capacity of 165,000 to 205,000 VPD; Caltrans predicted that,

if the no-build alternative was chosen, demand for I-405 would exceed total capacity by 2005 (SJHTCA 1990a, p. 4). Even regional arterials would have suffered immensely – peak volumes on SR-1 without SJHTC would have reached as high as 64,000 VPD, well above its maximum design capacity of 50,000 VPD (SJHTCA 1990a, p. 4). Caltrans, given its own traffic projections, felt very strongly about the high – and sustained high – potential demand for SJHTC, and the corresponding potential for the road to sustain itself with toll revenues in the long term (SJHTCA 1990a, p. 4; Garvey 1998). Caltrans, however, was not alone in approaching demand for the new potential road with such optimism.

Wilbur Smith Associates estimated that roughly 113,600 vehicles per day would pass through the main toll plaza of SJHTC by 2010 – "more than enough to pay for the long-awaited project;" much of the basis of these projections rested on the fact that little in the way of arterials existed in the region at the time, forcing traffic onto freeways (Perlman 1988). The consultancy indicated future demand would be so high that "it is difficult to find an upper limit on the amount people are willing to pay to use it," estimating a $2 static toll (Perlman 1988). Wilbur Smith released the report at board meetings for both TCAs, with then-chairman of F/ETCA Santa Ana Mayor Dan Young, declaring "the report shows that all three of the projects [Foothill, Eastern, and San Joaquin Toll Roads], with tolls, pencil out financially" (Perlman 1988). The consultancy anticipated the highest volumes – 135,400 vehicles per day – travelling through the stretch of road between El Toro Road near Laguna Canyon and Glenwood Drive by 2010– the anticipated gateway to then-still-in-planning Aliso Viejo (Perlman 1988).

Table 3: Wilbur Smith 2010 traffic forecast at key points – SJHTC

	Main Toll Plaza	El Toro Rd (Max. VPD location)
2010 VPD	113,600	135,400
Toll	$2.00	$2.00
Dynamic/Static	Static	Static

Source, Perlman (1988)

But despite the potential of the "important" project to "assist in alleviating traffic in that part of Orange County," – and the anticipation of high demand for the projects (in conjunction with significant

revenue generation – environmental concerns and impacts of the project on the surrounding communities remained a major concern of several communities within the region (Churm 1989). As such, OCTC sponsored a series of environmental scoping meetings once it had narrowed down the list of project alternatives in 1984 – a full two years before the environmental review process officially began. It held a second set of scoping meetings in 1988, right before the EIS was to be finalized and submitted for certification (SJHTCA 1990a, p.5).

Regardless of the chosen alignment, a mix of project opponents, concerned residents, and governmental bodies (including the Cities of Irvine, Newport Beach, San Juan Capistrano, Mission Viejo and Dana Point, the Sierra Club, Operation Wildlife, and the Museum of Vertebrate Zoology) voiced concerns about the entire project during the DEIS public comment period, including:

- If there was a need for the project
- Whether the size of project (in terms of overall acreage consumed) was justified
- If the facility should allow truck traffic
- How HOV lanes should be phased
- What the effect of project on regional arterials might be
- The potential for visual impacts of project on residential areas and open space
- Potential noise impacts
- Potential growth-inducing effects of project
- Detrimental air quality effects
- Effects of the construction on the local community and environment
- The elimination of an off road bike trail along Rancho Viejo Road (SJHTCA 1990a, p.6)

Effectively, the new road would bisect Laguna Coast Wilderness Park, and prompted outcry from local residents and environmentalists alike, particularly from a grassroots foundation called Laguna Greenbelt, Inc. (Lindgren 1993). Laguna Greenbelt, still in existence and politically influential at the present day, was founded as a grassroots organization "to preserve and protect the environment in and around Laguna Beach and Orange County" (Laguna Greenbelt, Inc. 2011). The organization also serves as a land trust, composed of four "major open space parks," including land purchased from the Irvine Company for the explicit purpose of preventing development of open land (Laguna Greenbelt, Inc.

2011). The City of Laguna Beach, a fierce opponent of SJHTC, financed the purchase and land transfer, spending $78 million for the rights 2,150 acres of Laguna Canyon in 1991; the purchase drained the City's liquidity to perilous levels, nearly forcing it to seek bankruptcy protection (Martinez 1991).

The Irvine Company initially demanded $150 million for the parcel of land and had refused to go below $90 million six months before the sale, understanding that every additional dollar extracted from Laguna Beach in the transaction was a dollar less the city could spend fighting the project later on; Laguna Beach maintained throughout the process it could not afford to pay more than $70 million (Martinez 1990). This premium paid for the land – and that it nearly bankrupted the city – is a stark indicator of the city's great disdain for SJHTC. Elisabeth Brown, president of Laguna Greenbelt during the time the land debate and eventual transaction occurred, did not mask her feelings toward the new road in an interview with the *Los Angeles Times*. "People need to realize this toll road is a monster," she said, "it's like having the 405 freeway running through some of the most sensitive habitats in Orange County (Lindgren 1993). From the perspective of Laguna Greenbelt and the City of Laguna Beach, the premium paid on the land was a hefty – albeit seemingly necessary – price to try and stymie SJHTC.

In addition to the principal concerns of Laguna Greenbelt – and other local residents and even Laguna Beach Councilwoman (and Mayor of Laguna Beach following the 1990 election) Lida Lenney – other worries about the project had to do with trip diversion to secondary streets throughout the region following the addition of new freeway capacity (SJHTCA 1990a, p.6). To quell the increasingly negative discussion surrounding the project's environmental impacts, SJHTC tried to focus its environmental review effort during the public comment period and the first set of environmental scoping meetings on the most important factors voiced by worried parties like Laguna Greenbelt (SJHTCA 1990a, p.5). The draft EIS centered on four major impacts – visual, stream/floodplain, air quality, and noise impacts. The focus of the draft EIS differed from that for both ETC and FTC, as both roads were new additions to relatively undeveloped land; concern with SJHTC was not so much the destruction of open spaces and

farmland so much as it was the impacts a busy freeway would have on adjacent communities (SJHTCA 1990a, p. 5).

In terms of the visual impacts, both routes would cause significant, but partially mitigated, impacts for residents of Nellie Gail, Laguna Laurel, and Aliso Viejo (SJHTCA 1990a, p. 7). Both routes would also significantly encroach upon floodplains and creeks/streams, principally Bonita Creek and Coyote Channel; the DMA would have encroached upon 12.7 acres of floodplain whereas the CA would have encroached upon 16.6 acres of floodplain (SJHTCA 1990a, sec 2, table A). SJHTCA anticipated – in the Final EIS – that the new road would actually create a positive net impact on air quality, as the road would allow for increased throughput system-wide and, SJHTC asserted, less congestion (SJHTCA 1990a, sec 2, table A). Finally, the road was also expected to generate significant and unmitigated noise impacts affecting several residential communities, but particularly the residential development around Spotted Bull Lane in San Juan Capistrano – where the southern end of SJHTC terminates, merging in a series of overpasses and access ramps with I-5 (SJHTCA 1990a, sec 2, table A).

Before SJHTCA submitted the EIS to the EPA for certification, the authority decided to incorporate the environmental review process into a joint state-Federal streamlining program in 1986. City of Laguna Beach officials, sensing a gain in the project's momentum, and already frustrated with SCAG for its insistence on allowing free HOV access to the toll road, sought to stop the road dead in its tracks (Fulton 2001). The ensuing drama played out in a series of SCAG proceedings beginning in late 1988, with SCAG announcing in the fall of 1988 it would study the addition of SJHTC to its regional transportation master plan the following year. Laguna Beach politicians and planners seeking to block the project, based on its purported environmental impacts, lobbied SCAG to reconsider the project and re-examine its environmental impacts; specifically, they cited the project's inconsistency with SCAG's mission of reducing car usage and "getting people to live close to work" (Walker 1988).

Laguna Beach Councilwoman Lida Lenney claimed "construction of the toll road would destroy some of the county's last wetlands in Laguna Canyon and open Laguna Beach to a flood of traffic" (Churm 1989). Lenney and other Laguna Beach officials directed their pleas to the SCAG environmental committee and, in January 1989, managed to persuade the environmental committee to recommend to SCAG managers and high-level advisors in the Executive Committee that the road be excluded from the regional transportation master plan (Churm 1989).

But the following month, SCAG's executive committee ignored the environmental committee's recommendations and included SJHTC in its regional transportation master plan strongly criticizing Laguna Beach officials' attempts to derail the project (Churm 1989). OCTC director Stanly T. Oftelie shared SCAG's disdain for Laguna Beach's efforts, asserting that "[Laguna Beach officials] tried to end-run the process by seeking sympathetic ears on SCAG's environmental committee" (Churm 1989). In the end, he concluded, "city officials got caught with their hands in the cookie jar" by trying to stop the road through its appeals to the environmental committee – especially given its past disdain for SCAG's take on the routing and layout of the project (Churm 1989).

Acceptance of the plan in SCAG's regional transportation master plan did not give SJHTCA officials a green light to proceed on constructing the project. Rather, SCAG had to add the project to its regional mobility plan only after it was deemed to be in compliance with CEQA/NEPA processes as approved by the EPA (SCAG 2011). SCAG was caught in an awkward position when, two years later on January 14, 1991, the EPA rejected the DEIS stating that "planners did not explore sufficiently the alternatives to building the San Joaquin Hills Transportation Corridor" (Robbins 1991).

In addition to creating a political and public relations nightmare, the rejection of the DEIS further delayed approval and construction of the project – construction was to begin in either late 1991 or early in 1992 (Robbins 1991). Furthermore, the re-ratification of the project by the SCAG executive committee in order to adopt it into the regional transportation master plan needed to occur before

additional progress could be made – thus several major bureaucratic hurdles remained for SJHTCA. But, some local community members felt that the EPA's rejection of the EIS was a great step forward. Norm Grossman, a Laguna Beach aerospace engineer and environmental activist, felt the rejection "validates that those who are opposed to [the project] are not crazed, tree-hugging nuts" (Cone and Perlman 1991). Donna Martina, a Laguna Niguel resident who created Residents Opposing the Tollroad – an anti-SJHTC organization – echoed much the same sentiments, stating "I'm pleased that the EPA confirmed what my group, as well as other groups throughout Orange County, have been saying" (Cone and Perlman 1991).

Bruce Nestande, then-chairman of CTC, was concerned at the tone of the EPA's statement, arguing the EPA was effectively urging transportation officials to willingly "jam the I-405, have all that air pollution, as long as you don't put a new road in an unbuilt area to relieve it" (Cone and Perlman 1991). Nestande also stated that he felt "the EPA, by its statement, is discouraging a linkage of transportation to new development," and that the motivations of the EPA at the time were more political than analytical (Cone and Perlman 1991). Jeanne Dunn Geselbracht, one of the EPA project reviewers tasked with assessing the SJHTC environmental review, argued it was fully necessary "to go back to square one;" she argued "we want [SJHTCA] to take a bigger-picture approach" to the assessment of the road's negative environmental impacts (Cone and Perlman 1991). Specifically, Dunn Geselbracht cited, the EIS needed to have more data, and a firm commitment was needed from SJHTCA to allow free HOV access to the toll road – a long-standing point of contention between Orange County officials, especially those in Laguna Beach, and SCAG (Fulton 2001). Such evidence was warranted, she argued, because "the corridor would become a real barrier to wildlife migration, and degrade their resources" (Cone and Perlman 1991). Ultimately, the EPA concluded that between the document's significant missing information and the lack of listed alternatives, a "redo" of "nearly the entire document" was warranted (Cone and Perlman 1991).

SJHTCA revised the EIS following further consultation with FHWA, "including additional assessments of the air quality and growth-inducing effects of the corridor, the biological impact of the corridor on a pair of Least Bell's vireos (an endangered bird species) and the implementation of wetlands mitigation measures" (Laguna Greenbelt Inc. v. USDOT 1994). After these additions, addressing the EPA's concerns over "failure to provide enough information to adequately assess significant environmental impacts," another public comment period was held for review of the new findings (Laguna Greenbelt Inc. v. USDOT 1994). The EPA approved the second FEIS in a July 6, 1992 Record of Decision, prompting a lawsuit from the region's principal opponent of the toll road – Laguna Greenbelt, Inc. – in conjunction with The Natural Resources Defense Council.

Laguna Greenbelt filed a complaint, in a January 1993 lawsuit, requesting the US Ninth Circuit Court of Appeals halt the progression of the SJHTC project, which, shortly after the lawsuit was filed, was fully funded following the issuance of $1.2 billion in revenue bonds that same month (we will discuss the exact financing package later). Following the bond issue, the court granted a preliminary injunction, prohibiting "any activity in connection with construction of the corridor in the Laguna Greenbelt and in the reserve," but allowing for construction to occur outside the parkland area – at the termini of the new road (Laguna Greenbelt Inc. v. USDOT 1994). Figure 6 shows the original route of the SJHTC as it ran straight through the heart of the park; the highlighted area indicates the no-construction zone created after the Ninth Circuit granted the injunction. By mid-1993, however, SCAG had adopted the project into its regional mobility plan and construction was authorized to proceed at the outer edges of the project, in anticipation of approval from the courts to begin construction on the middle portion shortly.

Figure 6: Map of Laguna greenbelt, SR-73 (SJHTC)

Source, Laguna Greenbelt 2011.

Contractors, subcontractors and construction

Table 4 is a list of contractors and subcontractors retained for consulting, engineering, and construction on FTC, ETC, and SJHTC.

Table 4: List of OC Toll Roads contractors, by road/consortium

Name	Corridor
Kiewit Pacific (lead contractor)*	California Corridor Constructors (SJHTCA)
Sverdrup	California Corridor Constructors (SJHTCA)
Granite Construction	California Corridor Constructors (SJHTCA)
Lockheed Information Mgmt	California Corridor Constructors (SJHTCA)
DeLuw, Cather & Co.	California Corridor Constructors (SJHTCA)
Yeager Construction Co.	California Corridor Constructors (SJHTCA)
CH_2M Hill (lead contractor)*	Eastern
Flatiron	Eastern
RBF Consulting	Eastern
FCI Constructors (lead contractor)*	Foothill (Silverado Contructors)
Sukut Construction INC	Foothill (Silverado Contructors)
Obayashi Corp	Foothill (Silverado Contructors)
Wayss & Freytag AG	Foothill (Silverado Contructors)
Modern Alloys	Foothill (Silverado Contructors)
Dokken Engineering	Foothill (Silverado Contructors)

Kiewit, of California Corridor Constructors for SJHTCA, outbid Morrison Knudsen, landing the low bid at $778 million, slightly below the expected price tag of $800 million. Construction cost wound up rising to roughly $1 billion – a 2.2% escalation over OCTC's inflation-adjusted prediction of project cost (AASHTO 2005). Lockheed Information Management was awarded the toll collection contract in 1992 for all three roads – the firm would collect toll revenues, retain a portion of revenues for itself, and forward the remainder to the TCAs. SJHTCA spent $1.456 billion in total financing for SJHTC, broken down as shown in Table 5 (FHWA 2011).

Table 5: Financing sources, SJHTC

Source	Millions $$	% of Total
Senior-lien Revenue Bonds	$1,079	74.11%
Interest Earnings	$106	7.28%
Junior-lien Revenue Bonds	$91	6.25%
State & Local Transportation Partnership Program	$71	4.88%
CTC Grants (through STIP)	$40	2.75%
Project Revenue Certificates	$38	2.61%
Advance-funded DIFs	$31	2.13%
TOTAL	**$1,456**	

Source, FHWA (2011).

These projects predated TIFIA. As such, what Federal funding (not financing) support was available came in the form of one-time grants, rather than a revolving fund line of credit. Additionally, "project revenue certificates" as a form of project financing were bonds issued by the TCAs to each lead contractor for a portion of the DB contract price and also for potential cost escalations – both as deferred compensation (FHWA 2011c). Change orders (from TCAs to contractors) were designated as triggers for the issuance of increased certificates, while the certificates themselves were set to be repaid from the project's contingency fund "to the extent funds are available, or from net toll revenues subordinate to any payments made with respect to the revenue bonds" (FHWA 2011c).

While the bulk of financing came from the issue of bonds based on anticipated toll revenues, STIP and State and Local Transportation Partnership Program funding was made available for the project, accounting for $111 million of total financing (see Table 5). Of the almost $1.1 billion in senior-lien toll revenue bonds, $766 million were Current Interest Bonds, $150 million were Convertible Capital Appreciation Bonds, and $163 million were Capital Appreciation Bonds; senior debt was rated BBB by Fitch at the date of issue in 1993 (FHWA 2011).

Table 6: Financing sources, F/ETCA

Source	Millions $$	% of Total
Fixed Rate Bond Proceeds	$1,263	69.86%
Variable Rate Bond Proceeds	$246	13.61%
Interest Earnings	$198	10.95%
1993 Bond Funds	$36	1.99%
State & Local Transportation Partnership Prgrm	$35	1.94%
Project Revenue Certificates	$24	1.33%
TCA Contribution	$6	0.33%
TOTAL	**$1,808**	

Source: FHWA (2011)

Total construction cost for the F/ETC was $1.55 billion - $803 million for ETC and $745.9 million for FTC (Flatiron 2011; Berkman 1993). Total project cost wound up escalating 9% over inflation adjustment "due to scope changes (8%) and changed conditions (1%)" of both the project itself and the physical project sites (AASHTO 2005). F/ETCA had to raise just over $1.8 billion in financing for the two roads – significantly more than for just SJHTC – with sources broken down in Table 6 (FHWA 2011). Of the $1.26 billion in fixed-rate toll revenue bonds issued in 1995, $907 million were Current Interest Bonds, $152 were Convertible Capital Appreciation Bonds, and $205 million were Capital Appreciation Bonds; those bonds were rated BBB, Baa3, and BBB- by Fitch, Moody's and S&P respectively at the date of issue in 1995 (FHWA 2011).

All construction contracts were design build (DB); in considering DB procurement, the TCAs "analyzed schedule growth for various design-build and design-bid-build projects and found a significant time savings by utilizing design-build" (AASHTO 2005). Despite the fact that total construction cost for the three corridors escalated an average 5.5 percent, "design-build made the job financeable. The project also benefitted from reduced interest expense due to accelerated delivery" through DB (AASHTO 2005).

The TCAs employed a traditional two-step bidding process, with first a RFQ and second a RFP, but leveraged the streamlining potential of DB contracts, requiring either consortiums or independent

firms to bid on the entire project rather than allowing firms to bid on individual components (AASHTO 2005). The TCA chose the winning consortium based on preliminary pricing, with final pricing based upon the completion of a preliminary design. Part and parcel with TCA's choice of procurement process was a high level of design (35%) required of the various consortia; since bidding price was based on designs, a higher level of detail than normal for a standard bidding process was required to make this form of procurement work, "setting a high responsibility standard for the proposing teams" (AASHTO 2005). The TCAs, in effect, by developing "prescriptive specifications" for how the bidders should design the roads as well as specifying a high level of design, created a minimum threshold that only the "serious" contractors and design teams were capable of crossing (AASHTO 2005).

The first segment of FTC opened on-time in October 1993, with the second 3.2 mile segment opening in April 1995, two months ahead of schedule (Berkman 1995; FHWA 2007). The third segment opened in early January 1999, almost a year ahead of schedule (Berkman 1995; FHWA 2007). The fourth and final segment of FTC, the southernmost segment of Foothill South, is not yet under construction. (The current state and future of Foothill South will be discussed in detail at the end of the case study.) SJHTC opened in November, 1996, followed by phase one of ETC in October, 1998 and phase two in February 1999 (FHWA 2007). CH_2M and Flatiron delivered ETC 14 months ahead of schedule. Silverado Constructors delivered its FTC segments two to 11 months ahead of schedule. California Corridor Constructors delivered SJHTC three years behind the initially anticipated schedule, as a result of the protracted and politically messy environmental review process, but three months ahead of the post-delay revised schedule (Haldane 1996).

The highly-controversial environmental review process for SJHTC did not end once the EIS was certified; opponents of the road, spearheaded by the National Resources Defense Council (NRDC), in conjunction with Laguna Greenbelt Inc., continued with attempts to stymie construction. In addition to the lawsuit filed in the early part of 1993 by Laguna Greenbelt, NRDC sought to block the start of any

construction on the road, returning to the United States Court of Appeals for the Ninth Circuit to seek an injunction against all construction in the summer of 1993.

On September 7, 1993, US District Judge Linda A. McLaughlin issued an injunction barring construction between El Toro Road to the South and Newport Coast Drive to the North, but still allowed for construction of SJHTC to begin at both ends. Judge McLaughlin "found that both ends of the San Joaquin Hills project were viable as separate, unconnected roads and allowed construction to begin there" (Perlman 1993). The middle portion of the road was "an ecologically sensitive, mid-route greenbelt," Judge McLaughlin concluded – and the route the road would take through that portion of the project site needed to be scrutinized further (Perlman 1993).

The NRDC was not satisfied with the ruling. Shortly after the injunction was granted, it requested Judge McLaughlin reconsider her decision and forbid any construction on the project from beginning at all (Natural Resources Defense Council v. United States Department of the Interior 1993). The NRDC argued that the judge "had received no evidence on the viability of the two end segments," and that "her findings raised the possibility that tollway officials might eventually argue successfully that a connection is necessary to fulfill the legal and financial rationale for the road" (Perlman 1993). A month later, on October 15, 1993, Judge McLaughlin denied the request to modify her September 7th decision (Natural Resources Defense Council v. United States Department of the Interior 1993).

Norm Grossman, of Laguna Greenbelt Inc. was disappointed, stating, "we want to stop the whole project" (Perlman 1993). NRDC attorney Joel Reynolds shared Grossman's disappointment, and was concerned that "the judge's finding would prejudice consideration of alternatives to the tollway if the project is ultimately found deficient" (Perlman 1993). Judge McLaughlin defended herself and her ruling, stating that "contrary to the NRDC's contention, she doesn't have to base her finding on evidence the two end segments would fulfill the tollway's original goals;" rather, "her ruling can rest on her belief that both segments can serve some 'significant purpose'" (Perlman 1993).

The following June 14, after an inconclusive hearing on the EIS in January 1994, Judge McLaughlin lifted the injunction, and SJHTCA officials readied bulldozers for construction on the site, "where protestors were already waiting" (Reza and Earnest 1994). Laguna Greenbelt protestors chained themselves to bulldozers as lawyers flocked to Federal Appeals Court to file motions in hopes of stopping construction (Earnest 1994a). The next day, a justice from the U.S. 9th Circuit Court of Appeals in San Francisco temporarily halted construction activity, prompting SJHTCA attorneys to petition the court to let work resume, prompting outrage among Laguna Greenbelt supporters. NRDC's attorney, Joel Reynolds, qualified the entire set of proceedings as "a Neanderthal project" which the Federal government "simply rubber stamped" by passing the second EIS for the project (Reza and Earnest 1994). Protestors held "a vigil" at the construction site after construction was halted, and while the court considered SJHTCA's petition to allow construction to resume (Reza and Earnest 1994).

A week later, the US 9th Circuit Court of Appeals rejected SJHTCA's petition to allow construction to resume, causing spontaneous celebrations among the Laguna Greenbelt protestors waiting out the ruling at the construction site. "It's a great moment," said Tim Carpenter, founder of Alliance for Survival – an activist group from Santa Ana – "it's made our summer" (Reza and Earnest 1994). Laguna Beach City Councilwoman Lida Lenney, who "had been a steady fixture at the protests site" said "she was 'ecstatic' at the 'almost unbelievable' news" (Reza and Earnest 1994). Both Carpenter and Lenney met with SJHTCA to demand they fund a project focused on replanting the hillside and expanses of meadows graded when bulldozers had begun their work during the week prior (Reza and Earnest 1994).

The court's upholding of its injunction stopped work through September – delaying the project a full year – and followed that up with another work-stoppage order that kept the SJHTCA bulldozers idle through December 1994 (Laguna Greenbelt v. United States Department of Transportation 1994). However, local environmentalists' exuberance was dashed shortly before the arrival of Christmas – on December 20, a panel of judges removed all injunctions and paved the way for construction to begin in

January, 1995 (Laguna Greenbelt v. United States Department of Transportation 1994). Despite the mounting delays (which, according to SJHTCA officials, cost taxpayers of $5 million per month in excess congestion) SJHTCA spokeswoman Lisa Telles declared, on the eve of the ruling, "we have no intention of stopping or slowing construction of the San Joaquin Hills corridor. We're committed to completing the project" (Earnest 1994b).

Construction began in early 1995, as forecast (Earnest 1994b). Despite continuing protestor interference and the need to maintain a constant police presence to arrest trespassers on the construction site, the road was completed in November 1996, two months before the new target completion date of January 1, 1997 (Earnest 1994b).

Performance

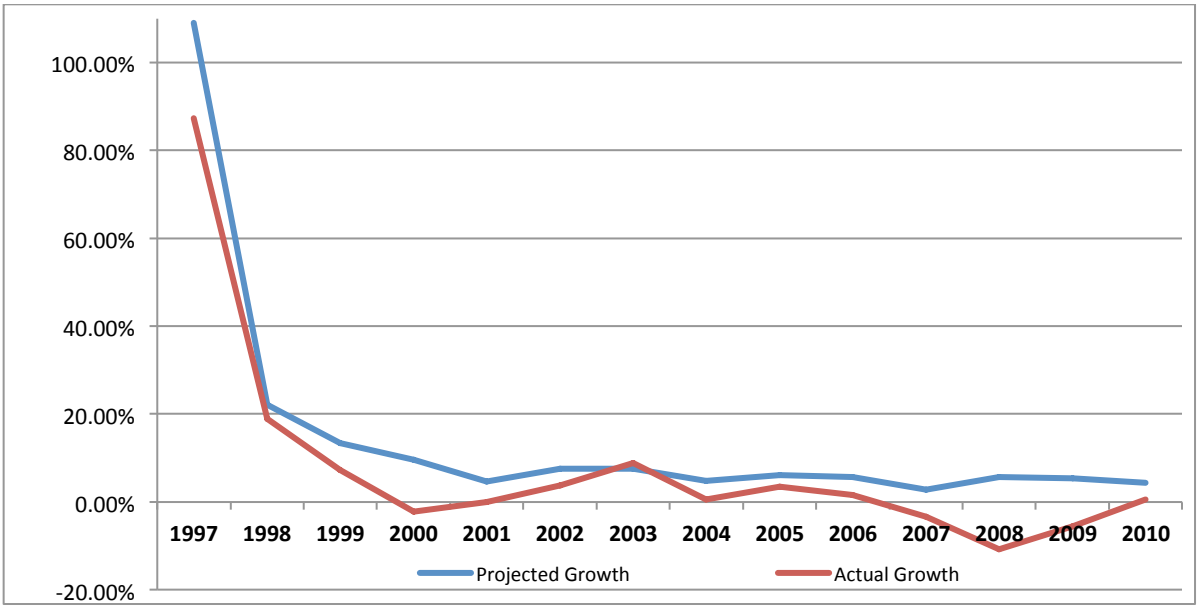
Financial performance for the OCTR network has been troubling, particularly for SJHTC. SJHTC's traffic volume of 70,000 VPD in FY10 – compared to 155,000 VPD for F/ETC in FY10 – was only 44% of its projected total VPD (TCA 2011a). SJHTC has never achieved its annual VPD target (nor its annual revenue target) while F/ETC have met their annual traffic targets 38% of the time (69% for their financial targets) (TCA 2011a). Furthermore, because of the six-lane configuration and large number of toll plazas chosen for SJHTC – one mainline barrier and 12 ramp toll plazas in both directions as part of an overall closed system – initial capital costs for SJHTC were much higher than for F/ETC (SJHTCA 1990a, p. 2-2). For these reasons, and the fact that "SJHTC toll revenue projections increase[d] significantly from year to year" as laid out in the initiation SJHTC financing plan – and the road has never come close to catching up, long-term debt service costs for SJHTC are significantly higher than the other facilities in the OCTR network (SJHTCA 1990b, p.8).

Table 7: Annual projected/actual transactions, revenue, and growth FY97-11, SJHTC

FY	Projected Transactions	Actual Transactions	Projected Revenues	Actual Revenues	Actual / Projected Transactions	Actual / Projected Revenues	Projected Growth	Actual Growth
1997	11,153,000	11,153,013	$19,900,000	$16,868,231	100.00%	84.76%	n/a	n/a
1998	23,318,000	20,902,595	$37,916,000	$33,927,997	89.64%	89.48%	109.07%	87.42%
1999	28,480,205	24,853,673	$50,962,000	$42,646,223	87.27%	83.68%	22.14%	18.90%
2000	32,300,000	26,660,797	$57,911,000	$46,818,996	82.54%	80.85%	13.41%	7.27%
2001	35,391,000	26,054,876	$63,314,000	$50,901,371	73.62%	80.40%	9.57%	-2.27%
2002	37,011,000	26,055,147	$73,996,000	$56,864,910	70.40%	76.85%	4.58%	0.00%
2003	39,783,000	27,024,334	$79,642,000	$61,147,499	67.93%	76.78%	7.49%	3.72%
2004	42,772,000	29,416,339	$85,716,000	$67,031,360	68.77%	78.20%	7.51%	8.85%
2005	44,779,000	29,585,828	$98,307,000	$75,645,139	66.07%	76.95%	4.69%	0.58%
2006	47,527,000	30,622,020	$105,608,000	$81,928,005	64.43%	77.58%	6.14%	3.50%
2007	50,210,000	31,096,854	$111,704,000	$89,058,936	61.93%	79.73%	5.65%	1.55%
2008	51,596,000	30,057,878	$123,104,000	$91,434,068	58.26%	74.27%	2.76%	-3.34%
2009	54,501,000	26,810,468	$131,269,000	$86,419,923	49.19%	65.83%	5.63%	-10.80%
2010	57,435,000	25,308,372	$138,459,000	$87,419,923	44.06%	63.14%	5.38%	-5.60%
2011	59,890,000	25,451,120	$144,319,000	$88,103,663	42.50%	61.05%	4.27%	0.56%
AVG					**68.44%**	**76.64%**	**14.88%**	**7.88%**

Source: TCA 2011a

Figure 7: Projected year-on-year growth vs. actual growth, SJHTC



Another major factor in SJHTC's financial underperformance stems from major freeway improvements done by Caltrans immediately before a non-compete agreement was signed with TCA.

Caltrans eased traffic flow through the El Toro Y interchange between I-5 and I-405, by widening the road. Thus reducing congestion on I-405 decreased the incentive to pay a toll for access to SJHTC (TollroadsNews 2011). As such, SJHTC's free alternative routes, the two biggest freeways in the region, were able to handle more traffic than originally projected during project feasibility studies.

For all of these reasons, SJHTCA undertook a $1.4 billion refinancing of its debt less than a year after it opened to traffic and then a second time when TCA refinanced the entire OCTR portfolio in 1999. That network-wide refinancing extended bond retirement five years out to 2040, at a total cost of $1.75 billion (Garvey 1999). While this network-wide refinancing was forecast to save roughly $300 million system wide between 2000 and 2010, cost savings were not materializing fast enough for SJHTC; by 2004 the road was on the brink of default. TCA bonds had already been downgraded to junk status once in 2002, and had re-attained a low investment-grade rating by 2004. When a merging of SJHTCA and F/ETCA – to essentially pool both roads' risks and revenues – was proposed in 2004 in conjunction with a $4 billion refinancing, a second downgrade to junk status ensued, killing merger hopes (Weikel 2002). Another bail-out plan was floated in 2005 following the failed 2004 merger, but procedural problems – that the TCA boards could not agree on a revenue-sharing/cross-subsidization mechanism for the roads – caused the cross-funding of SJHTC with F/ETC revenues to fall through (Weikel 2005).

Traffic volumes on SJHTC and F/ETC rose during the mid-2000s, along with DIF revenues (in conjunction with a surge in regional home values), which helped buoy SJHTC to a degree. But once the financial crisis hit in 2008, the entire Orange County Toll Roads portfolio was thrust into dire financial straits. Traffic declined system-wide 20% as revenue and repayment projections had been revised upward following the past few years, leading TCA to request a $1.1 billion TIFIA loan from the Federal government (Cruz 2011). The emergency cash infusion would have combined both roads and allowed for streamlined financing capability of the Foothill South project. In 2011, SJHTC bond repayment terms were once again adjusted, with bondholders approving a six-year increase (from 2036 to 2042) as well

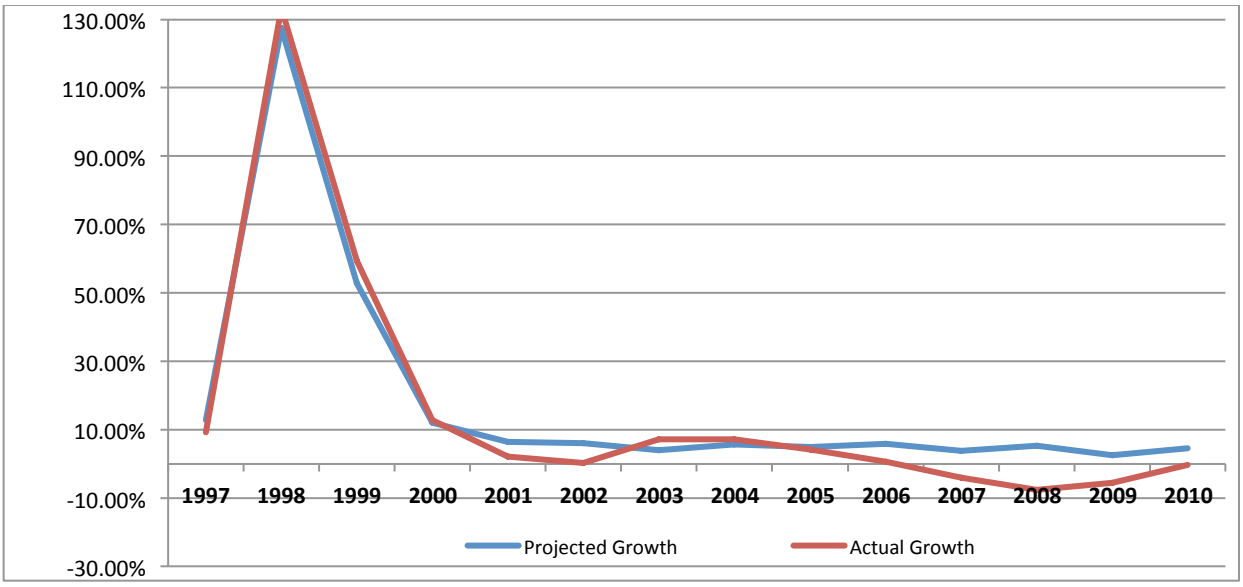
as a reduced required debt coverage and lower annual debt service payments for the next 12 years (TCA 2011b). Traffic both for SJHTC and F/ETC peaked in 2007 at 62% and 94.5% of forecasted VPD volumes, respectively.

Table 8: Annual projected/actual transactions, revenue, and growth FY97-11, F/ETC

FY	Projected Transactions	Actual Transactions	Projected Revenues	Actual Revenues	Actual / Projected Transactions	Actual / Projected Revenues	Projected Growth	Actual Growth
1997	11,828,000	11,964,616	$6,860,000	$6,636,326	101.16%	96.74%	n/a	n/a
1998	13,336,000	13,075,041	$7,735,000	$7,201,240	98.04%	93.10%	12.75%	9%
1999	30,339,000	30,500,925	$34,389,000	$34,653,672	100.53%	100.77%	127.50%	133%
2000	46,381,000	48,614,099	$60,132,000	$64,010,927	104.81%	106.45%	52.88%	59%
2001	51,946,000	54,813,265	$67,102,000	$73,009,651	105.52%	108.80%	12.00%	13%
2002	55,255,000	55,998,440	$71,533,000	$77,336,314	101.35%	108.11%	6.37%	2%
2003	58,562,000	56,136,264	$75,261,000	$79,383,504	95.86%	105.48%	5.98%	0%
2004	60,919,000	60,192,752	$82,806,000	$85,674,767	98.81%	103.46%	4.02%	7%
2005	64,387,000	64,453,054	$87,257,000	$91,832,285	100.10%	105.24%	5.69%	7%
2006	67,562,000	67,135,340	$94,921,000	$97,088,790	99.37%	102.28%	4.93%	4%
2007	71,446,000	67,558,927	$100,455,000	$106,394,717	94.56%	105.91%	5.75%	1%
2008	74,193,000	64,741,974	$109,355,000	$102,321,187	87.26%	93.57%	3.84%	-4%
2009	78,113,000	59,780,382	$115,275,000	$94,078,936	76.53%	81.61%	5.28%	-8%
2010	80,060,000	56,395,279	$127,535,000	$99,677,910	70.44%	78.16%	2.49%	-6%
2011	83,621,000	56,160,818	$133,448,000	$100,144,095	67.16%	75.04%	4.45%	0%
AVG					**93.43%**	**97.65%**	**18.14%**	**15.59%**

Source: TCA 2011a

Figure 8: Projected year-on-year growth vs. actual growth, F/ETCA



In addition to less-than-expected financial performance in terms of toll revenues, the roads have enjoyed significantly less in the way of DIF revenues than predicted as well. While DIF revenues were initially forecasted to account for roughly half the funding available to support the roads, DIF revenues as reported by SJHTCA accounted for just 13.3% of total revenue in 2003, and a miniscule 0.7% of total revenue in 2010; toll revenues, over this time increased by only 30% in nominal terms (SJHTCA 2010, p.12; Persad et al. 2005, p. 12). Less-than-anticipated growth adjacent to the roads has been realized because of macroeconomic fluctuations and significant down-zoning of parcels expected to drive demand for the facilities. This low level of growth has greatly reduced overall end-to-end trips and road profitability. The end-to-end trips that do occur are predominantly driven by congestion on adjacent corridors therefore toll revenues are stagnating – leading to a very uncertain financial situation for the roads (Tollroads News 2011).

Operationally, the overall network impacts of the Orange County Toll Road network have been mixed, as well. The OCTR network itself acts as a series of links from the region's transportation spine – I-5 and I-405 – into the various communities within Orange County, at points paralleling both freeways. Despite the added capacity provided by the Orange County Toll Road Network, demand has grown on the already-clogged (but free) I-5 and I-405, particularly so post-2008. Despite this increase in demand, the TCAs collectively signed a non-compete agreement with Caltrans involving I-5 and I-405. Caltrans is legally forbidden from making any sort of capacity-increasing improvements (or any improvements for that matter) on either road until the agreement expires in 2020.

Following 2020, Caltrans will be able to make improvements to both roads but only out of its own funds – not from diverted TCA toll revenues. Doing so would give the untolled freeways a competitive advantage over the Orange County Toll Roads Network, thereby eroding revenues; in effect a non-compete between the public sponsor and a given toll road owner/operator helps shore up profit potential for the owner/operator of the toll road. In this case, however, the non-compete was used in

hopes of ensuring the TCAs recovered enough revenue to retire the debt they issued to finance the roads. No indication exists among the literature as to why 2020 was the chosen date, except for that all parties involved assumed that period would be long enough for the TCA's to raise enough revenue to recoup initial financing costs.

Foothill South and the future of the OC Toll Roads

Figure 9: Map of Foothill South

Source, TCA 2011e

For more than two-decades of planning, "Foothill South" – a portion of FTC stretching from the corridor's current terminus south to I-5 adjacent to San Clemente – has been billed by F/ETCA as a solution to the I-5 corridor's traffic problems (TCA 2011f). Opposition to construction of new toll roads in Orange County grew significantly following the highly-public environmental review and environmentalist opposition of SJHTC running through Laguna Canyon. Much of this opposition comes from organizations like the Surfrider Foundation and the Sierra Club, but also from an array of local politicians (Friends of the Foothills 2005; Weikel 2004). Foothill South would follow a similar path through another state park – San Onofre State Park – and its planning and implementation progress has ground to a halt. Preliminary work on Foothill South began with the other FTC segments, but it fully got

underway with an MOU filed by the TCAs with the Federal Government in 1994, in hopes of streamlining the Foothill South review process (FHWA 2006). Final alignment was adopted by F/ETCA in early 2006 with a 12-3 vote by the F/ETCA Board. This alignment has an estimated completion date of 2012 and a price tag of $875 million (Radcliffe 2006a).

While Foothill South was planned to travel through San Onofre State Park, it would also run on ROW adjacent to the US Army base at Camp Pendleton. This route, through the park and the base, was chosen by project backers given that ROW acquisition costs would be lower than if the new road were to run through more populated areas. Presumably, the backers thought that such an isolated routing would engender less potential for mass conflict. That assumption, however, backfired immensely over the course of the mid-to-late 2000s.

As popular opposition to the segment was already strong – the environmental impacts of Foothill South had riled local environmentalists and land preservationists since the concept was first proposed – but the alignment decision prompted environmentalists "to take their fight to the courtroom" (Radcliffe 2006a). These groups' concerns about impacts not only on San Onofre State Park but also on Native American lands and the world-famous surfing destination, Trestles, led to three lawsuits filed by Former Attorney General Bill Lockyer, the Sierra Club, and the California Native American Heritage Commission in March 2006 (The People of the State of California v. Foothill/Eastern Transportation Corridor Agency 2006; OAG 2006). The potential impacts the new road would have on Trestles were particularly polarizing and well publicized, as activists rallied together, handing out bumper stickers, galvanizing surfing enthusiasts against the road, and attempting to keep the surfing spot from becoming what surfer Scott Betcher classified as "a swill point," much like heavily-polluted Dana Point to the North (Weikel 2004).

Lockyer actually filed two lawsuits – one in which he is named, and the other on the behalf of the California Native American Heritage Commission – and cited, in the lawsuit in which he is named,

great concern about the fact the road would slice through San Onofre State Beach, much as SJHTC did to the Laguna Coast Wilderness Park (People of the State of California v. Foothill/Eastern Transportation Corridor Agency 2006; OAG 2006). The Sierra Club filed its lawsuit on virtually identical lines (but did so as a show of support for Lockyer's initiative), while the lawsuit filed by Lockyer on behalf of the California Native American Heritage Commission was principally focused on the route the road would take within close proximity to "sacred grounds for the Juaneno/Acjachemem people" (Radcliffe 2006b).

Those lawsuits, however, were never resolved – and never needed to be, as two death knells for the road occurred in quick succession. As part of the 2007 Defense Reauthorization Bill, Congresswoman Susan Davis (D-San Diego) "pushed an amendment…that would eliminate an earlier clause that prevented state lawmakers from having any jurisdiction over the portions of the road that cut through the federal property" (OC Register Editorial Staff 2007). In December 2007 Congress adopted new language, allowing California state legislators the ability to actively oppose Foothill South, after political efforts from Congresswoman Davis, US Representative Loretta Sanchez (D-Santa Ana) and US Senators Barbara Boxer (D-California) and Dianne Feinstein (D-California) (OC Register Editorial Staff 2007). The adopted wording of that provision of the Defense Reauthorization Bill "really spell[ed] doom for the extension" (OC Register Editorial Staff 2007).

Shortly after control of potential Foothill South ROW was ceded from the Federal government to the State – and almost two full years after Lockyer's lawsuits were first filed – the California Coastal Commission denied approval of Foothill South with a vote of 8-2 (Eades 2008; Coastal Commission 2008). The decision came after a frenzied, highly-public, and carnival-like atmosphere at a 14-hour hearing on the extension at the Del Mar Fairgrounds (Eades 2008). More than 2,000 people showed up – a boisterous mix of supporters and opponents from within the region – many of whom were armed with signs; "I was praying that they would stick to their convictions" said Chay Peterson of Silverado Canyon, "I was so happy [with the ruling] I just started to cry" (Eades 2008).

Figure 10: Protestors rallying against Foothill South at Trestles.

Source: Eades 2008; Coker (2008).

Conversely, Coto de Caza and former CZ Master Homeowners Association board member Joe Morabito felt the Coastal Commission was "dumb, dumb, dumb. The environmental whackos in California are out of control" (Eades 2008). Governor Arnold Schwarzenegger shared Morabito's sentiments that the road was needed and claimed the road would actually aid the environment. Despite the fact that the government Schwarzenneger led was actually suing to stop the project, the governor argued that the projects was "essential to protect our environment" and could be constructed so "that [it would] enhance and foster use of the coast" (Los Angeles Times Editorial Staff 2008). While few Orange County politicians were outspoken advocates, some – like Congressman Ron Packard (R-Orange County) – worked hard on the sidelines of the frenzied debate. Packard was a staunch advocate of the road and managed to tack a provision exempting the road from increased EPA scrutiny onto a Congressional spending bill (The Economist 1999).

Despite redoubled efforts on the part of F/ETCA officials to repair the popular perception of the road, the 2008 election cycle only increased acrimony towards the road. During the run-up to San Clemente City Council elections in 2008, Foothill South was most candidates' whipping boy – save for Jim Dahl, an incumbent Councilman on the F/ETCA Board of Directors, and who won one of the two Council seats (Swegles 2008). Ultimately, by 2009, the six-lane alternative through San Onofre State Park had stalled due to the popular backlash to the proposed routing.

As the TCAs continue to argue the need for a Foothill South, that it is the missing link to the OCTR network that will complete the portfolio and finally provide the traffic flow and revenues the roads need, Caltrans has countered that capacity-enhancing improvements to I-5 are most needed, principally a widening of the freeway. Studies – most notably, OCTA's 2006 long range transportation plan – have also contradicted the claim that a potential Foothill South would solve regional traffic woes, concluding "most of I-5 in South [Orange] County will be consistently congested by 2030 even if the nearly $1 billion project is built (Weikel and Reyes 2006; OCTA 2006). Given extreme opposition to Foothill South, and the fact that Caltrans cannot increase capacity on I-5 until 2020, congestion looks to remain a significant problem for the region as no viable project alternatives have been proposed.

Furthermore, Foothill South supporters have – in light of recent economic woes – begun to rebrand the Foothill South project, attempting to change its perceived identity from the congestion cure to a source of tens of thousands of jobs (Volzke 2011). In addition to creating over 13,000 jobs, Christopher Thornton –founding partner of Beacon Economics (who completed the road's most recent economic impact report) – argues "this project will generate additional tax revenues in Orange County and throughout the rest of the state… this project will have a significant impact on the local and statewide economy" (Volzke 2011). Californians, at present, seem to be souring not on the general concept of toll roads so much as they are of how the TCAs operate (Collamer 2010). With a still-depressed economy, and grossly-inflated estimates of traffic and revenues on SJHTC (and less-significant under-forecasting on F/ETC), the TCAs are struggling to remain financially solvent (Rosenblatt 2008). Growth of the roads, as shown in Figure 7 and Figure 8, has been a negative multiple since 2008, and has not recovered on the aggregate; SJHTC has seen traffic levels drop 19% since 2008 while F/ETC has decreased by 18% over the same time span (see Figure 7 and Figure 8). In a great many senses, project proponents have – by choosing a routing through the park and Camp Pendleton rather than negotiating ROW acquisition with developers as was done early on in the history of the OC Toll Roads – shown their

hand. Popular opposition is now strong enough to stymie any attempt to acquire residential ROW to build the road. Between increased regional development over the course of the project's conception and the intense opposition to the road at present, no "easy" routes for the project remain.

The OC Toll Roads network has effectively linked together disparate parts of rapidly-growing Orange County. Once the recession began, however, a significant portion of that rapid growth slowed, DIF revenues weakened with declining home values and residents sought to save money by cutting tolls out of their personal budgets. Drivers have, in the midst of a slow economy, sought to avoid the tolls – leading to a growing gulf between projected and actual traffic levels and financial performance of the roads (Santa Cruz 2011). Long-term financial health of the OC Toll Roads is tied to recovery of those cities and towns; a slow recovery for the housing market means a long-term financial slog for the TCAs. However, the down-zoning that occurred adjacent to the roads, particularly SJHTC, dramatically cut potential levels of traffic – and revenue – and will not be recovered as long as zoning designations remain the same.

The experiences of the OC Toll Roads offer a variety of conclusions and "lessons learned" which are detailed below. These points are not intended to represent an exhaustive list of important conclusions. Instead they represent the core and most important lessons learned from the OC Toll Roads experience.

1. **Major new construction projects, especially toll roads, are politically very challenging to build.** If any part of the country could have been predicted to be exceptionally receptive to a major increase in road capacity, Orange County would be the place. Its conservative political base and growing congestion should have created a ripe environment for toll roads. However, the implementation of the OC Toll Roads network was entirely marred by staunch opposition – financial, environmental, and political. That largely Republican Orange County was, on the aggregate, as hostile to the new roads as it was suggests that building new toll roads in

politically less conservative regions of the State will be infinitely more challenging. Furthermore, the experience in Orange County also suggests the current of local politics can outrank traffic needs and justifications for toll roads, even if congestion levels are very high. As exemplified by the OC Toll Roads – and particularly by SJHTC – toll roads can be highly-polarizing in seemingly politically-friendly areas; constructing new toll roads in areas hostile to the concept may be infinitely more difficult. Operational justifications for projects, in those areas, may matter little to local citizens, if they matter at all.

2. **Powerful backers can maintain project momentum, even in tough times.**

   The Irvine Company and a handful of other major regional landholders are collectively the underlying reason these roads were built. As Figure 2 clearly demonstrates, these new roads were essentially direct access roads to the heart of the Irvine Company's landholdings, which is precisely why the company deeded as much land to the development of the roads as it did. The company had a very strong incentive to get the roads built by any means possible – and would have likely funded similar arterials over the long-term. The roads were essential to the Irvine Company being able to develop the land parcels and generate a community master plan; by deeding the land and agreeing to pass a portion of funding responsibility on to its future residents and commercial tenants (via the DIF), the Irvine Company had these roads built at little direct cost to the firm. Without a backer (e.g., a large landholder like the Irvine Company) that has a strong economic incentive to see roads built, future facilities conceived in similar contexts may never progress past the conceptual stage. As such, the fact that the OC Toll Roads were built – given strong opposition throughout the implementation process – has more to do with the Irvine Company's role in materially supporting the project, and the development benefits to localities adjacent to the new roads, than regional consumer demand for toll roads. The absence of such influence has been felt in the Foothill South project, which has seemingly

sputtered and ground to a halt amid a mass of negative press. When SJHTC became the subject of intense scrutiny and ire, The Irvine Company was able to strategically sell a portion of its landholdings portfolio to dually appease Laguna Beach and diminish their monetary resources that could be used to fight the road. The firm knew that all it needed was for the projects to begin; once they started, momentum would carry the projects to completion. No such backer is involved with Foothill South to counteract those opposed to the road. Given that, as aforementioned, new construction projects – and particularly toll roads – are divisive projects and politically polarizing, a powerful backer can make the difference between a project stalling and a project reaching completion. That said, powerful backers can distort market evaluation of projects – with support, bad projects can reach completion, passed off as good projects, while needed or market justified projects can, without support, sputter and stall.

3. **Oversight and accountability aren't just for privatized facilities**

   While the two TCAs were formed as joint-powers authorities, consisting of local political authorities, the chain of command was unclear within each agency and between the two agencies. More alarmingly, TCA board members asserted that a general "public oversight" function existed to keep the two agencies in line; how that self-regulating mechanism was to function was never formally stated or clarified by TCA members or state-level authorities like Caltrans. The resulting lack of pressure on the top leadership of the TCAs allowed for excessive spending and questionable executive conduct to occur, leading to high profile scandals tarnishing the agencies' public image. While tight oversight and regulation is often linked with the notion of privatized tolling, such a regulatory regime is rarely discussed when a true P3 or public-public arrangement is done, as was the case for the OC Toll Roads. Management of any toll road without proper incentives and regulation will languish, regardless of whether management is entirely public, entirely private, or a hybrid of the two.

4. **Greenfield toll roads are very risky propositions.**

   Toll roads are driven by demand; when no "track record" of demand exists, as is the case for greenfield projects, toll roads projects – and their underlying financial structuring – are entirely contingent upon demand forecasts. Given historical inaccuracies in demand forecasting, greenfield toll roads are very susceptible to use downside risk. If for any reason – be it unforeseen economic fluctuations, down-zoning, or just over-optimistic forecasting assumptions – traffic does not manifest itself, the toll road will inevitably need to be restructured. Whether or not the toll road is privatized, a P3, or a public-public engagement as was the case with the OC Toll Roads, the states will always be a financial backstop. To our knowledge no toll road has ever been shut down and the assets liquidated; SR-125 in San Diego, California and the Dulles Greenway in Northern Virginia are but two instances where governments have intervened to financially support a failing private asset. The shape that financial intervention can take, in the event a private asset falters, can vary considerably. For example, a public sponsor may a) force a facility into bankruptcy, wiping out the equity and making debt holders write off principal (as happened in SR-125); b) buyout a private owner before or after a bankruptcy; c) extend the terms of a concession; d) step in as a lender of last resort; or e; some combination of the above. Caltrans and other major state-level organizations have a very strong incentive to make sure that deals are "done right" the first time around, that assumptions and forecasts for greenfield projects are conservative, and that financial structuring of transactions is flexible enough to account for fluctuating demand post facility ramp-up.

Southbay Expressway (SR-125)

Introduction

SR-125 (also referred to as the South Bay Expressway, following a 2005 name change) is a toll road in San Diego County, California that has been the subject of much discussion – called innovative by

its supporters, but wasteful and environmentally destructive by its detractors. Opened in 2007, SR-125 was one of the first P3s in California. The project suffered from a series of lengthy regulatory delays from the outset – it took twelve years to receive environmental clearance and another four years to fully construct. For a map of SR-125, see Figure 11.

The private consortium California Transportation Ventures, Inc. (CTV) – tasked with all project responsibilities from environmental clearance to project financing and construction management – originally estimated the toll road would cost $390 million in 2007 (year-of-opening) currency; however, costs ballooned to $635 million by 2007 when the road opened (Shingore 2009, p. 35; Toll Roads News 2007). Due to less-than-anticipated traffic and revenue on the road – in part due to the downturn of the regional housing market – CTV and its partner on the project, SBX LP, filed a bankruptcy claim in March 2010; SANDAG then bought back the asset in 2011 (ACT 2007, p. 118). In this case study, we will analyze the sources of the cost overruns and delays that plagued the project, ultimately leading to its bankruptcy.

Figure 11: Location of the South Bay Expressway

Source: SBX (2011)

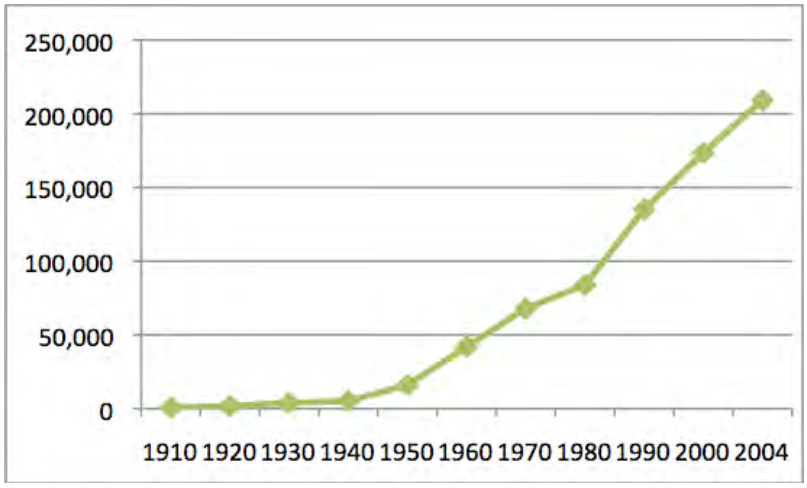
We will first examine the origins of SR-125 – the underlying demand drivers, the region's transportation needs, and the overall economic context of the project. Secondly, we will discuss the key legislation, Assembly Bill 680 (AB 680), which legally enabled the formation and execution of P3s within the State of California, allowing for the construction and operation of four toll roads across the state including SR-125 (Caltrans 2000, p. 1). Third, we will examine the project's environmental review process as well as the subsequent construction delays and cost increases, assessing the validity of claims that the facility's environmental review was abnormally long and the key reason for the road's downfall. Fourth, we will evaluate the performance of the facility since opening day and detail the bankruptcy proceedings and post-bankruptcy options for the facility. The case study will conclude with a brief summary and offer three key learning points with which to improve the prospects for other P3s in California.

Origins

History of Chula Vista

SR-125 runs through the city of Chula Vista, which has been a strong advocate for the road ever since its conception (McMahon 2006, p. 1). What is now Chula Vista was initially settled in the late 1880s, and was incorporated as a city on October 17, 1911 (City of Chula Vista 2005). The Rohr Aircraft Corporation relocated to Chula Vista early in 1941, just before the Japanese attack on Pearl Harbor and subsequent ramp-up of wartime production and employment. At the peak of production during World War II, Rohr employed 9,000 workers; those employees created strong new regional demand for housing and helped to drive larger regional economic development. Postwar, many workers stayed in Chula Vista; as such, the once tiny settlement soon became a large suburb of San Diego. As seen in Figure 12, Chula Vista grew steadily postwar through the mid 2000s, becoming the second largest city in San Diego County, behind only San Diego. .

Figure 12: Chula Vista population growth, 1910-2004

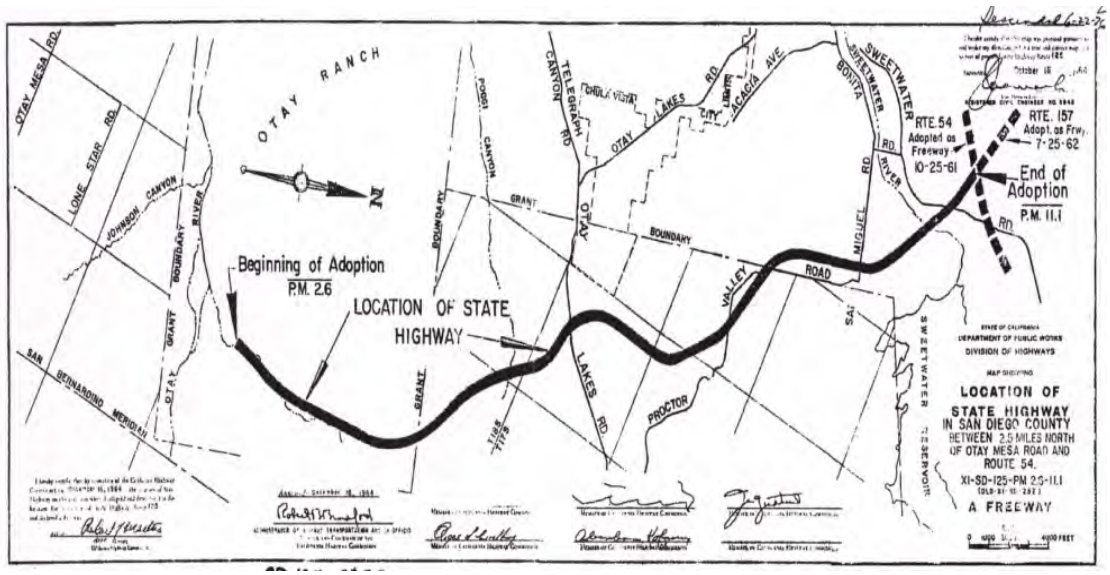


Source: City of Chula Vista (2005)

In an attempt to keep pace with such sustained (and seemingly endless) growth in the San Diego area, the California Transportation Commission (CTC) adopted a conceptual

alignment for SR-125 South in the mid-1960s. The route, as shown in Figure 13, curved through the far stretches of the rapidly-developing San Diego suburbs, and was intended to serve as a way of funneling new traffic off of existing surface streets and freeways. No funding was available for the highway at the time, however, forcing the CTC to ultimately rescind the alignment in 1976; traffic continued to grow as the need for a longer-term solution for the region became only more evident (Caltrans 1999b, ch. 1 p. 4).

Figure 13: Route adoption map of SR-125



Source: Caltrans (1964)

To combat growing traffic, SANDAG added Route 125 South to the Regional Transportation Plan in 1984, just before the City of Chula Vista itself expanded outward and annexed the town of Montgomery in 1986, population 23,500 (Eisinger et al. 1999, p. 6). As one Los Angeles Times writer described the city's growth, Chula Vista was "gobbling up surrounding acreages with Pac-Man-like voracity" (Ray 1986). This constant population growth, as shown in Figure 12, may have played a large role in supporting the belief that adequate demand for SR-125 would manifest itself, sustained over the course of the long term. Based on

growth trends through 2004 – formulated on pre-recessionary growth rates – it probably seemed as though Chula Vista would continue on a never-ending pattern of growth and expansion. Instead, growth came to a grinding halt in the mid 2000s, dropping from almost 2000 new homes annually to barely 800; as such, SR-125 has suffered from severe demand downside, opening to traffic right as the regional housing market and national economy turned for the worst in 2007 (Chula Vista California 2011; Schmidt 2010).

Pre-construction and deginnings

AB 680 brings public-private partnerships to California

Government officials in California, in the years post-Proposition 13, faced difficulties in developing new infrastructure for a growing population, as well as maintaining existing infrastructure facing increasingly heavier usage. The Little Hoover Commission released a report saying that the state was on the verge of a transportation crisis that could affect statewide economic vitality (Little Hoover Commission 1990). Gov. George Deukmejian, a Republican, was faced with the specter of raising taxes to fund maintenance and construction of new infrastructure. He said publicly that he was against raising taxes, but he faced huge budget gaps and growing pressure to come up with capital to save crumbling infrastructure and construct new assets to meet burgeoning demand (Paddock and Wolinsky 1988).

In response to these pressures, Deukmejian sponsored Proposition 74 to raise more than $1 billion in bonds for transportation, but the measure was narrowly defeated on June 7, 1988 (Paddock and Wolinsky, 1988). After Deukmejian's 1988 bill was defeated, an editorial piece in the *Los Angeles Times* suggested that the model of private infrastructure financing pioneered in the United Kingdom could help solve some of California's problems (Ciotti 1989, p.

3). Deukmejian's staff noticed the article and got in touch with its author, Robert Poole, to learn more about what broad-based privatization would entail. Journalist Paul Ciotti described Poole in a 1989 Los Angeles Times Magazine piece as a "toll road warrior," given his fervent advocacy over the last 40 years as an outspoken libertarian and member of the Reason Foundation (Ciotti 1989, p. 2). Poole shared his 1988 report on privatization, "Private Tollways: Resolving Gridlock in Southern California," with the governor's office, stating that the problem with freeways is that they are free. He wrote: "No more freeways should be built in Southern California. All new capacity should be tollways, employing electronic toll collection." (Poole 1988, p. 1). Toll roads, Poole argued, can be financed and run more efficiently by private firms, all without burdening the taxpayer. Higher tolls during peak travel periods (congestion pricing) would give drivers an incentive to shift non-essential trips to off-peak hours, in addition to generating revenue for private operators and public agencies (those private operators would by no means be tax-exempt) (Poole 1988, p. 1).

In 1989, Deukmejian sponsored two transportation summits to study solutions for solving California's purportedly looming transportation crisis (Ellis 1989). In the April 1989 summit, participants identified $4 billion in transportation spending needed in California for the next decade. "You just didn't have enough money and couldn't get the additional lanes of freeway rolled out there quickly if you just continued to do it traditionally," explained Governor Deukmejian (Garrett and Bowles 2000). Deukmejian and other California legislators estimated that only about half of the $4 billion needed for transportation could be raised through tax hikes (Garrett and Bowles 2000).

Reluctant to raise taxes but facing massive budget shortfalls for infrastructure, Governor Deukmejian decided Poole's theories of privatization could play a major role in reducing California's infrastructure woes. Caltrans drafted a bill, AB 680, to enable this alternative form of facility delivery as the Deukmejian administration persuaded a Bay Area Republican, Bill Baker, to sponsor it (Little Hoover Commission 2009, p.1). AB 680 allowed Caltrans to enter into agreements with private firms to build and operate four demonstration projects, all of which were to be private toll roads (Caltrans 2009, AB 680; sections 1 and 2). In 1989, Assemblyman Baker wrote a rousing editorial in support of privatization to help build California roads: "Why shouldn't we harness the vast resources—financial, human, material—which are available to the private sector?" (Baker 1989, p. 15). With so many politicians convinced that privatization could solve infrastructure problems, AB 680 passed easily and without controversy in the House and Senate on June 30, 1989 (Stevens 1989, p. 1). The lopsided vote in favor of AB 680 was 65-10 in the Assembly and 27-9 in the Senate (Garrett and Bowles 2000, p. 5).

In the end, Deukmejian signed off on an $18 billion transportation package that included AB 680 and a nine-cent gas tax hike on July 10, 1989 (Caltrans 2009; Carson 1990). The package itself was a palatable way for legislators on both sides of the aisle to address the transportation crisis: Republicans liked the privatization components of AB 680 just as Democrats were pleased with the gas tax hike (Ciotti 1989). After AB 680, more transportation legislation – Proposition 111 – went before the voters in June of 1990. Proposition 111 lifted Gann spending limits and increased the gas tax by five cents the year of the legislation and added an additional cent each of the following four years. With the passage of Proposition 111, Caltrans would

receive $635 million in new revenue for highways over the course of the bill's lifespan (Trombley 1990).

According to the SR-125 EIR, AB 680 was passed because there was a "growing realization that neither direct tax revenues nor bonding authority would be sufficient to provide adequate transportation infrastructure for the State's expected population growth" (Caltrans 1999b, ch. 1 p. 5). After the bill passed, four roads were selected for public-private partnerships including SR-125. AB 680 moved privatized roads forward in California, but was largely unpublicized. By contrast, gas tax increases, perhaps in the wave of anti-tax sentiment of the 1970s and 1980s, received much more attention (Hume 1982). Although privatized roads began quietly in California, they would enter the public conversation in a big way once the draft environmental report and statement (EIR/S) for SR-125 were released a decade later.

Initial lawsuits, issuance of draft EIR/S

Caltrans and California Transportation Ventures, Inc. (CTV) signed a "Development Franchise Agreement" on January 6, 1991 (Caltrans 1999a, ch. 1 p. 5). CTV, which was dissolved in the bankruptcy proceedings of 2010, was a private consortium of companies that managed the development of SR-125. Initially, the CTV consortium included Parsons Brinkerhoff, the French firm Egis Projects, Fluor Daniel, and Prudential Bache, but Fluor Daniel and Prudential Bache withdrew from the partnership in 1992 (Toll Roads News 1997; Caltrans 1999a, ch. 1 p. 5). In 1997, Koch Industries of Wichita, Kansas bought 29% interest in CTV – with Parsons Brinckerhoff and Egis accounting for the remaining 71% of the project (Toll Roads News 1997).

CTV and Caltrans began the environmental review process in the first quarter of 1991, within 90 days of signing the development franchise agreement (Caltrans 1991, p.40). Two

years into the initial, CTV-led environmental review, the Professional Engineers of California Government (PECG) filed suit against Caltrans, claiming AB 680 allowed Caltrans to illegally transfer jobs to the private sector (Pollack 1993). Dennis Moss, attorney for PECG, targeted the perception that privatization was a totally flawless and no-risk procurement alternative. In a 1993 Associated Press article about the lawsuit, Moss argued that "the court is going along with a popular panacea to public ills… solutions through privatization to government problems" (Associated Press 1993). He also predicted that toll roads, over the long term, would not work in California, and would come back to cost the public sector significantly, stating "I think it's deluding the public to believe that these are not going to be paid for with taxpayers' dollars" (Associated Press 1993). Ultimately, PECG lost the lawsuit, but the anti-privatization sentiments expressed by the union represented the views of a significant, and growing, number of Californians (Dannin 2011).

In 1996, the DEIR/S was released for public comment – representing the culmination of five years of fieldwork – and was quickly deemed unsatisfactory by the public. As CTV took the lead on the DEIR/S, the consortium summarily shouldered the blame and criticism for the entire process. Allison Rolfe, director of the Audobon Society and plaintiff in the lawsuit against the project, leveled major criticisms against the Draft EIR/EIS asserting, "the document is totally inadequate… it doesn't address any of the criticisms made about the project's impact on water quality, air pollution, cumulative biological impacts and traffic inducement" (Arner 1999). Environmental advocates viewed the EIR/S document with contempt; they were aghast that the project alignment, given environmental sensitivity of the region, could ever be deemed a project alignment option.

Caltrans spokesperson Gary Gallegos said that Caltrans had considered over 20 different alignments for SR-125 during the previous decade and had reached a point where "it [was] fish or cut

bait" with regard to choosing an alignment and proceeding with the project (Arner 1997). The two final alignments required the least number of properties to be condemned, but opponents still objected on environmental grounds. Both of the final alternatives required the condemnation of ten residential properties and one business (Arner 1997).

After public outcry over flaws in the DEIR/S, Parsons Brinkerhoff (PB) handed over the work of completing a Supplemental EIR/S and the Final EIR/S; "[PB/CTV] let Caltrans perform the environmental review with PB picking up the undisclosed multi-million dollar cost" (Rosenbaum 1997). The Supplement DEIR/S, which covers impacts on the Quino Checkerspot butterfly, was published in March 1999 as a Caltrans document. Development, overgrazing, fires, and excessive collecting by butterfly fans destroyed the butterfly's habitat (Arner 1999). In 1997, given such trauma to the native butterfly, it was listed as a federally endangered species (see Figure 14).

When the initial biological surveys were done for the 1996 Draft EIR/S, RECON biologists checked for the butterfly, but found no evidence of it, according to the supplemental Draft EIR/S. After the butterfly species was listed as endangered, additional surveys were performed and scientists from RECON found a total of two Quino Checkerspot butterflies in the area over the next two years – one in 1997 and one in 1998 (Caltrans 1999b, ch. 3 p. 33). The final EIR/S proposes new grazing conditions, construction phasing, a vernal pool restoration site, control and relocation of the butterfly, further scientific research and a management plan for the known Quino population to help protect the species (Caltrans 1999b, ch. 3 p. 18; see also Figure 14).

Figure 14: The Quino checkerspot butterfly

Source: LaCoste (2008)

Funding challenges, rival projects

Even before project momentum began to stall, following public backlash to the Draft EIR/S, SR-125 faced significant financial problems securing funding for its northern portion, the un-tolled San Miguel Connector. In 1995, following the PECG lawsuit, there was the possibility that a project to connect SR-52 to SR-67 ("from Sea to Santee") would take funding from a crucial non-toll section of SR-125 through Spring Valley next to Sweetwater Road (Huard 1995; Bass 2011). Funding for the Santee SR-52/SR-67 connector project was unstable until 2006, when California voters approved $19.9 billion in transportation bonds under Proposition 1B (Clock 2008). The road connecting SR-52 and SR-67, which did not take funds from SR-125 in the end, was finally completed in 2011 (Bass 2011). In early May 1996, funding was again threatened for the SR-125 and the San Miguel Connector when CTC staff proposed postponing funding for the connector portion (Mendel 1996b). Later that month, however, CTC voted to protect funding for the connector and to help CTV sell bonds for the connector portion of the road (Mendel 1996b).

The signing of SR-125's Development Franchise Agreement occurred in the same year as the North American Free Trade Agreement (NAFTA), increasing the strategic importance of the road given the proximity of its southern terminus to the Otay Mesa Port of Entry. A number of alternative routes (rail and road) near the proposed SR-125 rivaled the road's un-tolled connector. The projects included SR-905, a six-mile public freeway connecting the I-805 and the Otay Mesa border crossing (route shown

in yellow in Figure 15), and a rehabilitation of the San Diego and Arizona Eastern Railway (SD&AE). The director of the Otay Mesa Chamber of Commerce, Lauree Miller-Sahba, said that securing funding for the Sweetwater segment, perhaps unfairly, drew attention away from SR-905, asserting that "part of the problem is that there is a tremendous amount of will among local and state policy-makers to build the toll road that is bleeding the pot dry for the State Route 905" (Arner 1998).

Figure 15: SR-905

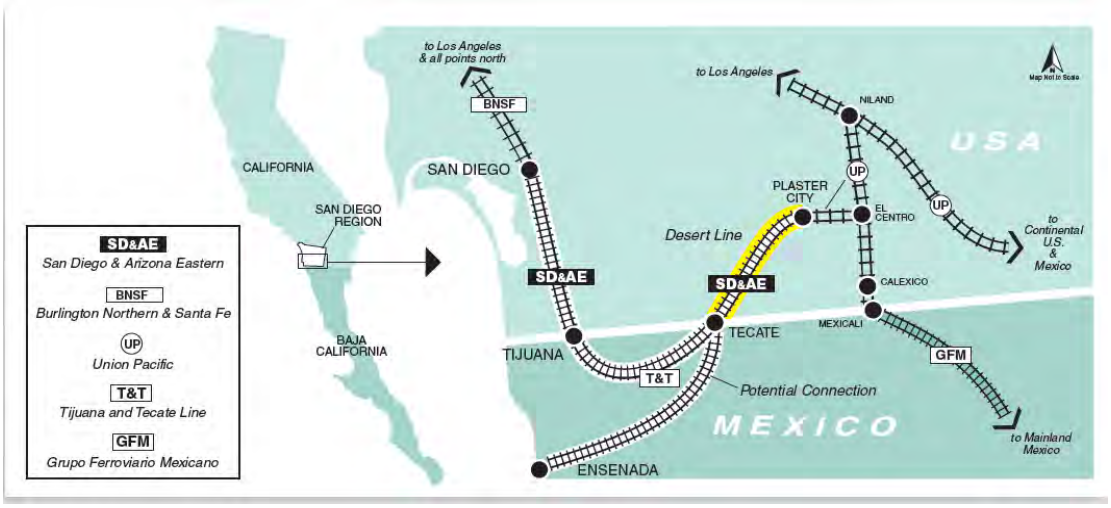
Source: Berman (2009)

Ten years later, in April 2008, Caltrans broke ground on SR-905; the second phase of the SR-905 project received $74 million in stimulus funds from the American Reinvestment and Recovery Act (ARRA) of 2009 and broke ground in May of that year (SANDAG 2009; Schmidt 2009). Competing roads in the region of SR-125 not only fight for funds, but also draw vehicular traffic away from the toll-road, further diminishing its already-meager performance. Additionally, SR-905 fills the role of connecting the border crossing at Otay Mesa with Interstate 805, which directly conflicts with the stated congestion relief goals set forth by SR-125 (specifically, the intended bypass of the I-805 corridor).

A rehabilitation of the abandoned SD&AE Railroad, dubbed the "NAFTA train," also briefly vied with the SR-125 for public attention and funds in the mid-1990s (SANDAG 2007). San Diego Councilman

Juan Vargas championed the $10 million project in hopes of restoring the abandoned San Diego and Arizona Eastern (SD & AE) railroad line that connected San Diego with the Imperial Valley through Chula Vista (along the route shown in Figure 16).

Figure 16: Map of the San Diego and Arizona Eastern Railway line



Source: SANDAG (2007)

The plan for the railroad restoration appealed to opponents of SR-125, including the group called Citizens for the Preservation of Bonita (White 1995). John Hammond, chair of Citizens for the Preservation of Bonita, was quoted in a 1995 article comparing the tough odds in the fight for the "NAFTA train" (which he supported) to the fight against the SR-125 toll road (which he opposed). He stated that "A lot of them said we should lay down and let them do it [build SR-125]. But I say, as I've said in the past, that's like laying down and letting them take my arm and leg" (White 1995).

President Clinton eventually pledged his support for Vargas' "NAFTA Train" project and two studies costing $215,000 were awarded by state and federal officials to explore the idea (White 1995). The study was published and is still available on the SANDAG website along with a fact sheet written in 2007 (SANDAG 2007). In 2002, Gary Gallegos, now director of SANDAG, mentioned improvements to this rail line to move freight and take the burden off freeways in an editorial piece (Gallegos 2002). Rail improvements to this line are also briefly mentioned in the 2050 Regional Transportation Plan for San

Diego County, but funding has yet to materialize to restore this abandoned stretch of railway (SANDAG 2011a, pp. 6-39 – 6-40).

Issuance of final EIR/S sparks more conflict, legal action

Public comment on the road's Final EIR/S was held in 1999, with vociferous opposition to the facility's construction on a variety of grounds despite Caltrans taking ownership of the environmental review this time around. Much of the controversy in the Final EIR/S centers on changes in quality of life issues for Bonita and Sunnyside residents who, prior to the project, enjoyed a rural atmosphere with equestrian facilities and large swaths of undeveloped land (Caltrans 1999b, p. S-21). According to the Final EIR/S, residents of rural Bonita believed they would benefit the least from toll road – principally because SR-125's free extension (the Sweetwater segment) would run adjacent to Sunnyside; Bonita, as such, would enjoy no increased freeway access as a result of the project (Caltrans 1999b, p. S-21). The Bonita residents also believed the impact would be the greatest on their community because the road would affect their rural lifestyle and their property values (Caltrans 1999a, pp.4-15).

As such, residents from Bonita showed the fiercest opposition to the SR-125 toll road project (Vigil 2001 July 28; Caltrans 1999b, p. S-21). The preferred alignment of SR-125 required the relocation of 11 homes and 38 residents in Bonita, significant changes for a small community. The EIR specifies that among the 38 residents, one person belonged to a minority group, two persons lived in one household with special medical needs, and one tenant qualified for "last resort housing" (Caltrans 1999b, p. S-22). This passage from the San-Diego Union Tribune shows tension between Bonita and Chula Vista residents in a characterization of two couples:

> Bo and Eva Lemler's home in Bonita looks out on a yawning canyon above Proctor Valley Road. Jason Yerger's home in Chula Vista opens to a view of a wide clearing south of H Street. Yerger and the Lemlers like the quiet of their neighborhoods and the unspoiled nature of their surroundings. And they want to keep it that way. Yet, Doreen Brown of Bonita and Steve Hill of Chula Vista do not. They would rather see construction begin on state Route 125, a north-south tollway that has been planned for decades. Only then,

> they say, will they begin to feel the promise of an end to the area's traffic miseries (Vigil and Oakes 2001a).

Further west of the toll road, however, residents of Chula Vista felt quite differently. A group called "Citizens for 125" in Chula Vista organized around the toll road in support of the project in 2000 because they believed it would improve mobility and cut down commute times (Vigil and Oakes 2001a). One article about Chula Vista focuses on the battles over growth between Bonita and Chula Vista, with the writer qualifying some Bonita residents' perceptions of Chula Vista as "the grabby giant next door;" concerned residents of Bonita, as SR-125 appeared to be gaining momentum in the late 1990, formed a group to oppose the road, named Preserve South Bay (DeBlanche 2011).

In an editorial opposing the toll road in 1999, executive director of Preserve South Bay and director of the San Diego Audubon Society, Allison Rolfe, said her group represented a majority of San Diego citizens who oppose the "Los Angelization of our homeland" (Rolfe 1999). Rolfe also focused on the Quino butterfly in her rhetoric. She said that Caltrans offered to set up a new habitat elsewhere, a concept that could fail because there was no guarantee the butterflies would adapt. Essentially, Rolfe attempted to set up the construction of SR-125 as a life-or-death scenario for the environment. "The Quino Checkerspot butterfly," she argued, "took millions of years to evolve and we take only a very small fraction of that time to remove it from the face of the Earth. Does San Diego want to be a place without butterflies?" (Rolfe 1999).

Rolfe also addressed whether or not the toll road was actually justified or otherwise needed. She says that SR-125 was "raised from the dead" because there was a profit motive for CTV and not because Caltrans or SANDAG thought it was necessary (Rolfe 1999). Other citizens also questioned the economic justification for the new road. A letter from one citizen to Caltrans, included in the SR-125 EIR/EIS, said that traffic on the adjacent freeways, I-5 and I-805, was only light to moderately light. He

said he also monitors traffic daily on Proctor Valley Road, "You are lucky to see a vehicle once every 10 minutes [on this road]" (Caltrans 1999b).

While Rolfe's arguments begin with a focus on the environmental issues related to the construction of the road and, in later letters, the assumptions of demand models used to justify facility construction, she very quickly moves to questioning the true motives of the project backers and just who the project was intended to benefit. Was SR-125, Rolfe questioned, truly a public-private partnership – with public-private benefits – or was it designed to enrich the private consortium that backed the project, which knew Caltrans and SANDAG would never let the road financially fail and shut down? Rolfe's editorial is an excellent example of the opposition and concern over competing interests and incentives when a large-scale infrastructure project is privatized outright, particularly in regions new to the concept, as was the San Diego metro area at the time.

In May of 2000, opponents of SR-125 filed the first of three lawsuits against the project (Arner 2000). In that first suit, newly-formed Preserve South Bay claimed that the toll road violated state law by using public parkland (Arner 2000). In March 2001, Judge Charles Hayes ruled that the parkland in question could legally be seized through eminent domain and that this acquisition for the toll road did not require state legislative approval (Vigil 2001a). After losing this lawsuit, opponents vowed to continue their fight against the toll road. In December 2000, the San Diego Regional Water Control Board rejected the application for a permit for the toll road because they believed runoff from the road could pollute nearby waterways (Vigil 2001a). Despite protests from Preserve South Bay, the permit was eventually issued in April 2001 (Vigil and Oakes 2001b).

In January 2001, Caltrans published the Final EIR/S for SR-125; conspicuously absent from the final document were any mentions of CTV. Given that contractors from Parsons Brinkerhoff are present on the final List of Preparers, it is clear that Caltrans played the leading role on the Final EIR/S after the problems with the Draft EIR/EIS done by CTV (Caltrans 1999b, ch. 7 pp. 1-8)). The differences between

the two documents are significant, and not just in terms of length and authorship. While the progression of the project certainly dictated the level of detail shown in both the Draft EIR/S and the Final EIR/S respectively, the Caltrans-led Final EIR/S addresses the major concerns expressed during the public comment period better than the Draft EIR/S from CTV (Caltrans 1999b, ch. 5 pp. 1-64). Specifically, Caltrans included an array of computer-generated, full-color images of what the various infrastructure components of the new facility would look like as part of the rural countryside (Caltrans 1999b, ch. 4 Figures 4-28). Such renderings of soaring bridges and expanses of road crossing the project area provided a much more accurate representation of the project's visual impacts (and are actually reasonably close to what the project wound up looking like). The Caltrans FEIS also dedicates much more space to addressing the project's mitigated and unmitigated environmental impacts – roughly double the amount of space CTV gave to the same data (Caltrans 1999b, ch. 4 pp. 19-177). However, despite these enhancements from Draft to Final EIR/S, environmentalists and anti-road activists remained ardent in their opposition to and denouncement of the project.

In October 2001, Preserve South Bay banded together with the local Audubon Society and the group Preserve Wild Santee to bring a third lawsuit, this time against the three federal agencies that issued permits for SR-125: the U.S. Army Corps of Engineers, the U.S. Fish and Wildlife service, and the Federal Highway Administration (Oakes 2001; Vigil 2001c). Opponents of SR-125 alleged in the lawsuit that environmental laws were broken when federal agencies approved permits for the road (Oakes 2001;Thomson Reuters 2003). Opponents of the toll road said that the project would mean the demise of threatened and endangered species including the Quino Checkerspot butterfly, San Diego and Riverside fairy shrimp, California gnatcatcher, and Otay tar plant; a list of the species is available in Table 9 (Oakes 2001; Vigil 2001c).

In his decision, Judge Miller ruled that the three federal agencies did not violate any existing environmental laws, such as the National Environmental Policy Act (NEPA) and the Endangered Species

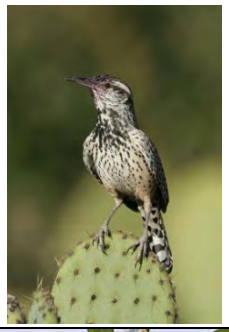
Act (ESA) (Miller 2003, pp. 10-13). The judge also said in his ruling that the permits were legally issued for the toll road and that the objectivity of the contractor preparing the Final EIR/EIS was not compromised by a financial conflict of interest (Thomson Reuters 2003). In May 2003, all parties in the suit reached a settlement wherein plaintiffs agreed to cease filing any further appeals (Miller 2003).

Mitigation measures

As part of the settlement, CTV agreed to pay $3.07 million for environmental preservation efforts throughout San Diego County (Oakes 2003). Legal settlement of the third and final lawsuit in May of 2003 signaled the end of litigation and environmental review for the project, nearly twelve years after the franchise agreement was signed for SR-125. Bruce April and Jamie LeDent wrote, in a report to the Transportation Research Board, about the sensitivity of the land where the road was built, stating, "San Diego County, California has either the honored distinction or the misfortune of being a landscape that is peppered with both rapid economic growth and a collection of sensitive natural resources, including 43 threatened and endangered species" (April and LeDent 2007, p. 3).

The species that might be affected by the SR-125 project are listed in Table 9. In order to protect these species, the City and County of San Diego implemented a program called the Multiple Species Conservation Program (MSCP). Rather than focus on individual species that might be affected, April and Le Dent describe how the MSCP program looks at the bigger biological picture, stating "the focus [of the MSCP] is put not on individual species or project- specific mitigation measures, but rather on comprehensive, region-wide, multiple-species conservation" (April and LeDent 2007, p. 5).

Table 9: Plant and animal species affected by the SR-125

Photo	Species	Amount/number affected
	Coastal California gnatcatcher	25 pairs, occupying approximately 60 acres of coastal sage scrub
	Coastal cactus wren	8 pairs, occupying approximately 15 acres of maritime succulent scrub
	Least Bell's Vireo	2 pairs, occupying approximately 12 acres of riparian habitat
	Quino checkerspot butterfly	One population
	Vernal pool	0.035 acre
	Wetlands	Approximately 12 acres of jurisdictional areas

Source: April & LeDent, 2007, p. 7. Sources for photo (top to bottom): FWS; Meredith, 2006; Bouton, 2009; USFWS Pacific Southwest Region, 2010; EPA; SCWRP.

The MCSP program was challenged in lawsuits by environmental groups in the early 2000s. Allison Rolfe, the director of the San Diego Audubon Institute who spoke out against the toll road's

environmental review documents in 1999, said although her organization supports the program, the powers of the MCSP program can be misused. She said in a 2001 Union-Tribune article that "there is a lot of wiggle room in this plan, and it is typically used to permit more development rather than to protect more habitat. The bottom line is that people need to be vigilant" (La Rue 2001). Despite Rolfe's doubts that the MSCP program would be used for preservation, CTV and later, SBX LP, spent $20 million to acquire 2,000 acres for preservation across five mitigation sites near the toll road (two of the sites are adjacent) (April and LeDent, 2007, p. 7).

Twelve years later, after $20 million spent on mitigation and the additional opportunity cost of unanticipated delays, SR-125 achieved environmental clearance and settled all opposing lawsuits by May 2003 (Oakes 2003). These costs and delays would continue to affect the fiscal health of the project in future years, becoming a major cause of the eventual bankruptcy of the toll road in 2010 (10news.com 2010; Saskal 2010). The capital cost increases themselves were not the downfall of the toll road; rather, the delays put tremendous stress on the financial package tailored for that specific P3 – and the financing parties involved – permanently fracturing the functionality of the entire partnership.

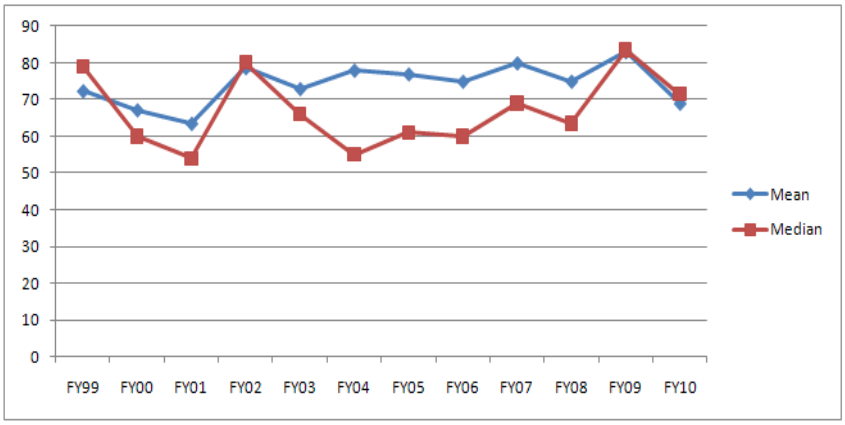
Was the environmental review process really that abnormal?

Accounts of SR-125's environmental review process and explanations for delays in attaining environmental clearance vary widely in the literature (ACT 2007, ch. 3 p. 78; U.S. Department of Transportation 2000; Schneider 2000, pp. 80-81). The environmental review process began in 1991. In 2000, all permits had been secured for the project, but they were being challenged in court; in 2003, the final lawsuit against the Federal Highway Administration was settled (Miller 2003). From initiation of the review process through the final legal settlements, the SR-125 review process took 12 years, rather than the 9 years frequently cited by the literature (AECOM 2007b, p. A-3; Wang 2010, p. 175; Ya Ni 2009, p. 17; doc 9.1, p. 32). While twelve years is a significant period of time outside of the context of these types of projects, there is evidence that such a long review process is not that abnormal for a large

greenfield project. Data from projects of size and scope similar to SR-125, constructed during the 1990s and 2000s, took a similar amount of time to gain approval.

Data provided by the National Highway Administration shows that the average time to complete an Environmental Impact Statement between 1999 and 2010 was between 63 and 83 months, or about 5 to 7 years (see Figure 17). Furthermore, this data – marking only completion of the FEIS – does not mark the true "end" to the environmental review process. Litigation and legal battles can drag on for considerably longer periods of time – which was why the true environmental review period for SR-125 was 12 years, not just the nine required to obtain certification "on paper." With SR-125's national cohort of projects averaging six years to attain environmental clearance (with a median time-to-clearance at a similar length), twelve years is – while on the upper end of the distribution – far from an outlier.

Figure 17: Average number of months to complete the NEPA process 1999-2000



Source: FHWA (2011)

Michael Schneider, representative of Parsons Brinkerhoff (one of the CTV partners), said at a 2000 Transportation Research Board conference that environmental agencies are partly to blame for construction delays. Schneider stated that "maybe California is a little worse than the rest of the country, but as we encounter the mid-level staff of environmental agencies who are supposed to cooperate with the transportation agencies, the process absolutely frustrates

the capacity for the right things to happen and for the projects to move in the right direction" (Schneider 2000, p. 81).

A study by Jennifer Dill of Portland State University focuses on the views of environmental and transportation stakeholders within large-scale P3 transportation projects. The study found that 70% of environmental stakeholders thought state-level departments of transportation do not consider impacts early enough, while 64% felt they don't consider stakeholders early enough (Dill 2005, p. 8). Additionally, 75% of the respondents indicated that citizen concerns were a source of project delays (Dill 2005, p. 10).

Although citizen concerns are a frequent cause of project delays, they are not always environmentally motivated. Traffic, safety, and access concerns were also seen to have a dramatic impact on environmental review periods (Dill 2005, pp. 10-11). Staff turnover and the general complexity of large-scale infrastructure projects exacerbate this problem. The difficulties of interagency communication and public outreach are apparent in projects involving many organizations and communities (Dill 2005, pp. 9-12). The study found that the variables most correlated with longer NEPA review periods were the number of business relocations, number of design changes, and initial estimate of project cost (Dill 2005, p. 13).

Blame for delays is thrown to all corners on the project, but certainly some of it boils down to the risk-sharing model within the franchise agreement. According to a series of case studies done by AECOM Consult Team, the public sector should maintain all responsibility over environmental review processes (ACT 2007a, ch. 3 p. 85; ACT 2007b, pp. 18-23, p. 70). In her 2010 dissertation, Yin Wang said CTV held the risk of the environmental process and eventually had to sell to Macquarie Investment Group (MIG) because the environmental clearance took

too long, pushing initial net positive cashflows too far into the future to continue without a sale. Wang also noted that "formal powers" were ceded in the Development Franchise Agreement. The private partner, CTV, was blamed for the lengthy environmental review by many case studies (Wang 2010, p. 238). Some observers, such as the authors of a FWHA case study on SR-125, have said that the delays in the EIR/EIS process can be blamed on the improper allocation of risk, specifically allocating environmental regulatory risks to the private partner (Wang 2010 p. 145; ACT 2007b, ch. 3 p. 84). CTV was responsible for securing the environmental permits for the project, with the contract language stating that Caltrans will act as merely a support in the process (Caltrans 1989; ACT 2007b, ch. 3 p.84).

Among the major "lessons learned," as posited by the bevy of prior case studies done on SR-125, is the assertion that environmental regulatory and clearance risk/responsibility should always be retained by a project's public sponsor. In theory, government agencies are more experienced with navigating the environmental process. In this paradigm, a project could more quickly gain clearance if the public sponsor leads the review process instead of the private partner; however Caltrans has been observed to have a poor reputation for getting projects through the process in a reasonable amount of time (AECOM 2007, p. 125). Regardless of whether or not Caltrans was tasked with managing the environmental review process from the outset, endangered species would still have been found; exogenous, unpredictable risks do not change based on who manages the process. Furthermore, the large number of lawsuits brought forth by community members against the road represents citizens' aversion to major projects in their own backyard – a strong sentiment that would have stalled the project regardless of public or private management of the environmental clearance process.

Facility construction and operation

Construction began on SR-125 in 2003 after the twelve-year struggle for environmental clearance. Before construction began, however, the infrastructure investment arm of Australian investment bank Macquarie– the Macquarie Infrastructure Group (MIG) – acquired an 81.6% stake in CTV in September 2002 for an undisclosed amount. MIG acquired the outstanding 18.4% stake from what minority shareholders remained a part of CTV in May of 2003 (ACT 2007a, p. 118). To rebrand SR-125, the road was given the new name of "South Bay Expressway," after the area it serves, in 2005. Along with a new name, the new Macquarie-controlled CTV filed for a ten-year extension on its 35-year franchise with Caltrans in 2005, finding that state legislation was required to extend the contract. State Senator Denise Moreno-Ducheny (D-Chula Vista) sponsored this effort under Senate Bill 463 (Ristine 2005). SB 463 was designed to allow the private sponsor of SR-125 to recoup their investment in SR-125. At the time of the bill's introduction to the Legislature, CTV and all associated partners had spent 50% more on the road than it was projected to cost (Amtwih 2005, p. 2).

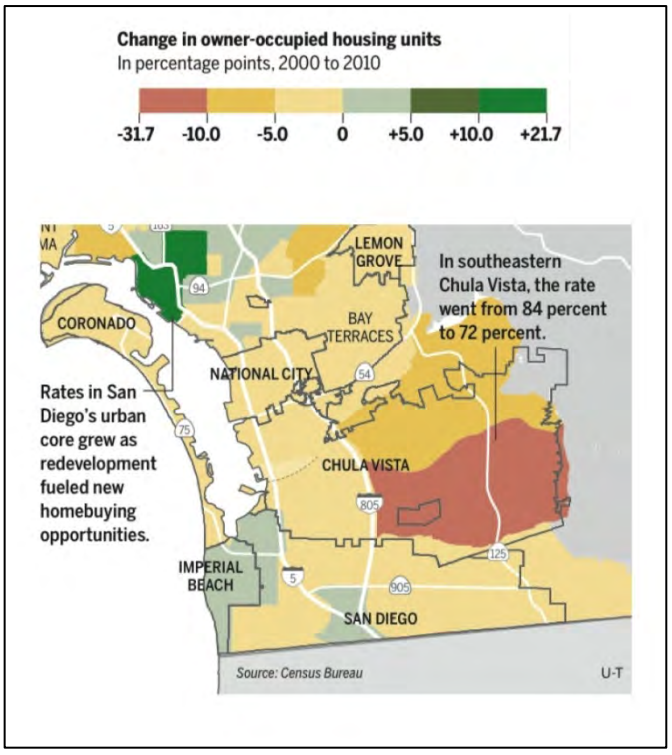
After being introduced in February of 2005, the bill passed every vote it was subjected to with an overwhelming majority. With a final vote in the Senate of 37-1, SB 463 was signed into law by Governor Schwarzenegger (R) in September of 2006. Despite the support it received on its path towards approval, the bill's history document mentions that the Department of Finance opposed its approval due to an uncertainty that a public benefit would arise from the extension (State of California 2005, p. 4). Other opposition to the bill, by the California Council on La Raza, is listed in the same document, however no supporting documentation for this could be found; opposition can accordingly be judged to have been very limited (Antwih 2005, p. 4). To be clear, the ten-year extension represents a loss to the public and a gain for the private firm.

Facility traffic and revenue performance

The South Bay Expressway (SBX) opened to fanfare in 2007, just as trouble in the U.S. housing market began. In 2007, the economic environment across the United States was besieged by a series of

high profile bank failures and federal bailouts that prompted a drawback in consumer spending and greater unemployment (Evans 2011; Miron 2009, p.1). Large consumer purchases such as houses were curtailed, which in turn affected the growth of the housing markets of Chula Vista and the surrounding communities, on which the initial projections for SR-125 were based (Evans 2011; San Diego Union-Tirbune 2011). Figure 18 shows that SR-125 runs through the hardest hit section (for home ownership) of the San Diego area.

Figure 18: Map showing homeownership rates in San Diego County



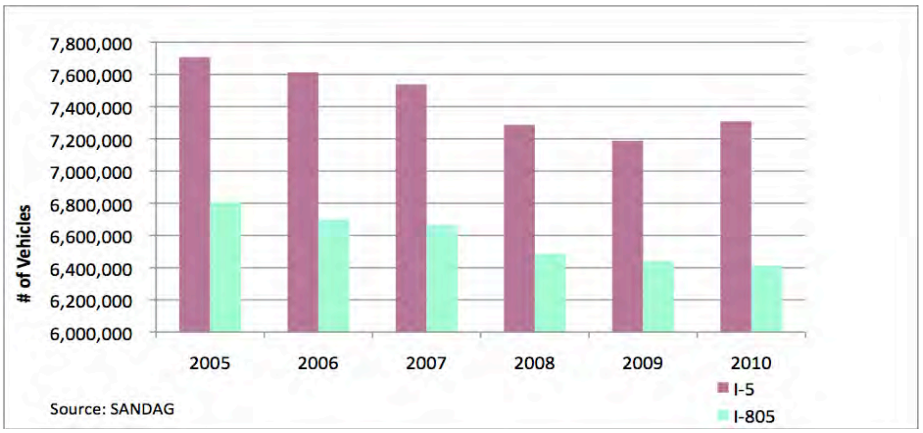
Source, US Census Bureau (2011)

The EIR/EIS document for SR-125 states that the population of San Diego County was expected to grow from 2.5 million in 1990 (actual) to 3.6 million in 2015 (projected), a 44 percent increase (Caltrans 1999b, ch. 4 p 41). At current growth rates, San Diego County will be home to approximately 3.1 million people by 2015 – just a 25 percent increase from 1990 population figures and slightly above half of the growth forecast in the EIR/S (US Census Bureau 2012). The San Diego metropolitan area, which already had lower commute times than the surrounding MSAs, failed to generate the population

increases needed to warrant SR-125's construction (Sandag 2010, p. 40). These population estimates did not materialize for a number of reasons, but the economic downturn and housing market slowdown were, together, the biggest driver (Toll Road News 2011). Once perceived as a growth machine, the South Bay area now has one of the highest foreclosure rates in the county of San Diego (Weisberg, Clark, and Aguilera 2011). Overall, home prices in San Diego reached a peak of $517,500 in November 2005 and then fell to $280,000 in January of 2009 (Showley 2010). Homeownership rates fell, particularly in Bonita and the area around SR-125 (see Figure 18).

In the toll road forecasting portion of the EIR/EIS for SR-125, level of service (LOS) estimates were given for 33 highways, roads and streets around SR-125 for the year 2015, assuming both a toll road option and no-build alternative (toll road figures shown in Table 10). The study showed that 70 percent of local segments would experience a volume improvement with SR-125 (meaning that less traffic would travel on local streets), but many fewer would experience an increase in level of service). Such numbers suggest that, even at the time of project conception, requisite latent demand for the project did not exist. Specifically, traffic did decrease on the major freeways around SR-125 after it opened in 2007 (Figure 19), but the bursting of the housing bubble – and ensuing recession – played a significant role in creating that downward trend (Evans 2011; Toll Roads News 2011).

Figure 19: Average weekday volume of the I-5 and I-805 freeways



Source: SANDAG (2011d)

Table 10: Expected future traffic volumes on SR-125

Existing and Future Average Weekday Traffic

LOCATION	2009 AWDT[1]	2009 LOS[2]	2030 AWDT[3]	2030 LOS[3]
SR-905 to Otay Mesa Rd	N/A	N/A	35,800	A
Otay Mesa Rd to Birch Rd	N/A	N/A	68,600	B
Birch Rd to Olympic Parkway	N/A	N/A	58,100	B
Olympic Parkway to Otay Lakes Road	N/A	N/A	60,200	A
Otay Lakes Rd to East H St	N/A	N/A	68,200	B
East H St to San Miguel Road	N/A	N/A	88,300	B
SR-54 to San Miguel Ranch Rd	N/A	N/A	88,800	B
SR-54 to SR-94	104,800	C	153,600[4]	E
Spring St/SR-94 to Lemon Blvd	169,500	C	210,600 (235,700[5])	E[6]
Lemon Blvd to I-8	160,400	C	189,900 (229,800[5])	D[6]
I-8 to Fletcher Pkwy/Amaya Dr	98,100	C	157,100[4]	E
Fletcher Pkwy/Amaya Dr to Navajo Rd	96,200	C	139,000	D
Navajo Rd to Grossmont College Dr	83,000	C	132,600	D
Grossmont College Dr to SR-52	75,200	C	110,200	C

Source: Caltrans (2011).

In addition to the impact of unemployment rates on facility traffic flows, resistance to paying tolls was high, as some had predicted early in the project, further driving away potential usage during tough economic times (San Diego Union-Tirbune 2011). Before it became possible to pay toll fares by credit card in January 2011, the toll machines only accepted FastTrak passes or exact change, further increasing the unattractiveness of using the road, even as a means to potentially circumvent congestion (Hawkins 2011). This resistance to tolling, in conjunction with the economic downturn, combined to produce lower revenue than was projected (SANDAG 2011b).

Declaration of bankruptcy, post-bankruptcy prospects

In March 2010, South Bay Expressway LP filed for bankruptcy protection under Chapter 11 of the Bankruptcy Code (Schmidt 2010). Reacting to the news, some customers blamed the rise in toll prices earlier that year implying that an effort by the operator to boost revenues may have driven some customers away (Schmidt 2010, p. 1). Over a year later in April 2011, South Bay Expressway LP exited Chapter 11 bankruptcy protection under a re-organization plan.

This new plan re-organized the debt for the toll road project so that it carried only $288 million in secured senior debt instead of the original $540 in secured debt (Table 11). The secured debt-holders took control of the toll road under this plan and received between 50% and 60% of their original investment, depending on the debt-holder (South Bay Expressway). The US Department of Transportation retained 54% of its original TIFIA loan while the private banks collectively retained 58%. Unsecured debtors, on the other hand, lost their entire investment in the bankruptcy proceedings (South Bay Expressway). Table 11 shows the amout of money each creditor was owed prior to the bankruprcy, the amount their debt was written down to, and their percentage loss.

Table 11: "Haircuts" taken by creditors of the SR-125/SBX toll road

Creditor Name	Pre-Bankruptcy	Post-Bankruptcy	Contract Type	Percent Loss
US DOT	$140,000,000	$93,000,000	Secured	46%
Private Banks*	$400,000,000	$210,000,000	Secured	42%
Otay River Constructors	$95,000,000	$0	Unsecured	100%
Totals	$635,000,000	$303,000,000		52%

Source: South Bay Expressway

* 10 private banks were involved in financing SR-125, the three largest of which were: BBVA, Depfa, and Wells Fargo.

After the bankruptcy proceedings and an investigation into the viability of a public purchase, the SANDAG board voted in a closed meeting on June 29, 2011 to buy the toll road franchise for the price of $345 million (Luzzaro 2011). SANDAG officials, such as Chief of Communications David Hicks, have said that there is the potential to reduce tolls with this sale (Luzzaro 2011). Barclays advised SANDAG on the establishment of a purchase price for the transaction, employing multiples ranging from 10x-14x and generating a set of purchase prices ranging from $196 million to upwards of $320 million (SANDAG 2011b, p. 4). The firm also included a replacement value assessment – determining the value of the road based on how much it would cost to reconstruct the facility at present – which identified the cost

of the road's construction and materials (adjusted for inflation) at just under $900 million (SANDAG 2011b, p. 5). Barclays advised SANDAG that the creditors and new owners of the franchise (after the bankruptcy settlement) were "strategic investors" and would value the asset at the higher end of its calculated value range, which appears to have led to the final offer of $344.5 million (SANDAG 2011b, pp. 4-5). Strategic investors are defined by Barclays as:

> "A strategic investor is one that would hold a view of the value of an asset (like the toll road) that is influenced by some unique connection, such as previously invested capital, expectations of future cost savings, or the complementary nature of the facility to help achieve a broader portfolio goal or objective. These unique synergies influence the strategic investor's calculation of value. These connections or synergies to the project would be less relevant to a "non-strategic" investor" (SANDAG 2011b, p. 3).

Because of the closed-door nature of the negotiations concerning the cost for SANDAG to take over the franchise it is impossible to know if the final price may have also experienced other pressures and increased due to competing bidders (SANDAG 2011b, p. 5).

At a hearing on August 26, 2011, SANDAG revealed the two financing plans created to purchase the SR-125 franchise (SANDAG 2011c). The first option involved financing the purchase exclusively with a new issuance of toll revenue bonds that were anticipated to be non-recourse debt at below investment grade. This first option, because of its heavy reliance on toll revenues, would have – according to Barclays – "preclude[d] any meaningful reduction in tolls on SR-125" (Hawkins 2011b). The second option combined a $55 million loan from the San Diego region's TransNet transportation fund along with a re-allocation of $192 million that was previously dedicated to other projects. Both alternatives also assumed an optimistic (when compared to historical data) growth rate. Option 1 assumed compound annual growth rate (CAGR) of 6.6% in order to fully meet obligations; option 2 assumed a CAGR of 4.8 percent. Table 12 and Table 13 break down the two options.

Table 12: SANDAG SR-125 buyback option 1

Purchase Structure Item	Value	Financing
Cash settlement	$247.5 million	Toll Revenue Bond
TIFIA Note	$92.5 million	Toll Revenue Bond
Series D	$4.5 million	Toll Revenue Bond
Total	$344.5 million	

Source: SANDAG 2011b

Table 13: SANDAG SR-125 buyback option 2

Purchase Structure Item	Value	Funding Source
Cash settlement	$247.5 million	$55.5 million: TransNet loan reimbursed with toll revs
		$192 million: TransNet Project swap
TIFIA Note	$92.5 million	Toll Revenues
Series D	$4.5 million	Toll Revenues
Total	$344.5 million	

Source: SANDAG 2011b

Under option 2, SANDAG argued it could forego expanding Interstate Highway 805 (I-805) and adding HOV lanes, instead using those funds to acquire and widen SR-125 while also reducing toll rates with the hope of increasing demand (SANDAG 2011b, p. 8). Under this option, "analysts believe[d] tolls could be cut as much as 50 percent" and removed entirely by 2042 (Hawkins 2011b). Furthermore, SANDAG estimated that it could capture a net savings of $268 million by acquiring SR-125 and forgoing the I-805 projects, which are estimated to cost $480 million (SANDAG 2011b, p. 9).

SANDAG ultimately elected to pursue option 2, which it has recently named the "Balanced Toll Reduction Option," with a unanimous executive board vote on May 25, 2012 to reduce SR-125 toll rates by approximately 40% (SANDAG 2012). Minimum use requirements for enrollment in the FasTrak transponder program were also reduced – from $7 of toll fees per month to $4.50 per month, equivalent to minimum use standards on I-15 (SANDAG 2012).

The fate of SR-125 could also be determined by its proximity to the U.S./Mexico border. On July 6, 2011, U.S. Transportation Secretary Ray LaHood signed an agreement with his Mexican counterpart to allow Mexican truckers on U.S. roads (United Press International 2011). In 1994, under the North

American Free Trade Agreement (NAFTA) the U.S. agreed to allow long-haul truckers over its border. Since then, Congress has blocked the truckers from entering and Mexico has retaliated through the imposition of trade tariffs in 2009 (Applebaum 2011). Under this new agreement, signed in July 2011, Mexico cut the tariffs on 99 products that they import from America while the U.S. began to allow Mexican truckers access to the United States, provided they follow specified safety procedures (Reuters 2011).

Mexico is the third largest trading partner of the U.S. and truck traffic is expected to greatly increase under the new agreement (Reuters 2011). As long as the agreement holds, greater numbers of trucks crossing the border from Mexico could also means increased demand for the South Bay Expressway. A new road, State Route 11, has been proposed to connect SR-125 to the new proposed port of entry, Otay Mesa East Port of Entry (see Figure 20). The new port of entry has been designed to take pressure off of the Otay Mesa crossing in anticipation of the increased truck traffic (U.S. Department of Transportation 2010, p. 53). The new border crossing includes a 23-acre inspection station to ensure that Mexican trucks are meeting U.S. entry requirements (Hawkins 2011). Caltrans and the Federal Highway Administration (FWHA) released a draft environmental study and authorized a second study for the SR-11 (Caltrans 2010; US DOT 2010). See Figure 20 for the route of SR-11.

Figure 20: Map of proposed State Route 11

Source: Caltrans (2008)

At present, Phase 1A of the SR-905 project has been completed, while Phase 1B and Phase 2 are planned for completion in early 2012 and fall 2012, respectively (Caltrans 2012). Phases 3 and 4 of the project are interchanges that will connect SR-125 and Heritage road with SR-905, however these phases are not yet formally scheduled for construction (Caltrans 2012). The planned completion of the SR-905 connection with I-805 in 2012 and the fact that SR-11 – including the port of entry facility – has not yet secured environmental approval will likely contribute to a further lack of traffic on SR-125. By completing SR-905 without a connection to SR-125 there will be no direct route between the current Otay Mesa port of entry and SR-125. Therefore all traffic that is bound for destinations outside of the immediate area surrounding the port of entry will travel, toll free, along SR-905 to connect with the I-805 and I-5 headed north.

Original projections for SR-125 were 60,000 vehicles per day by 2010; the South Bay Expressway is currently under capacity, carrying only 27,500 vehicles per day or less than half of the initially projected traffic volumes (Cooper 2011). SANDAG attributes this poor performance, at least partially, to the price of tolls. In May of 2012, SANDAG attempted to address this issue with a reduction of toll rates. Furthermore, revenue performance may increase on SR-125 if the new cross-border truck agreement

holds. This agreement could mean increased truck traffic and, therefore, increased toll revenue for SR-125. SR-11 and the Otay Mesa East border crossing project are predicted to break ground in 2013 and to be open for traffic by 2015 (U.S. Department of Transportation 2010).

Conclusion

Unprecedented growth and demand for housing in Chula Vista after World War II initiated the creation of the SR-125 route within regional plans. Meanwhile, the tax revolt in California led by Howard Jarvis in the 1970s left government agencies without cash on-hand to build infrastructure. Policy researchers such as Robert Poole first dreamed up the privatization ideas behind Assembly Bill 680 (AB 680), as a supposed panacea for California's infrastructure woes, in the face of rapid population growth. AB 680 was easily passed by the California Senate and House in 1989 and gave authorization for the use of public-private partnership strategies on four experimental roadway projects, including SR-125. In 1991, Caltrans signed the development franchise agreement for SR-125 with CTV.

After reviewing the history of the State Route 125 project, we believe that the main reason for the delay in construction, the substantial cost overruns and the eventual bankruptcy of the facility, is the series of lawsuits brought against the developers as well as Caltrans and the FHWA. The lawsuits that occurred prior to the beginning of construction in 2003 were focused on environmental concerns that could have been raised no matter who prepared the environmental documents. After construction of the road was completed multiple contractors brought lawsuits against CTV-Macquarie that totaled over $600 million, which contributed to the eventual bankruptcy. Again, these lawsuits were un-related to both the nature of the financing or the way the environmental review process was carried out (Evans 2010, p. 8).

The story of the SR-125 toll road is checkered with wildly expensive costs overruns, frequent lawsuits, misreading of market signals, and bankruptcy. Despite all the problems that plagued it and threatened to bring the project to a halt, the road was indeed built, serving approximately 27,000

vehicles per day (less than half the expected amount). Such vehicular throughput is indicative of, in retrospect, a facility better delivered as a typical four-lane arterial roadway, rather than a large-scale limited access toll road. Key conclusions and "lessons learned" from the SR-125 experience are offered below. These key points are not intended to be an exhaustive list. Instead these points represent the most important and pivotal learning opportunities generated by the mistakes made during the development of SR-125. These points may allow for enhancements to the process of P3 formation and execution in the future.

1. **The SR-125 environmental review was long, but not abnormally so; it is unlikely that Caltrans could have sped the process even if it led from the outset.**

As has been previously stated (ACT 2007a; ACT 2007b; U.S. Department of Transportation 2000; Schneider 2000) it is a commonly held belief that SR-125's environmental review process was greatly lengthened because private partner CTV was responsible for conducting the required environmental assessments. Thus, the most common "lesson learned" from the SR-125 experience has been to ensure that projects' public sponsors are responsible for environmental clearance, rather than private sponsors. We feel very strongly, however, that this "lesson learned" is not at all true. The environmental review length for SR-125 was not abnormal when compared with other projects undergoing Federal environmental clearance during the same timeframe (see Figure 17), nor is there any evidence that Caltrans could have more expediently secured environmental clearance, given an agency record of lengthy review periods. In addition to Caltrans' questionable record in quickly getting projects through the environmental review pipeline, the presence of near-extinct and environmentally-sensitive plants and animals would have been the same regardless of who managed the process. Whether CTV or Caltrans managed led the environmental review, Quino checkerspot butterflies and sensitive wetlands would have still existed within the planned project routing. Additionally, a significant portion of

the many lawsuits against SR-125 – which delayed the project much more than the environmental review process itself – had very little to do with environmental factors, and much more to do with local opposition to a major construction project and road expansion in citizens' backyards. These sorts of lawsuits are very common for all types of major projects and would have occurred regardless of which partner – public or private – managed the review process. In short, there is very little evidence from the SR-125 experience to suggest that private sponsors of projects are at an inherent advantage or disadvantage when it comes to securing environmental clearance. Which party manages the process and retains regulatory risk has no impact on exogenous factors like the presence of endangered species or locals' opposition to greenfield projects.

2. **Growth is never permanent, making forecasting extremely difficult and uncertain.**

In order for SR-125 to achieve merely breakeven status (pre-bankruptcy, post facility ramp-up) traffic needed to grow significantly year-on-year, presumably driven by an even larger percentage increase in new regional housing starts and the continuation of an unprecedented local housing boom. (Planners are not necessarily statisticians; when presented with a chart like Figure 12 they can be forgiven for making optimistic growth assumptions.) Even after the housing market decelerated and altogether stalled, future traffic and revenue projections for the facility after bankruptcy assume a three to five percent CAGR in traffic over the remainder of the road's franchise (extended through approximately 2045). These types of assumptions and projections are a major reason why the road has performed as poorly as it has – significant, consistent growth in traffic has been the core justification for the project since the toll road was initially conceived. These assumptions, paired with very large amounts of secured debt used to finance the project (a trait of many similar projects, particularly those financed all or in part by MIG, during the 1990s and 2000s) together spelled disaster for the project. More robust

financial analysis and stress testing *ex-ante* would have shown the gaping holes in the project's financial feasibility from the outset. The extent to which CTV and MIG assumed growth would continue indefinitely is revealed in the 2010 SBX LP initial bankruptcy filing. SBX LP admitted that it engaged in major interest rate swaps with senior creditor BBVA to guard against rising rates (which implies that sustained rapid economic growth would require an increase in rates to "cool down" the market). These swaps backfired tremendously, saddling SBX LP with a loss of over $20 million once the economy began to slow in 2007 (US Bankruptcy Court 2010, pp.9-10). Growth may have seemed inevitable in 2003, but by 2007 the nation was slipping into financial doldrums. SR-125's aggressive forecasts, and reliance on the belief that rapid economic growth would last forever, has caused the most pain for the facility and its financiers. More rigorous financial stress tests during the project assessment stage could have changed how the project was structured, and ultimately how SR-125 fared over the long term.

3. **In P3s, even in straight privatization/concession arrangements, the project's public sponsor <u>always</u> retains residual financial risk.**

Despite the fact that SR-125 was a private concession – less the $140 million TIFIA loan – risk was in no way limited to those with an active financial stake in the project. Even in the case of a so-called purely market-based arrangement, where theoretically the only financial downside risk is borne by the private firms that choose to invest, the project's public sponsor or perhaps more fittingly "host government" retains significant financial risk. Recall that the federal government took a 46% loss on the TIFIA loan during the bankruptcy. Furthermore, no alternatively financed or delivered asset, in the event of financial insolvency and/or bankruptcy, has ever been closed to the public. Public sponsors have been the entities which, when a privately-financed project hits financial turmoil, intervene and keep the asset functioning and open to the public, on the taxpayer's dime. Be it the Channel Tunnel project connecting the United Kingdom and France

via a subterranean, underwater rail link, or a number of bankrupt toll roads in the United States (of which SR-125 is one), public agencies have shown no reluctance to intervene and acquire privately-financed assets, albeit at a "fire-sale" discount, from troubled private financiers. In the case of SR-125, when the road went bankrupt, SANDAG acquired the toll road franchise for nearly $345 million, using TransNet funding to do so. The story of SR-125 should re-affirm what the emergence of P3s and alternative financing more broadly has demonstrated over the last quarter century: even in the event of a private infrastructure transaction, public agencies all serve as a financial backstop. The role of private finance in infrastructure transactions may increase, but if the failure rate of privately-financed infrastructure in the future remains as high as it has been through the present, public agency risk exposure in such deals will not lessen and could, instead, significantly increase over the long term.

Sources

10news.com. (2010). South Bay Expressway LP, California Transportation Ventures Inc. Filed For Chapter 11 Monday. *10news.com*. Retrieved: January 9, 2012. Available at: http://www.10news.com/news/22918614/detail.html

AECOM Consult Team (ACT). (2007a). *Case Studies of Public-Private Partnerships in the United States.* Prepared by AECOM Consult Team for Federal Highway Administration.

AECOM Consult Team (ACT). (2007b). User Guidebook on Implementing Public-Private Partnerships for Transportation Infrastructure Projects in the United States. Prepared by AECOM Consult Team for Federal Highway Administration. Retrieved: Decmber 27, 2011. Available at: http://www.fhwa.dot.gov/ipd/pdfs/ppp_user_guidebook_final_7-7-07.pdf

American Association of State Highway and Transportation Officials (AASHTO). (2005).*Current Design-Build Practices for Transportation Projects*. AASHTO Joint Task Forceon Design-Build. Published 1 January 2005. Retrieved August 11, 2011. Available at: http://www.transportation.org/?siteid=63&pageid=1226.

Antwih, Andrew. (2005). Senate Bill 463 Analysis. *www.leginfo.ca.gov*. Retrieved January 12, 2012. Available at: http://www.leginfo.ca.gov/pub/05-06/bill/sen/sb_0451-0500/sb_463_cfa_20050617_115516_asm_comm.html.

Applebaum, Binyamin. (2011). U.S. and Mexico Sign Trucking Deal. *The New York Times*. Retrieved January 13, 2012. Available at: http://www.nytimes.com/2011/07/07/business/us-and-mexico-sign-trucking-agreement.html?_r=1&pagewanted=print

April, Bruce, & LeDent, Jamie. (2007). "The South Bay Expressway Biological Mitigation Program as a functional and progressive design in relation to the San Diego regional ecological and regulatory landscape." *Transportation Research Board Annual Meeting*. pp. 1-11.

Arner, Mark. (1997). "U.S., State choice of route for toll road angers county." *San Diego Union-Tribune*. 13 August 1997. Retrieved August 4, 2011. Available at: http://infoweb.newsbank.com.libproxy.usc.edu/iw-search/we/InfoWeb?p_action=doc&p_topdoc=1&p_docnum=1&p_sort=YMD_date:D&p_product=AWNB&p_text_direct-0=document_id=(%20116C4BDBE5794D0F%20)&p_docid=116C4BDBE5794D0F&p_theme=aggdocs&p_queryname=116C4BDBE5794D0

Arner, Mark. (1998). "Route 125 appears winner in freeway war." *San Diego Union-Tribune*. 15 March 1998. Retrieved August 5, 2011. Available at: http://infoweb.newsbank.com.libproxy.usc.edu/iw-search/we/InfoWeb?p_action=doc&p_topdoc=1&p_docnum=1&p_sort=YMD_date:D&p_product=AWNB&p_text_direct-

0=document_id=(%20116D3CC35AC3D63E%20)&p_docid=116D3CC35AC3D63E&p_theme=aggdocs&p_queryname=116D3CC35AC3D63

Arner, Mark. (1999). "Butterfly flutters into path of toll road." *San Diego Union- Tribune.* 10 May 1999. Retrieved August 5, 2011. Available at: http://infoweb.newsbank.com.libproxy.usc.edu/iw-search/we/InfoWeb?p_action=doc&p_topdoc=1&p_docnum=1&p_sort=YMD_date:D&p_product=AWNB&p_text_direct-0=document_id=(%20116D2F73E6657CCA%20)&p_docid=116D2F73E6657CCA&p_theme=aggdocs&p_queryname=116D2F73E6657CC.

Arner, Mark. (2000). "South Bay tollway foes file suit." *San Diego Union-Tribune*. 25 May 2000. Retrieved August 10, 2011. Available at: http://infoweb.newsbank.com.libproxy.usc.edu/iw-search/we/InfoWeb?p_action=doc&p_topdoc=1&p_docnum=1&p_sort=YMD_date:D&p_product=AWNB&p_text_direct-0=document_id=(%20116D31BBB5E295BE%20)&p_docid=116D31BBB5E295BE&p_theme=aggdocs&p_queryname=116D31BBB5E295B

Arner, Mark. (2000). Toll road's environmental score mixed. San Diego Union-Tribune. 17 February 2000. Retrieved January 10, 2012. Available at http://infoweb.newsbank.com

Around The Capitol. (2011). *Floor/Committee Analysis of SB 194*. 7 April 2011. Retrieved December 19. 2011. Available at: http://www.aroundthecapitol.com/billtrack/analysis.html?aid=231312.

Associated Press. (1991). "Bill Bars Public Funds for Private Toll-Road Projects." *Los Angeles Times*. 15 March 1991. Retrieved November 28, 2011. Available at: http://articles.latimes.com/1991-03-15/news/mn-303_1_private-toll-roads.

Associated Press. (1993). *Court paves way for toll roads; plans include Hwy. 91 median.* AP. 18 February 1993. Retrieved July 29, 2011. Available at: http://infoweb.newsbank.com.libproxy.usc.edu.

Baker, B. (1989). "The Private Sector Can Help Solve Gridlock." *California County*. September/October 1989, pp. 15,17.

Bartletti, Don. (2011). "San Diego County regional government to buy bankrupt toll road." *Los Angeles Times*. 30 July 2011. Retrieved August 18, 2011. Available at: http://latimesblogs.latimes.com/lanow/2011/07/san-diego-regional-government-to-purchase-bankrupt-state-route-125-toll-road.html.

Bass, Erica. (2011). "From Sea to Santee" 52 Freeway Link Complete. *EricasCity*. Retrieved July 9, 2012. Available at: http://ericascity.com/2011/03/19/from-sea-to-santee-52-freeway-link-complete/.

Battaglio, R. Paul Jr and Khankarli, Ghassan A. (2008). "Toll Roads, Politics, and Public-Public Partnerships." *Public Works Management & Policy*. Volume 13, Number 2, pp.138-148. Retrieved December 19, 2011. Available at: http://pwm.sagepub.com/content/13/2/138.

Berkman, Leslie. (1993). "Foothill Tollway Panel Unveils Proposed Fees." *Los Angeles Times*. 2 July 1993. Retrieved August 8, 2011. Available at: http://articles.latimes.com/1993-07-02/local/me-9420_1_foothill-corridor.

Berkman, Leslie. (1995). "2nd Segment of Foothill Tollway to Open Friday." *Los Angeles Times*. 6 April 1995. Retrieved July 26, 2011. Available at: http://articles.latimes.com/1995-04-06/local/me-51649_1_toll-road.

Berman, Laurie. (2009). *PPP for Transit Workshop, Sponsored by FTA*. California Department of Transportation, District 11. July 2009. Retrieved June 1, 2012. Available at: http://www.ncppp.org/publications/TransitSD_0907/Berman_SD090707.pdf.

Bouton, Bill. (2009). *"Least" Bell's Vireo, Vireo bellii pusillus.* Flickr. 13 September 2009. Retrieved August 18, 2011. Available at: http://www.flickr.com/photos/billbouton/3916637875/

Brickley, Peg. (2011). South Expressway Cleared to Exit Chapter 11 Bankruptcy. *Daily Bankruptcy Review*. Dow Jones and Company. 15 April 2011.

California Coastal Commission. (2008). *February 2008 Meeting Agenda*. 8 February 2008. Retrieved December 22, 2011. Available at: http://www.coastal.ca.gov/meetings/mtg-mm8-2.html.

California Government Code. (2011). *California Government Code §66483-66484.5*. Retrieved November 28, 2011. Available at: http://www.leginfo.ca.gov/cgi-bin/displaycode?section=gov&group=66001-67000&file=66483-66484.5.

Caltrans. (2008b). *Subdivision Map Act*. California Department of Transportation. 1 April 2008. Retrieved November 28, 2011. Available at: http://www2.dot.ca.gov/hq/row/landsurveys/Study_material/Laws_Surveyors/Subdivision_Map_Act_and_Division_3.pdf.

Caltrans. (2011). *State Route 125 Transportation Concept Summary*. District 11 – San Diego and Imperial Counties, California Department of Transportation. 1 September 2010. Retrieved May 28, 2012. Available at: http://www.dot.ca.gov/dist11/departments/planning/pdfs/tcs/2010_SR_125TCS.pdf

Caltrans. (1989). *Development Franchise Agreement*. California Department of Transportation.

Caltrans. (1999a). *State Route 125 South: Supplemental Draft Environmental Impact Report/Statement.* California Department of Transportation.

Caltrans. (1999b). *State Route 125 South: Volume 1, Final Environmental Impact Report/Statement* (pp. 1-5). California Department of Transportation..

Caltrans. (2000). *Final Environmental Impact Report/Statement, State Route 125 Volume II: Response to Comments* . California Department of Transportation.

Caltrans. (2008a). *State Route 11 Transportation Concept Summary.* California Department of Transportation. 1 October 2008. Retrieved August 18, 2011. Available at: http://www.dot.ca.gov/dist11/departments/planning/pdfs/tcs/08_SR_11TCS.pdf

Caltrans. (2009). *Assembly Bill No. 680.* Retrieved July 25, 2011. Available at: http://www.dot.ca.gov/hq/paffairs/about/toll/ab680.htm

Caltrans. (2010). *State Route 11/Otay Mesa East Port of Entry Project Fact Sheet.* California Department of Transportation. 1 August 2010. Retrieved July 14, 2011. Available at: http://www.dot.ca.gov/dist11/facts/SR-11_Aug2010.pdf.

Caltrans. (2012). State Route 905 From I-805 to the Otay Mesa Port of Entry Fact Sheet. January 2012. Retrieved: January 16, 2012. Available at: http://www.dot.ca.gov/dist11/facts/905.pdf.

Carson, Daniel. (1990, September 15). *Toll-road franchise will be awarded to private consortium Project is to connect Bonita, border in corridor proposed for Highway 125*. Retrieved July 2011, Available at: http://infoweb.newsbank.com.libproxy.usc.edu.

Carson, Daniel. (1991, August 17). "Bill for 2nd toll road section dies." 17 August 1991. Retrieved July 15, 2011, Available at: http://docs.newsbank.com.libproxy.usc.edu.

Chapman, Jeffrey I. (2000). *Proposition 13: Some Unintended Consequences*. Public Policy Institute of California. Retrieved November 28, 2011. Available at: http://www.ppic.org/content/pubs/op/OP_998JCOP.pdf.

Churm, Steven R. (1989). "Laguna Loses Bid to Have Toll Road Left Out of SCAG's Plan." *Los Angeles Times*. 3 February 1989. Retrieved July 21, 2011. Available at:http://articles.latimes.com/1989-02-03/local/me-2145_1_toll-road.

Ciotti, P. (1989, September 10). Toll Road Warrior - Will Californians Pay to Avoid Snarled Freeways? *Los Angeles Times*. 10 September 1989.

City of Chula Vista. (2005). *Chula Vista in Perspective.* City of Chula Vista. 13 December 2005. Retrieved August 17, 2011. Available at: http://www.ci.chula-vista.ca.us/city_services/development_services/planning_building/general_plan/documents/03_Perspective.pdf

City of Chula Vista. (2008). Residential Growth Forecast Years 2009 Through 2013. *2008 Annual Growth Management Review Cycle*. Retrieved: December 21, 2011. Available at: https://www.chulavistaca.gov/City_Services/Development_Services/Planning_Building/PDF/GrowthForecast.pdf.

City of Chula Vista. (2011). *Brief History of Chula Vista.* City of Chula Vista. Retrieved June 27, 2011. Available at: http://www.ci.chula-vista.ca.us/About/history.asp.

Civil Works Engineering. (2010). *State Route 125 Design-Build Project*. Retrieved June 1, 2012. Available at: http://www.civilworksengineers.com/drainage_stormwater/project_sr125_swdr.shtml.

Clock, Michelle. (2008). "A long road to completion State Route 52 , envisioned in '50s, getting its last section." *San Diego Union-Tribune*. 3 March 2008. Retrieved August 4, 2011. Available at: http://infoweb.newsbank.com.libproxy.usc.edu/iw-search/we/InfoWeb?p_action=doc&p_topdoc=1&p_docnum=1&p_sort=YMD_date:D&p_product=AWNB&p_text_direct-0=document_id=(%2011F3C0994FF5FFA0%20)&p_docid=11F3C0994FF5FFA0&p_theme=aggdocs&p_queryname=11F3C0994FF5FFA.

Coker, Matt. (2008). "Saving Trestles: Game On!" *Orange County Weekly*. 26 August 2008. Retrieved December 19, 2011. Available at: http://blogs.ocweekly.com/navelgazing/a-clockwork-orange/saving-trestles-game-on/.

Collamer, Jerry. (2010). "Time to shut down TCA." *Orange County Register*. 23 March 2010. Retrieved November 30, 2011. Available at: http://www.ocregister.com/articles/tca-240726-toll-road.html.

Cone, Marla and Perlman, Jeffrey A. (1991). "US Officials Deal Blow to San Joaquin Corridor Plan." *Los Angeles Times*. 15 January 1991. Retrieved July, 26 2011. Available at: http://articles.latimes.com/1991-01-15/local/me-225_1_san-joaquin-hills-transportation-corridor.

Cooper, Tony. (2011, June 21). *South Bay Expressway - Reorganization and Traffic Growth.* San Diego.com. 21 June 2011. Retrieved July 14, 2011. Available at: http://www.sandiego.com/news/south-bay-expressway-reorganization-and-traffic-growth.

Cruz, Nicole Santa. (2011). "Recession slows use of Orange County's toll roads." *Los Angeles Times*. 1 February 2011. Retrieved July 26, 2011. Available at: http://articles.latimes.com/2011/feb/01/local/la-me-toll-roads-20110201.

DeBlanche, Phyllis. (2011). "Postcards from Chula Vista." *San Diego Magazine*. Retrieved July 6, 2011, from San Diego Magazine: http://www.sandiegomagazine.com/media/San-Diego-Magazine/San-Diego-Covered/Local-Communities/San-Diego-Magazines-Neighborhood-Series/Postcards-from-Chula-Vista/.

Dill, J. (2005). *What influences the length of time to complete nepa reviews? an examination of highway projects in oregon and the potential for streamlining*. Manuscript submitted for publication, Center for Urban Studies, Portland State, Portland, Oregon. Retrieved from http://dot.alaska.gov/stwddes/desenviron/assets/pdf/resources/nepareviewtime.pdf

Eades, Mark. (2008). "Canyon and Coto residents react to the 241 toll road decision." *OrangeCounty Register*. 7 February 2008. Retrieved August 11, 2011. Available at:

http://articles.ocregister.com/2008-02-07/cities/24721537_1_toll-road-foothill-south-16 mile-road.

Earnest, Leslie. (1994a). "Tollway Foes Learn How to Drive Home a Point." *Los Angeles Times*. 6 November 1994. Retrieved December 22, 2011. Available at: http://articles.latimes.com/1994-11-06/local/me-59678_1_laguna-canyon.

Earnest, Leslie. (1994b). "Candlelight Vigil Planned to Protest Laguna Tollway." *Los Angeles Times*. 15 December 1994. Retrieved August 8, 2011. Available at: http://articles.latimes.com/1994-12-15/local/me-9275_1_san-joaquin-hills-corridor.

Economic Development Division. (2009). *City Profile & Demographic Trends.* City of Chula Vista. Retrieved August 18, 2011. Available at: http://www.chulavistaca.gov/City_Services/Development_Services/RedevHousing/PDF/Demographics_20090817.pdf.

Eisinger, Douglas, Tom Kear, Daniel Chang, Kelli Dougherty, Michael Stallard and Michael Johnson. (1999). Proposed State Route 125 South Air Emissions and the Sweetwater Reservoir: A Review of Recent Reports Sponsored by the Sweetwater Authority. UC Davis, Caltrans Air Quality Project. Retrieved: December 21, 2011. Available at: http://aqp.engr.ucdavis.edu/Documents/SweetwaterUCDRept.pdf.

Ellis, Virginia. (1989, March 16). "Shortage of Funds to Delay Highway Projects in State." *Los Angeles Times*. 16 March 1989. Retrieved June 15, 2011. Available at: http://articles.latimes.com/1989-03-16/news/mn-2132_1_federal-funds.

Environmental Protection Agency (EPA). (2009). *Vernal Pools.* Environmental Protection Agency. 16 December 2009. Retrieved August 18, 2011. Available at: http://water.epa.gov/type/wetlands/vernal.cfm.

Evans, Anthony G. (2010). Declaration of Anthony G. Eveans, Chief Financial Officer of South Bay Expressway, L.P., in Support of the Debtors' Chapter 11 Petitions and First Day Motions. United State Bankruptcy Court Southern District of California. Case No. 10-04516-LA11.

Federal Highway Administration (FHWA). (2011c). *FHWA Office of Innovative Program Delivery: TIFIA – Technical Resources*. United States Department of Transportation. Retrieved August 8, 2011. Available at: http://www.fhwa.dot.gov/ipd/tifia/technical_resources/federal_credit_policy_paper/appendix_d.htm.

Federal Highway Administration (FHWA). (2007). *Memorandum of Understanding National Environmental Policy Act and Clean Water Act Section 404 Integration Process for Federal Aid Surfrace Transportation Projects in California*. Federal Highway Administration. April 2006. Retrieved December 23, 2011. Available at: http://www.dot.ca.gov/ser/downloads/MOUs/NEPA404/nepa404_2006_final_mou.pdf.

Federal Highway Administration (FHWA). (2007). *Case Studies of Transportation Public-Private Partnerships around the World.* Federal Highway Administration.

Federal Highway Administration (FHWA). (2011a). *Case Studies: South Bay Expressway (Formerly SR-125 South Toll Road).* Federal Highway Administration. Retrieved June 2011. Available at: http://www.fhwa.dot.gov/ipd/casestudies/casouthbay.htm.

Federal Highway Administration (FHWA). (2011b). *Estimated Time Required to Complete the NEPA Process.* Federal Highway Administration Retrieved August 18, 2011. Available at: http://environment.fhwa.dot.gov/strmlng/nepatime.asp.

Feinberg, Wilfred. (1994). *Laguna Greenbelt Inc. v. United States Department of Transportation*. United States Court of Appeals, Ninth Circuit. Decided 2 December1994. Retrieved August 11, 2011. Available at: http://openjurist.org/42/f3d/517/lagunagreenbelt-inc-v-united-states-department-of-transportation.

Flatiron Construction Corporation. (2011). *Eastern Transportation Corridor*. Flatiron Construction Corp/Silverado Constructors. Retrieved August 8, 2011. Available at: http://www.flatironcorp.com/index.asp?w=pages&r=5&pid=28&project=25.

Foothill/Eastern Transportation Corridor Agencies. (1991). *Draft Environmental Impact Report/ Environmental Impact Statement and Section 4(f) Evaluation*. CaliforniaDepartment of Transportation, Federal Highway Administration. Sacramento, CA.

Foothill/Eastern Transportation Corridor Agency. (1993). *Cooperative Agreement for Foothill Transportation Corridor*. Foothill/Eastern Transportation Corridor Agency.

Ford, Andrea. (1988, June 29). "Board Acts to Duck Gann Spending Limit." *Los Angeles Times*. 29 June 1988. Retrieved June 15, 2011. Available at: http://articles.latimes.com/1988-06-29/local/me-4830_1_spending-limit.

Frammolino, Ralph. (1991). "Bill Would Ban Public Funds for New Toll Roads." *Los Angeles Times*. 6 March 1991. Retrieved December 20, 2011. Available at: http://articles.latimes.com/1991-03-06/local/me-309_1_orange-county-transportation.

Friends of the Foothills. (2005). *Friends of the Foothills – Stop the Toll Road – Save Trestles Beach*. Sierra Club. Retrieved December 22, 2011. Available at: http://taskforce.sierraclub.org/friendsofthefoothills/index.html.

Fulton, William. (2001). *The Reluctant Metropolis*. Baltimore, MD: The Johns Hopkins University Press.

Gallegos, Gary. (2002). "We must put our transit system on the fast track." *San Diego-Union Tribune*. 4 August 2002. Retrieved August 4, 2011. Available at: http://infoweb.newsbank.com.libproxy.usc.edu/iw-search/we/InfoWeb?p_action=doc&p_topdoc=1&p_docnum=1&p_sort=YMD_date:D&p_produ

ct=AWNB&p_text_direct-0=document_id=(%20116D387321B2A7C4%20)&p_docid=116D387321B2A7C4&p_theme=aggdocs&p_queryname=116D387321B2A7C.

Garrett, Robert and Bowles, Jennifer. (2000). How California sold the future of a highway. *The Press-Enterprise*. 2 January 2000.

Garvey, Megan. (1998). "Latest Toll Road in O.C. Is Major Test for Concept." *Los Angeles Times*. 15 October 1998. Retrieved November 28, 2011. Available at: http://www.ocf.berkeley.edu/~kennyk/oc/articles/easterntc.html.

Garvey, Megan. (1999). "Toll Agency Approves $1.75 Billion Plan to Refinance its Debt." *Los Angeles Times*. 9 July 1999. Retrieved July 26, 2011. Available at: http://articles.latimes.com/1999/jul/09/local/me-54246.

Governor's Office of Planning and Research (GOPR). (1997). *A Planner's Guide to Financing Public Improvements*. June 1997. Retrieved December 19, 2011. Available at: http://ceres.ca.gov/planning/financing/index.html#contents_anchor.

Hamilton, Erik. (1987). *Toll Road Bill Awaits Legislative Decision*. Orange County Business Journal. 31 August 1987. Volume 10, number 17, section 1.

Haldane, David. (1996). "Final Leg of Disputed Toll Road Set to Open." *Los Angeles Times*. 11 November 1996. Retrieved July 7, 2012. Available at: http://articles.latimes.com/print/1996-11-11/news/mn-63640_1_toll-road.

Hanson, Susan and Giuliano, Genevieve. (2004). *The Geography of Urban Transportation: 3rd Edition.* New York: The Guilford Press.

Hawkins, Robert. (2011a). "Hearing set on new border crossing east of Otay." *San Diego Union-Tribune*. 11 January 2011. Retrieved August 10, 2011. Available at: http://www.signonsandiego.com/news/2011/jan/10/hearing-set-sr-11-linking-new-border-crossing/.

Hawkins, Robert. (2011b). "South Bay Expressway to begin taking credit cards." *San Diego Union-Tribune*. 20 January 2011. Retrieved August 10, 2011. Available at: http://www.signonsandiego.com/news/2011/jan/20/south-bay-expressway-begin-taking-credit-cards/.

Huard, Ray. (1995). "Spring Valley toll road may be in jeopardy." *San Diego Union-Tribune*. 2 March 1995.

Hume, E. (1982, December 21). Senate oks gas tax increase. *Los Angeles Times*. Retrieved from http://proquest.umi.com.libproxy.usc.edu/pqdlink?vinst=PROD&fmt=10&startpage=-

1&vname=HNP&RQT=309&did=667002972&scaling=FULL&vtype=PQD&rqt=309&TS=1327345813&clientId=5239

Irvine Company. (2011). "Our Properties." The Irvine Company LLC. Retrieved November 29, 2011. Available at: http://www.irvinecompany.com/Our-Properties/default.aspx.

Irvine Company. (2012). "The Irvine Ranch." The Irvine Company LLC. Retrieved April 16, 2012. Available at: http://www.goodplanning.org/Irvine-Ranch/default.aspx.

Kaufman, J. (1988). *Committee of Seven Thousand v. Superior Court: 45 Cal. 3d 491, 754 p.2d 708; 247 Cal.Rptr. 362.* Supreme Court of California, 31 May 1988. Retrieved July 25, 2011. Available at: http://www.lawlink.com/research/caselevel3/9093

KST International. (2006). "South Bay Expressway Selects Sirit as its SR-125 Tollway Supplier." *More RFID*. 14 March 2006. Retrieved June 1, 2012. Available at: http://www.morerfid.com/details.php?subdetail=Report&action=details&report_id=1424&display=RFID.

La Rue, Steve. (2001). "Wildlife preserve spurs lawsuits from activists Groups are saying conservation plan doesn't do enough." *San Diego Union-Tribune*. 29 October 2001. Retrieved August 10, 2011. Available at: http://infoweb.newsbank.com.libproxy.usc.edu/iw-search/we/InfoWeb?p_action=doc&p_topdoc=1&p_docnum=1&p_sort=YMD_date:D&p_product=AWNB&p_text_direct-0=document_id=(%20116D36725FB937FC%20)&p_docid=116D36725FB937FC&p_theme=aggdocs&p_queryname=116D36725FB937F.

LaCoste, Erik. (2008, March 13). *Quino Checkerspot Butterfly.* Flickr. 13 March 2008. Retrieved August 18, 2011. Available at: http://www.flickr.com/photos/izzibo/2807221598/.

Laguna Greenbelt, Inc. (2011). "An Overview of Our Organization." Retrieved November 29, 2011. Available at: http://www.lagunagreenbelt.org/about_the_greenbelt.html.

LEAD San Diego. (2011). *Program Advisory Council: Gary Gallegos.* LEAD San Diego. Retrieved August 19, 2011. Available at: http://www.leadsandiego.com/bio.php?name=Gary%20Gallegos.

Lindgren, Kristina. (1993). "A Fight to the Finish: Opponents Still Hope They Can Stop Tollway." *Los Angeles Times*. 11 April 1993. Retrieved July 26, 2011. Available at: http://articles.latimes.com/1993-04-11/local/me-21822_1_lisa-telles.

Little Hoover Commission. (1990). *Two Years of Progress Toward Efficient and Effective Government.* Sacramento, California: Little Hoover Commission. Retrieved: January 10, 2012. Available at: http://www.lhc.ca.gov/studies/102/report102.pdf

Little Hoover Commission. (2009). Testimony of Robert W. Poole Jr. *Public-Private Partnership (PPP) Toll Roads for California*. Retrieved: December 22, 2011. Available at: http://www.lhc.ca.gov/studies/199/infrastructurefinancing/PooleMar09.pdf

Lobina, Emanuele and Hall, David. (2006). "Public-Public Partnerships as a catalyst for capacity building and institutional development." University of Greenwich Public Services International Research Unit. 15 August 2006.

Logan, Dan. (1989). "Spotlight: Freeways." *Orange Coast Magazine*. April 1989, pp.61-64.

Los Angeles Times. (1997). "Transportation Corridor Management Bears Watching." *Los Angeles Times*. 25 May 1997. Retrieved Novemer 28, 2011. Available at: http://articles.latimes.com/1997-05-25/local/me-62424_1_transportation-corridor-agencies.

Luzzaro, Susan. (2011, August 2). "South Bay Expressway to Be Leased by SANDAG." *San Diego Reader*. 2 August 2011. Retrieved August 10, 2011. Available at: http://www.sandiegoreader.com/news/2011/aug/02/stringers-south-bay-expressway-be-leased-sandag/.

Margro, Thomas. (2011). *Written Statement of Thomas Margro before the House Committee on Transportation and Infrastructure – Subcommittee on Highways and Transit*. United States Congress. 15 February 2011. Washington, DC.

Martinez, Gebe. (1990). "Laguna Beach Council, Irvine Company in Stalemate Over Price of Canyon." *Los Angeles Times*. 27 September 1990. Retrieved April 12, 2012. Available at: http://articles.latimes.com/1990-09-27/local/me-1807_1_laguna-canyon.

Martinez, Gebe. (1991). "Laguna, Irvine Company Agree on Canyon Deal." *Los Angeles Times*. 30 March 1991. Retrieved April 12, 2012. Available at: http://articles.latimes.com/1991-03-30/news/mn-976_1_laguna-beach.

McDougald, Don and Allard, Ray. (1988). *Eastern Transportation Corridor Route Location Study Phase II Project Report*. Prepared by Van Dell and Associates, Inc. Prepared for Transportation Planning, Environmental Management Agency, County of Orange. Santa Ana, CA.

McLaughlin, L.H. (1994). *Laguna Greenbelt v. United States Department of Transporation: 42 F.3d 517; U.S. App. Lexis 36265; 94 Daily Journal DAR 18253.* United States District Court for the Central District of California. 20 December 1994. Retrieved December 22, 2011. Available at: http://www.lexisnexis.com.libproxy.usc.edu/lnacui2api/results/docview/docview.do?docLinkInd=true&risb=21_T13568345040&format=GNBFI&sort=DATE,A,H&startDocNo=1&resultsUrlKey=29_T13568345011&cisb=22_T13568345010&treeMax=true&treeWidth=0&csi=6320&docNo=15.

McLaughlin, L.H. (1994). Natural Resources Defense Council v. United States Department of the Interior: No. SA-CV-93-999-LHM. 29 September 1993. Retrieved December 22, 2011.

McMahon, Shannon. (2006). "Route 125 on Track for '07 Completion - Toll Road in Chula Vista is Called `Economic Lifeline'" *San Diego Union-Tribune*. 4 March 2006. Retrieved December 24, 2011. Available at: http://infoweb.newsbank.com.

McQueeney, Tom. (1991). "Tollway Board OKs Environmental Report." *Los Angeles Times*. 11 October 1991. Retrieved September 9, 2011. Available at: http://articles.latimes.com/1991-10-11/local/me-355_1_environmental-review-process.

Mendel, Ed. (1996a). "Commission toils over funding for new toll roads." *San Diego Union-Tribune*. 1 May 1996. Retrieved August 4, 2011. Available at: http://infoweb.newsbank.com.

Mendel, Ed. (1996b). "State delay is called danger to toll-road plan." *San Diego Union Tribune*. 1 May 1996. Retrieved August 3, 2011, from San-Diego Union Tribune: http://infoweb.newsbank.com.

Meredith, Gary. (2006). *Coastal Cactus Wren (Coastal Endangered Species).* Flickr. 8 February 2006. Retrieved August 18, 2011. Available at: http://www.flickr.com/photos/gary_s_meredith/5549448264/in/photostream.

Miller, Jeffrey T. (2003). Center for Biological Diversity; et al. Plaintiffs v. Federal Highway Administration; et al. Defendants. California Transportation Ventures, Inc; San Diego Expressway, L.P., Intervenor-Defendants. United States District Court for the Southern District of California. Case Number: 01cv1876 JM(POR)

Miron, Jeffrey A. (2009). Bailout or Bankruptcy? *The Cato Journal*. Volume 29, number 1, pp. 1-17. Retrieved on: January 16, 2012. Available at: http://www.cato.org/pubs/journal/cj29n1/cj29n1-1.pdf.

Oakes, Amy. (2001). "Environmental groups file suit over SR-125 extension." *San Diego Union Tribune*. 17 October 2001. Retrieved June 2011. Available at: http://infoweb.newsbank.com.libproxy.usc.edu.

Oakes, Amy. (2003). "State Route 125 foes make a deal to end long fight." *San Diego Union Tribune*. 14 May 2003. Retrieved August 8, 2011. Available at: http://infoweb.newsbank.com.libproxy.usc.edu/iw-search/we/InfoWeb?p_action=doc&p_topdoc=1&p_docnum=1&p_sort=YMD_date:D&p_product=AWNB&p_text_direct-0=document_id=(%20116D3AA22A4D41F1%20)&p_docid=116D3AA22A4D41F1&p_theme=aggdocs&p_queryname=116D3AA22A4D41F.

Office of the Attorney General (OAG). (2006). *Attorney General Lockyer Files Lawsuit to Block Orange County Toll Road*. California Department of Justice. 23 March 2006. Retrieved December 23, 2011. Available at: http://oag.ca.gov/news/press_release?id=1276&y=2006&m=.

Orange County Register Editorial Staff. (2007). "Editorial: 241 Toll Road extension blocked in Congress." *Orange County Register*. 21 December 2007. Retrieved August 11, 2011. Available at: http://articles.ocregister.com/2007-12-21/opinion/24686216_1_toll-roadroad-s-approval-san-onofre-state-beach.

Orange County Register. (1989). "Head of toll road agency gets pay increase." *The Orange County Register*. 10 March 1989.

Orange County Transportation Authority (OCTA). (2006). *2006 OCTA Long Range Transportation Plan*. 14 July 2006. Retrieved December 23, 2011. Available at: http://www.octa.net/uploadedfiles/Files/pdf/lrtp06.pdf.

Orange County Transportation Authority (OCTA). (2011). *91 Express Lanes Fast Facts*. 15 February 2011. Retrieved December 22, 2011. Available at: http://www.octa.net/pdf/91.pdf.

Paddock, Richard and Wolinsky, Leo (1988). "Gas Tax Measure Isn't GOP's Way, Says Deukmejian." *Los Angeles Times*. 10 August 1988.

Pasco, Jean O. (1987). "Veto override relieves road planners." *Orange County Register*. 4 April 1987.

Perlman, Jeffrey A. (1987). "OCTC Approves Proposal for State's First Toll Road." *Los Angeles Times*. 13 October 1987. Retrieved July 25,2011. Available at: http://articles.latimes.com/1987-10-13/local/me-13832_1_toll-road.

Perlman, Jeffrey A. (1988). "Consultant Predicts Enough Traffic to Pay for Toll Road." *LosAngeles Times*. 14 October 1988. Retrieved July 31, 2011. Available at:http://articles.latimes.com/1988-10-14/local/me-4119_1_toll-road-projects.

Perlman, Jeffrey A. (1989). "Countywide: Private Toll Roads Get Boost at Meeting." *Los Angeles Times*. 8 December 1989. Retrieved July 25, 2011. Available at: http://articles.latimes.com/1989-12-08/local/me-360_1_toll-road-program.

Perlman, Jeffrey A. (1993). "Bid to Halt Work on San Joaquin Tollway Fails." *Los Angeles Times*. 15 October 1993. Retrieved August 8, 2011. Available at: http://articles.latimes.com/1993-10-15/local/me-46094_1_san-joaquin-hills

Persad, Khali R., C. Michael Walton and Julie Wilke (2005). Alternatives to Non-Compete Clauses in Toll Development Agreements. *The Center for Transportation Research, Technical Report*. Retrieved July 7, 2012. Available at: www.utexas.edu/research/ctr/pdf_reports/0_5020_P2.pdf

Platte, Mark. (1988). "Toll Rates projected for roads." *The Orange County Register*. 14 October 1988.

Platte, Mark. (1989a). "In the Fast Lane: Toll-road officials traveled on public dole." *The Orange County Register*. 5 February 1989.

Platte, Mark. (1989b). "Tollway agencies exceed legal budget." *The Orange County Register*. 10 February 1989.

Platte, Mark. (1989c). "Tollway abuses alleged." *The Orange County Register*. 1 March 1989.

Platte, Mark. (1989d). "Director of tollways quits post." *The Orange County Register*. 9 June 1989.

Platte, Mark. (1989e). "Lack of Funds limits plan for Eastern tollway." *The Orange County Register*. 13 August 1989.

Pollack, Stuart R. (1993). *Professional Engineers in California Government et al. Plaintiffs and Appellants v. Department of Transportation et al. Defendants and Respondants. California Transportation Ventures et al. Real Parties in Interest*. Court of Appeal of California, First Appellate District, Division Four. Case Number: A057897.

Poole, Robert. (1988). *Private Tollways: Resolving Gridlock in Southern California.* Reason Foundation.

Public Policy Institute of California (PPIC). (1998). "When the Government Fails: The Orange County Bankruptcy." Presented at the *Second Annual California Issues Forum*. 18 March 1998. Sacramento, CA. Retrieved April 12, 2012. Available at: http://www.ppic.org/content/pubs/op/op_398op.pdf.

Public Policy Institute of California (PPIC). (2009). *California Transportation*. Retrieved November 30, 2011. Available at: http://www.ppic.org/content/pubs/report/R_610LBEHR.pdf.

Radcliffe, Jim. (2006a). "Toll-road extension gets green light." *Orange County Register*. 24February 2006. Retrieved August 11, 2011. Available at:http://articles.ocregister.com/2006-02-24/cities/24779591_1_toll-road-extension-16-mileextension-eastern-transportation-corridor-agency.

Radcliffe, Jim. (2006b). "Toll-road hearing postponed." *Orange County Register*. 13 July2006. Retrieved August 11, 2011. Available at: http://articles.ocregister.com/2006-0713/news/24763875_1_toll-road-hearing-16-mile-extension-san-onofre-state-beach.

Ray, Nancy. (1986). "Chula Vista, County's 2nd Largest City, Has Problem With Image." *Los Angeles Times*. 26 May 1986. Retrieved June 29, 2011. Available at: http://articles.latimes.com/1986-05-26/local/me-7834_1_chula-vista.

Reuters. (2011). *Mexico to cut duties on U.S. after trucking deal.* Thomson Reuters. 6 July 2011. Retrieved July 14, 2011. Available at: http://www.reuters.com/article/2011/07/06/us-mexico-usa-duties-idUSTRE7655HP20110706.

Reza, H.G. and Earnest, Leslie. (1994). "Court Extends Ban on Building O.C. Toll Road." *LosAngeles Times*. 23 June 1994. Retrieved July 26, 1994. Available at: http://articles.latimes.com/1994-06-23/news/mn-7751_1_toll-road.

Ristine, Jeff. (2005). "Company seeks more time to be owner of SR-125 toll road." *San Diego Union-Tribune*. 31 May 2005. Retrieved July 13, 2011. Available at: http://infoweb.newsbank.com.libproxy.usc.edu.

Robbins, Gary. (1991). "EPA: Proposed tollway's environmental study is inadequate." *Orange County Register*. 16 January 1991.

Rolfe, A. (1999). "*Questioning Route 125 South*." *San Diego Union-Tribune*. 27 August 1999. Retrieved July 6, 2011. Available at: http://infoweb.newsbank.com.libproxy.usc.edu.

Rosenbaum, David. (1997). "San Diego Experiment Proceeds." *Engineering News Record*. 1 December 1997, pp.16-17.

Rosenblatt, Susannah. (2008). "O.C. toll road agency requests federal bailout." *Los Angeles Times*. 17 October 2008. Retrieved July 26, 2011. Available at: http://articles.latimes.com/2008/oct/17/local/me-tollroad17.

Samuel, Peter. (1997). "San Miguel Mountain Parkway Koch buys into San Diego CA – 125S pike venture." *TollRoadsNews*. 25 November 1997. Retrieved June 1, 2012. Available at: http://www.tollroadsnews.com/node/1863.

Samuel, Peter. (2007). "San Diego's South Bay Expressway could open end – Sept 2007." *TollRoadsNews*. 13 July 2007. Retrieved June 1, 2012. Available at: http://www.tollroadsnews.com/node/3025.

San Diego Association of Governments (SANDAG). (2010). *2050 Regional Growth Forecast Process and Model Documentation* . 10 June 2010. Retrieved on April 22, 2012. Available at: http://www.sandag.org/uploads/publicationid/publicationid_1490_11298.pdf.

San Diego Association of Governments (SANDAG). (2007). *Fact Sheet -- San Diego and Arizona Eastern Rail Line.* San Diego Association of Governments. 1 June 2007. Retrieved August 18, 2011. Available at: http://www.sandag.org/uploads/publicationid/publicationid_14_2736.pdf.

San Diego Association of Governments (SANDAG). (2009). *SANDAG 2008 year in review.* San Diego Association of Governments. 1 January 2009. Retrieved August 5, 2011. Available at: http://www.sandag.org/enewsletter/archives/january2009/feature_1.html.

San Diego Association of Governments (SANDAG). (2011a). *2050 Regional Transportation Plan.* San Diego Association of Governments. 1 January 2011. Retrieved August 14, 2011. Available at: http://www.sandag.org/index.asp?projectid=349&fuseaction=projects.detail.

San Diego Association of Governments (SANDAG). (2011b). SANDAG Board of Directors Meeting Agenda, August 26, 2011. San Diego Association of Governnments. Retrieve January 13, 2012. Available at: http://www.sandag.org/uploads/meetingid/meetingid_2997_13397.pdf

San Diego Association of Governments (SANDAG). (2011c). SANDAG Board of Directors Meeting Minutes August 26, 2011. *San Diego Association of Governments website*. Retrieved January 13, 2012. Available at: http://www.sandag.org/uploads/meetingid/meetingid_2997_13643.pdf.

San Diego Association of Governments (SANDAG). (2011d). *Traffic Counts for the I-5 and I-805*. San Diego Association of Governments.

San Diego Association of Governments (SANDAG). (2012). SANDAG Acquisition of Lease to Operate SR 125 Toll Road Frequently Asked Questions. *South Bay Expressway website*. January 2012. Retrieved: January 16, 2012. Available at: http://www.southbayexpressway.com/pdf/newsroom/FAQsandag2011.pdf.San Diego Public Library. (1944). *San Diego Digital Photo Collection.* San Diego Public Library Retrieved August 17, 2011. Available at: http://209.242.175.54:2009/cdm4/item_viewer.php?CISOROOT=/cebe3&CISOPTR=172&CISOBOX=1&REC=8.

San Diego Union-Tribune. (2003). "The county's environmentally friendly highway." *San Diego Union-Tribune*. 18 September 2003.

San Diego Union-Tribune. (2006). "Schwarzenegger approves bill extending toll road agreement." *San Diego Union Tribune*. 1 September 2006.

San Diego Union-Tribune. (2011). "This was no way to run a toll road." *San Diego Union-Tribune*. 27 December 2011. Retrieved: January 16, 2012. Available at: http://www.utsandiego.com/news/2011/dec/27/this-was-no-way-to-run-a-toll-road/

San Joaquin Hills Transportation Corridor Agency. (1990a). *Draft Environmental Impact Report/ Environmental Impact Statement and Section 4(f) Evaluation*. CaliforniaDepartment of Transportation, Federal Highway Administration. Sacramento, CA.

San Joaquin Hills Transportation Corridor Agency. (1990b). *San Joaquin Hills TransportationCorridor Agency Financing Plan*. San Joaquin Hills Transportation Corridor Agency.

San Joaquin Hills Transportation Corridor Agency. (1994). *Right of Way Service Agreement*. San Joaquin Hills Transportation Corridor Agency.

Santa Cruz, Nicole. (2011). "Recession slows use of Orange County's toll roads." *Los Angeles Times*. 1 February 2011. Retrieved December 22, 2011. Available at: http://articles.latimes.com/2011/feb/01/local/la-me-toll-roads-20110201.

Saskal, Rich. (2010). California P3 Files Chapter 11, 3-year old Tollway in Dire Straits. The Bond Buyer. Retrieved: January 9, 2012. Available at: http://www.bondbuyer.com/issues/119_309/California_P3_Files_Chapter_11-1010232-1.html?zkPrintable=true

SBX. (2011). *Maps.* Retrieved August 18, 2011. Available at: http://www.southbayexpressway.com/pdf/AreaMapSBX.pdf.

Schmidt, Steve. (2009). "Caltrans starts next leg of work on Route 905." *San Diego Union-Tribune*. 28 May 2009. Retrieved August 5, 2011. Available at: http://www.signonsandiego.com/news/2009/may/28/caltrans-starts-next-leg-work-route-905/.

Schmidt, Steve. (2010). "Toll road operator files for Chapter 11." *San Diego Union-Tribune*. 23 March 2010. Retrieved August 10, 2011. Available at: http://www.signonsandiego.com/news/2010/mar/23/south-bay-expressway-builders-file-chapter-11/.

Schneider, Michael. (2000). "Public-Private Partnerships for Toll Road Development: San Diego County's State Route 125." *Case Studies of Alternative Approaches to Project Financing, Act I, SECOND NATIONAL CONFERENCE ON TRANSPORTATION FINANCE*. Transportation Research Board, pp.80-81.

Shingore, Priyanka. (2009). *Organizational and Risk Characteristics of Emerging Public-Private Partnership Models.* Blacksburg, Virginia: Virginia Polytechnic and State University.

Showley, Roger. (2010). "County median housing price on upswing." *San Diego Union-Tribune*. 19 January 2010. Retrieved July 7, 2011. Available at: http://www.signonsandiego.com/news/2010/jan/19/county-median-housing-price-upswing/.

Smith, Elliot Blair. (1995). "Restoring Rail Line May Roll Out Work In Mexico." *Chicago Tribune*. 19 February 1995. Retrieved August 4, 2011. Available at: http://articles.chicagotribune.com/1995-02-19/business/9502190114_1_imperial-valley-railroad-rail-transit-plaster-city.

Southern California Association of Governments (SCAG). (2011). *Environmental Impact Reports.* Retrieved November 29, 2011. Available at: http://www.scag.ca.gov/environment/eir.htm.

Southern California Wetlands Recovery Project (SCWRP). (2011). *The Community Wetland Restoration Grants Program.* Southern California Wetlands Recovery Project. Retrieved August 18, 2011. Available at: http://www.scwrp.org/small_grants.htm.

State of California. (2005). California Legislative Bill History 2005 CA S.B. 463. LexisNexis. Retrieved January 12, 2012. Available at: http://www.lexisnexis.com

Stevens, John. (1989). *Concurrence in State Amendments: AB 680 (Baker).* Sacramento: California Governor's Office.

Superior Court for the State of California (San Diego North County). (2006). *The People of the State of California ex rel. Attorney General Bill Lockyer and State Park and Recreation Commission v. Foothill/Eastern Transportaton Corridor Agency*: *Petition for Writ of Mandate*. Retrieved December 23, 2011. Available at: http://ag.ca.gov/newsalerts/cms06/06-026_0a.pdf.

Swegles, Fred. (2008). "Most San Clemente council candidates say no to toll road proposal." *Orange County Register*. 22 August 2008. Retrieved August 11, 2011. Available at:

http://articles.ocregister.com/2008-08-22/cities/24725323_1_toll-road-donna-o-neillland-conservancy-foothill-south.

Thomson Reuters. (2003, March 10). *Center for Biological Diversity v. Federal Highway Admin.* Retrieved August 10, 2011, from Westlaw Next.

Toll Roads News. (1997, November 25). "SAN MIGUEL MTN PKWY Koch buys into San Diego CA-125S pike venture." *Toll Roads News*. 25 November 1997. Retrieved August 6, 2011. Available at: http://www.tollroadsnews.com/node/1863.

Toll Roads News. (2007, October 20). "South Bay Expressway to open Nov 19 - tenacity pays off." *Toll Roads News*. 20 October 2007. Retrieved August 18, 2011. Available at: http://www.tollroadsnews.com/node/3198.

Tollroads News. (2011). San Joaquin Hills 73 bondholders agree to stretch bond term. TOLLROADSnews. 14 May 2011. Retrieved July 26, 2011. Available at: http://www.tollroadsnews.com/node/5304.

Transportation Corridor Agencies (TCA). (2004). *Orange County's Toll Roads: Successful Public-Private Partnerships*.

Transportation Corridor Agencies (TCA). (2011a). *Transaction Tables*. The Toll Roads – Transportation Corridor Agencies. Retrieved July 26, 2011. Available at: https://www.thetollroads.com/home/about_investor_transaction.htm.

Transportation Corridor Agencies (TCA). (2011c). *About TCA – 2011 Board of Directors – F/ETCA*. Transportation Corridor Agencies. 1 July 2011. Retrieved July 31, 2011. Available at: https://www.thetollroads.com/home/about_board_FETCA.htm.

Transportation Corridor Agencies (TCA). (2011d). *About TCA – 2011 Board of Directors – SJHTCA*. Transportation Corridor Agencies. 1 July 2011. Retrieved July 31, 2011. Available at: https://www.thetollroads.com/home/about_board_SJHTCA.htm.

Transportation Corridor Agencies (TCA). (2011e). *241 Completion*. Retrieved December 22, 2011. Available at: https://www.thetollroads.com/whatshappening/241completion.php.

Transportation Corridor Agencies (TCA). (2011b). *San Joaquin Hills Transportation Corridor Agency Seeks Bond Amendments*. Transportation Corridor Agencies. 19 April 2011. Retrieved July 26, 2011. Available at: http://bos.ocgov.com/legacy3/newsletters/pdf/4_19_11_73_Toll_Road_Agency_Seeks_Bond_Amendments.pdf.

Transportation Corridor agencies (TCA). (2011f). *RelieveTraffic.org*. Retrieved December 22, 2011. Available at: http://www.relievetraffic.org/.

Transportation Research Board. (2006). The Fuel Tax and Alternatives for Transportation Funding. *Transportation Research Board*. Retrieve: December 21, 2011. Available at: http://onlinepubs.trb.org/onlinepubs/sr/sr285.pdf.

Trombley, William. (1988). "Slow-Growth Move Could be a Barrier." *Los Angeles Times*. 18 April 1988. Retrieved September 9, 2011. Available at: http://articles.latimes.com/1988-04-18/news/mn-880_1_orange-county-toll-roads/2.

Trombley, William. (1990). "Transportation Gears Up for Revival." *Los Angeles Times*. 7 June 1990. Retrieved June 5, 2011. Available at: http://articles.latimes.com/1990-06-07/news/mn-1628_1_california-transportation-commission.

U.S. Bankruptcy Court, Southern District of California. (2010). *Declaration of Anthony G. Evans, Chief Financial Officer of South Bay Expressway, L.P. in Support of the Debtor's Chapter 11 Petitions and First Day Motions*. Chapter 11 Bankruptcy Court Filing 10-04516-LA11. 22 March 2010, San Diego, CA.

U.S. Bureau of Labor Statistics. (2012). CPI Inflation Calculator. *U.S. Bureau of Labor Statistics website*. Retrieved July 7, 2012. Available at: http://www.bls.gov/data/inflation_calculator.htm.

U.S. Census Bureau. (2011). "Homeownership Map." *San Diego Union-Tribune*. 22 June 2011. Retrieved August 18, 2011. Available at: http://media.signonsandiego.com/news/documents/2011/06/23/census.pdf.

U.S. Census Bureau. (2012). *State and Country QuickFacts*. 2010 Census Data Sets. 31 January 2012. Retrieved May 28, 2012. Available at: http://quickfacts.census.gov/qfd/states/06/06073.html.

U.S. Census Bureau. (2002). "California - Race and Hispanic Origin: 1850 to 1990." U.S. Census Bureau website. Retrieved: December 21, 2011. Available at: http://www.census.gov/population/www/documentation/twps0056/tab19.pdf.

U.S. Department of Housing and Urban Development (HUD). (2010a). *Housing of Last Resort.* U.S. Department of Housing and Urban Development . 28 June 2010. Retrieved August 8, 2011. Available at: http://www.hud.gov/offices/cpd/affordablehousing/training/web/relocation/lastresort.cfm.

U.S. Department of Housing and Urban Development (HUD). (2010b). *Overview of the Uniform Act (URA).* U.S. Department of Housing and Urban Development. 29 June 2010. Retrieved August 8, 2011. Available at: http://www.hud.gov/offices/cpd/affordablehousing/training/web/relocation/overview.cfm.

U.S. Department of Transportation (DOT). (2000). *Record of Decision Route Location, Adoption, and Construction of State Route 125 Between Route 905 on Otay Mesa and Route 54 in Bonita/Spring Valley San Diego County, California.* U.S. Department of Transportation.

U.S. Department of Transportation (DOT). (2010). *Draft Tier II Environmental Impact Report/Environmental Impact Statement, State Route 11 and the Otay Mesa East Port of Entry* U.S. Department of Transportation. Retrieved August 10, 2011. Available at: http://www.dot.ca.gov/dist11/Env_docs/SR-11%20Draft%20EIS.pdf.

U.S. Fish and Wildlife Services (FWS). (2008). *Vernal Pool Recovery Plan.* U.S. Fish and Wildlife Services. 15 May 2008. Retrieved August 18, 2011. Available at: http://www.fws.gov/sacramento/es/recovery_plans/vp_recovery_plan_links.htm.

U.S. Fish and Wildlife Services (FWS). (2010). *Endangered Quino checkerspot butterfly.* U.S. Fish and Wildlife Services. 8 October 2010. Retrieved August 18, 2011. Available at: http://www.flickr.com/photos/usfws_pacificsw/5063313996/.

U.S. Fish and Wildlife Services (FWS). (2011). *Proposed Critical Habitat Designation for the California Coastal Gnatcatcher Information Page.* U.S. Fish and Wildlife Services. Retrieved August 18, 2011. Available at: http://www.fws.gov/pacific/news/gnatcatcher/.

United Press International. (2011). *U.S., Mexico sign trucking agreements*. Upi.com. Retrieved January 13, 2012. Available at: http://www.upi.com/Top_News/World-News/2011/07/06/US-Mexico-sign-trucking-agreements/UPI-55891309981836/print/.

Vigil, Jennifer and Oakes, Amy. (2001a). "Battle heats up in South Bay over proposed 125 tollway." *San Diego Union-Tribune*. 29 March 2001. Retrieved July 6, 2011. Available at: http://infoweb.newsbank.com.libproxy.usc.edu.

Vigil, Jennifer and Oakes, Amy. (2001b). "OK of Route 125 tollway is nearer as appeal denied." *San Diego Union-Tribune*. 30 June 2001. Retrieved August 10, 2011. Available at: http://infoweb.newsbank.com.libproxy.usc.edu/iw-search/we/InfoWeb?p_action=doc&p_topdoc=1&p_docnum=1&p_sort=YMD_date:D&p_product=AWNB&p_text_direct-0=document_id=(%20116D35B338DD27E8%20)&p_docid=116D35B338DD27E8&p_theme=aggdocs&p_queryname=116D35B338DD27E.

Vigil, Jennifer. (2001a). "South part of state route 125 gets an OK but developers still face financial, legal hurdles/" San Diego Unition-Tribune. 28 July 2001. Retrieved July 6, 2011. Available at: http://infoweb.newsbank.com.libproxy.usc.edu.

Vigil, Jennifer. (2001b). "Route 125 opponents lose their lawsuit." *San Diego Union-Tribune*. 17 March 2001. Retrieved August 10, 2011. Available at: http://infoweb.newsbank.com.libproxy.usc.edu/iw-search/we/InfoWeb?p_action=doc&p_topdoc=1&p_docnum=1&p_sort=YMD_date:D&p_product=AWNB&p_text_direct-0=document_id=(%20116D350E20C84695%20)&p_docid=116D350E20C84695&p_theme=aggdocs&p_queryname=116D350E20C8469.

Vigil, Jennifer. (2001c). "Route 125 project foes aren't giving up easily U.S. laws broken, third lawsuit says." *San Diego Union-Tribune*. 15 October 2001. Retrieved July 6, 2011. Available at: http://infoweb.newsbank.com.libproxy.usc.edu.

Volzke, Jonathan. (2011). "Study: Economic Impact of the Toll Road Could Mean Thousands of Jobs." *San Clemente Times*. 14 September 2011. Retrieved July 7, 2012. Available at: http://sanclementetimes.com/view/full_story/15520432/article-Study--Economic-Impact-of-the-Toll-Road-Could-Mean-Thousands-of-Jobs?instance=commented.

Walker, Donn. (1988). "SCAG Urged to Redo Transportation Plan to Cover County Projects." *Los Angeles Times*. 26 July 1988. Retrieved November 29. 2011. Available at: http://articles.latimes.com/1988-07-26/local/me-6246_1_orange-county-transportation.

Wang, Yin. (2010). *Recent Experience in the Utilization of Private Finance for American Toll Road Development*. Doctoral Dissertation, May 2010. University of Southern California.

Ward, Denise. (2001, December 3). "Profile: Gary Gallegos." *All Business*. 3 December 2001. Retrieved August 19, 2011. Available at: http://www.allbusiness.com/government/government-bodies-offices-government/10628463-1.html.

Weikel, Dan and Reyes, David. (2006). "Doubt cast on tollway benefits." *Los Angeles Times*. 14 November 2006. Retrieved July 26, 2011. Available at: http://articles.latimes.com/2006/nov/14/local/me-tollway14.

Weikel, Dan. (2002). "O.C. Tollway's Bonds Downgraded." *Los Angeles Times*. 6 February 2002. Retrieved July 26, 2011. Available at: http://articles.latimes.com/2002/feb/06/local/me-toll6.

Weikel, Dan. (2004). "Groups Uniting to Battle OC Toll Road Plans." *Los Angeles Times*. 20 September 2004. Retrieved December 22, 2011. Available at: http://articles.latimes.com/2004/sep/20/local/me-trestles20.

Weikel, Dan. (2005). "Aid Plan for O.C. Tollway Unveiled." *Los Angeles Times*. 14 October 2005. Retrieved July 26, 2011. Available at: http://articles.latimes.com/2005/oct/14/local/me-tollway14.

Weintraub, Daniel M. (1987a). "County's Legislators Usually Stick With GOP on Key Issues." 16 November 1987. Retrieved July 25, 2011. Available at: http://articles.latimes.com/1987-11-16/local/me-14357_1_orange-county-group/3.

Weintraub, Daniel M. (1987b). "Deukmejian Signs Bill for Toll Roads in Orange County." *Los Angeles Times*. 30 September 1987. Retrieved August 8, 2011. Available at: http://articles.latimes.com/1987-09-30/news/mn-7225_1_orange-county.

Weisberg, Lori; Clark, Matt; and Aguilera, Elizabeth. (2011). "Homeownership rate fell in fast-growing suburbs." *San Diego Union-Tribune*. 22 June 2011. Retrieved June 9, 2011. Available at:

http://www.signonsandiego.com/news/2011/jun/22/homeownership-fell-in-fast-growing-suburbs-census/.

White, Susan. (1995). "Foes want to railroad SR 125 right out of town." *San Diego Union-Tribune*. 21 January 1995. Retrieved August 2011. Available at: http://infoweb.newsbank.com.libproxy.usc.edu/iw-search/we/InfoWeb?p_action=doc&p_topdoc=1&p_docnum=1&p_sort=YMD_date:D&p_product=AWNB&p_text_direct-0=document_id=(%20116C46F63294F119%20)&p_docid=116C46F63294F119&p_theme=aggdocs&p_queryname=116C46F63294F11.

Williams, Parker F. (2005). *Tolls as an Alternative Revenue Source*. National Council for Public-Private Partnerships. 29 September 2005. Retrieved November 28, 2011. Available at: http://www.ncppp.org/councilinstitutes/stlouis_2005/williams.pdf.

Ya Ni, Anna. (2009). Managing Public-Private Partnership of Transportation Infrastructure: Lessons Learned from California's SR-91. White Paper sponsored by Leonardo Transportation Center, UC Berkeley. Retrieved: December 27, 2011. Available at: http://cdm15025.contentdm.oclc.org/cgi-bin/showfile.exe?CISOROOT=/p266401coll4&CISOPTR=3968&filename=3965.pdf

Yelp. (2011.). *South Bay Expressway.* Yelp.com. Retrieved August 10, 2011. Available at: http://www.yelp.com/biz/south-bay-expressway-san-diego.

Ymzon, Ray. (2001). "Likely casualties of SR-125 tollway." *San Diego Union-Tribune*. 31 May 2001. Retrieved July 6, 2011. Available at: http://infoweb.newsbank.com.libproxy.usc.edu.

Zumbrun, J. (2008). "America's 10 Most Boring Cities." *Forbes Magazine*. 1 December 2008.