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Toll-Highway Finance Lessons from Orange County

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California has embarked on a dramatic experiment with toll-highway finance. Nowhere is this more apparent than in Orange County, where 61 new miles of toll highways have been opened during the 1990s—one of the largest networks of U.S. toll highways built in several decades.

The county's toll roads follow two different institutional models. A private firm added toll lanes to State Route 91 under the authority of AB 680 (1989), which allowed up to four private highway franchises to be granted in California as demonstration projects.

Three other toll roads were built by the Transportation Corridor Agencies (TCAs), two joint-powers authorities created by the county and a number of cities within the proposed toll-road areas.

The two agencies that constitute the TCAs—the Foothill/Eastern Transportation Corridor Agency and the San Joaquin Hills Transportation Corridor Agency—were formed in the 1980s, when funding limitations prevented highway construction from traditional revenue sources. The TCAs turned to toll finance when it became clear that impact fees would provide inadequate revenues to build the roads, and other alternatives had been exhausted.

This policy brief describes the results of a detailed case study of the Orange County toll roads. Our case-study research consisted of the following components: (1) A search of toll-road archival materials dating back three decades; (2) interviews with 26 leaders involved in the decisions to build or manage the toll roads; and (3) two focus groups to help gauge public opinion toward Orange County toll roads.

In the following sections, we examine three policy issues:

- What is the potential role for toll revenues as a source of highway finance?
- What is the relationship between Orange County toll-highway finance and congestion pricing?
- Which groups benefit, and which groups are disadvantaged, by toll-highway finance?

The Fiscal Role of Toll-Highway Finance

California highway revenues are raised primarily from motor fuels or "gas taxes." When adjusted for changes in inflation and driving, state and federal gas-tax revenues fell precipitously during the 1970s, leveled off during the 1980s, and gained only slightly after a 1990 state tax increase (to 18¢ per gallon).

Tolls have long been suggested as one possible supplement to gas-tax revenues, but generally play only a minor role in California. Our findings illuminate why toll highways were pursued in Orange County and how well toll finance worked.

The 10-mile State Route 91 tollway consists of four lanes, two in each direction, next to an existing eight-lane freeway extending from the Riverside/Orange County line west to the State

Route 91/ State Route 55 interchange. The SR 91 toll lanes were built and are operated by a privately held consortium, the California Private Transportation Company, and were the first modern U.S. highway segment to use variable or congestion pricing (i.e., the toll amounts vary according to expected traffic volume based on time of day). The toll lanes cost $126 million to construct, and in the third year of operation (1998) generated enough revenue to cover operating costs and debt service.

When judged by the ability to generate sufficient toll revenues to support the construction of highway lanes, the SR 91 appears to be a success, but many interviewees thought that the financial position of the SR 91 toll lanes was due, in part, to unique factors associated with that project.

Before the toll lanes were built, adjacent free lanes experienced heavy peak-period congestion and 30- to 40-minute delays, creating a ready-made demand for the toll lanes. Most peak-hour traffic travels the highway's full 10 miles, making it possible to build lanes in the median with no intermediate access to the free lanes.

The state-owned right-of-way for the toll lanes is leased to the private franchise for $1 per year, minimizing land acquisition costs. In addition, one source of financial risk for highway projects—environmental clearance—had been largely completed as part of an earlier county proposal for high-occupancy vehicle lanes.

Overall, interviewees speculated that it would be difficult to find other corridors with a combination of factors that similarly favor the financial success of private toll lanes.

Although the SR 91 toll lanes were originally popular among corridor drivers, since this research was completed the lanes have become the subject of controversy due to a "no compete" clause in the highway franchise, which limits the state's ability to add capacity to free lanes on the SR 91. As a solution to that impasse, the Orange County Transportation Authority recently voted to purchase the toll lanes from their private owner.

The two corridor agencies built and operate a tolled extension of SR 73 from Irvine south to San Juan Capistrano (the San Joaquin), and a network of highways that extends from near the Orange-Riverside County border south past Irvine (the Foothill/Eastern).

On the San Joaquin, toll traffic, and hence toll revenues, were below projected levels in the early years of corridor operation. This has led to periodic public questions about the financial position of the San Joaquin corridor agency.

Both corridor agencies likely benefited from the ability to refinance their debt at lower interest rates in the late 1990s, providing some ability for the San Joaquin, in particular, to counteract the effect of traffic and revenue shortfalls in its early years.

Toll-Highway Finance and Congestion Pricing

The SR 91 toll lanes were the first to use variable-peak pricing in the United States. Until they opened in 1995, both scholars and public officials speculated that congestion pricing would be highly impractical, if not infeasible, for political reasons. Strikingly, according to 1996 public-opinion studies, the SR 91 variable-peak pricing proposal never generated strong opposition.

The SR 91 has changed the nature of the congestion-pricing debate in the United States. Although the idea is still implemented only infrequently, now it is more widely discussed and rarely considered impractical. The debate has shifted from whether congestion pricing can be implemented to questions about its relative merits versus other schemes to reduce congestion, and the fairness of pricing schemes.

Within the context of that debate, the important lessons are twofold. First, the private SR 91 operator was willing to consider congestion pricing when it had not been implemented by public agencies elsewhere in the United States.

Second, the SR 91 toll lanes added new capacity adjacent to highly congested free lanes, and so reduced congestion on the free lanes. Drivers who didn't pay the toll could still perceive that they benefited, especially in the early years before the "no compete" clause was perceived as a barrier to further congestion reduction.

Fairness of Toll-Highway Finance

"Are toll roads fair?" Most policy analysts regard this as the first question to be answered in considering both the wisdom and the political viability of a toll road. For years, toll roads were regarded as politically impossible because of the public's unwillingness to pay for service that has long been free.

Our interviewees and focus-group participants view the fairness of the Orange County toll roads in more complex terms. Many suggested viewing a project's fairness in relation to the possible alternatives—such as providing a free, fuel-tax-financed freeway to serve wealthy communities, or providing no highway at all.

Support for the Orange County toll roads was often strongest among those who believed that the highways provided congestion relief to drivers on the free network. Sources of opposition to the toll roads, as evidenced by the focus-group comments, included dissatisfaction with the service provided by the roads and the roads' environmental impacts. Neither source of opposition was linked directly to road pricing.

Perceptions of Benefits and Costs

Among the benefits respondents named were: *general economic* (the positive impact of congestion relief on economic growth, the less-regressive nature of tolls vs. transportation sales taxes, the state's release from the burden of road-maintenance costs); *traffic/circulation* (freeing space on existing roads, providing new capacity, shortened daily commutes); and *social* (creating access to less-expensive housing markets, improved quality of life because of congestion relief).

Some of the groups thought to have benefited were developers, major landowners and employment centers, small businesses, "the rich," working people whose commutes are subsidized, public-relations companies hired to promote the roads, local elected officials, and Caltrans itself.

Among the costs respondents named were *economic losses* (a sense of double taxation in the benefit area, a loss of commercial tax base because of highway siting, exacerbation of the county's north-south economic and political split, and promotion of economic stratification); *negative land-use/environmental impacts* (additional noise pollution and traffic impacts on lower-income residents, land-use patterns that promote private automobiles, loss of open space and natural resources); and *social impacts* (on cities forced to accept large-scale infrastructure projects).

Some of the groups identified as losers were the less-wealthy, travelers who drive on a small portion of the road where tolls are not set by distance traveled, and the elderly (who were seen as being unable to drive comfortably on or make use of the system).

Conclusions and Recommendations

Orange County's experiment with toll roads holds important lessons for California transportation policy. Overall, our findings regarding the toll roads can be grouped into the three policy issues mentioned in the introduction.

Tolls and Highway Finance

Toll highways seem to be most successful in heavily congested corridors with few alternate travel routes. This limits the scope for private projects to those that provide immediate congestion relief along California's most heavily traveled arteries. A possible alternative to building new roads, suggested by San Diego's experiment with I-15 congestion-pricing, is charging a toll on underused high-occupancy vehicle lanes to provide additional capacity adjacent to existing free lanes.

Early experience suggests that in some congested corridors or rapidly growing areas, toll finance might be financially viable. However, that conclusion should be tempered by the difficulty of evaluating the outcome of financing schemes designed to last 30 years or more. Furthermore, nothing in Orange County's experience suggests that tolls will replace the dominant sources of highway finance.

Tolls and Congestion Pricing

The SR 91 toll-lane experience suggests that peak/off-peak pricing will be accepted if the driving public perceives that they have a choice in using congestion-priced lanes and that everyone benefits, including nonusers.

Perceptions About Equity

Perceptions about equity were more fluid than

previously thought, and frequently hinged on alternatives to the project, as well as perceived value relative to the cost. Many of our interviewees noted that the SR 91 express lanes and TCA roads would not exist without the authority to collect tolls.

Lastly, we note that the policy debate about toll-highway finance in California continues to be more polarized than our research suggests is appropriate. Tolls in either the public or private sector can have limited but important applications as alternative sources of highway funding while also providing a useful tool to manage traffic congestion. On the other hand, privately franchised highways bring challenges in balancing public and private interests, and public toll roads face uncertainties in traffic estimation that can influence their financial viability. Both issues might have been underestimated in the initial years of toll-road planning in Orange County.

Recommendations

The experts we interviewed tended to offer two suggestions that apply specifically to privately franchised highways like the SR 91 toll lanes:

- Private highway projects should be allowed to access the tax-exempt bond market in order to level the playing field between public and private projects and make private finance feasible in instances where it currently is not.
- Under AB 680, private highway projects must conform to the same environmental standards as public highway projects; in addition, private franchise-holders are responsible for all aspects of a project, including risks created by delays in completing environmental impact reports and clearances.

  Some interviewees believed that this created an untenably open-ended risk for private franchisees, and thought the state should agree to see private highway projects through state and federal environmental clearances and then offer projects for franchise, with the successful bidder reimbursing the state for the cost of obtaining the clearances.

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