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Case Study: 91 Express Lanes Opened

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December 1995—California Private Transportation Co. (CPTC) put its $126-million "91 Express Lanes" project into operation in the center median of the Riverside Freeway at noon on Dec. 27, becoming the first commercial test of congestion-priced customer service in the U.S. toll road industry.
The privately conceived toll project lets all travelers choose between free use of the tax-supported public outer lanes or subscribing to use CPTC's median lanes and paying as much as $2.50 to drive past traffic jams at speeds of up to 65 mph.

By pricing trip times according to the level of congestion on the Riverside Freeway, CPTC is directly challenging the "equity" standard that says all users of public roads pay the same price for the same level of service. CPTC's customers are mainly those drivers who recognize that they now pay for that public standard with their time.

A New Era

"When motorists turn onto the 91 Express Lanes, they're not just entering the world's most advanced toll road," says CPTC's promotional literature, "they're entering a new era in transportation."

The details of the revolution are contained in the Express Lanes development franchise, right-of-way lease, design and construction standards, property acquisition procedures, and the maintenance and police service agreements negotiated by the California Dept. of Transportation under the state's AB 680 enabling legislation. Built over two-and-a-half years, those contracts approach 800 pages of material, much of it covering new ground.

Caltrans Assistant Director Carl Williams, who helped to negotiate the franchise agreements in 1990 for four experimental privatization projects, says he is satisfied with the first one to be completed: "The private sector guys did a hell of a job with that road. It's a 21st century facility."

In addition to congestion-pricing, the 91 Express Lanes is the first U.S. attempt to operate a subscription-only road, requiring all free and toll-paying customers to set up an account with CPTC and mount a transponder inside their windshield.

The for-profit venture is the world's first test of a fully automated highway, including an all-electronic toll collection, video enforcement, auditing, accounting and transaction clearing system.

Finally, the 91 Express Lanes may prove the political viability of tolling new, congestion-priced capacity added to existing, free public highways.

At least five states are considering similar projects that enhance the transportation value of high-occupancy vehicle (HOV) lanes by providing extra capacity for non-HOVs and charging them market prices. Private proposals from groups led by GM/Hughes and HDR Inc. are being evaluated now by transportation departments in Minnesota and Arizona.

Earlier attempts to expand on the Express Lanes concept in Arizona and Washington State were quickly overwhelmed by political opposition to tolling existing free roads as a means of financing new capacity.

Express Lanes Operations

After a gradual startup during the holidays, transponder sales, traffic and enforcement activity on the new, all-electronic toll lanes geared up quickly in early January, as congestion levels on the eight competing outer lanes returned to normal.

CPTC's project adds two lanes of new capacity in each direction on leased right-of-way for the first 10 miles after the freeway, State Route 91, enters Orange County. There are no intermediate interchanges. The private lanes act as a bridge between high occupancy vehicle (HOV) lanes built with local funds in both Riverside and Orange counties for vehicles with two or more passengers. Free-flow transition zones at both ends of the Express Lanes are designed to prevent traffic from backing up onto the toll road.

No heavy trucks are allowed and there are only two classes of vehicles—paying and nonpaying. Transponder-equipped vehicles with three or more passengers (HOV-3s), motorcycles, disabled veterans, zero-emission cars and cars with handicapped plates, less than 6% of the total, pay nothing.

A CPTC observer in a booth at the toll zone visually verifies nonpaying HOV-3 vehicles as they move at 65 mph to a special lane for verification. California Highway Patrol officers are also positioned there to ticket violators. Toll-paying customers in the two travel lanes will have charges debited from prepaid accounts while traveling at highway speeds.

Off-peak use of the 10-mile Express Lanes project costs 25¢. That rate is preset to move up to 50¢, \$1.00, \$1.50 and \$2.50 in four specific time zones that reflect daily demand patterns. Friday and weekend time/toll zones differ from the Monday-to-Thursday rates, again reflecting market demand. Customers approaching the Express Lanes will pay the rate displayed on an electronic sign about a half mile before the toll zone.

Enforcement by the California Highway Patrol is backed up by video records of all license plates. Addresses of violators are provided to CPTC via a computer link to the state Dept. of Motor Vehicles. Tickets not issued by the police will be mailed to HOV-lane violators ($271 for the first offense) and to those who either haven't rented a transponder or who have failed to maintain a positive balance in their prepaid toll account ($100 for the first offense, $250 for the second within a year and $500 for each additional violation). Scofflaws will not be able to renew their vehicle registrations until they pay their fines, fees and tolls to CPTC or the DMV.

Though CPTC isn't saying so publicly, most toll violators caught by its electronic system will be sent an Express Lanes payment request letter and subscription application rather than a ticket, at least for the first few weeks. Almost 90% of the violators on the Transportation Corridor Agency's public toll road nearby in southern Orange County pay the missed toll when informed by mail.

Experienced Owners

CPTC's controlling shares are held by subsidiaries of Peter Kiewit Sons' Company Inc., Omaha, and private French toll owner-operator, Cofiroute. Kiewit bought its majority interest late in 1992 from CRSS Inc., which developed the 91 Express Lanes concept originally proposed by Ronald Hartje of HNTB Corp.

Most of the environmental permitting and land acquisition was completed by government before Kiewit took over the project development effort. In addition, a key political hurdle had already been resolved by CRSS when Riverside County agreed to a compromise operational plan for the Express Lanes project in January 1992.

The Express Lanes, transition zones and interchanges were built on schedule and within budget by Granite Construction Co., a 21% limited equity partner in CPTC and holder of the $56.9-million, 29-month construction contract.

"That was a major accomplishment," says Alain Estiot, who heads Cofiroute's U.S. operations. High-level management attention from both Granite and Kiewit was required, he says, to overcome the logistical complexities of coping with traffic levels of 255,000 vehicles per day while building the median lanes, a major new interchange at State Route 55, and the transition zones.å

Taxable Finance

CPTC won the right to develop its project under a competitively negotiated build-transfer-operate franchise that was awarded by Caltrans in December, 1990 (PWF January 1991). Financing was arranged on July 20, 1993, and it became part of the state highway system 29 months later on Dec. 20. The leasehold improvements were then rented back to the private developers, who will operate the road—and retain all tax benefits—during the franchise period.

CPTC's contract with Caltrans gives the private operator up to 35 years from Dec. 20 to pay off $100 million in taxable project debt and earn a return. The development agreement caps CPTC's equity returns but does not regulate toll levels. Half of any excess profits beyond CPTC's base rate of return will be split equally between Riverside and Orange counties. The rest may be used to accelerate debt repayment. Ownership reverts to the state only after the 35 years allowed by Caltrans, however.

Financing was arranged during a market window in 1993 when lead investor, Peter Kiewit Sons', agreed to purchase the $35-million institutional tranche after Prudential Power Funding pulled out. Citicorp, Banque Nationale de Paris and Société Générale then made $65 million in 14.5-year term loans.

CIGNA Investments bought the average 17-year institutional debt from Kiewit early in 1994. Deutsche Bank joined the three original bank lenders at about the same time. CIGNA and Deutsche Bank both are also lenders to the $350-million Dulles Greenway in northern Virginia.

The Orange County Transportation Authority left in $7 million of its reimbursable design and environmental permitting costs as a post-completion subordinated loan at 9%.

Funded equity totals $19 million. Lenders also required a substantial amount of unfunded contingent equity from the general partners to cover the worst-case traffic and revenue scenario and a 12-month debt-service reserve. If letters-of-credit behind both had to be fully drawn, the debt-equity ratio would be 3:1.

In addition to capital costs, all operating, maintenance and rehabilitation costs for the new lanes will be paid from CPTC's revenues, not by taxpayers. CPTC has built an elaborate, computerized system for monitoring traffic and safety conditions. A fleet of CPTC tow trucks ensures a rapid-response capability for clearing disabled vehicles. CPTC is paying the California Highway Patrol to ticket toll violators and it will reimburse Caltrans for maintaining the road.

Caltrans also maintains the Transportation Corridor Agency's public toll roads in Orange County, but at the state's expense. That has caused some friction between the public toll agency and Caltrans over design standards. Against Caltrans' urging, TCA's pavement designs meet only minimum standards. That reduces the capital costs of its planned 67-mile system but it greatly increases the state's maintenance costs.

By comparison, CPTC strictly enforced the state's specification on pavement design and smoothness, reducing the life-cycle costs for maintenance and repair. The cost of CPTC's 10-mile project was offset substantially by the minimal rent charged by Caltrans for use of its right-of-way, however, and by Caltrans' agreement to own the completed road and stand behind CPTC on liability claims.

Market Power

The state did not select projects and bid the concessions to private developers, as is done in Europe. Instead, the firms chose their own franchises based on competitive selection criteria set by Caltrans. This was done mainly to ensure that the profit potential on these first-of-a-kind projects would be great enough to survive the political and financial challenges ahead.

Much of the value of CPTC's franchise from Caltrans results from its ability to charge customers to bypass a chronic traffic choke-point as the Riverside Freeway squeezes through a notch in the Santa Ana mountains at the Riverside/Orange County border.

Allowing CPTC to control the SR 91 tourniquet is what makes the Express Lanes project so unique, says Bob Poole, President of the Los Angeles-based Reason Foundation. Poole adds, however, "It is extremely important as a trial of the concept of congestion pricing, especially because of the direct competition between the public and private roads."

Gerald Pfeffer, CPTC managing director, won't reveal data on enforcement, traffic or transponder sales, citing competitive concerns. Like any other privately held company, he says, CPTC is not obliged to divulge this information. Its franchise with the state requires CPTC to report only financial information, he adds.

In a few years, the calculation of incentive returns owed to the private sponsors may force the company to divulge traffic, pricing and toll collections data. Until then, Pfeffer is pleased to let his public and private competitors guess how CPTC makes its money.

Pfeffer says toll levels may be adjusted up or down after three to six months. Off-peak incentive rates are being considered now. An increase during peak periods could become necessary if free-flow conditions cannot be maintained by charging drivers $2.50.

CPTC is promoting trip-time savings of at least 20 minutes with the guarantee that it will refund transponder deposits, account balances and the five most recent tolls paid to dissatisfied customers. Under free-flow conditions, however, time savings for Express Lanes customers could be 50 minutes each way during the worst periods of congestion on the freeway.

Among others, Poole worries that CPTC may have to charge substantially more than the $2.50 opening-day price to effectively manage demand. Other toll experts have similar concerns. "Instead of Express Lanes, they may end up as 'Lexus Lanes' which will present political problems," says a traffic consultant.

CPTC's allowed return on equity can be as high as 65%, depending on the cost of debt in the blended rate-of-return formula it negotiated with the state in 1990. Pfeffer says excess profits have never come up as an issue in focus groups held before the Express Lanes opening. Harvard Prof. José A. Gomez-Ibañez, author of numerous studies on transport privatization, believes the political opponents of toll roads, privatization and Orange County may seek to reduce CPTC's profits if the base-case and incentive returns are ever realized.

"I'm certainly not going to blow up their project," says Jack Reagan, Executive Director of the Riverside County Transportation Commission, "but I can't say I'd be upset if someone else did."

Citing the inequity of Riverside commuters paying to improve a road in Orange County, some Riverside County transportation officials have opposed the toll franchise from the start. The commission recently lost a court fight aimed at forcing CPTC to add intermediate interchanges to the Express Lanes. More moderate groups in Riverside have begun collaborating with CPTC.

Default Protections

Caltrans has agreed to strong protections against actions by the administrative agencies of the state, including its own bureaucracy, that could affect cash flow from specific projects. It can't prevent court rulings, legislative assaults, or actions by local governments or public agencies, however. So Caltrans agreed to strong contractual default provisions for any action by a public agency that discriminates against a specific private toll facility.

Actions that affect all facilities equally—seismic upgrades that require substantial capital investment, for example—are not considered a discriminatory taking. In those situations, if the road investors decide it's too expensive to make the fix, they can walk away from the deal with no further obligation. The state would get the road at no cost and would pay for the upgrade itself.

If an arbitration panel agrees that a discriminatory taking occurred, however, Caltrans has agreed to immediately seek an appropriation from the state legislature equal to the outstanding debt and equity, plus carrying costs, for the project. It is required to use its best efforts to get an appropriation for each of five consecutive years until the funds are approved. At the same time, developers also are given the right to sue Caltrans based on any theory of compensation they choose in their attempts to recover lost profits or other value.

Marketing the Revolution

CPTC's more immediate concern is with marketing and public education about how to use its new service. To attract subscribers, a flood of radio, newspaper and direct-mail ads spread CPTC's message: "91 Express Lanes: The lane change that could change your life."

Customers who subscribed before Dec. 31 were offered $25 in free tolls, the equivalent of a week's worth of peak-period travel. All customers also must first agree to a $40 credit card charge or $80 cash deposit to set up their toll accounts. HOV-3s from Riverside are eligible to participate in a $150,000 endowment set up by the transportation commission with CPTC to encourage car-pooling. Only 200 had taken advantage of the free HOV-3 registration fee as of late February, mainly because most drivers want the flexibility of using their transponder when they are not carpooling.

Pre-opening subscriptions were limited to about 5,000 accounts, sources say, because of the difficulty of selling a service that didn't exist yet. Local reporters noted that about a third of the Express Lane users on opening day had no transponders. Many, including the first user of the facility, were ticketed by the state police, under contract with CPTC. The Los Angeles Times chided CPTC in an editorial on Jan. 4 for not doing a better job of educating consumers about how to obtain a transponder.

Further complicating CPTC's marketing challenge, drivers don't change travel patterns easily. "People may be willing to spend $100 or more a month on tolls but they won't pay $40 to try something new," says a toll road expert with the Transportation Corridor Agencies, which opened California's first toll road in October 1993 to serve a small segment of southern Orange County.

It took TCA 18 months to record its first 5 million toll transactions, he says, but only 7 months more to add another 5 million.

TCA's toll tag customers can use the Express Lanes now. A compatible version of the FasTrak automatic vehicle identification (AVI) system developed for use on all of TCA's roads is also being used by CPTC. At peak travel periods, about 60% of the 30,000 daily users of TCA's 7.5-mile startup system are FasTrak subscribers.

The system integrator for both projects, MFS Network Technologies, Omaha, also has the contract to install AVI equipment on all of the state's toll bridges starting next month. The public and private operators have formed a state-wide group now to ensure compatibility and provide a uniform way to clear all electronic toll transactions on systems that meet California's legislated AVI standard.

MFS's $7-million electronic toll and traffic management (ETTM) contract requires it to surpass the AVI standard on the Express Lanes. MFS was awarded the ETTM contract before Kiewit became involved in CPTC. Its parent, MFS Communications, was recently spun off from Kiewit Diversified Group.

A Captive Audience

CPTC's marketing advantage over TCA and other toll agencies is that most of its potential customers in Riverside and San Bernardino counties drive past the Express Lanes franchise twice a day. A series of signs in the center median of the Riverside Freeway beam this message at 255,000 drivers every day: "When Heavy Traffic is a Pain/ Move on Over to the Fast Track Lane".

Confirming that advantage, CPTC's customer service center was forced to remain open around the clock to handle demand once the roadway opened. Expected turn-around times of five working days for mail applications quickly grew to 10 days or more. About half of all subscription sales are done over the counter, not overwhelmingly by phone or mail as expected.

"Their biggest challenge now is how to get the line down at the transponder store," says a traffic consultant.

Success Factors

The Express Lanes project is a low-cost, high-value-added, environmentally beneficial improvement to an existing road that got built quickly and within budget by long-term investors with great expertise in transportation and construction. They got unwavering support from the Federal Highway Administration and from the country's largest and most sophisticated state transportation agency. Their project is located in one of the most conservative Republican counties in the U.S. CPTC's public partner, the Orange County Transportation Authority, loaned the developers $7 million to help build their market-priced congestion reliever.

Demand growth at the Orange County line has been rising at about 1% a year, however, far below the 4-5% predicted by CPTC for the corridor a few years ago. For the short term, that has increased the volatility of peak congestion periods, which is when CPTC expects to make most of its money during the early years of operation.

Pfeffer points out that the Riverside Freeway is still operating beyond its design capacity for most of the morning and afternoon rush hours. And CPTC's toll lanes are located at the most constricted—and congested—section of the freeway.

The so-called "value pricing" strategies being marketed by CPTC are demand management tools for ensuring safe, efficient travel. But they also are yield management mechanisms geared to maximize profits.

Finally, the location of the Express Lanes project is designed to capture all future growth in traffic in the corridor, whenever it occurs. The CPTC partners all are long-term players with deep pockets and much to gain beyond any financial returns from their equity commitment to the toll project.

The resumption of economic growth in the state, and southern California in particular, is expected to help CPTC firm up its revenues.

Exports, high technology and Hollywood are booming. The state will have generated more new, high-paying jobs in 1995 than any other. New home construction is up 15% in the Los Angeles region. A presidential election approaches and California has more electoral votes than any other state.

California's Achilles heel, however, is a chronic lack of public capital for infrastructure repair and renewal. The state's Supreme Court recently ruled that even transportation sales taxes need two thirds approval by voters, not the simple majority that had been the rule. "Effectively, that means we can't fund anything new publicly," says Riverside's Jack Reagan. "It may be that the only way to get money into transportation is through something other than government."

Rather than awarding "mom and pop" franchises to groups like CPTC, he says, the state should privatize its entire highway system and put it under the control of private investors regulated by the Public Utility Commission.