



U.S. Department
of Transportation

**Federal Highway
Administration**

Number 11
September 1994

SEARCHING FOR SOLUTIONS

A Policy Discussion Series

Summary of The Federal Highway Administration's Symposium on Overcoming Barriers to Public-Private Partnerships



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Summary of The Federal Highway Administration's Symposium on Overcoming Barriers to Public-Private Partnerships

Prepared for:
Federal Highway Administration

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May 1994

The following is a list of other publications in the Federal Highway Administration's "Searching for Solutions: A Policy Discussion Series."

Number 1	March 1992	Exploring the Role of Pricing as a Congestion Management Tool
Number 2	June 1992	Exploring Key Issues in Public/Private Partnerships for Highway Development
Number 3	August 1992	Public and Private Sector Roles in Intelligent Vehicle-Highway Systems (IVHS) Development
Number 4	August 1992	Assessing the Relationship Between Transportation Infrastructure and Productivity
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Number 9	February 1994	Bond Financing and Transportation Infrastructure: Exploring Concepts and Roles
Number 10	April 1994	Metropolitan America in Transition: Implications for Land Use and Transportation Planning

Foreword

This report summarizes the Federal Highway Administration (FHWA) sponsored seminar held on December 6, 1993, covering various topics related to overcoming barriers to public-private partnerships for developing and financing highway transportation projects.

Public funds have not kept pace with the demand to maintain and improve the nation's extensive network of high-quality roads and bridges. Increasingly, national highway programs have encountered restraints caused by overriding budgetary objectives. State and local bodies face similar pressures. As a result, government agencies charged with providing and maintaining highway infrastructure are considering the option of turning to the private sector to develop partnerships that will enable investment to continue to meet growing travel needs.

In the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991, the Congress significantly increased the possibilities for non-traditional involvement in transportation projects by authorizing greatly increased flexibility in blending Federal aid with private financing and operating arrangements. Section 1012 of ISTEA expands opportunities for Federal-aid participation in toll roads and permits a wide range of public and private ownership of facilities constructed with Federal-aid financing. Further, it authorizes

Federal cost sharing in construction and reconstruction of toll roads of up to 50 percent, except for Interstate highways, and up to 80 percent on bridges and tunnels, including Interstate facilities.

Even with the additional private participation possible under ISTEA, however, significant barriers continue to inhibit realization of the potential for public-private partnerships in highway investment. As part of a continuing effort to understand these barriers and, more importantly, to develop ways to overcome them, the Federal Highway Administration held a one-day Symposium to bring together experienced professionals from both the public and private sector to help identify and develop ways to overcome these barriers. In support of this effort, FHWA has retained Apogee Research, Inc., supported by Parsons Brinckerhoff, Skadden Arps, Smith Barney, and Reason Associates to conduct a five-part research project. This Symposium was one part of that effort.

This report is Number 11 in a series entitled Searching for Solutions: A Policy Discussion Series. Information provided in this and other reports deal cover key transportation issues, such as public-private partnerships, congestion pricing, transportation and land use, transportation and air quality, and transportation and economic productivity.

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Executive Summary

On December 6, 1993, the Federal Highway Administration held a Symposium in Washington, DC, to discuss ways of overcoming barriers to public-private partnerships in highway transportation. The invitation-only seminar was attended by over 75 participants representing both the public and private sectors. It provided an opportunity for a broad range of parties interested in public-private partnerships to discuss experiences that both posed barriers to implementing projects and showed ways of overcoming them.

Public-private partnerships offer the possibility for private capital to augment the budgets of the government sector with fresh capital. Innovative financing techniques, such as toll financings or commingling private with public funds, have been encouraged by the increased flexibility offered by the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA). However, these mechanisms remain underutilized by the States because of various institutional, legal, and financial barriers.

The Clinton Administration has stressed the central role that investment in transportation and other infrastructure plays in creating jobs and stimulating lasting economic growth. At the same time, the tradition of charging government with the sole responsibility for maintaining and developing the infrastructure is no longer considered appropriate. The Administration's approach views the private sector as a partner in developing innovative and efficient solutions to public policy problems.

As part of a continuing study, FHWA asked a team of firms led by Apogee Research to identify these barriers, evaluate their importance, and develop potential solutions to them. The Symposium, held on December 6, 1993, represented an important step in the development of innovative solutions. Three overall themes or topics were addressed: the first topic was to identify an array of partnership structures available for

financing infrastructure improvements; second, experience from case studies was used to identify and discuss barriers to public-private partnerships; and finally, various means to overcome the barriers were suggested and discussed in an open forum.

Models of Highway Delivery

A public-private partnership reflects virtually any mixture of public and private financial sponsorship that departs from traditional public highway delivery. Actual projects to date have varied widely with respect to the degree of private involvement. Several approaches were developed which incorporate increasing amounts of private involvement along with non-governmental funds. As the private sector contributes more equity financing and assumes more risks associated with the project, the model develops more characteristics of full privatization. The following partnership structures, evolving from public to private, were discussed:

- *Traditional New Public Highway.* Characterized by governmental ownership and funding with investment commonly justified by general system-wide public needs.
- *Traditional New Public Toll-Road Delivery.* Public authority ownership and operation, using toll revenues to finance non-recourse and/or State backed tax-exempt debt to construct the facility and provide interim operating funds.
- *Innovative Financing for New Public Facilities.* Public ownership and operation but with full or partial reliance on local benefits which can be captured by targeted exactions, such as development impact fees in addition to tolls.
- *Blended Public-Private Financing for New Public Toll Road Delivery.* Blending of roles and financing; control and direction continues under governmental oversight, usually by a local authority.

ty, with non-recourse financing to deliver a complete, stand-alone project.

- *Public-Private Partnerships to Deliver New Road Capacity.* Substantial private equity participation and a strong private role in the structure, delivery, and operation of the project. The public role tends more toward framing the concession agreement, contributing pre-development costs, or assembly of right of way.
- *Privately Supplied New Highway.* Finance is provided and risk borne almost entirely by private developers and their financial supporters. Important characteristics include significant at-risk equity combined with the issuance of taxable debt.

Barriers to Public-Private Partnerships

All large-scale infrastructure investments face numerous barriers of a financial, technical, and political nature. However, because of the non-traditional nature of public-private partnerships in highway development, many additional challenges must be overcome to implement a partnership project.

The barriers facing public-private partnerships in highway development were identified and discussed throughout the Symposium. Apogee Research identified a series of barriers or issues in the pre-Symposium briefing book and summarized these for the response panel, classifying them into two categories: (1) enabling environment, and (2) economic regulation and financial risk. Each presenter or discussant also focused on specific barriers, most of which reflected actual project experience with hurdles faced and, in many cases, overcome during project development. Projects presented included, but were not limited to, the Maricopa County, Arizona Urban Expressway Proposal; the Dulles Greenway of Loudoun County, Virginia; the SR-91 and San Joaquin projects in Orange County, California.

The following barriers or issues drew the most attention and comment during the Symposium:

- *Financial Barriers.* Mixing public and private

financial interests presents attractive possibilities for expanding the range of projects initiated, leveraging limited public funds, and injecting a private-sector test for financial reality and cost effectiveness into the project decision making. However, because of partnership complexity, the most frequently mentioned, and apparently most significant barrier was financing.

Inadequate or faulty economic projections result in reservations about financial viability. Project revenues must be able to support, with some safety margin, both debt service and a return to equity investors. The financial risks include start-up financing problems, unsure traffic levels and income streams, uncertain completion costs, general uncertainty about the economy, questions about tax treatment and depreciation, exposure to tort liability, unfavorable Federal tax laws, and the ability to obtain non-toll revenue.

Under this category, participants stressed the difficulty of obtaining financing in the early stages of project development, because project risks cannot be accurately estimated at this stage. If not adequately addressed, these risks can render a project unfinanceable.

- *Equity.* Equity barriers are a subset of financial barriers, but reflect the difficulty of obtaining equity from private sources. Limits on revenue sources and pricing policies will restrict the potential for profit and incentive for private investment. Governmental partnership poses a greater risk that the private entity will not realize project returns.
- *Barriers Related to Concession or Franchise Agreements.* Major issues generally addressed by franchise agreements include explicit definition of the project and governmental requirements, risk assignment, regulatory oversight, and provisions for public funding participation. Important hurdles include agreement on default or non-compliance provisions, service standards, and policing arrangements. Financial issues that can appear in the franchise agreement include regulation of toll rates and returns on equity investment and provision for the time limitation of the agreement and options for extensions. Assignment of tort liability and provision for environmental permitting and condemnation assistance to ease right-of-way

assembly were identified as important hurdles to overcome by Symposium participants.

- *Powers of State Agencies.* The authorizing framework within which State agencies operate can vary significantly. Adequate, clear delegation of authority to a governmental representative in the enabling legislation was viewed as essential to project implementation. Key issues included the political complexities of competing jurisdictions, historical/legal limitations on State contractual and police powers, and more flexible avenues for State-Federal support.
- *Procurement Barriers.* The equity partners involved in a public-private partnership may have interests that conflict with traditional government interest. Issues identified included choice of contractors and vendors, local content provisions, competitive bidding, minority business participation, suitability of the design/build process, and protection of intellectual property. Alignment of these issues might involve redefinition of roles and responsibilities.
- *Permitting Process.* Significant time and financial risk are associated with obtaining the proper environmental clearances and work permits. To alleviate this burden, it was suggested that the public sector pre-clear the environmental permits before substantial private equity has to be put at risk. Challenges to permits and the risks of new interpretations imposing added requirements represent significant barriers.
- *Tax Structure.* The existing tax structure poses several hurdles to partnership projects. The two-tiered tax structure, involving private taxable bonding and public tax-exempt bonding, is one key disincentive. Since private funding can be at a 30-percent disadvantage, the inability of partnership projects to issue tax-exempt debt means that projects funded with public-issued bonds are often preferred. Highway development costs are substantial and mostly incurred early in the life of a project, while revenue streams tend to develop slowly but come in over long periods of time. Thus, higher taxable rates impose an extra disincentive for public-private infrastructure projects.
- *Support from Government and the Community.* Because of the non-traditional and complex

nature of public-private partnerships in highway development, support from both government and community interests takes on greater importance than with more traditional types of development. Without continuous local, State, and Federal support, the public-private partnership is more vulnerable. In addition, support by local business can help to promote the positive aspects of a project.

Overcoming the Barriers

The participants indicated that the future of transportation funding in the United States undeniably leads us further along the road to more public-private partnerships. Participants recommendations were introduced during the presentations and discussions throughout the day. A summary of the key suggestions to overcome the barriers follows:

- *Create an Attractive Investment Climate.* The States must create an attractive climate to encourage and facilitate the participation of the private sector in the development, financing, and operation of public-private transportation projects. The State's lead project office must have full project authority to commit the State on important negotiating issues.
- *Provide Direct Government Support.* State and Federal government assurances may be required to convince the private sector that the government is committed to the project. In addition, provisions in the franchise agreements need to attract at-risk private capital. A special-purpose transportation authority was suggested in which State DOTs would operate under more restrictive procurement and design standards.
- *Develop Community-wide Support.* The developer must gain wide-ranging support for the project. The business community and local governments need to carry greater responsibility by becoming stakeholders. This goal can be accomplished by allowing landowners and local governments to trade right-of-way privileges for equity interest.
- *Provide Early Development Stage Support by Government.* To increase private interest in the projects by reducing project risks early in the project development stages, the State or public

partner should consider taking responsibility for going through the permitting process. States could obtain the environmental clearance with a private sector pay-back when the project is developed. A one-stop office for attaining permitting and negotiating developer agreements, including the Federal, State and local requirements, would expedite projects.

- *Limit Environmental Protests.* Both State and Federal governments should consider a statute of limitations for court actions protesting the Environmental Impact Statement (EIS). Participants also said it would be helpful if State DOTs and FHWA would seek summary court judgments to resolve challenges against projects they support.
- *Enhance Incentive to Use Private Bonding.* The public sector should consider expanding the definition of private activity bonds to include private infrastructure, relaxing tax law restrictions on contract periods to facilitate franchising, and providing an opportunity for the private sector to recover development and capital costs over a 20-to-30-year time period.
- *Provide Funding as a Catalyst for Public-Private Arrangements.* The State and Federal governments should develop new methods of financing to promote these partnerships. Participants proposed that barriers to financing could be overcome through wider use of State Revolving Funds (SRFs). Section 1012 of the ISTEA offers an opportunity for States to leverage scarce Federal and State resources with public and private sector resources, thereby expanding the total amount of funds available for transportation infrastructure investment. With Federal

legislative changes, a SRF could be capitalized with a defined portion of Federal ISTEA funds augmented by State contributions from nonfederal sources.

- *Develop Innovative Financing.* Innovative use by States of Federal aid, ranging from loans, loan guarantees, and advance take-downs, could assure the projects got a running start. Also suggested was a Federal line-of-credit or revolving fund to provide seed money for special projects. Direct Federal assistance to toll authorities could bypass cultural barriers at State DOTs. Additional methods for supporting debt ratings on partnership offerings were cited, including traffic guarantees and exercising/lending of eminent domain powers on behalf of developers. The FHWA should actively support further innovative financing initiatives for infrastructure development.
- *Look Beyond Tolls for Revenue Streams.* States should expand the eligibility of potential revenue streams to repay loans. Current law only allows Federal-aid loans for projects that generate revenue, such as toll bridges. States must work with the Federal government and the private sector to develop a series of financial structures and partnerships that will allow more effective leveraging.
- *Establish On-going Communications.* Support was expressed for establishing an ongoing communication vehicle among private sponsors, interested States, and FHWA. Participants suggested FHWA sponsorship of a Symposium or working group discussion once or twice per year.

Introduction

One of the major problems facing the nation is the condition of our infrastructure. The Administration is committed to improving the nation's roads and bridges and has acknowledged infrastructure's vital role in economic growth and global competitiveness. However, public funds are not being provided at a level sufficient to maintain and improve the nation's infrastructure, and significant additional receipts are being reserved for deficit reduction.

The Administration views the private sector as a critical partner in developing innovative and efficient solutions to public policy problems, including infrastructure financing. ISTEA allows the possibility of private involvement.

To create a better understanding of how public-private partnerships can be used to benefit the nation by helping to fund infrastructure investment, the Federal Highway Administration sponsored a Symposium on December 6, 1993, entitled "Overcoming Barriers to Public-Private Partnerships". The Symposium brought together more than 75 transportation officials, investment bankers, construction contractors, and other interested parties from the public and private sectors. They met to identify and discuss key issues that must be considered to encourage or make possible public-private partnerships, and to develop innovative means to overcoming barriers to public-private partnerships.

During the Symposium, the participants engaged in panel presentations and discussions designed to elicit and examine issues related to public-private partnership needs and benefits. This report summarizes the presentations and the discussion sessions of the Symposium.

Rodney Slater, Administrator of the Federal Highway Administration, opened the Symposium

by emphasizing the administration's commitment to rebuilding America through investment in infrastructure and the need for the public sector to embrace partnerships with the private sector to fund these investments. Then, Dr. Porter Wheeler, Director of Surface Transportation at Apogee Research, presented an overview of several models depicting how highway construction is organized and funded in the United States. Dr. Wheeler also presented a timeline for typical public-private partnerships, emphasizing the risks associated with each project stage. Following this, several partnership projects in Virginia, California, and Arizona were highlighted and discussed.

Mortimer Downey, Deputy Secretary of Transportation for the U.S. Department of Transportation, delivered a luncheon address emphasizing relevant financing issues under ISTEA.

The afternoon session was devoted to a full discussion of barriers to public-private partnerships and methods to overcome them. Apogee Research consultants and subcontractors delivered brief presentations on various barriers previously identified in a briefing book prepared for the Symposium. A panel comprised of public and private sector participants reacted to these presentations and suggested how the barriers may be overcome. An open discussion followed. In the free-flowing discussions during the day, many policy recommendations surfaced and are reported here in summary form. These recommendations reflect the views of the individual speakers and are not necessarily endorsed by FHWA.

Finally, Roger Feldman of McDermott, Will, and Emery and Professor Jose Gomez-Ibanez of Harvard University summarized the key issues and reflected on the Symposium's proceedings.

Administrator's Remarks

Mr. Rodney Slater opened the Symposium by commending the participants and Apogee Research for providing an example of public-private sector joint effort resulting in the December 6, 1993, Symposium. He stressed the importance of discussing the critical issues facing transportation, particularly the barriers to public-private partnerships and how to use the advantages of partnerships between the public and private entities for development of highway facilities. Mr. Slater acknowledged that public-private sector partnerships must be approached differently today than yesterday.

He said that the Clinton Administration has made rebuilding America a national goal and emphasized the central role that transportation and infrastructure investment play in creating jobs and stimulating lasting growth. The Administration's commitment to investment is one reason why Mr. Slater was pleased to join Secretary Peña in submitting to Congress a proposal for the National Highway System (NHS).

The NHS proposal is particularly significant to the FHWA as the groundwork is completed for its second century of service to the American people. Moreover, the NHS proposal marks the first step in moving towards the Secretary's vision of a national transportation system, an integrated, seamless system that will directly serve the American people. Mr. Slater concurred with ISTEA's declaration of this system as "the centerpiece of a national investment commitment to create the new wealth of this nation in the 21st century."

The NHS will serve as the backbone of the intermodal transportation system and, along with

the other modes of transportation, will sustain, strengthen, and enhance our international competitiveness as the country enters the global economic stage. A strong, unified intermodal transportation system is vital to our future as a nation as evidenced in Europe's struggles to create a single economy in the absence of a unified infrastructure, complicated by national boundaries and separate national infrastructures. Europe is now considering the development of a highway network similar to our nearly completed Interstate System.

Mr. Slater identified the great challenge in the final decade of this century as our ability to finance the investments necessary to sustain our Nation's infrastructure, while also accomplishing the Administration's commitment to put our nation's economic house in order. It is necessary to identify and foster creative, innovative solutions to this challenge. The shared goal of the Federal government and the States to finance and rebuild our Nation's infrastructure can only be achieved through employment of the full spectrum of financial resources, he said. Financial tools used elsewhere, in both the public and private sectors, must be brought to bear on transportation needs in the next decade and beyond to expand funding opportunities.

According to Mr. Slater, the States have identified a need for guidance to take advantage of new Federal program flexibility permitted by ISTEA. Most States will have to pass legislation which complements the new toll provisions. FHWA is providing Guidance For State Implementation of ISTEA Toll Provisions in Creating Public-Private Sector Partnerships, intended to assist States in making legislative changes to foster these partnerships. This guide contains specific examples of

legislation used by the few States that passed legislation before ISTEA was approved at the Federal level.

Mr. Slater said the key items that should be addressed in such legislation include how public and private funds may be combined, the form of procurement, the use of State authority for right-of-way taking, and limitations on liability. These and other issues can be barriers to effective use of financing techniques needed to achieve national objectives, he said. He asserted that the goal of

the Symposium was to identify ways to avoid these barriers. He indicated that the results of this Symposium will be incorporated in a report that will be distributed to States and local elected officials to guide those interested in taking advantage of the new flexibility offered by ISTEA.

Mr. Slater closed by thanking the participants for joining FHWA in an exciting endeavor and said that their efforts will bring about changes the Nation needs and deserves in a time of challenge.

Overview of Models and Timeline for Project Delivery

Dr. Porter Wheeler, Director of Surface Transportation at Apogee Research, reviewed highlights from the Symposium Briefing Book, *Overcoming Barriers to Public-Private Partnerships*. He presented several models of highway delivery and highlighted the diversity of delivery methods, noting that few projects fit the same mold. He also discussed a timeline of highway delivery with an emphasis on risk levels at different project stages.

Models of Highway Delivery

Traditional highway construction projects in the United States have been largely organized and funded by the public sector. A variety of new project formats or “models” are evolving in response to budgetary constraints and provisions in ISTEA. These models of project development can be arrayed along a continuum from “traditional public” to “private,” as exhibited in the following matrix.

Generically, a public-private partnership reflects virtually any mixture of public and private financial sponsorship that departs from the traditional public highway model. The models described below have been developed which incorporate increasing amounts of private involvement, along with non-governmental funds. These half dozen options reflect an array of choices available for financing infrastructure

improvements. The approaches share common features, yet each is unique in one or more specific aspects. In this framework, a public-private partnership could require substantial private equity and risk sharing. As the private sector contributes more equity financing and assumes more risks associated with the project, the model begins to develop more of the characteristics of full privatization.

On the public end of the spectrum is the traditional new public highway, characterized by governmental ownership and funding with investment commonly justified by general system-wide public needs. Virtually all risks associated with project delivery are borne by the governmental sponsor and subsumed to highway users in general.

On the private end of the spectrum is the privately supplied new highway for which finance is provided and risk borne almost entirely by private developers and their financial supporters. Important characteristics include significant at-risk equity combined with the issuance of taxable debt.

The six models of highway development put forward as prototypes are:

- *Traditional New Public Highway Delivery.* The traditional public highway is characterized by public decision making at all phases and public financing from a input matrix

Models of Highway Delivery

Model	Justification	Structure	Finance	Risk Borne	Delivery
Traditional New Public Highway Delivery	System-wide needs	Public ownership and operation	Dedicated and general revenues (toll-free)	By government and general public	Government directs private contractors
Traditional New Public Toll-Road Delivery	Segment Characteristics	Public authority owns and operates	Non-recourse debt covered by tolls	By government and revenue-bond holders	Authority directs private contractors
Innovative Financing for New Public Roads	Local project-related benefits	Public ownership and operation (authority or special district)	Traditional sources supplemented by fees and extractions	By government with some sharing through fees and exactions	Government directs contractors; some turnkey activities
Blended Public-Private Financing for New Public Toll-Roads	Local needs	Local inter-governmental authority	Wide open blending, including traditional sources and private extractions	Shared by local government, bond holders, contributors and subordinated lenders (contractors)	Local-based authority using variety of private contractors and turnkey activities
Public-Private Partnerships for New Road Capacity	Local needs and project-related benefits	Private with strong public role in framing concessions	Wide open blending with substantial private equity	Shared public-private	Largely private with government oversight
Privately Supplied New Highways	ROI including capturable project-related benefits	Private with limited public role on concessions	Largely private	By private developer	Largely or entirely private with reduced government oversight

combination of user fees and/or dedicated general revenues, for which revenue collection is generally distinct from facility usage.

- *Traditional New Public Toll-Road Delivery.* Traditional public toll-road delivery has been accomplished by public authority ownership and operation, using toll revenues to finance non-recourse and/or State backed tax-exempt debt. While few new authorities have been created since the mid-1960s, some new facilities have been built by existing authorities, usually by redirecting revenue flows from older roads or bridges.
- *Innovative Financing for New Public Facilities.* The innovative financing model basically continues public ownership and operation but with full or partial reliance on local benefits that can be captured by targeted fees and exactions. While tolls may be imposed as well, innovative financing often relies instead on land contributions and development impact fees. Some limited-scale projects, such as an access ramp or flyover, may be delivered as complete, stand-alone projects.
- *Blended Public-Private Financing for New Public Toll Road Delivery.* This model moves toward a blending of roles and financing, with the resulting toll facility often serving a local or regional need. Control and direction continues under governmental oversight, usually by a local authority, with non-recourse financing (at least non-State/Federal recourse) to deliver a complete, stand-alone project. In addition, blended financing projects often have some subordinated debt that may have some characteristics of limited private equity participation.
- *Public-Private Partnerships to Deliver New Road Capacity.* A true public-private partnership usually has substantial private equity participation and a strong private role in the structure, delivery, and operation of the project. The public role tends more toward framing the concession agreement, contributing pre-development costs, environmental and preliminary design service, or even assembly of right-of-way. The State or public authority may assume ownership (and thereby tort liability), then step aside for a long but usually pre-determined lease-for-operations period. Delivery of the project is largely private, and the private role may follow either the build-

operate-transfer (BOT) or the build-transfer-operate (BTO) structure. Debt is likely taxable. Considerable risk is borne by private participants.

- *Privately Supplied New Highways.* This model encompasses predominantly private projects with the public role limited to issuance of concessions or franchise agreements. Finance and delivery is largely or entirely private, and the project is supported by project-related benefits that can be captured in the form of tolls or other revenues.

Timeline of Highway Delivery

Symposium participants identified these typical life-cycle stages associated with the delivery of a highway facility through public-private partnerships: project genesis, project selection, financing, construction, and operation.

- *Project Genesis.* During project genesis, the State must establish effective enabling legislation that allows the use of private funding sources for public infrastructure. Political coalitions are built to provide political assurances to potential private partners. Assurances may include measures to limit tort liability and fair compensation in the event of State expropriation. Finally, this stage includes preliminary selection of specific systems, corridors, or routes for development. Often the State solicits general proposals.

Throughout the project genesis stage, both private and public financial commitment is relatively low. However, risk to any funds supplied is very high, and approval is speculative. Certainty of State commitment to public-private partnerships in the face of evolving public opinion remains low.

- *Project Selection.* Project selection requires basic engineering. Projects are selected, right-of-way documents are obtained, environmental and other permits are sought, and revenue forecasts and business plans are prepared. Risk remains very high, and the necessary financial commitment rises. Risk level is also dependent on the level of State participation in permitting and in the right-of-way process.
- *Financing.* Following project selection, financing must be secured because the level of financial

commitment rises rapidly in the construction phase. Equity commitment by the private developer must be determined, revenue forecasts reviewed, and the overall financing closed before construction may begin. Risk level continues to remain very high but may be mitigated by the level of State and Federal financial support.

- *Construction.* Construction may involve traditional bidding/awarding process. However, assurances on cost or award may have been sought by the developer in earlier stages, or

even included in enabling legislation, to protect intellectual property rights in the project. Depending on earlier agreements, this building phase can remain very risky. The actual construction phase incurs medium risk.

- *Operation.* Finally, the operation stage involves training personnel for daily operation, inspection, and maintenance. Operations are relatively low risk. However, tort liability risk can be high if not limited by agreements with State authorities.

Panel on Project Experience

Introduction

A panel of hands-on experts with direct experience in public-private partnerships for highway delivery was convened. Both public and private sector representatives discussed their project experiences. Dulles Greenway, SR-91, Arizona, and San Joaquin were the focal projects. The panelists addressed the barriers their efforts faced in developing their respective projects. Brief descriptions of these projects are presented in the Appendix.

William Reinhardt – Mr. Reinhardt, editor of Public Works Financing, introduced the panel and moderated the discussion. In his opening remarks, he offered his own suggestions of the more significant barriers to public-private partnerships, as follows:

- *Financial hurdles.* The foremost barrier is financial. The two-tiered tax structure, involving taxed private bonding and tax-exempt public bonding, causes private funding to be at a 30-percent disadvantage. In addition, little direct financial incentives exist for States to use Section 1012 of ISTEA, and, with many projects already in advanced stages of the infrastructure pipeline, no immediate impetus to apply the flexible financing provided under ISTEA exists.
- *Cultural Barriers.* Other barriers are related to mind-set. Currently, the public resists toll projects and opposes the tolling of pre-existing tax-supported roads. State and Federal officials have a long history of commitment to “free” roads and have difficulty generating enthusiasm for toll facilities, particularly in the face of public resistance. This mentality must change before the private sector will feel confident enough to pursue public-private partnerships and be able to gain financing and community support.
- *Urban Road Barriers.* Most toll projects are proposed for densely populated urban areas where State departments of transportation (DOTs) are

developing new relationships with metropolitan planning organizations (MPOs) to meet transportation improvement needs. In addition, MPOs may have been sufficiently empowered by ISTEA to organize projects themselves, but many are not yet fully effective in developing area-wide highway improvement programs or may not endorse new highway development.

Dulles Greenway, Loudoun County, Virginia

John Milliken – Mr. Milliken, Secretary of Transportation for the Commonwealth of Virginia, provided the public-sector perspective on the Dulles Greenway project.

When the Dulles project began in 1985, the belief in the private sector was that it could deliver the project more quickly and economically than the public sector. Therefore, the private sector did not solicit any assistance or input from government. However, some of those closely involved knew that this was not realistic. For example, from a design and engineering standpoint, there is little difference between public and private projects. A successful project depended on the two groups working as partners. Coming to that realization took time.

There were two clear advantages of using private financing:

- The ability to get the project moving immediately rather than waiting for the regular planning and allocation process.
- The use of private financing expanded the funding sources for infrastructure investment. In particular, the Commonwealth of Virginia, which has limited debt capacity, would have been unable to finance such projects without additional sources. All States have some limit to

their capacity to incur capital costs.

However, several problems inherent in the private nature of the project existed:

- Financing proved skittish, and the economy soured, adding to the financing difficulty. A weak economy increased the risk for the developer of a road in a new market with an uncertain volume and timetable.
- Virginia faced possible constitutional limits on the ability of the Commonwealth to lend its “credit” to a private entity. In addition, there appeared to be no clear way under the Virginia scheme to protect the investor on the down-side risk.
- Default contingencies in agreements between the project and its lenders raised these questions: What happens in the event of a default three years after the road opens? Who has the ability to adjust the toll rates, and on what basis can the interests of the lender be protected? How can the interests of the lender and the Commonwealth be protected?
- Lenders were concerned about regulation of toll rates. Enabling legislation gave authority to the State Corporation Commission (SCC) to adjust the toll rates, posing an additional risk to project financing.

Mr. Milliken also addressed Title 23 provisions related to Federal aid. The Dulles project had not qualified under the National Environmental Policy Act (NEPA) or met relocation provisions rendering the issue of Federal funding moot from Virginia Department of Transportation’s perspective. In any case, toll provisions of ISTEA and the nuances of Section 1012 were of no help because the State’s apportionment was stretched over too many projects already. ISTEA just provided another option to use funds that remained at levels inadequate to meet transportation needs.

Michael Crane – Mr. Crane, Chairman of Toll Road Investors Partnership and chief developer for the Dulles Greenway project, presented the developer/equity investor perspective. Mr. Crane emphasized the importance of having a strong working relationship between the public and private sectors.

At first, the private sector was confident about its efficiency compared to the public sector and attempted a purely private approach to the project. After several false starts, however, this developer learned that the project had to be viewed as meeting public needs through private capital. The developer’s approach eventually changed, and a truly public-private partnership evolved.

Mr. Crane expanded on Mr. Milliken’s point that the participants and stakeholders, including landowners, cities, counties, the airport authority, and others wanted valuable compensation for their cooperation. Some of these problems disappeared when the highway developers entered a partnership with the government. Once the adversarial relationship disappeared, many of the government bodies became more cooperative and partnership oriented.

Mr. Crane identified several of the most significant barriers that the Dulles project faced, including:

- *Agreement.* Putting together the equity sponsorship team and developing a suitable operating agreement. There was no cookie-cutter pattern that could be borrowed from previous projects. Moreover, the agreement had to be a living document that could adjust with the changing needs of the project.
- *Permitting.* Obtaining environmental clearances and work permits. Numerous State and Federal permits, as well as permits for Loudoun County and 27 land districts required much attention and financial resources.
- *Financing.* The most significant problem was financing. The Dulles Greenway project is located in a newly developing area of Northern Virginia. Highway demand forecasts and the ensuing revenue projections are dependent on the pace of development. A recent downturn in the local economy, specifically in real estate development, caused potential lenders to be suspicious of the project’s viability.
- *Venturesome Contractor.* Securing a venturesome contractor to undertake engineering, design, and eventual construction. Firm cost estimates are required to secure financing, and for the

Dulles Greenway project, contractor equity was also needed.

Because there was no clear history of a working partnership with the public sector, the lending community was wary of the lack of government guarantees. In addition, there were general concerns about competing highway systems and whether the project finances would be manageable through the initial ramp-up period, especially without any public sector commitment.

As a result, the lending community required a substantial equity commitment on the part of the Dulles Greenway developers. Without strong partnerships and some base-level financial commitment by the public sector, Mr. Crane emphasized that future projects may not be able to raise the level of equity funding used in the Dulles project. From a financial perspective, he felt the Dulles project to be unique.

SR-91 Express Lanes, Orange County, California

Roy Nagy – Mr. Nagy, from the Office of Public-Private Partnerships at CALTRANS, presented the public-sector perspective on SR-91 and the other AB-680 projects. Mr. Nagy has worked closely with Mr. Carl Williams on the four projects that were authorized by AB-680.

Mr. Nagy focused on how the States must create the right climate to attract, encourage, and facilitate the participation of the private sector in the development, financing, and operation of public-private transportation projects. He suggested that the first step is to develop sound and flexible enabling legislation that encourages the participation of the private sector. Secondly, it is imperative that the government streamline its procedures to cut through the normal, often bureaucratic government process to provide to the private developer and its financial partners a quick response.

In California, the Governor expressed strong support for the AB-680 concept as did the Director of CALTRANS. This support, which was reinforced continually throughout the development process, provided the government assurances required to convince the private sector that the State government would stay the course.

When negotiating a franchise agreement, it is important to have a State negotiator who has the authority to commit the State on important negotiating issues. Private-sector negotiators become very frustrated when, after negotiating a deal, they learn later that the contract was disapproved at a higher State level.

The AB-680 program, which predated the ISTEA legislation, specifically precluded the use of Federal or State funds. These projects thus could not take advantage of the current Federal funding provisions of ISTEA. Under AB-680, all State authority to implement the program was delegated to CALTRANS, but the projects to be proposed and their financial details were left completely to the private sector. CALTRANS did, however, select the four successful projects using criteria the department had developed.

Mr. Nagy offered the following advice to facilitate successful public-private partnerships:

- *Flexible Legislation.* It is extremely important that the enabling legislation be flexible enough to attract the private sector. There are several models that have been developed with the assistance of the private sector. Two recent pieces of legislation, reflecting the ISTEA toll road provision, have been enacted by the States of Minnesota and Washington.
- *Government Support.* These projects need continuous governmental support and reassurance to move forward.
- *Full Authority.* It is much easier to implement these projects if full authority is delegated to the implementing department.
- *Revolving Fund.* State revolving funds would be an excellent way to take advantage of ISTEA's flexible funding provisions. States could provide loans or credit guarantees to attract private financing to projects. Loan repayment flowing back into the revolving fund could be used to fund additional projects.

Gerald Pfeffer – Mr. Pfeffer is Managing Director of California Private Transportation Company, a limited partnership formed by subsidiaries of Peter Kiewit Sons', Inc., Cofiroute Corporation, and Granite Construction. These entities have joined CALTRANS to develop tolled express lanes

in the median of the SR-91 (Riverside) Freeway. Mr. Pfeffer named four categories of barriers to public-private partnerships: legal, political, financial, and environmental. Although all were significant, some posed greater problems than others for the SR-91 project.

- *Legal Barriers.* The foremost legal issue is the inability of these partnerships to issue tax-exempt debt. During the competitive procurement phase of California's AB-680 program, several other projects (in addition to SR-91) were investigated but dropped because of the high taxable debt payment hurdle. To overcome this problem, tax provisions should be amended to allow the issuance of tax-exempt debt for public infrastructure facilities developed through public-private partnerships. Legal barriers to the tolling of sections of the Interstate System should also be lifted. Numerous attractive projects could be undertaken in the absence of this provision.
- *Political Barriers.* Local political issues will always arise as potential barriers. Negotiation with local politicians is the way to effectively alleviate political issues. Since all projects have local aspects, local concerns must be addressed.

Another significant political risk is the potential amendment or repeal of the enabling legislation. After several State projects had been negotiated and signed, members of the California legislature attempted to amend the AB-680 law. This posed a significant risk to private developers and investors. The public sector must assure the private investors that they will be protected. CALTRANS, openly recognizing that it could not assure legislative continuity, stated in the franchise agreement that it would make every effort to hold harmless the private entities it contracted with under AB-680.

- *Financial Barriers.* Financial barriers include concerns over competing facilities. CALTRANS agreed to provide reimbursement in case of economic loss resulting from construction of competing facilities; however, CALTRANS cannot legally bind a future legislature from building competing facilities.

The Orange County Transportation Authority's financial commitment to the project, in the form of

subordinated debt representing approximately six percent of total financing, was important. This risk acceptance signaled to private lenders that the public sector was committed to the project. State revolving funds, loans, or other government services could be useful to this end.

- *Environmental Barriers.* Although the SR-91 project was perceived as environmentally benign, the environmental permitting process poses significant time and cost risks for public-private partnerships. The recent regulations on air quality conformity appear to add additional complexity to an already challenging process. Since many of the issues raised in the environmental process are related to broader public policies, such as growth management, it may be appropriate for the public sector to share in these risks. Environmental barriers were not significant for the SR-91 Expressway. Environmental permits were pre-cleared by CALTRANS for the developer.

Urban Express Lanes, Maricopa County, Arizona

Peggy Rubach – Ms. Rubach, Special Assistant to the Secretary of the Arizona Department of Transportation and head of the Office of Alternative Funding, talked about the status of privatization initiatives in Arizona. She was previously chairperson of the Maricopa Municipal Planning Organization and mayor of Mesa, Arizona.

The situation in Arizona is particularly difficult because of a long history of promised transportation projects that were not delivered. Ms. Rubach spoke about the planned Phoenix urban-highway system consisting of 210 miles of new and previously constructed highways. Voters were promised the full system in return for approval of a half-cent sales tax. Costs, especially costs for right-of-way acquisition, however, were much higher than anticipated. As a result, the funding appears adequate for only 70 miles of the previously planned system.

The broad enabling legislation for private involvement in Arizona exists, but the continued political difficulty stemming from the above mentioned problems has delayed progress. Ms.

Rubach suggests the following actions to correct the political and financial problems.

- *Stakeholders.* To solve these issues, State DOTs must make everyone a stakeholder, including the private sector and local governments. Projects of the magnitude of the Phoenix-area proposal involve several political jurisdictions, many landowners, and millions of users. Each of these must be made a stakeholder in the project if it is to be successful.

One suggestion that not only guarantees stakeholder interest but also reduces project cost is to involve landowners and local government as equity holders. This can be facilitated through a trade of right-of-way privileges for equity in the proposed toll road project. A large portion of the highway's costs (about \$800 million) is for acquisition of rights-of-way, which represents a formidable barrier. By trading right-of-way for equity in the project, two barriers might be removed at one time: excess cost and right-of-way acquisition.

- *One-Stop Office.* Other options that could reduce costs include tax and zoning benefits for cooperative landowners. A one-stop office for attaining permits and negotiating developer agreements, including the full range of Federal, State and local requirements, could expedite projects substantially.

Bruce McKendry – Mr. McKendry is Director, Corporate Development at HDR, Inc., the parent company of HDR Engineering, the lead engineering team involved with the Maricopa County VUE 2000 project. He spoke about several types of barriers and suggested the following remedies.

- *Structure.* To overcome some of the financial obstacles, Mr. McKendry proposed that if the projects were set up under the control of a non-profit corporation, many barriers would be addressed. Through this structure, the system could be funded by tax-exempt debt. Arizona might also be able to lend its credit without violating State provisions against credit guarantees to private entities. Mr. McKendry also suggested that competitive procurement for all non-managerial tasks, including all design, construction and operation work, could be compatible

with a non-profit corporation. This would help minimize monopolistic features of private ownership. In addition, accountability would be maintained through managerial continuity.

- *Development Costs.* Issues associated with sharing of development costs must be resolved. Development funds are high risk to the developer but involve relatively little cost to the public sector relative to the potential reward. If States and the Federal government truly want to encourage public-private partnerships, they should provide seed money for development costs.
- *Equity.* Political support requires equity across the region; a provision of roughly equal road quality and toll rates across the project. For the Arizona project, proposed toll rates per mile will be the same across all road sections regardless of section cost and projected traffic.

The timing and sequencing of road sections pose another equity-related problem. Some sections are less financially viable or more politically challenging. For the Arizona project, HDR has proposed a stepped-up construction schedule that will reduce the time between opening of different road sections.

- *Communication.* Effective communications must be maintained. For a project of the magnitude of the Maricopa County proposal, issues were very complex and were further complicated by the public-private nature of the project. By establishing a process where close communications with all project partners are maintained, including with and between local governments, communication lapses can be avoided.

Political problems are inherent to high-cost projects and especially to high-cost public-private partnerships. The problem is further aggravated by the fact that political champions may enter and leave office throughout the course of the project. This discontinuity creates uncertainty for the private partners, but continuous, effective communication may help reduce uncertainty.

San Joaquin Hills Corridor, Orange County, California

John Cox – Mr. Cox, a city councilman and former mayor of Newport Beach, California, and former chairman of the San Joaquin Hills Corridor Transportation Agency for five years, is currently a member of the Executive Committee of Southern California Association of Governments (SCAG) and Chairman of its Transportation Committee. Mr. Cox has been intimately involved in the San Joaquin Hills project as a public servant since the project was first conceived in 1972. He spoke about three problems:

- *Market Conditions.* Mr. Cox stated that the most formidable barrier for a toll project is the market conditions surrounding the project. If inadequate demand exists for the project, the project will be canceled. If collective agreement and sufficient demand exist, the project has a chance to succeed.
- *Involvement.* Referring to a problem identified in other projects, Mr. Cox reiterated that many outside players wanted involvement in project development. For example, the California Coastal Commission wanted to dictate stronger overall policies on wetland mitigation and wildlife habitat provisions because a small stretch of the project fell within their jurisdiction. A considerable amount of litigation was brought against the project. Heavy regulation promoted by environmental interests, coupled with other legal issues, increased development costs of the project considerably. Because traffic demand was so great, revenue streams from toll collection were projected to more than compensate for increased project costs.
- *Business Support.* Finally, Mr. Cox spoke about the need for leadership from the business community. According to Mr. Cox, the business community must carry greater responsibility to implement projects that are clearly beneficial to them. Future projects, he stressed, will require even more local business support. As an example, he cited the past quickness of the media to cover negative aspects of projects without giving a more balanced viewpoint. As a result of the one-sided media coverage, the rating agencies became nervous, thereby threatening project financing. Initial and continuing public support from business and other community groups could focus attention on positive aspects of projects and head off or mitigate negative media coverage.

Walter Kreutzen – Mr. Kreutzen, Executive Vice-President for Finance of the Transportation Corridor Agencies (TCA), presented an entrepreneurial perspective of the San Joaquin Hills project. TCA was established as a quasi-public agency with considerable latitude to proceed with the toll road initiative. In this sense, Mr. Kreutzen represents a public perspective, but one with the latitude to use innovative financing techniques. He suggests the following to overcome financial barriers.

- *Public Authority Structure.* Actually implementing public-private partnerships will always require some form of economic participation by Federal/State governments. As long as the upfront costs (legal, environmental, and permitting) are subject to the delays and uncertainties in the environmental review process, the private sector will not be inclined to risk its development capital. A public authority can absorb some of this front-end risk and help advance projects through the initial stages.
- *Tax Law Modification.* Mr. Kreutzen suggested that the Federal government should modify the tax laws to expand the definition of private activity bonds to include private infrastructure, extend the five-year maximum management contract period to allow true franchising opportunities, and provide an opportunity for the private sector to recover development and capital costs over a guaranteed period of time (20-30 years).
- *Statute of Limitations.* With limited Federal funds in the project, the environmental review process should be abbreviated relative to Federal participation. Mr. Kreutzen suggested that the Federal government should establish a statute of limitations for filing court actions

protesting the Environmental Impact Statement (EIS). Further, one way that FHWA can meet its partnership responsibilities is by seeking summary court judgements to resolve challenges against projects it is supporting.

- *Financing.* Mr. Kreutzen stated that Section 1012 of ISTEA and the Baucus proposal (S.1714) are excellent concepts to assist with project financing. However, until State DOTs put funds into these programs, the leveraging opportunities do not exist. States, to date, have not been willing to use existing allocations to fund these programs, so implementation needs to be addressed from the top down, possibly using a carrot-and-

stick approach to get action at the State level. Some additional incentive appears to be necessary for the States to participate financially.

Finally, Mr. Kreutzen indicated that the successful resolution of the tax implications of the Federal loan guarantee for the San Joaquin Hills Transportation Corridor Agency's is critical to the success of this and other corridor start-ups to be initiated by the TCA. If limited Federal credit support becomes available to other projects, either through loans or revolving funds, challenges to their tax-exempt status may pose the same uncertainties.

Luncheon Speech

Mr. Mortimer Downey, Deputy Secretary of Transportation, addressed the group informally during the lunch break. He has considerable background in transportation finance through his experience at the New York Metropolitan Transportation Authority.

Mr. Downey emphasized the Symposium's timeliness and importance, given President Clinton's emphasis on rebuilding America's infrastructure to ensure economic competitiveness. A growing demand for travel and an aging infrastructure have increased the need for maintenance and improvement of the Nation's roads and bridges. Unfortunately, public funding cannot always meet every demand. New Federal funding is limited because of the Administration's commitment to balancing the Federal budget and because of the use of fuel tax revenues, our traditional source for infrastructure financing, for deficit reduction.

Mr. Downey noted that public-private partnerships for highway funding, both for development and operation, provide an attractive alternative to strictly public funding and are one of a number of innovative ways to develop and finance projects. Recent changes in technology, including vastly more efficient toll collection, new State and Federal partnership laws, and increased travel levels could open markets sufficiently to ensure an adequate return to private investment.

ISTEA expands the availability of Federal aid to include new toll road construction, reconstruction of current facilities, and the reconstruction and conversion of free roads. This Federal share is up to 50 percent for highway projects and up to 80 percent for certain bridges and tunnels. In addition, FHWA's guidance on ISTEA's Congestion Management and Air Quality Improvement Program (CMAQ) explicitly identifies public-private partnerships as an eligible activity in the drive for improved air quality.

ISTEA provides opportunities for States to enter into cost-sharing arrangements with the pri-

ivate sector. It permits extensive private participation in these projects, increasing the leveraging of public funds. Several States have enacted, or are considering, legislation permitting toll road development by public-private partnerships. Nine States (Arizona, California, Colorado, Florida, Missouri, Texas, Minnesota, Virginia, and Washington) have such laws, and others are considering them.

In addition, ISTEA offers the potential for new financial technology, including Federal-aid funding of State-level loan funds for private and cooperative projects. States can now work with private entities to develop concessions, franchises, and such contractual arrangements as loans and grants.

To signify the Administration's strong interest, Mr. Downey noted that the U.S. Department of Transportation (US DOT) and the FHWA have sponsored two previous meetings on public-private partnership opportunities under ISTEA and have published the proceedings. In addition, FHWA has two ongoing research projects to review current partnering practices and procedures, identify barriers and strategies for overcoming them, and provide technical assistance. Currently, US DOT is actively considering a wide range of additional options to meet infrastructure needs. Ideas suggested at the symposium included revolving funds, loans, loan guarantees, credit enhancements, and capital reserves to further stimulate investment.

Mr. Downey feels that the future of infrastructure partnerships is bright. US DOT looks to private participation in some or all aspects of infrastructure projects: origination, financing, construction, operation, and maintenance. The Administration views the private sector as a critical partner in developing innovative and efficient solutions to public policy problems and wants to facilitate its involvement.

Vice President Gore's National Performance Review on reinventing government emphasizes

the need to rely more on market incentives, and less on new programs. This is not an abdication of public responsibility, but a recognition that government cannot do it all alone. From defense conversion to worker training in transportation, the theme of new public-private partnerships is a consistent one in the Clinton Administration's approach. US DOT will work with the States and the private sector to overcome legal and institu-

tional barriers that exist for public-private partnership development.

ISTEA answers the challenge of meeting national infrastructure needs by expanding the spectrum of available resources and offering opportunities for creative involvement by new parties. The States and the private sector should seriously examine the potential of these partnerships.

Panel on Topical Issues

Introduction

The afternoon panel was assembled from individuals with public and private experience with one or more partnership projects. The session was designed to allow the project team to present barriers to public-private partnerships as they were identified in earlier parts of the study, and solicit responses from the panel and all representatives of the public and private sector.

Tom Bradshaw — Mr. Bradshaw, Managing Director for The First Boston Corporation, served as moderator. As an introduction, Mr. Bradshaw posed several examples illustrating how barriers to public-private partnerships can be overcome. He also stated that the very large amount of public financing issued each year means the money exists, although the largest share is used for debt refinancing. Buyers of public debt are similar to equity participants in infrastructure projects. The challenge is how to package and sell the risks.

The TCAs of Orange County, California, were cited as an example of project-oriented infrastructure development entities able to issue tax-exempt bonds for toll-road construction. Mr. Bradshaw also noted several examples for leveraging cash flow for privately sponsored infrastructure in Europe including the Berlin airport. Mr. Bradshaw suggested public-private partnerships simply represent another way to identify and develop the best project available.

Mr. Bradshaw introduced representatives of the Apogee Research consultant team to highlight various barriers. Geoff Yarema of Nossaman, Gunther, Knox and Elliot discussed barriers related to the environment and the powers of State agencies. Yuval Cohen of Parsons Brinckerhoff presented barriers related to concessions and franchise agreements, and Len Rattigan, also of Parsons Brinckerhoff, discussed issues of procurement. Finally, Porter Wheeler of Apogee Research and Ken Becker of Smith Barney presented barriers

of economic regulation and related risks, including financial risks. The section below summarizes their remarks which were based on the Briefing Book prepared for the participants.

The Enabling Environment

Any new infrastructure project can be expected to face a variety of legal and procedural hurdles. The blending of private funds (especially equity interests) with public finances creates a complex series of hurdles for new fee-based projects. This section identifies and briefly addresses the most important of these barriers. The authorizing framework within which State agencies operate can vary significantly. This review focuses on the overall dimensions of the problem, and does not address specific State-by-State variations.

Powers of State Agencies

- *Political Process.* Highway projects often involve several political jurisdictions with each typically having “veto” power over the project. Public participation is essential for political acceptance and must be coordinated carefully among the State and one or more local jurisdictions (usually including the local MPO). State-level legislative changes are often a key part of this political process, but local laws as well as project-approval procedures (including changes made by ISTEA and the Clean Air Act Amendments) can provide other hurdles.
- *State Contractual Powers.* The grant of a right to own or operate a project is to some extent a grant of a private monopoly. In other industries, private monopolies are subject to regulation under State law as utilities. This kind of regulation may be inappropriate for highways. Unless a monopoly is granted, however, a privately sponsored toll road may not be financially feasible based on toll revenue alone. Some action may

also be required to help protect the projected toll revenues. For example, the State may need to obligate itself contractually to enforce non-compete zones, to insure against tort liability, as well as to pay damages in the event the private toll road operator defaults.

- State-Federal Support. Financial support from the State or the Federal government could be critical in making some highway projects financeable. In some cases, subordinated debt or a local government guarantee of debt may make the difference between a project's success or failure. ISTEA provides new financing flexibility by making it possible to combine Highway Trust Fund revenues with private funding of Federal-aid projects and to use Federal funds to help create new finance mechanisms. This new flexibility can be used to reduce the financial risks of some public-private options. To date, few States have even passed legislation that would make it possible to use these new ISTEA provisions. As a result, proposals have been made to refine ISTEA to facilitate partnerships.

Barriers Related to Concession or Franchise Agreements

The franchise or concession agreement codifies the structure of the public-private relationship. The agreement is legally binding and provides a formal statement of contract between the sponsoring public agency and the private entity. Therefore, its specific provisions, including limitations under existing legislation, areas of uncertainty, and the thoroughness with which general principles are drawn, can ultimately determine the success or failure of the public-private venture. Emerging from a period of intensive negotiation between interested parties, the agreement balances the need to protect the public interest as perceived by the public agency and the desire to attract private capital.

- Issues Generally Addressed by Franchise Agreements:
 - Delineation of an exclusive zone of influence
 - Design, construction, service and safety standards and their conformance with applicable Federal, State and local laws
 - Explicit definition of project, project bound-

aries, requirements for development, phasing of project, timing of construction and operation and operation

- Project maintenance and policing responsibilities
- Definition of reasonable toll rates or rates of return, mechanisms to enforce a cap on returns, incentive return provisions
- Provisions for the time limitation of the agreement and options for extension
- Authorizing collection of tolls, the distribution of toll revenues, and the right to other revenue sources within the franchise right-of-way
- Limitations on the concessionaire's tort liability
- Provisions of transfer of franchise rights, assignments and responsibilities
- Force majeure clauses
- Government take-over provisions in the event of private default or non-compliance with requirements
- Provisions on restitution for economic loss and damage
- Potential for government public works interfering with economic performance of the project
- Regulatory oversight and control of project sponsor over financial performance
- Provisions for public funding participation (if any), including credit support, local government subordinated loans, and other project equity
- Partnership agreement terms, corporate structure, recourse of limited partners, default and assignment provisions
- Provisions for environmental permitting and review process
- Provisions for the franchisee to be bound by State property acquisition and relocation assistance requirements
- Provisions for transfer of title on completion of construction as well as for the lease of the facility to developers

The most important issues for the franchise agreement appear to be the following: provisions of condemnation assistance to ease right-of-way assembly; governmental participation in environmental clearance and permitting; lapse terms and duration; clearance and permitting; regulation of toll rates and returns on equity investment; agree-

ment on default and termination remedies; assignment of tort and other liabilities; and clauses to protect against competitive facilities.

Procurement Barriers

Public-private partnerships involve an equity partner whose interests should be expected to conflict with the traditional governmental contractor/vendor selection process. Issues will almost certainly arise in the competitive bidding process that affect participation by local construction and consulting firms, threaten to influence actual facility costs, and require redefinition of roles and responsibilities. For public-private partnerships to attract equity capital and work effectively, new procurement mechanisms are necessary.

- *Choice of contractors and vendors.* Selection of contractors and vendors, that is, who gets to build and supply the project, could be subject to governmental requirements, unless carefully delineated in the concessions agreement. Even so, challenges by local businesses and labor can pose a barrier and additional risk.
- *Local Content Provisions.* One or more governing jurisdiction may seek local content requirements to support employment and economic development. Such provisions, however, may mitigate against equity commitments by large, national developers and contractors.
- *Competitive Bidding.* Placing a partnership project under competitive bidding requirements would pose additional hurdles, creating uncertainty about cost components and would hamper guaranteed cost contract offers by a developer. Competitive bidding could also add complexities in ensuring quality, timeliness, and financial viability from providers.
- *Minority Business Participation.* Goals for minority, disadvantaged, and women-owned businesses have been established to serve the public interest, but they may conflict with private franchisee objectives for timely, low-cost delivery of highway projects.
- *Design/Build Process.* State and local laws may interfere with, or at least pose uncertainties for, the use of design/build procurement. Careful attention to performance specifications, safety standards, and other provisions of negotiated

project is necessary, yet new approaches to accommodate BTO/BOT mechanisms may increase perceived risks.

- *Protecting Intellectual Property.* Except when projects have been specified initially by the State for procurement, private consortia may devote considerable time and money to developing a toll-way project idea and conducting preliminary feasibility analysis. At this point, the government may put the execution of the project out for competitive bid. This need for State and local protection of intellectual property contrasts with traditional procurement procedures.

Regulatory Barriers

All transport investments must comply with relevant Federal, State, and local regulations. These affect how property is acquired, protection of environmental qualities, and general public involvement in the project selection process. Public-private partnerships face two types of problems in dealing with these rules: the procedures may be unfamiliar to private developers, and the laws and regulations may include provisions that attach unnecessary complications and uncertainties for non-traditional highway delivery models.

- *Land Acquisition.* The ability to assemble right-of-way at a reasonable cost is critical to highway development. While it should be easier for the private sector to negotiate lower acquisition costs or even obtain right-of-way donations at no cost, these alone may not be enough to ensure a timely acquisition of the needed property. As a result, the governmental power of "eminent domain" may be needed. While governments may delegate eminent domain power to certain private entities (electric power companies, for example), this is rare. The problems of balancing potential cost savings of using private procedures with the greater certainty of using governmental powers is a recurring issue when developing effective public-private enterprises.
- *Environmental Clearance.* One of the most costly aspects of highway development is acquiring the necessary environmental permits. While private electric power and gas pipeline companies are required to obtain environmental clearances, highway projects cannot rely on assured mar-

kets generating revenue to offset the time and cost of environmental clearances. Most partnerships will involve participation by Federal, State and local governments, whose funding support may trigger application of even more environmental requirements. Uncertainties abound on which permits are required, whether the private franchisee must meet the varying requirements of numerous overlapping jurisdictions, and whether other agencies may exert jurisdiction unexpectedly.

- *Public Oversight.* Enabling provisions and ongoing oversight will protect the public interest, but may pose unforeseen risks to private partners, raising perceived costs and hampering participation. Because highways are public goods, and partnership franchises are publicly granted, highway construction will have government oversight. Public oversight may take the form of regulations on toll rates or rates of return, specification of construction standards, enforcement of safety, and the supervision of operation and maintenance. Because public officials change, the direction and intensity of public oversight may also change. Risks of (adverse) changes in regulation are real and can make it impossible to finance some highway projects.
- *Application of Federal/State/Local Laws.* Numerous constraints would be imposed by standard Federal, State, and local rules concerning non-discrimination, Davis-Bacon prevailing wage levels, etc., whose application to public-private partnerships may be uncertain and pose risks to the developer

Economic Regulation and Financial Risks

In an economic environment where Federal and State resources are strained, the ability to fund transportation projects falls far below the demand for capital improvements. Mixing public and private financial interests presents many attractive possibilities for expanding the range of projects initiated, leveraging limited public funds, and injecting a private-sector test for financial reality and cost effectiveness into the project decisionmaking. These new arrangements, however, often must overcome barriers to obtaining the required mix of public and private investment

capital, and public funds and government participation also bring regulatory oversight. In the end, each project must develop innovative solutions that address its specific capital shortfalls.

Investor-owned toll roads have several characteristics typical of public utilities: they are highly capital-intensive; the capital is fixed in place; right-of-way assembly often involves public powers; they provide a basic service; and they may have limited aspects of a monopoly. The policy response is usually some form of economic regulation to protect the public interest.

Although economic regulation may be proposed as a solution to monopoly problems associated with tollways, such regulations create barriers for public-private partnerships. Regulation of price, rates of return, and the “economic” environment affects the economic viability of public-private partnerships. For example, setting a ceiling rate of return or mandating free travel by certain high occupancy vehicle (HOV) users may make a project financially infeasible to the private sector. Furthermore, the risk that the regulatory commission or future elected officials will change regulations creates uncertainty for investors.

Financial Risks

- *Start-Up Financing Problems.* Many projects cannot find a banker or an investor willing to take the risk of planning, development and construction, or “start-up” costs. These periods of initial uncertainty and low debt service coverage require a higher rate of return to encourage lenders to accept the long-term risks.
- *Unsure Traffic Levels and Income Streams.* Most projects proposed for public-private financing have been for new construction with no established credit history and without the full faith and credit backing of a government body. Thus, revenue forecasts rely exclusively on predictions of future traffic. Actual traffic levels for toll facilities vary with the pace of local and national economic growth as well as future environmental restrictions and technological change. Other modes of transportation and new parallel roads may divert traffic, thus affecting future income streams. Without government guarantees, this lack of certainty for future income streams makes investors less willing to sponsor these projects. The investment

magnitude required for some projects can compound this natural nervousness. Using tolls to finance reconstruction of existing roads relies on current traffic and thus involves less risk, but it is much more controversial in terms of public acceptance.

- *Uncertain Completion Costs.* The construction costs of a highway facility are uncertain. Projects take several years, during which market conditions may change, costs of materials and labor can rise, interest rates fluctuate, and unexpected delays may occur.
- *Tax Liability and Depreciation.* A for-profit venture will incur tax liability on income and, more importantly, interest paid to bondholders will be taxable. Also, tax law requires that public-use projects use longer depreciation periods relative to traditional private ventures, raising a permanent financing barrier.
- *Tort Liability.* Public infrastructure projects are shielded from tort liabilities in a manner that is not readily available to public-private partnerships. This liability creates an enormous risk that may make investors reluctant to provide funding. Ways to help mitigate these risks range from broad options such as some form of State or Federal sponsorship or the use of State maintenance and police services, to build-transfer-operate (BTO) agreements.
- *Federal Tax Laws.* Federal tax rules do not permit private owners of highways to use tax-exempt debt. Therefore, the cost of capital is higher to private sponsors of highway projects. Even with publicly sponsored projects, Federal tax rules limit the length of private operation of highways funded with tax-exempt bonds to five years. Any greater length of time jeopardizes the tax-exempt nature of the debt.
- *Non-toll Revenue.* Few highway projects can be built today with exclusive reliance on tolls. Toll revenue often must be supplemented by other sources. Many States, however, have assumed projects will be financed based on toll revenues alone and have not enabled private financiers to pursue these other revenue sources. Other sources may include the use of air rights, rights of way, or other methods that capture the "value" that improved mobility creates.

On a broader scale, the public portion of the project could draw on local general taxes (sales taxes, for example) or the imposition of motor vehicle or other broad-based highway fees.

Regulatory Risks

- *Regulations on Price and Rates of Return.* Investor-owned toll roads share many characteristics with public utilities: they are highly capital intensive; the capital is fixed in place; alternate routes are either congested or non-existent; and public right-of-way is involved. To ensure "fair" toll levels and an "acceptable" rate of return to investment, economic regulation is normally instituted as part of the franchise agreement. If the acceptable toll level is uncertain or the rate of return to investors is capped too low, this creates a financing barrier.
- *Other Regulations.* Regulations on environmental impacts, highway design, safety, and other transportation issues affect the economic viability of a project. Environmental protection laws and regulations, both current and prospective, restrict emissions and noise levels. Such environmental regulations may also restrain vehicle-based tolls and other fees relative to projections. Requirements for noise barriers, for example, will increase project costs while non-tolled HOV use may threaten a project's financial feasibility even though it is beneficial for other societal goals.
- *Risks of Future Regulation.* Current assessments of financial viability are developed within a given set of regulations. The prospect for changes in future pricing restrictions and other economic regulations can alter the economics of the project and add significant risk. Air quality non-attainment areas must take measures to achieve attainment standards, and these measures may restrict vehicle travel, occupancy, and fuel use.

Response from Panelists

After the barriers were identified, Mr. Bradshaw led a panel discussion on overcoming them. Panelists were asked to respond to the barriers presented and to draw upon their own project experience to evaluate their importance, how they can be overcome, and to suggest what other

barriers exist that have not been addressed.

Roy Nagy – Mr. Nagy of CALTRANS, who also spoke in the morning session, offered the following responses:

- *Start-up Financing.* The most important barrier is start-up financing. Early stages of project development are risky because the private sector may be wary of funding the required environmental report which may disclose negative findings. Environmental and other permitting is expensive and unpredictable. They create risks that cannot be accurately estimated. States should consider obtaining the environmental clearance on selected projects themselves with a private sector pay-back if they accept and develop the project. As another option, project bidders might be evaluated according to the extent they are willing to cover the environmental clearance costs.
- *Facility Operation and Maintenance.* Liability issues related to the operation and maintenance of public-private facilities represent another significant barrier. Mr. Nagy suggests that one solution is the BTO method in which the private sector builds the facility, transfers it to State ownership prior to operation, and then operates the facility on a long-term lease-back arrangement with the State. As the fee owner of a facility that is built and operated completely to State standards, the State now shares in the liability on the project. The SR-91 project has chosen to use State forces to maintain and police the facility (at private expense) which further reduces the liability of the private sector operators.
- *Sharing Risks/Benefits.* The bottom line is that the governmental climate at the State and local levels needs to be supportive and the provisions in the franchise agreements need to be favorable enough to attract at-risk private capital. It does no good to enact restrictive legislation or to strike a hard bargain during franchise agreement negotiations if doing so makes it impossible to attract private capital. Likewise, if an agreement is strongly slanted in favor of the private sector, the ensuing public and legislative outcry and probable litigation will result in the loss of public support which will drive away investors. In structuring agreements, the respective negotiators need to ensure that lan-

guage will result in a project agreement that can be financed.

Jerry Ellis – Ms. Ellis, the Director of Economic Development Affairs for the Washington Department of Transportation, is leading the agency's efforts to develop public-private partnerships. Washington has recently passed enabling legislation and will be seeking project proposals with a request for proposal (RFP) in January.

Washington State developed its Public-Private Initiatives in Transportation program to be as flexible as possible. A deliberate effort was made to provide an opportunity to test the feasibility of a market-driven business opportunity in providing improvements to Washington's transportation system. Ms. Ellis stressed that it is important for the States to learn from each other's experiences while continuing to explore new options and refinements.

Ms. Ellis had the following examples and comments relating to project barriers:

- *Broad Authority.* The Washington State program grants broad authority to create a framework for a negotiated agreement. The agreement is key to the deal—a true partnership with mutual sharing of risks and benefits. The agreement can be unique to each project and can be used to overcome many barriers.
- *Increasing Complexity.* In the future, States can be expected to use legislation to address details and complexities. In an effort to address specific barriers, detailed legislative directions may make more complex that which the States are attempting to clarify. All State officials have experience with the cumbersome rules and procedures that become attached to every new program in an earnest attempt to clarify our intent and simplify our processes.
- *Flexible Risk Sharing.* Current projects represent the first generation of a new way for government to conduct business. To the extent that we can get to the negotiating table unencumbered, we can open the door for partnerships. The States must deal with risks and be both risk-takers and prudent public stewards. During the first generation of projects, flexibility, coopera-

tion and trust are the most important keys to success.

Gerald Pfeffer – Mr. Pfeffer, Executive Vice-President of Kiewit Infrastructure Ventures, who also spoke in the morning session, led the private initiative for the SR-91 project and has been an outspoken proponent of public-private partnerships as a way to build our Nation's infrastructure. His comments follow:

- *Trust and Commitment.* Trust in the political process is essential to the success of public-private partnerships. As a starting point, the public and private sector must have trust in the other's commitments. The public sector cannot look at the private sector as a builder or lender "of last resort." When the private sector proposes a project, the public sector often agrees that it is a good idea, but political heat may lead the government to renege on agreements with the private sector. A change of mind creates unacceptable risk.
- *Right to Choose Vendors.* Developers must be able to choose their own subcontractors and vendors. It is impossible to perform a turnkey design without being able to use proven suppliers. Minority business requirements are not an issue because the supply of quality minority subcontractors is adequate. However, Mr. Pfeffer urged uniformity on MBE certification for more quality assurance.
- *Proposal Rights.* Protection for intellectual property and financial proposals are very important for private enterprise. If the private sector presents an acceptable proposal, it must be allowed to develop the project. If their project will be placed for competitive bidding, private sponsors will not develop innovative proposals and certainly cannot invest in extensive development costs.
- *Information Sharing.* Government assistance must extend further than gaining right-of-way clearance. In addition, government must be prepared to provide access to Department of Motor Vehicle files. This information is essential to police toll-road systems for traffic violators and "free-riders." Private sector firms, with a legitimate reason for database access, are capable of protecting the privacy of motor vehicle registrations.

- *Permitting Process.* The environmental permitting process needs rationalization, especially with respect to toll-specific issues. Toll facilities are not likely to have different effects on the environment, and tolling should not be regarded as an environmental action. Therefore, projects should be environmentally cleared irrespective of being a free or toll facility. Otherwise, developers face having to repeat the entire environmental permitting process.

Harold Worrall – Dr. Worrall, the Executive Director of the Orlando-Orange County Expressway Authority in Florida, spoke about the relationship between the public and private sectors.

Dr. Worrall stated that since public-private partnerships are unique, it may be useful to discuss specific projects and general rules for developing such projects. However, it should not be forgotten that each project is a unique effort. While Dr. Worrall chose to concentrate on some of the major barriers to public-private development, he said that he believes partnerships are the way of the future.

- *Philosophies.* Public-private partnerships bring together two very different philosophies, cultures, and management strategies. Joining the sectors is somewhat like mixing oil and water. The private sector's motivation is primarily efficiency and profitability while the public is more concerned with accountability and the public trust. Although public-private projects are not easy to institute or maintain, they are not impossible. Strong leadership at the highest level is required from both the private and public sector for such projects to become realities.
- *Structure.* An additional complicating factor in bringing about new projects is the lack of motivation by the transportation departments in most States. State DOTs may not have the desire to work through a "book full of barriers," especially if public opposition arises. The greatest likelihood for successful public-private projects is via a toll operations authority or other special purpose joint powers authority. Once legislation allowing these authorities to be established is passed, additional legislative approval to proceed with a project should not be needed. Unfortunately, this additional legislative

approval is required under the recent Florida privatization statute.

- *Financing.* If the Federal government is to be the catalyst for such projects, new financing methods must be developed. For example, a category of Federal funds separate from existing transportation appropriations will be necessary to encourage public-private projects. These funds should be given directly to the toll authority. Another possibility to obtain private capital is the sale of public assets to private entities. Other countries have, in fact, sold public assets to private operators. The future of transportation funding in the United States undeniably leads us further along the road to more public-private partnerships.

Norman Wuestefeld – Mr. Wuestefeld, Executive Vice-President at Wilbur Smith Associates, speaks frequently on public-private partnerships based on his firm's broad experience.

Mr. Wuestefeld stressed that strong local support, both from government as well as citizens, is essential for a successful public-private partnership. Public-private partnerships are not a panacea to solving our major transportation problems, but they may play a limited but key role in implementing "missing links" or providing connections between heavily traveled highways.

The EPA will effectively "legislate" the nature and scope of additional surface transportation improvements in non-attainment areas. This may result in the approval of only HOV travel lanes in the future, causing California's SR-91 project to be a forerunner for comparable facility implementation in other non-attainment urban areas.

Because start up toll facilities are pushing the envelope of acceptable toll rates, motorists reaction to the significantly higher rates will indicate their willingness to pay a higher premium for improved highway service. Experience on a recently opened small section of the Foothill Corridor toll road in California is encouraging.

Public-private partnerships in high-speed rail and mass transit are difficult to implement. Even on the most successful mass transit systems in the United States, farebox income accounts for only a fraction of operating cost and does not begin to

cover capital cost. Unless large-scale subsidies are offered to induce developers to implement and operate mass transit systems, the private sector will not find it attractive to provide venture capital.

Despite some limited success in public-private partnerships, Mr. Wuestefeld believes that the public sector remains uneasy about the private sector playing anything but a token role in improving the transportation system.

Some in the public sector believe that if the private sector finds a project worthy, the public sector should implement it, rather than allowing the private sector to reap the profits. However, if the private sector can implement and operate a facility more efficiently and bring venture capital to the process, it provides an effective supplement to public sector financing and operation.

Mr. Wuestefeld offered some possible solutions to the barriers mentioned by the project team:

- *Revolving Loan Fund.* Revolving loan funds with at least a 50-percent State matching are very important. ISTEA may have provided the flexibility to finance toll projects, but it did not provide new Federal dollars. The State governments must have incentives to leverage the capital of the private sector; this could then provide the means to obtain project financing and result in a greater number of successful financings.
- *Enabling Legislation.* States should consider enabling a design/build option, a critical element of a public-private partnership.
- *Financial Support.* Standby equity and/or other financial support may be needed to provide a "comfort margin" in project financing in order to obtain rating agency endorsement.
- *Public Entity Responsibility.* A public entity should own the project to provide tort liability protection and the right of eminent domain. In addition, the public entity should carry the project through the environmental permitting phase. These significant issues should be addressed in the franchise agreement together with others relating to uncertainty of project cost, non-compete protection, and other factors.

-
- *Tax Law Change.* FHWA should encourage changes in tax laws to allow the use of tax-exempt debt for financing public-private partnerships in transportation.

Open Discussion

Broaden the Stakeholders

Tom Bradshaw opened the discussion and identified the creation of a greater number of stakeholders in the project as one of the most important features of public-private partnerships. The Berlin airport, partially owned by the Berlin government, the German federal government, and private shareholders, is one model for future project delivery. Equity participation in projects through modifications of current legal barriers must be investigated, and amendments instituted.

Revolving Loan Funds

Joe Giglio of First Southwest stated that barriers to financing could be overcome through further use of State Revolving Funds (SRFs). Section 1012 of the Intermodal Surface Transportation Efficiency Act of 1991 offers an opportunity for States to leverage scarce Federal and State resources with public and private sector resources, thereby expanding the total amount of funds available for transportation infrastructure investment. This provision should be clarified to support a number of options, ranging from a one-time loan of Federal dollars to a fully leveraged SRF. Projects eligible for funding under such a program already include Title 23 projects under public, quasi-public, or private control. Potential revenue streams to repay loans should be expanded, since current law only allows loans for projects that are revenue generating, such as a toll bridge. States must work with the Federal government and the private sector to develop a series of financial structures and partnerships that will allow them to more effectively leverage the funds under ISTEA.

A SRF could be capitalized with a defined portion of Federal ISTEA funds and State contributions from nonfederal sources to establish a permanent, self-renewable source of capital dedicated to transportation infrastructure investment, consistent with Title 23 purposes. Instead of directly loaning Federal funds to projects, ISTEA funds could be used along with State contributions to

capitalize a leveraged SRF and to leverage additional private and public capital by providing support for credit enhancement, guarantees, collateral, financing or refinancing for qualifying projects, and creating reserve funds. The leveraged SRF could then issue bonds against the fund, potentially doubling or tripling the funds available to lend. These leveraging features would expand the funding available for transportation infrastructure investment to accommodate projected capital shortfalls and accelerate the funding of needed projects, thereby magnifying the impact of ISTEA funds.

Mr. Bradshaw added that a Federal revolving loan fund is another alternative that the FHWA should pursue. The mechanism would function similarly to the SRF outlined by Mr. Giglio but would have Federal, instead of State, backing. The program could begin by financing Federal demonstration projects. Joe Staley, counsel for the Texas Turnpike Authority, also suggested that a Federal revolving fund would be helpful and suggested that the Texas legislation could be used as a model for establishing these institutions.

Steven Steckler of Price Waterhouse responded to this discussion by suggesting that a Federal revolving loan fund offers more flexibility than an individual State revolving fund. A Federal revolving loan fund allows projects to be financed either as a tax-exempt or taxable project, whereas a single State fund would have more difficulty in this regard. States would need to set up two separate funds, one for tax-exempt and another for taxable projects.

Earmarking Funds

Other participants, including Mr. Steckler, suggested that an experimental project program be developed to encourage high level private sector involvement in transportation projects, including aviation and rail projects. Projects like San Joaquin, which obtained Federal legislation to provide limited bond guarantees for that project only, is an exception. This project by project approach will not be an effective way to close the gap in infrastructure financing.

Several suggestions were made for the Federal government to earmark funds for public-private partnerships. Some argue that without a direct

incentive to use partnerships, States will be less likely to implement them. This is related to Mr. Worrall's point that States have no incentive to use tolls or public-private partnerships. Dr. Wheeler reiterated that although Section 1012 authorized funds for toll projects, the same funds are already programmed for traditional models, and that these projects compete with one another for ISTEA funds.

Current legislation allows States to make loans to private entities developing highway facilities and to set up revolving loan funds with loan repayments. However, no "new" money other than toll revenues is available to finance the projects. One approach to overcoming financing barriers is to allow some portion of Surface Transportation Program (STP) funds to seed a revolving loan fund (as in the Baucus Bill), or to directly provide the funds to the operating entity. Other suggestions were to use unobligated balances of a State apportionment or to use the difference between authorized and appropriated amounts. Each option must be carefully reviewed for its Federal budget implications.

Automatic Vehicle Identification

The ability to apply Automatic Vehicle Identification (AVI) technology to collect tolls electronically, which would reduce or eliminate undue traffic delays, was viewed as essential by several commentators. AVI also underlies the ability to vary toll rates to fit traffic patterns and/or adjust for revenue needs. The need for a unified architecture for AVI was stressed, and recent CALTRANS' adoption of AVI standards was pointed out as important since two separate toll roads are under construction that might both be used by the same drivers traveling in Orange County, California.

TCA has let a contract for AVI coupled with collection of the tolls; a form of guarantee for TCA that AVI will work. For TCA, an AT&T smart card will double as a transponder, generating an additional stream of revenue for the authority. The New York Thruway has initiated electronic toll plates and has had a positive response, issuing 52,000 tags.

The Cultural Barrier

The public acceptance of tolls was discussed, with several comments suggesting greater than anticipated acceptance of actual toll projects, for example, the popular NY Thruway tags. Others felt that the public perception of tolls was that of a strawman, useful in gaining acceptance of higher gas taxes. Sponsors were urged to communicate, using their experience, how a public-private partnership can provide facilities now, versus waiting several years for road improvements. Others pointed out that tolls still create the perception of double taxation. The need was expressed for a quasi-independent special purpose toll authority, to provide sponsorship outside the State DOTs and to have control over the separate revenue stream. Still others attributed lack of public support to inadequate resources and inertia in the face of major changes. It was noted that some international projects are actually easier to implement because the institutional barriers are smaller and risk insurance is available.

Federal Financial Support

Several suggestions were made regarding the importance of some form of Federal-aid directed to the support of public-private partnerships. The aid, ranging from loans, loan guarantees, and advance take-downs, would ensure the projects got a running start. Also suggested was a Federal line-of-credit or revolving fund to provide seed money for special projects. Direct Federal assistance to toll authorities was put forward as one way to bypass cultural barriers at State DOTs. Increased investor interest will result if a workable model can be developed incorporating heavy private involvement with some Federal aid and preservation of tax-exempt status for debt issued. Projects will continue to require greater than a one-to-one debt coverage ratio on their debt service.

Other Support Methods

Numerous additional methods for supporting debt ratings on partnership project offerings were cited, including traffic guarantees, exercising and lending of State eminent domain powers on behalf of developers and others.

Reflections on Seminar Proceedings

Professor Jose Gomez-Ibanez from Harvard University and Mr. Roger Feldman from McDermott, Will and Emory reflected on the seminar proceedings.

Jose Gomez-Ibanez – Professor Gomez-Ibanez began his remarks by suggesting that the scope of the case studies examined in the Symposium might have been expanded in two respects. First, cases of failed proposals might have been included in addition to the successful ones presented, since the contrasts between the two might be instructive. Second, the Symposium might have examined projects outside of the continental United States as well. The omission of the San Jose Lagoon bridge in Puerto Rico was unfortunate, for example, in that it would open well before the Dulles Toll Road or any of the California projects and includes a very innovative scheme for sharing risks and rewards between the public and the private sectors. The experiences of France, Spain and Italy are also instructive in that they have over 25 years of experience with private concession toll roads—much longer than the United States.

Prof. Gomez-Ibanez then went on to discuss four potential barriers to private provision of toll roads, some of which have been surprisingly easy to overcome so far but which may prove more difficult in the future.

The first potential barrier is that many projects are not financially self-supporting from toll revenues alone. This is the problem that most private entrepreneurs are referring to when they say they need a “partnership” with the public sector—the partnership they have in mind is that the public sector assume some of the costs or risks in order to make the project financially viable. Negotiating this kind of partnership, with adequate safeguards for both sides, is difficult. All else being equal, a project is substantially easier to implement if toll revenues are sufficient to pay all costs.

In the United States, projects that involve widening or otherwise improving existing

expressways are much more likely to be financeable from toll revenue alone than projects that involve building an entirely new road. The reason, of course, is that we have already developed such an extensive Interstate System that there are few low-cost, high-traffic segments left unbuilt. Large portions of the existing System need significant repairs or widening, however, and these could be financed by tolls.

In this regard, Professor Gomez-Ibanez believes the Federal prohibition against collecting tolls on the Interstate Highway System is a significant barrier to private highway finance. If most of the opportunities for self-financing projects involve improvements to the existing Interstates, the single most important thing the FHWA might do to increase the prospects for public-private partnerships would be to sponsor an amendment to the law to allow states to toll Interstates.

A second potential barrier to partnerships Professor Gomez-Ibanez mentioned is the environmental and anti-growth controversies that many highway projects stimulate. Preparing an EIS for a controversial project can easily cost \$10 million, and often much more. Raising this money on the venture capital market is difficult, especially since there is no guarantee when or if the project will ever emerge from the environmental permitting process. Some private sector spokespeople have suggested that this barrier be removed by having the public sector assume the responsibility and risk of securing environmental permits. This remedy would, however, require that the government, rather than the private sector, define the project, thus reducing the prospects that private involvement will result in innovative highway projects.

Professor Gomez-Ibanez said that a third barrier is political resistance to tolling, especially in a county where most of the highways are presently untolled. Public opposition to tolling has been surprisingly muted in the California and Virginia projects. The most serious objections seemed to

arise in those few cases when the public thought that the road would be built as an untolled facility and then found a public-private partnership, including tolls, was being proposed instead. But opposition to tolling may prove to be a more serious problem in the future, especially for toll financing of improvement to facilities that have historically been free.

A final barrier that Prof. Gomez-Ibanez mentioned is the need to fashion agreements that are perceived to share the risks and rewards fairly between the public and the private sectors. So far, this has not proven controversial; for example California's and Virginia's schemes for regulating toll rates or rates of return on equity have provoked little concern. This issue is likely to be revisited, however, as some of these roads are built and the financial results become apparent. If a project proves to be unprofitable, the private partner will plead for more generous terms, or conceivably even walk away. The greater long-term risk to a program of private investment in roads, however, may be if a few projects prove to be wildly profitable, and if the original toll or return agreements come to be seen by the public as unjustifiable give-aways. The public can better understand that private investors should occasionally "lose their shirts" than that they might occasionally, as the reward for accepting risk, profit wildly.

Roger Feldman – Mr. Feldman feels that the overriding lesson from the collective experience of public-private partnerships and the Symposium is that the FHWA must aggressively pursue assistance to the development of these partnerships. Public-private partnerships will not simply occur; the FHWA should accept, as its mission, the challenge to help develop them.

Mr. Feldman presented several comments related to how this goal could be achieved. The ISTEA toll provisions have not provided incentives for States to develop public-private partnerships. State DOTs are under pressure to pursue traditional projects, as well as these new public-private partnerships. Although ISTEA enables States to use Federal money for projects, innovative projects directly compete with traditional projects.

Mr. Feldman, therefore, suggested that the FHWA consider applying a little torque to ISTEA by seeking reassignment of unobligated balances or adding enabling legislation for revolving loan funds. With enabling legislation, FHWA could encourage States to establish revolving loan funds. In this manner, States could stretch funds for a longer period of time by making an initial obligation of funds, thereby helping to alleviate the development funding problem.

ISTEA has earmarked certain funds for project development and planning of intelligent vehicle/highway systems (IVHS), congestion pricing, and intermodal facilities. FHWA should explore the potential for public-private partnership development that would qualify for a portion of these earmarked funding streams.

For the best results, Mr. Feldman suggested that the States enact legislation to create a "one-stop shop" for public-private partnerships that could clarify private developers' issues for all facets of regulation, not simply those related to transportation. FHWA could have a strong role in encouraging States to pass this legislation, perhaps by prioritizing funds availability to States that have passed enabling legislation. FHWA should pursue a proactive effort to move States to use public-private partnerships in order to stretch limited State funds. FHWA cannot simply develop brochures on how to use ISTEA, but must also take the lead in encouraging the States to use ISTEA flexibility. One way is to foster demonstration projects that show the effectiveness of partnership project techniques.

Finally, FHWA should continue its effort to educate the States on the specific benefits more readily or cost-effectively obtainable through public-private partnerships. Public-private partnerships, in addition to increasing financial resources, can introduce vast new technologies to the Nation's highway system. These partnerships may reduce costs and stimulate innovative ways to accelerate the development of projects. The FHWA should expedite its efforts to achieve the advantages available from public-private partnerships.

Appendix A: Seminar Participants

Mr. Miguel Abeniagar
Autopistas de Puerto Rico

Mr. Stephen Anderson
Apogee Research, Inc.

Ms. Pamela Bailey
E-470 Public Highway Authority

Mr. Tom Barron
Parsons Municipal Services, Inc.

Mr. Ken Becker
Smith Barney

Mr. John Berg
Federal Highway Administration

Ms. Madeleine Bloom
Federal Highway Administration

Ms. Andrea R. Bozzo
Fitch Investors Service, Inc.

Mr. Thomas W. Bradshaw, Jr.
The First Boston Corporation

Ms. Rebecca Bronson
Hogan and Hartson

Mr. Robert Clarke Brown
Lehman Brothers

Ms. Magalen Bryant
Dulles Greenway

Mr. Peter Cameron
Department of Finance

Mr. Bruce Cannon
Federal Highway Administration

Mr. Joseph Canny
U.S. Department of Transportation

Ms. Marianne Clarke
National Governors' Association

Mr. Yuval Cohen
Parsons Brinckerhoff

Mr. Eric Cowan
Apogee Research International

Mr. John Cox
SCAG-Executive Committee

Mr. Michael Crane
Dulles Greenway

Mr. Robert Cuellar
Texas Department of Transportation

Mr. Mortimer Downey
U.S. Department of Transportation

Ms. Jerry A. Ellis
Washington Department of Transportation

Mr. Ralph Erickson
Federal Highway Administration

Mr. Robert Farris
Farris and Company

Mr. Roger Feldman
McDermott, Will, and Emery

Mr. Frank Finlayson
Morrison Knudsen Corporation

Ms. Marie Fioramonti
Prudential Power Funding Associates

Ms. Francesca Forestieri
Apogee Research, Inc.

Ms. Maureen Gallagher
International Bridge, Tunnel and Turnpike Association

Ms. Jane Garvey
Federal Highway Administration

Mr. Steve George
Peter Kiewit Sons', Inc.

Mr. Joseph Giglio, Jr.
First Southwest Corporation

Mr. Barry Gold
Lehman Brothers

Dr. Jose Gomez-Ibanez
Harvard University

Mr. Hatim Haij
The World Bank

Mr. Bill Higgins
*American Association of State Highway and
Transportation Officials*

Mr. Ron Hoffman
Minnesota Department of Transportation

Mr. Shelton Jackson
U.S. Department of Transportation

Mr. Anthony Kane
Federal Highway Administration

Mr. Lee Kinney
Michigan Department of Transportation

Mr. Walter Kreutzen
Transportation Corridor Agencies

Mr. Edward Kussy
Federal Highway Administration

Mr. Arnold Levine
U.S. Department of Transportation

Mr. James Link
Federal Highway Administration

Mr. Stephen C. Lockwood
Farradyne Systems, Inc.

Mr. George McDonald
Federal Highway Administration

Mr. Joseph McGowan
Granite Construction Company

Mr. Bruce McKendry
HDR, Inc.

Mr. Gary Maring
Federal Highway Administration

Mr. Stephen Martin
Federal Highway Administration

Mr. John Miller
Public Financial Management, Inc.

Mr. John Milliken
Virginia Department of Transportation

Mr. Roy Nagy
California Department of Transportation

Ms. Cynthia Nichol
Apogee Research, Inc.

Mr. Craig Orchance
Union Bank of Switzerland

Ms. Edith Page
Bechtel Corporation

Mr. Gerald Pfeffer
Kiewit Infrastructure Ventures.

Mr. Wayne Placide
First Southwest Corporation

Mr. John Platt
Ohio Department of Transportation

Mr. Jerry Poston
Federal Highway Administration

Mr. Len Rattigan
Parsons Brinckerhoff

Mr. William Reinhardt
Public Works Financing

Mr. Scott Reznick
Commonwealth Development Associates

Mr. Richard Ridings
HNTB Corporation

Mr. Valentin J. Riva
*American Road and Transportation
Builders Association*

Mr. Jack Rizzo
Perini Corporation

Mr. Jonathan Robertson
Morrison Knudsen Corporation

Ms. Peggy Rubach
Arizona Department of Transportation

Mr. Mike Schneider
Parsons Brinckerhoff Quade & Douglas

Mr. John Shafer
New York State Thruway Authority

Mr. Rodney Slater
Federal Highway Administration

Mr. James C. Smith
Brown & Root Civil

Mr. Joseph H. Staley, Jr.
Locke, Purnell, Rain & Harrell

Mr. Rob Spring
Milbank, Tweed, Hadley & McCloy

Mr. Lawrence Staron
Federal Highway Administration

Mr. Steven A. Steckler
Price Waterhouse

Ms. Louise Stoll
U.S. Department of Transportation

Ms. Beverley Swaim-Staley
Maryland Department of Transportation

Ms. Marci Hertzlinger Tavasi
Moody's Investors Service Street

Mr. Alex Urquhart
GE Capital

Mr. Martin Weiss
Federal Highway Administration

Mr. Michael Weiss
Federal Highway Administration

Dr. Porter K. Wheeler
Apogee Research, Inc.

Gen. Charles Williams
Dulles Greenway

Mr. Harold Worrall
Orlando-Orange County Expressway Authority

Mr. Norman Wuestefeld
Wilbur Smith Associates

Mr. Geoffrey S. Yarema
Nossaman, Gunther, Knox and Elliot

Appendix B: Seminar Agenda

Morning Session

8:30 Coffee and Danish

8:45 **Welcome and Introduction by FHWA (Rodney Slater)**

Importance of project to FHWA and planned use of seminar and final product.

9:00 **Report on Project Structure and Overview (Porter Wheeler)**

Discuss background chapters in the report and how seminar results will be integrated into the final report. Present candidate list of issues. General comments from audience.

9:30 **Discussions of Actual Project Experience
(Discussion Leader: William Reinhardt)**

Discussions will be led by individuals with direct project experience. They will discuss barriers encountered, how they were handled, and how they might be mitigated in future applications. Projects represented are:

- Dulles Greenway (John Milliken/Michael Crane)
- SR-91 (Gerald Pfeffer/Roy Nagy)

10:15 **Break**

10:30 • Arizona (Peggy Rubach/Bruce McKendry)
• San Joaquin Hills (Walter Kreutzen/John Cox)

Lunch Session

11:30 **Speaker - Deputy Secretary of Transportation, Mortimer Downey**

There will be an informal lunch provided for the seminar group.

Afternoon Session

12:45 **Panel on Topical Issues (Moderator: Thomas Bradshaw)**

A single panel responding to the major barriers as introduced in two segments by members of the contract team. The panel includes individuals with private and public experience with one or more partnership projects. Panelists are: Jerry Ellis, Roy Nagy, Gerald Pfeffer, Hal Worrall, and Norm Wuestefeld. Questions and comments from the audience are invited.

- The Enabling Environment: Powers of State Agencies (Geoffrey Yarema), Concessions (Yuval Cohen), and Procurement (Len Rattigan).
- Economic and Financial Barriers: Economic Regulation and Related Risk (Richard Mudge), and Financial Risks (Porter Wheeler).

3:00 Discussion of Interactions Among Barriers

(Discussion Leader: Jose A. Gomez-Ibanez)

Discussion will address other barriers and interactions, lessons from the international experience, and indications for structure and financing methods.

3:30 Concluding Remarks by Commentator (Roger Feldman)

4:00 Wrap-up by FHWA (Madeleine Bloom)

Appendix C: Project Descriptions

California AB-680 Projects

Overview

The State of California authorized CALTRANS to enter into agreements with private entities to develop transportation facilities. Enacted in July 1989, AB-680 legislation authorized up to four demonstration projects, at least one in the northern portion of the State and one in the south. Ownership of each facility will be held by the franchisee during construction and turned over to the State upon completion. The State is empowered to lease each facility to developers for up to 35 years. During the lease period, maintenance, law enforcement and operations costs will be paid by the private sector franchisee. In addition, operators can set and collect tolls and retain toll revenues, net of ongoing debt and expenses sufficient to produce a "reasonable return on investment." However, toll revenue earned in excess of this amount must be used to retire project indebtedness or paid into the State's highway fund.

Projects developed must conform with all applicable Federal, State, and local standards and laws. The State may also use its powers of eminent domain to acquire land and may provide maintenance and policing services on a reimbursable basis. In addition, the State may lease development rights to the air-space (within the facility right-of-way) to developers. Finally, projects qualifying for the program must supplement the existing non-tolled system of transportation.

Four projects were selected by CALTRANS in September 1990. Exclusive franchise agreements were signed in December 1990 for SR-91 and January 1991 for the other projects. Three projects remain in development, and one is under construction.

Project Descriptions

SR-91 Express Lanes

SR-91 represents a \$126 million, 10-mile project of express lanes in the median of the Riverside Freeway in Orange County. It features four carpool/express lanes, two in each direction, for toll-paying single and double occupancy vehicles and non toll-paying high occupancy (three or more) vehicles. Roadway access will be limited to AVI-carrying vehicles only. Time of day tolls will be charged. State will be reimbursed for provision of law enforcement and maintenance service costs on the express lanes.

Current Status

Obtained complete financing, commenced construction in July 1993, with construction to be completed in 29 months. Revenue operations are forecast for January 1996.

Key issues

- Existing traffic history supports strong revenue forecasts.
- Environmental challenges resolved.
- Heavy existing congestion with no convenient alternate routes.
- AB-680 established sound enabling environment, including resolution of tort liability risks.
- Leased right-of-way from CALTRANS at nominal cost, reducing required capital.
- Local authority holds subordinated debt, indicating strong local support.
- Strong company commitment of private sponsors, including funded and contingent equity participation.
- Continued risks associated with depressed economy of Southern California.

SR-125 San Diego Expressway

SR-125 is a proposed new \$370 million, 10-mile highway near San Diego in a scarcely developed region extending south to the Mexican border. It features a limited access, four-lane road expandable to eight lanes as needed. A northern extension, which is essential for traffic projections, will be publicly controlled but could possibly be initially financed by private developers with reimbursement from the public sector.

Current Status

Awaiting completion of draft EIR/EIS that is being performed by CALTRANS staff and paid by developer. Record of Decision on environmental permits expected late 1994.

Key Issues

- New facility, lacking established traffic history, revenue projections questioned.
- Dependent on build-out assumptions, suffers from stagnant Southern California real estate market.
- Impact of NAFTA on border crossing traffic levels.
- Real estate developer commitment.
- SANDAG commitment.
- Franchise granted before EIS completed.

SR-57 Extension in Orange County

This proposal is a new \$700 million, 11-mile extension of SR-57, running over the Santa Ana River channel in Orange County. It features a four-lane, limited access, cars-only express route on an elevated platform above the river channel. The median will be reserved for a future transit way.

Current Status

Awaiting funding for environmental work.

Key Issues

- New, expensive facility.
- Engineering feat, with difficult connections to existing road network.
- Environmental obstacles pose major problems.
- Conformity with Corps of Engineers has been questioned.
- Major congestion reliever.

Mid-State Tollway

This proposal is a new \$1.2 billion, 85-mile, five-lane highway linking the southern end of San Francisco Bay to points north. Phase I is a 40-mile stretch of new highway. Phase II includes two high-span bridges over separate rivers.

Current Status

Seeking funding to proceed. Redefinition of project to construct Phase I only.

Key Issues

- New, expensive facility.
- Environmental difficulties appear major.

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- Needs local government multi-jurisdictional support.
 - Financial feasibility and viability have been questioned.

San Joaquin Hills Transportation Corridor

Overview

The California Legislature authorized in 1984 and 1985 the financing of roads and bridges by authorizing joint powers agencies with the right to collect tolls and development impact fees. Orange County and its local governments then created two Transportation Corridor Agencies (TCAs) as joint powers agencies for the purpose of financing and constructing new toll roads in the County. The San Joaquin Hills TCA has successfully financed the first toll road, while the Foothill/Eastern TCA was formed to finance and construct two other proposed corridors. The TCAs have limited taxing powers (development impact fees) to build the new toll-roads and construction is being funded mostly by bond investors using debt to be repaid by future tolls and fees. There is limited state and Federal involvement and financial assistance.

Project Description

The San Joaquin Hills road will be a six-lane limited access toll road running almost 15 miles between Interstates I-5 and I-405. As such, the toll road is expected to serve as a traffic reliever for I-5, I-405, and the Pacific Coast Highway, and some connector improvements. Completion is scheduled for 1997, with a sub-segment opening in 1996. The sister Foothill/Eastern TCA plans a 23-mile Eastern Corridor and a 30-mile Foothill Corridor. An initial three-mile segment of the Foothill Corridor is currently under construction, but completion of the other Corridors has not been financed.

Current Status

The San Joaquin Hills toll road project is under construction. TCA has given Notice to Proceed under a \$787 million Design/Build Contract with California Corridor Constructors, a Kiewit/Granite joint venture. A \$1.2 billion bond issue was successfully completed in March 1993, covering construction costs plus other development and toll collection costs. Permits were obtained and construction started in September 1993, but construction on one segment is under a restraining order stemming from environmental challenges. The environmental habitat in question appears to have been destroyed in the coastal fires of November 1993. Separately, an initial segment of the Foothill Corridor project is open to traffic.

Key Issues

- This is the first modern public toll road constructed within California.
- California passed enabling legislation, and the Corridor Agencies were established, providing relatively clear powers to undertake the project.
- Administrative processes, especially for environmental clearances, had to be created for every project stage, creating delays and draining resources.
- Project scale with costs of over \$1 billion for San Joaquin alone complicated financing.
- Construction cost risks were largely removed via a guaranteed-price contract.
- Construction plans encountered some public resistance and strong challenges from environmental groups.
- Traffic studies supported the financing plan, but capital markets changed, and the bond issue stalled until all discretionary permits were obtained.
- Development costs of over \$80 million were funded by the impact fees.
- Contractor loans, deferred compensation, and availability of a limited Federal credit enhancement all aided in completing the financing.

Dulles Greenway, Virginia

Overview

Virginia enabling law was adopted in July 1988 for the Dulles-Leesburg toll road project under a “private corporation act.” Section 56-544 of the Virginia Highway Corporation Act allowed private entities incorporated as public utility corporations to build, own, and operate toll roads upon a receipt of a Certificate of Authority from the Virginia State Corporation Commission (SCC). Virginia already had built a toll road east of Dulles Airport to the Capitol Beltway. This extension is to run west of the Airport to Leesburg and will be built, operated and maintained by Toll Road Investment Partners II (TRIP II) as a public utility regulated by the SCC and overseen by the Virginia Department of Transportation (VDOT) through the Commonwealth Transportation Board.

Under the initial plan, tolls will be the main source of revenue. The SCC will regulate tolls according to limits on the project’s rate of return on equity. All assets of toll road will revert to the State ten years after the debt is repaid. VDOT monitors construction, operations and maintenance as spelled out in the terms of a Comprehensive Agreement between the State and TRIP II, now using the name Dulles Greenway. All local land use and zoning regulations need to be complied with. The State required that all land be acquired by donation or fee simple to assure use in perpetuity after turnover, and much right-of-way was donated by local land developers.

Project Description

The Dulles Greenway is a new, 15-mile, limited-access four-lane extension of the existing State-built Dulles Toll Road (Route 267), extending west from Route 28 near Dulles Airport to Leesburg, VA.

Current Status

This project received all necessary State and local permits to commence construction and actively sought construction financing over a relatively long period. This project overcame several barriers to finalize financing of over \$300 million and break ground in the fall of 1993.

Key Issues

- Development costs associated with right of way acquisition and state and local interaction required significant private equity from the outset.
- VDOT developed an alternative public toll road proposal in order to evaluate the relative costs of the private proposal as required by the State statute.
- Developer team lacked new roadway experience and initial cost estimates proved low.
- Land acquisition proved difficult to finalize without any “taking” authority.
- Some new road environmental problems occurred, eased by voluntary mitigation.
- Toll revenue estimates were based on projected real estate development beyond Dulles which stalled in the recession.
- VA SCC regulation of profit levels had to be considered—toll rates are subject to regulatory control.
- Complicated sale/leaseback caused initial confusion.
- Complications arose from Airport Authority restrictions and compliance with local zoning regulations.
- Legislation contained ownership and other restrictions that unexpectedly came into play.
- Project delays lengthened when unable to turn to Federal- or State-aid, or ISTEA funds to augment funding.
- Agreement on procedures in event of default proved difficult.
- Additional private equity commitments were required to obtain final financing.

Arizona-Maricopa County

Overview

The Arizona legislature passed a 1991 statute that authorized the Arizona Transportation Board to grant up to four franchises for privately financed transportation facilities. The enabling law reflected combined elements from California's AB-680 and Virginia legislation allowing two projects under each approach. ADOT issued a request for privatization proposals in early 1992. In response, seven developer consortia proposed ten projects, including Pima Highway, Squaw Peak Parkway, tolled HOV lanes, and an entire urban highway system in Maricopa County (project costs estimated in excess of \$3 billion). Three projects were initially selected, but none went forward to financing.

A new project submission was accepted by ADOT in November 1992, proposing a project to complete 160 miles of the Phoenix-area urban highway system. The project would be organized as a nonprofit corporation that can issue tax-exempt bonds and contract for services.

Project Description

The surviving project is known as VUE 2000, proposing 160-miles of urban expressway in ten interconnected corridors. Project cost is approximately \$2.8 billion.

Current Status

The VUE 2000 team, led by HDR Engineering, was authorized by ADOT to proceed with a technical proposal as of July 1993. The Maricopa County Association of Governments has retained consultants to review the VUE 2000 proposal and other options.

Key Issues

- Arizona has no existing toll roads and no established administrative process — the enabling legislation remains untested and faces possible legal challenges.
- When the private road proposals encountered public resistance, support for the public-private partnership shrank.
- The Arizona Attorney General challenged conversion of existing Federal-aid roads to tolled use.
- Pima Corridor proposal relied on right-of-way over Indian lands.
- Disappointment when half-cent sales tax revenue to finance expanded road network fell short, due to recession and cost increases.
- ADOT discouraged blending of public and private financial resources.
- Two separate models existed under enabling law, franchise and toll.
- Widespread distrust and/or misunderstanding of public-private partnerships made the public unwilling to accept tolls or other tax rate increases.
- Local contractors were concerned about projects being awarded to large out-of-State firms.

