

Innovative Infrastructure Financing (Click on section to go to article)

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INTERNATIONAL MOBILITY OBSERVATORY

INNOVATION FACT SHEET

STRATEGY: **INNOVATIVE INFRASTRUCTURE FINANCING** No. 6.1.1

CONCEPT: Private Toll Roads

PROJECT NAME:

LOCATION: Developing Countries

Half a dozen countries in Asia, the Indian subcontinent, the Pacific Region and Eastern Europe are building or getting to build major toll roads with the help of private consortia, as the only realistic means to develop a modern highway network, given budget constraints and competing national priorities. The Philippines have four tollway projects totaling \$4.6 billion currently under negotiation. Indonesia has signed a 27-year franchise agreement with a UK-Indonesian private consortium for the country's first 35-mile of a BOT (Build-Operate-Transfer) tollway in Western Java. The Indian Ministry of Transport has identified 27 possible tollway projects for private development, with an estimated price tag of \$5.8 billion. India's first private BOT tollway opened in November 1993. In the Indochina region, Cambodia, Laos and Vietnam, emerging from decades of war and upheaval, are all considering privately financed BOT projects and have started to explore international consortium financing.

Further north, in the Republic of South Korea, where the number of vehicles nearly tripled to 6.3 million in just five years, the government is looking for private concessionaires to help build some of the roads now on the drawing board. And in Latin America, Argentina has already transferred some 6,000 miles of national roads, including a 6-lane 35-mile toll road that serves the capital of Buenos Aires, to private consortia. The transferred roads are maintained and upgraded to agreed standards in return for the toll revenue.

The International Bridge, Tunnel and Turnpike Association (IBTTA) reports that developed as well as developing countries around the world have more than 28,000 miles of toll roads on their drawing boards, most of them privately financed. IBTTA member authorities currently operate some 300 toll roads in 24 countries that carry in excess of eight billion vehicles annually

Ref: IBTTA, "Summary of the Proposed World-Wide Toll Facility Projects," 1995

INTERNATIONAL MOBILITY OBSERVATORY

INNOVATION FACT SHEET

STRATEGY: **INNOVATIVE INFRASTRUCTURE FINANCING** No. 6.1.3

CONCEPT: Private Toll Roads

PROJECT NAME: *The Dulles Greenway*

LOCATION: Northern Virginia, USA

Until it opened for business, the 14-mile *Greenway* in Northern Virginia was hailed as a trend setter promising financially strapped state and local governments an alternative means of financing badly needed highway infrastructure. But the nation's first privately built highway has not met the expectations. In the first six months after its opening in August 1995, the toll road averaged only 10,500 vehicles per day — far short of the sponsors' expectations of 39,000 cars per day by the end of the road's first year of operation. That meant that, instead of generating the company's target toll revenue of \$27 million in the first year, the facility earned only about \$7 million, barely enough to pay the toll road's operating expenses. While patronage has since grown sharply, to its current 37,000 vehicles per day, the *Greenway* has never been able to meet its debt service commitments. Even a strong housing boom in the corridor has not been able to place the *Greenway* on a sound financial footing, although *Greenway* management is claiming that the facility is currently making a profit. A restructuring of the *Greenway* financing is currently underway. *Greenway's* equity partners include the Shenandoah Greenway Corporation, a Virginia family corporation, Autostrada International S.p.a., operator of 2,800 km of toll roads in Italy, and Brown & Root, general contractor for the *Greenway*.

Several explanations have been offered for the disappointing results to date:

- The *Greenway* plans were hatched during the commercial real estate boom of the late 1980s, when demand studies assumed far more development in Loudoun County than has actually occurred to date.
- The Dulles *Greenway* was intended to offer a faster link between Dulles Airport and points west. However, time savings offered by the toll road are not perceived to be large, since the alternate toll-free route to Leesburg (Route 28/Route 7) is still relatively uncongested most of the time.

Ref: Toll Roads Newsletter, December '98; March '96; Innovation Briefs, February '96

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INNOVATION FACT SHEET

STRATEGY: **INNOVATIVE INFRASTRUCTURE FINANCING** No. 6.1.4

CONCEPT: Private Toll Roads

PROJECT NAME: Mirage Resort Road and Tunnel

LOCATION: Atlantic City, NJ, USA

The \$330 million Mirage Resort Road and Tunnel project in Atlantic City, New Jersey is going to include the largest private sector donation to a public sector facility in US history. The road, which will cut through wetlands and tidal estuary, will link the planned \$1 billion Mirage Resort and Casino in Atlantic City's marina district with Atlantic City Expressway and the city's new convention center. The facility will be 2.4 miles long, with 14 bridges and a ½ mile long tunnel.

In addition to the \$110 million contribution from the developers of the Mirage Resort, who will be responsible for all cost overruns, financing for the project includes \$95 million in state transportation grants, \$65 million from parking fees and \$60 million from increased toll revenues on the Atlantic City Expressway.

The project has been set up as a design-build-transfer project. Completion is expected in time for the resort opening in 2001.

Ref: Project Finance, May 1998

INTERNATIONAL MOBILITY OBSERVATORY

INNOVATION FACT SHEET

STRATEGY: **INNOVATIVE INFRASTRUCTURE FINANCING** No. 6.2.1

CONCEPT: Public-Private Partnerships

PROJECT NAME: “Third Sector” (Daisan) Financing

LOCATION: Japan

Major transportation projects in Japan are being financed by public-private consortia (Daisan or Third Sector) in which local jurisdictions are shareholders. At last report, more than 5,400 Daisan ventures have been established in Japan. They represent capital investment in excess of 10 billion dollars, of which about half is contributed by central government and local public agencies. Each Daisan project can have anywhere from several to hundreds of private participants. The Tokadai Line, for example, has been financed by the prefecture (which holds controlling interest), several banks and public utilities, the private Nagoya Railway Company, Mitsubishi, Toyota, Nippon Steel and several other industrial companies. The greatest concentration of Daisan projects can be found in Yokohama, Tokyo's port and now the second largest city in Japan. Yokohama's Century 21 Port project (Minato Mirai) is one of the largest Daisan projects, transforming 460 acres of waterfront property into a high tech urban center with a huge convention center.

INTERNATIONAL MOBILITY OBSERVATORY

INNOVATION FACT SHEET

STRATEGY: **INNOVATIVE INFRASTRUCTURE FINANCING** No. 6.2.2

CONCEPT: Public-Private Partnerships

PROJECT NAME: Build-Operate-Transfer (BOT) Model

LOCATION: Various

Under this financing arrangement, a private developer or a consortium builds a highway with privately raised capital (debt or equity) and operates the facility for a specified period of time under a franchise with the public agency. At the conclusion of the franchise (generally 20 to 40 years), the private partner turns ownership of the facility over to the public agency at no charge. Upon transfer of ownership, the public agency can assume operating responsibility for the facility, or it can contract out the operation back to the original franchise holder or a new contractor.

In this model, the private party assumes construction, financing and operating risk, and obtains commensurate potential rewards. The public agency may choose to share some of the risks and potential benefits. The public agency may also provide the land, assist the private developer in obtaining zoning, environmental and other approvals, and take other actions to help assure the timely completion of the project. This is an important aspect of any public-private partnership, with each party doing what it does best.

The BOT model is currently the most common method of private involvement in new infrastructure development. The best known example in the United States is the Dulles Toll Road Extension in Northern Virginia. Other examples of the BOT approach can be found in the Commonwealth of Puerto Rico (the San Jose Lagoon Bridge), and the third terminal at the Lester B. Pearson International Airport in Toronto. Abroad, the BOT model has been used to construct some of the French autoroutes and rapid transit projects in Hong Kong, Manila, Singapore and Bangkok.

Germany's first BOT project is a toll tunnel under the Warnow River in the city of Rostock. The tunnel will be built and operated by a German subsidiary of the French Bouygues group, one of the world's largest construction firms. The Rostock tunnel is one of 12 German BOT projects currently on the drawing board

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INTERNATIONAL MOBILITY OBSERVATORY

INNOVATION FACT SHEET

STRATEGY: **INNOVATIVE INFRASTRUCTURE FINANCING** No. 6.2.3

CONCEPT: Public-Private Partnerships

PROJECT NAME: Shadow Tolls

LOCATION: United Kingdom

A new technique to finance road construction that does not involve the collection of tolls from the road users yet transfers much of the risk from the public to the private sector, has been pioneered in the United Kingdom. The approach involves the contracting out of design, construction, financing and operation of a road to a private consortium. However, unlike traditional toll roads, the concessionaires will not charge tolls but will be rewarded by the government with a payment of a "shadow toll" based on the traffic volume. In effect, the government repays the private builder an amount similar to the actual tolls that would have been collected over the life of the concession. At the end of the concession, ranging from 15 to 25 years, the road reverts to public ownership.

Four initial Shadow Toll projects have been announced with total construction costs of \$570 million, and press reports state that 20-30 other such projects may be initiated over the next five years. The concessionaires are expected to be consortia that include major financial institutions. The innovative scheme is a pillar of the U.K government's Private Finance Initiative which aims to bring "private sector innovations, efficiencies and management discipline to public sector projects."

Ref: "Shadow Tolling: A Highway Privatization Option," Traffic Technology International, Autumn 1995, p. 82

INTERNATIONAL MOBILITY OBSERVATORY

INNOVATION FACT SHEET

STRATEGY: **INNOVATIVE INFRASTRUCTURE FINANCING** No. 6.2.4

CONCEPT: Public-Private Partnerships

PROJECT NAME: The Pocahontas Parkway

LOCATION: Richmond VA, USA

A \$324 million, 8.8-mile toll road, connecting two interstates on the periphery of Richmond, Virginia, will be financed and built as a public-private partnership. The state of Virginia will put up \$9 million for design work and provide \$18 million in loans from the State Infrastructure Bank. Private investors will put up the balance, recouping their money with toll income.

Unlike the financially troubled Dulles Greenway in Northern Virginia (see, 6.1.3), which has suffered from low use, the Pocahontas Parkway is expected to be used daily by some 20,000 suburban residents commuting into town or driving to the expanding Richmond airport. The project also differs from the \$358 million Greenway in that it includes the use of tax-exempt bonding that will lower the interest rate on the financing of the road.

The new road will be built by a consortium of Fluor Daniel and Morrison Knudsen. It will open in early 2002.

INTERNATIONAL MOBILITY OBSERVATORY

INNOVATION FACT SHEET

STRATEGY: **INNOVATIVE INFRASTRUCTURE FINANCING** No. 6.3.1

CONCEPT: Franchising

PROJECT NAME:

LOCATION:

Franchising is becoming an increasingly important technique in the United States for financing transportation improvements, such as toll roads and the deployment of Intelligent Transportation Systems.

Traditionally, franchising involved the granting of access to public right-of-way or other public facilities in return for the rendering of specified services to the public. Franchising historically was applied to natural monopolies where it was uneconomical or disruptive to permit more than one private provider of service to operate the service. Early examples of franchising in the field of transportation were streetcar operation and electric distribution systems. More recently, cable television franchises have been a popular method of introducing this new technology into local communities.

Today, franchising is taking new forms. Examples include: (1) The California Department of Transportation awarded a contract to a private consortium to finance, design, construct, operate and eventually turn back to the state a toll road (SR91). The franchise agreement grants access to public rights-of-way and stipulates the return on investment. The agreement also requires that tolls vary with congestion levels. (2) The states of Virginia and Maryland, have granted access to a private consortium to public rights-of-way in return for deployment of an advanced traveler information system (the National Capital Region Traveler Information Showcase). Other types of franchise agreements involve bartering of access to public rights-of-way in exchange for the provision of wireless (cellular) communication infrastructure.