Case Studies of Alternative Approaches to Project Financing, Act I

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Outsourcing Asset Management: Viewpoints from the Public and Private Sectors

Joseph Graff

I wanted to tell you a bit about the Texas Department of Transportation's outsourcing of asset management through what we call total maintenance contracts in Texas. TxDOT has been into maintenance contracting for a long time—about 25 years. The first maintenance contracts were let in the mid-1970s, primarily for mowing. We started out small, focusing on areas where we could achieve some savings in personnel and equipment associated with seasonal activities, and often let contracts to local farmers who had tractors and shredders. In the 1980s we expanded into many different maintenance areas. Most were limited to one type of activity, for example, mowing, guardrails, ditch-cleaning, and so forth. In 1986 we developed a preventive maintenance program for overlays, seal coats, and the like.

The development of our total maintenance contract actually occurred over about a 3-year period as a result of a quality initiative conference in 1997. From the start we faced both internal and external resistance. Our own administration said no, principally because of concern about potential jeopardy to the level of service. But some firm direction from our state transportation commission resulted in our trying maintenance contracting on a pilot basis. When we got into developing the performance specifications, we had some trouble with several TxDOT district offices that kept wanting to specify methods and materials. Ultimately, the process of developing a performance-type contract was a little more challenging than it looked.

We had a prebid meeting to get some input from the industry once we got a draft specification in place, and we got some resistance from that source as well. A lot of local contractors with whom we had been contracting for 20-some years were concerned that they were going to lose work to big contractors. They viewed the performance-based specifications as too nebulous and argued that their firms were accustomed to bidding on set items and being paid for doing the specific task on which they had bid. We used a partnering approach as part of the bid process, and this helped us get off on the right foot since everybody understood the expectations.

At first our inspectors were a little more critical than we would have liked them to have been; I suspect that some inspectors did not really accept this approach and were trying to watchdog the contract a little too closely. Our office, in contrast, expected this to be a true partnership, but it took a while for some of our local offices to move beyond this watchdog mentality.

We have had, over the years, some legislation that has steered our contracting process in this direction. In 1989, a rider to our appropriation directed us to contract out 25 percent of our maintenance activities. We were already at about that level, but the legislative interest in this issue was a wake-up call to us. In 1991, we received more legislation that told us to increase outsourced maintenance contracting by 5 percent per

year until we reached the 50 percent level in 1996. Again, this was not hard to do, and we currently contract at about 55 percent. For preventive maintenance, we are at 100 percent.

Now let me talk about the development of our total maintenance contract. As I mentioned, we had at least 20 years of experience of single-item contracts and had experimented with some multi-item contracts in the Houston area. Our state transportation commission took the lead on this issue, directing our development of several pilot contracts covering a whole range of maintenance services. These contracts were developed under a wholly new philosophy. The contract would be termed a management contract, underscoring that the contractor would decide what activities to perform, when to perform them, and how. The contractor's decisions would be guided by a set of performance standards that we, as the contracting agency, provided.

The performance-based nature of these management contracts placed a big emphasis on ways to measure quality. As I said, previous contracts had controlled all details, specifying everything from materials to methods. Here, instead, we developed the end results we sought to achieve and left decisions about how to achieve those results to the contractor. As part of the effort, we developed the Texas Maintenance Assessment Program. Under this program we assessed the entire Interstate system within our state borders in late 1999. We performed the same evaluation within the contract area 8 months into the contract, which allowed us to get a reading on how well the contractor was doing.

Here is a summary of the kinds of performance specifications we are currently using. For asphalt pavement surfaces, we require no rutting greater than 13 mm (½ in.) in depth. There are to be no unsealed cracks of greater than 6 mm (¼ in.). The ride is to be smooth, with no discernible dips or humps and a score of 3.5 or higher on the Mays meter. Potholes are to be repaired immediately. For traffic operations, we have specifications related to signals, signs, lighting, pavement markings, and more. Bridge specifications concern the overall structure, railings, decks, superstructure, substructure, channels, and embankments. And in the fourth category of specification, roadside, we include vegetation management standards as well as standards specific to litter, sweeping, and rest areas.

In setting these categories and these standards, we took into consideration a range of nontechnical issues, as well. These dealt with things like maintenance employee morale, costs, impacts on emergency response, and the concerns, of course, of smaller contractors. I have to say that the initial reaction by employees was very negative. Public reaction was mixed, with the most significant flash point centered on response to emergencies. However, we were able to calm most fears through communication, education, and possibly most important, by the professionalism demonstrated by the contractor.

I would like to touch on the short- and long-range impacts we have realized through this move toward total maintenance contracts. First and foremost, the bid we went with came in lower than expected, and costs are less than we had thought. For one stretch of Interstate near Waco, we are looking at annual costs for 2001 through 2004 that are at least $1 million less than those we had projected in the absence of the total maintenance contract. For 2001, for example, we had projected maintenance costs of about $4.8 million; the revised projection is for costs on the order of $3.8 million. The same is true on a stretch of Interstate 20 in the Dallas area. There we are looking at costs that are again at least $1 million below original expectations. In 2000 the actual difference was nearly $500,000. By 2001 we will be paying just about $2 million for work for which we would otherwise have paid about $3 million.

We were also pleased to see that the selected contractor is using many subcontractors, which helped allay the fears of smaller contractors. The contractor also brought some innovative maintenance approaches to the table that we ourselves had not considered. Other benefits have included a need for less inspection. The total maintenance contracts entail less documentation thanks to lump-sum payments, and that produces cost savings over and above those we have enjoyed thanks to the contract itself.

To wrap up, I want to leave you with four basic conclusions. First, outsourced maintenance is proving to be another very feasible and valuable tool for maintaining the highway system. Second, these approaches may very well lead to cost savings. Third, it is important to balance the bid amounts with the level of service to be achieved; it is critical to take quality into consideration. And finally, we at TxDOT are especially excited about the prospect of these outsourcing efforts introducing us to a whole range of innovations, new materials, and new procedures.

Robert Bourdon

Today I would like to share some thoughts about total asset maintenance management, or more simply, asset management, from the vantage point of a pioneer in privatization of these services.

The objectives of this presentation are to (*a*) define the current contract methods being used, (*b*) identify the difficulties in production of the bid packages, (*c*) rank

the level of "risk" to the contract agency, and (*d*) identify various methods' top advantages and disadvantages. Recognize, of course, that the methods I will identify represent the current state of the world; innovations are always possible.

There are currently three basic methods by which state departments of transportation contract for privatized asset management: (*a*) unit cost or activities-based contracting, (*b*) procedural or detailed specifications-based contracting, and (*c*) outcome- or performance-based contracting. I would like to discuss each in turn.

Unit cost contracts were developed principally for specialty-contracting activities, such as mowing with litter control. Under this type of contract, the agency identifies anticipated annual workloads and must perform quite a lot of research to define inventory and past repair activity. This type of contracting effort places all risk with the department for any errors in quantity development or changed conditions and normally imposes high administrative costs. Unit cost contracts are now often replaced by, or folded into, more comprehensive bundled or megacontracts, but they still require a major review effort on the part of the agency. The major advantage of this approach is that the department retains direct control over all work accomplished.

Procedure-based contracting reduces the agency's need to perform research on past work efforts but moves the agency into specifying the means and methods to accomplish a given activity. It is mostly used in specialty areas, as described earlier, and normally requires the use of a sole-source or limited contractor base. Risks to the agency remain high for any errors in specifications or changed conditions in the field. Administrative costs are quite high as well because of the need for increased inspection and testing. The contractor is normally required to have an active quality control program in place, with the agency conducting extensive quality assurance.

The latest form of contracting for asset management focuses on outcomes. This form of contracting requires the agency to define the desired level of service or condition level, and the contractor then determines the actual work effort necessary to meet those outcomes. This form of contracting does require the agency to develop an internal condition assessment system, although the agency may outsource the data collection effort. The condition assessment is normally conducted at least annually to achieve sufficient statistical confidence.

This approach transfers risk almost wholly to the contractor, and generally, liquidated damages are used to guard against noncompliance by the contractor. Risk transfer helps control costs borne by the agency; the agency also realizes savings thanks to reduced administration and inspection responsibilities.

Those are the basics of performance-based contracting for asset management. Now I would like to talk a bit about different types of procurement processes. First, if cost is the contracting agency's predominant concern, a hard bid (or low bid) procurement process is used. Sometimes state law demands this approach. Second, if there are no such legislative constraints and the agency is interested in looking at contractors' qualifications, the agency can request technical proposals. This allows the agency to select the firm deemed best able to accomplish the work on the basis of past experience. After the technical selection, the agency normally negotiates with the firm to agree on a contract price. The third option is a best-value package. The agency may go through a short-listing effort to reduce the field to a manageable group. In response to a request for proposals, all firms produce a technical and cost proposal. An evaluation committee then rates the technical proposals and develops a ranking. The ranking is submitted to the selection committee. Only then are the cost proposals opened. By applying a formula that considers the technical rankings and cost proposals, the agency makes a final selection based on the best overall value.

The selection of the best-experienced firm requires the evaluation of many factors, including the proposed management plan, staff experience, and corporate commitment. A key way for qualified firms to distinguish themselves is by introducing innovative ideas into the asset management process. Other important considerations relate to the competing firms' plans for dealing with emergencies and for developing community involvement programs.

Once a contract has been awarded, the agency needs to develop evaluation systems to ensure satisfactory performance by the contractor. It is recommended that agencies periodically review the contractors' actions and define the condition of the asset being maintained. A good blueprint for this approach was published in the National Cooperative Highway Research Program's report on Project 14-12. Different types of evaluation systems are possible, including pass/fail systems and systems based on numerical scores.

The evaluation should specify the desired level of service for the system and the consequences of the contractor's failure to attain that outcome. These often include payment reductions, and continued failures can lead to more severe contract actions. The evaluation system should provide the documentation necessary to sustain any legal actions. Evaluations should generally be performed three times a year to ensure their statistical validity. An independent review team is also essential, and all evaluators should be put through annual consistency reviews.

To close, I would like to review the benefits of outcome- or performance-based contracting for asset man-

agement. First, the approach ensures a fixed budget expenditure for the public agency. Second, the agency can realize maintenance cost savings of between 15 and 20 percent. The agency also receives a higher level of service at a lower cost and is assured of the outcome it will receive for its money.

Marshall Stivers

Let me lead off with some trend information that helps explain the growth in contracted asset management. It is startling to compare some of the increases in key indicators during the 20-year period from 1973 to 1993. Over this period vehicle miles traveled increased by almost 75 percent. The number of registered vehicles went up 54 percent. And the number of licensed drivers increased by 42.5 percent. But road and street mileage has increased by only 2.6 percent. The impacts of these discrepancies have been, in many cases, overwhelming.

When you couple these trends with the aggressive downsizing of state highway agencies, you see why contracted maintenance is beginning to grow as an industry. A final key contributor to this trend is the ISTEA legacy. Since 1991, maintenance spending for state highways has increased significantly and will probably double by 2003. So there is a lot more money available to the state highway agencies, particularly for spending and maintenance, than there was before.

As an agency, how would you transition your workload from the public to the private sector? First, of course, is to establish some objectives. Putting on my former hat as a public employee, one of my chief objectives is cost-effectiveness. I would like to have some way to limit or guarantee the maximum cost of the project through the request for proposals and contract documents. Another objective is for the contracted services to flatten out some of the peak workloads within the agency. Certainly, I would like to limit my administrative requirements and associated expenditures. I would also like to minimize future capital outlays for new facilities or new equipment acquisitions. Then obviously I would want to be able to cancel any contract for cause. And, as an agency, I would like to have a single point of contact to reduce confusion and underscore accountability. Finally, I would seek to build a sense of ownership in the facility. If the contractor views a particular stretch of road as though it were his own, he will likely do a much better job for you.

Now I would like to talk about objectives from the private-sector perspective. First, as a contractor I am principally interested in a long-term contract, on the order of 5 years. This length of term produces a lot of economies of scale. I want to see a clearly defined workload so that I can accurately assess what risks are involved. I would also like the contract to specify how my performance will be measured. And finally, I am looking for an adequate mobilization period, with a 90-day minimum. This may seem quite trivial to you, but believe me, it is not.

Now that we have discussed objectives, let's talk about what types of projects lend themselves to outsourcing and what are some of the key limitations. Again, I would like to look at this from the agency's and then the contractor's perspective. First, the agency obviously needs to focus on projects that answer to a specific need. On developing some cost estimates, you need to define the limits on responsibility for all parties concerned, establish performance measures, and define the desired level of service—in short, a quantifiable end result. Above all, keep the contract documents simple.

What kinds of projects is the private sector looking for? First, projects with connected segments are desirable; this allows you to avoid the need to skip around in order to get the work done. The idea here is critical mass. Access to the local contractor base is also key. The local workforce knows the area, knows the people, and knows the situation, so you want to pick projects where there is some realistic chance of hiring local people and obtaining local equipment. The contractor also requires that the project cost be based on clearly defined parameters. And, of course, limits on all partners' responsibilities should be clearly defined.

The next topic I want to discuss is a strategy for existing resources, including both human and physical capital. When looking at public employees, the first step is to involve trade associations and unions in the process so that all parties can communicate directly. Next, you want to do all you can to ensure no job losses, relying instead on attrition and transfers to other areas of the department. In some recent experience I have had in Florida, the unions had no problem with this approach. Another strategy is to ask the new contractor to hire existing employees, who are, after all, experienced workers already familiar with the site.

I hope I have been able to piece together some of the prerequisites for a transition. Now let's look at the experience of a couple agencies that that have already gone through the process. Virginia, Texas, and Florida provide three examples. Here is what we have found. First, there is an almost universal initial lack of acceptance of this entire concept by field forces. This just underscores the importance of working with your own people on the concept and ensuring a full understanding. A second finding borne of real-life experience is that contractors have demonstrated very good reactions to emergency situations, so there is not much to fear on that count.

Third, are contractors any smarter than the DOTs about how to do the work? Not for the most part. We are going to use many of the same techniques, but in a bit of a different way and pass the savings on back to you. Fourth, and I mentioned this before, the start-up period must be no less than 90 days. Fifth, we are finding that contractors are a bit more nimble when the need arises for specialized skills and equipment. This is of special consequence in cases of emergencies and helps mitigate risk in an important, if unexpected, way.

Public-Private Partnerships for Toll Road Development: San Diego County's State Route 125

Michael Schneider

I would like to lead off with an overview of my remarks today. First I will provide you a bit of background on the State Route 125 project, then offer you some historical context and information on the project development process. I would also like to tell you what we anticipate happening in the busy year ahead of us.

The SR-125 project itself has distinct public and private components. On the private side, the project sponsor is California Transportation Ventures, or CTV, a consortium comprising Parsons Brinckerhoff, Egis Projects, and Koch Materials. As usual, there are many more public players, which include the state of California in the form of Caltrans, the county of San Diego, the city of Chula Vista, and the San Diego Association of Governments, among others. Together we have been at the project for 10 years now.

CTV's piece of project is a toll road of about 16 km (10 mi). It goes through one of the last big remaining undeveloped pieces of Southern California and is near a border crossing called San Ysidro, at which some of you have probably experienced the 3- to 5-hour delays. It is also near a new border crossing called Otay Mesa, which the federal government has designated as the official commercial crossing in this area. The purpose of the road is to serve NAFTA trade with Mexico, and more important, the major developing areas on the east side of San Diego.

I am sure you have all heard that Southern California is back on its feet again, led principally by San Diego and Orange Counties, with a great deal of high-tech development and an unemployment rate of 2 to 2.5 percent. Projections show that this will continue for at least the next 5 years. So, ironically, the environmental delays, which I will talk about later, have been a bit beneficial because they have allowed development to catch up with the road, making our ramp-up period a little bit easier. One thing I especially want to mention is the growth in truck traffic at the Otay Mesa port of entry. Crossings there have risen from 886,000 trucks in 1993 to 1.8 million trucks in 1998. Projections show 3.1 million trucks in 2010 and 4.3 million trucks in 2020.

Growth and development are noteworthy not only on the freight side, but also on the commuter side, reflecting enormous amounts of residential development. Congestion is worsening dramatically as we move ahead, both on existing Interstates—Interstate 5 and Interstate 805—and on local roads. Those local roads are getting quite congested as people move in, and, unlike many areas, a good number of the residents are supportive of the road going forward quickly.

Now for a little history. In 1989 the California legislature passed Assembly Bill 680 to allow four private transportation projects to move forward on a pilot basis. At least one had to be in the north part of the state, and at least one had to be in the south. It evoked interest from around the world—we were among 13 consortia that were short-listed and one of the fortunate ones selected. It was an interesting process because the projects were not defined in advance. We were judged on both the importance of the project we were recommending and our capability to deliver it.

We in the private sector had a couple of requirements that were built into the legislation. First, we did not want to own the facilities because of tort and liability issues that can spring from accidents or damages wholly unrelated to the design and construction of the facility. So, the day the road is completed, we turn title over to the state of California. Second, we wanted to be sure there would be no regulation of tolls; we wanted the rates to be wholly market based and up to our discretion. As a result, profits are regulated by a negotiated ceiling, but we have ultimate control over the toll rates themselves. And, a very important point, we needed the ability to use public condemnation rights in the event that we had a recalcitrant seller of the few properties we had to acquire. About 70 percent of the property is being donated by landowners in that region because, of course, they need the road for their developments, and this makes for a nice symbiotic relationship.

Obviously it is incumbent on us in the AB680 program to carry the entire project from its planning through its financing and environmental work. CTV signed a franchise agreement with Caltrans in 1991; a prenegotiated 35-year lease commences when the facility opens.

As part of the development process we were required to complete the full environmental impact report/statement process. We and Caltrans have worked together

doing the EIS over these last 10 years. The original schedule called for the project to open to traffic in 1996, and the environmental process was the main factor that caused a delay of 4 to 5 years. We looked at no fewer than 17 alternatives. In fact, we looked at some that were not very good for traffic, just to be sure we covered all alternatives. We published our draft EIS in 1999 with the expectation that it would be bulletproof and received support from the media and all local jurisdictions. I am happy to report that FHWA provided us with our record of decision in June 2000.

The full SR-125 corridor is composed of multiple projects, of which the CTV toll road is but the southernmost element. Other elements rely on public-sector investment, including federal, state, and local funds for the northernmost sections and a local sales tax program in San Diego to build a connector to the existing freeway system. The pieces to the north are already under construction and will be done by the time we finish the toll road.

Now I would like to talk about the project cost. We are looking at a total toll road cost of $454 million, including $31 million for development and environmental studies, $39 million for right-of-way, $310 million for design and construction, and $74 million for capitalized interest and other costs. We have a procurement out for a design/build contractor, and by fall we should be in a position to obtain financing from the capital markets. The financing will be based on a very strong case built on the growth in San Diego, the development that is occurring in the corridor, and the growth of traffic from Mexico. As is typical for toll roads, we face the front-end problem of traffic ramp-up, but our position is pretty good when one looks ahead.

As for the sources of funds, we are receiving private investment of $68 million, right-of-way donations valued at $18 million, senior bond proceeds of $248 million, a TIFIA loan of $94 million, and investment income of $26 million. We are also getting a TIFIA line of credit of $33 million.

We are looking at two options as we complete the project financing. One is the public route, involving a sale of the franchise to a joint powers authority formed around the county of San Diego and the city of Chula Vista. The authority would then contract with CTV to deliver and operate the facility. The authority would also arrange financing, taking advantage of its ability to issue tax-exempt debt, avoid property tax, and enjoy all of the other benefits unavailable to a private developer. Alternatively, we could keep it private and taxable, which would require some additional equity infusion. Obviously, the former seems more appealing right now.

I would like to say a bit more about the tax-exempt structure. Without getting into too much detail, CTV would sell the project to a joint powers authority—or possibly to a 63-20 nonprofit corporation—at a fair market value, currently estimated at between $75 million and $150 million. With the sale proceeds, CTV would take out the development costs in cash. We would take the remainder of the sale proceeds as a subordinated tax-exempt note at a premium interest rate in the range of 10 to 12 percent. In addition, there would be a $300 million to $400 million fixed-price contract to CTV to actually build and operate the toll road.

Despite our receipt of the environmental record of decision, we still face significant environmental hurdles. The point I want to make as I conclude is that although U.S. DOT and many of the local departments of transportation are doing a great deal to encourage innovation in project delivery and project financing, many other agencies talk about environmental streamlining but do not practice it. Maybe California is a little worse than the rest of the country, but as we encounter the midlevel 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 projects to move in the right direction.

Our next major milestone occurs in November, when we are to execute our TIFIA loan agreements and soon thereafter go to the markets to close the financing. The real impediments that have slowed progress toward the financial closing for a number of years are gone, and now it is only a matter of how and when—not if.

Orange County's State Route 57

Grant Holland

Today I would like to talk about how a developer looks at toll road projects, makes decisions on whether and how to move forward with projects, evaluates projects, and mitigates the various risks associated with these projects.

My firm has worked on a number of toll roads, including State Route 522 in Washington State; the TH-212 project in Minnesota; a project here in Arizona, the South Mountain Loop 202; the Southern Connector in Greenville County, South Carolina; and the SR-57 Extension in Southern California. Some, like the Southern Connector, have moved forward very successfully, and some have not moved at all. Even though each of these projects is unique, we have found that the risks they present are much the same. Thus, I think it is possible to make generalizations regarding the types of

risks and issues that public-private partnerships need to deal with to be successful.

For the purposes of analysis, I like to break the projects down into three phases, recognizing, however, that these three phases often overlap. The phases are (*a*) development, (*b*) design and construction, and (*c*) operations. Each phase presents unique risks and challenges. I define the developmental phase as the period beginning with the initial identification of the project through financing the project. The design and construction phase is the period when the project is designed and built. The operational phase follows substantial completion and covers the period when the project is actually generating toll revenues. Today's presentation is focused on the first two phases.

With regard to the developmental phase, it is my opinion that the private sector is just now coming to grips with the risks and the challenges presented by the developmental phase for transportation projects. Historically, this phase was handled by the public sector. Public-private partnerships shift the responsibility and risk historically assumed by the public sector to the private sector. The public sector has been dealing with those risks for 50 years, but we in the private sector are relative newcomers to this responsibility. Now let me walk through some of these risks.

First are the risks associated with the environmental permitting process. Toll roads done by the private sector are not substantially different from public projects relative to the need for an environmental impact statement, with two notable exceptions. With a toll road, you have to assess socioeconomic impacts in the vicinity. In addition, because the private sector is not as prepared to handle litigation, we do as much as we can in the way of mitigation to ensure a so-called bulletproof environmental impact statement. This way, even if you face litigation, you have a very good chance of winning. The last thing you want is to be on the verge of financing a project and have an environmental lawsuit stop the whole process.

The next major risk in the developmental phase is financial risk. A toll road is a very interesting creature because of its reliance on traffic and revenue studies to support financings. However, a final traffic and revenue study is not conducted until very late in the process, before which you have probably spent millions of dollars on preliminary engineering, permits, and environmental documents. Until the final traffic and revenue study is done, you do not really know if the project is financially feasible. The project's ability to obtain investment-grade credit ratings is critical to the ability to obtain financing. Up until the day the bonds are actually sold, you really do not have a project.

Next is political risk. There is just no way I can overemphasize the risk that the politics of a project present to the private sector. In Washington State, we found a project that made sense and promised a good revenue stream. But we clearly underestimated the politics of the situation. We are getting better at dealing with these risks, but still, if you have the politics on your side, all other problems can be worked through. If the politics are not on your side, it does not matter how feasible and desirable your project is: you are not moving forward.

Right-of-way risk is also very important. It is essential to have the eminent domain powers of the state to carry out very large projects. The thought of determining an alignment and then having to negotiate with hundreds of landowners is very scary. Even with eminent domain, potentially enormous jury awards can blow a budget and make a project unfeasible.

This relates to another major risk, litigation. Both the public and the private sectors face litigation risk. It is often said that litigation imposes both costs and time delays; the most troublesome for the private sector is the loss of time. Litigation also poses an ancillary hazard: the potentially negative effect on public and community relations. My opponents almost always make better copy than I do.

The last major risk of the development phase is legal, specifically the legality and constitutionality of the franchise, enabling statutes, and so forth. In South Carolina we had to litigate the constitutionality of the enabling legislation all the way up to the Supreme Court.

The bottom line is that the developmental phase poses some of the greatest risks and uncertainties to the private sector. As I mentioned, we in the private side are just now coming to grips with ways to manage those risks.

In the design and construction phase, again historically the risk has remained with the public sector. In a traditional design/bid/build process, costs associated with overruns, schedule delays, change orders, and contingencies were all borne by the public sector. But under a public-private project using a true project financing, the private sector is going to bear the risk of cost overruns. In return we should also realize a benefit in terms of both compensation and additional design work.

The second risk associated with design and construction relates to the schedule. I think that if you look at the big design/build projects, proper incentives have the intended effect of causing the private sector to deliver projects ahead of schedule. We are willing to accept liquidated damages clauses, but if you are going to give us them, you also have to give us bonuses for early completion.

Change orders also pose a substantial risk. Generally, if you as a design/build contractor give a guaranteed maximum price contract to a public agency, change orders are not much of an option.

The last thing I want to discuss here is contingency. In public-private partnerships, you often get into dis-

cussions about who has the contingency, who controls the contingency, and ultimately who ends up with the contingency. This is another issue that the private sector has to deal with.

With that I would like to focus on the SR-57 extension and our approaches to risk mitigation. The SR-57 project involves an 18-km (11-mi) proposed toll road in central Orange County, California.

One of the first things the private sector has to analyze when it first looks at a project is the basic rationale for the project. Since the project is located in a heavily urbanized area, the traffic and revenue studies are not heavily dependent on real-estate growth and future development in the area. The traffic demand exists today and will only increase. The four main competing routes for this project are four of this nation's most congested freeways, each running in excess of 200,000 vehicles a day. The northern side of the facility bypasses the "Orange Crush"—the interchange that is often referred to as the worst in the country. At this location SR-25, SR-55, the existing SR-57, and Interstate 5 all come together.

The project serves established employment, entertainment, and transportation needs. At the northern end of the project is the Anaheim entertainment area, including Disneyland, Edison Field, and the Pond. The center of the project has the Santa Ana Civic Center area, the governmental center of Orange County. In the south end there are major shopping areas, coastal communities, central Orange County cultural amenities, and John Wayne International Airport.

There is a tremendous regional support for the project, including support from the Orange County Transportation Authority. There is some local opposition from a couple of the cities this project runs through. But if local opposition always stopped projects, we would probably never have had any freeways in this country.

As a side note, we also felt that it was significant that both the Transportation Corridor Agencies and the 91 Express Lanes had already proven the demand for toll roads within the region. It is our understanding that between these two entities more than 300,000 transponders have been sold, and approximately 250,000 vehicles use these toll roads daily.

As for the legal and regulatory framework for the project, it is an AB680 project, which refers to the California state enabling legislation that laid the groundwork for several public-private toll roads in California, including SR-91 and SR-125. Under the terms of AB680, we are looking at a 35-year exclusive franchise. The legality of AB680 was litigated in the early 1990s, and the California Supreme Court upheld the statute's constitutionality.

The bulk of the project is located within the Santa Ana River Channel. The Army Corps of Engineers has recently lined this channel. This alignment not only helps with the environmental process, especially since the corps completed an EIS when it lined the channel, but also helps reduce the right-of-way risk since the channel is controlled by a single entity, the Orange County Flood Control District.

In conclusion, I emphasize that public-private partnerships are really about risk-sharing. There are three basic keys to success: a solid rationale for the project; the commitment of the public sector; and a strong private-sector team of experienced local, regional, and national folks who have done these types of projects before. If we work together, we can move mountains. If we do not, these projects will have so much risk in them that the private sector will not pursue them much longer.