EAST COAST ROAD, TAMIL NADU, INDIA

Case Study (Transportation)

Project Summary:

The southern India state of Tamil Nadu has been a leader in the area of urban sector reforms and has established an efficient framework to carry out this process. One of the tools it has used for a variety of infrastructure projects has been public-private partnerships (PPPs). The government's objective has been to facilitate the development of modern urban infrastructure, while providing an enabling environment for the participation of the private sector in this development. The East Coast Road project is one of the resulting PPP projects managed by an entity which is itself a public-private partnership.

The first of the Tamil Nadu government's series of public-private partnerships for roadways was commissioned in 1998, as the Tamil Nadu Road Development Company Ltd. (TNRDC). This enterprise was structured as a model public-private partnership between the public agency known as the Tamil Nadu Industrial Development Corporation (TIDCO) and the private consortium IL&FS. This PPP was intended to leverage state resources by encouraging private sector investment.

The TNRDC's purpose was to improve the small roads connecting the state capital Chennai with the town of Cuddalore. The objective was to reduce traffic congestion, facilitate local business and trade, and reduce the local air pollution. This was done by upgrading the road design, employing contemporary construction techniques, and operating the road using the latest technology. The project was also expected to serve as a catalyst for private sector investment and participation in infrastructure development.

However, this initial agreement lacked a sufficient financial base, which slowed maintenance work in the project. As a result, the road was characterized by high levels of accidents, poor signage and absence of road markings. Pavement failures were also seen within two years of the initial development.

To correct these deficiencies, the Tamil Nadu Road Development Company negotiated a new contract for the rehabilitation and maintenance of the 113.2 km East Coast Road (ECR) between the cities of Chennai and Pondicherry, via the city of Mahabalipuram, at a cost of US $12.6
million. The Government approved the project in principal on February 11, 2000 and the concession agreement was signed in December 2000. The new PPP contract was renegotiated as a Rehabilitate-Improve-Maintain-Operate-Transfer (RIMOT) agreement, which included a number of improved specifications. Work under this agreement began in February 2001, and a substantial portion was completed by December 2001. The improved road began operating as a toll road on March 24, 2002.

The proactive support from the Government of Tamil Nadu was critical to the long-term success of this project. There was significant inter-departmental coordination, transparency in bidding and contracting, and assistance in toll enforcement. Because this project became extremely successful, this framework serves as a model for projects with high maintenance and operations costs.

**Project Objectives:**

Tamil Nadu, with a population of over 62 million, is the most urbanized State in India; over 47% of its population currently lives in urban areas. Its capital, Chennai (formerly known as Madras) is the fourth largest city in India, with an estimated population of over 7.5 million. Given the increasing urbanization of its populace, and the growing economic reliance on the industrial sector, the government of Tamil Nadu recognized the importance of transportation infrastructure in facilitating further economic development. The road projects undertaken by the Tamil Nadu Road Development Company are expected to reduce traffic congestion, and facilitate commerce and tourism. This is expected to lead to increases in economic activity and employment opportunities, and will eventually lower local poverty levels. Reduced congestion will also reduce air pollution. A number of these objectives were subsequently included in the Millennium Development Goals.

To achieve these goals, the government relied heavily on the resources of the private sector to provide the latest technologies in highway design, construction and operation of the tolling facilities. In addition, the private sector was encouraged to provide investment capital for the maintenance, asset management and operation of the highway at a high quality and in a professional manner.
Project Description:

1. Partners

The Tamil Nadu Road Development Company Ltd (TNRDC) is the third variation on an arrangement establishing a partnership between Tamil Nadu Industrial Development Corporation (TIDCO - a government agency of Tamil Nadu) and IL&FS for developing road sector initiatives under the public-private partnership format. However, the initial joint venture failed because of limited financial resources. As a result, the Government of Tamil Nadu initiated a dialogue with IL&FS to restructure TNRDC as a model PPP with the eventual objective of promoting private sector investment and participation in a range of infrastructure projects, but particularly the road sector.

In January 1998, a Memorandum of Agreement was signed forming the TNRDC partnership, which includes two French companies in addition to IL&FS and TIDCO. The objective of the joint venture was to focus on developing an integrated toll road network in Tamil Nadu. The World Bank also provided loan assistance to the project.

2. Implementation Environment - Legislative and Administrative

The high projected cost of investments and the lack of government ability to fund these high profile infrastructure projects have led to a growing interest in private sector financial participation. To facilitate private sector cooperation, the Tamil Nadu state government created a statutory and regulatory framework that creates market opportunities for the private sector and results in an increase in investments and the providing of efficient services. This framework is structured with emphasis on a commercial basis, providing opportunities for subsequent expansion of the commercial activity. The TNRDC has been structured to allow for the conception and development of a wide range of infrastructure projects with private sector participation.

Under this framework, the government is responsible for regulations and policy risks, while commercial risks are borne by the private sector. To make the partnership more attractive to the private operator, the government has also assumed certain contingent liabilities apart from force majeure events.

TNRDC’s Board of Directors comprises three members from IL&FS, two members from the Government entity TIDCO, an independent director from the Ministry of Environment & Forest and a former bureaucrat who is the Chief Executive Officer of the company. Also included are
representatives of all other partners including lenders, investors, consumers and independent individuals. While the toll revisions are under the power of the government, the corporate structure enables the protection of all interests as well as the project itself.

3. Financial Agreement

The government has not provided any direct funding for the East Coast Road, but does hold a minority equity position through the Tamil Nadu Road Development Company Ltd. The private sector in this public-private partnership has a majority share of equity, with the total equity share of capital contributed at about US $37 million of the US $225 total cost of the project. Subordinate costs contributed another US $37 million while the senior debt, funded by the projected tolling revenues, contributed the remaining US $151 million. This equity supports all of the TNRDC's projects; the East Coast Road is just one of many TNRDC initiatives. It was also expected that all of the costs for the operations and maintenance, as well as the senior debt servicing, would be met by toll revenues on the East Coast Road.


The contract provisions for the construction of new roads and the maintenance of existing roads were based on the projected traffic volume and the expected economic viability of the project. The contract included the maintenance of several state highways in addition to the East Coast Road, in order to increase the attractiveness of the contract and improve the competitive pricing and quality of both the construction and maintenance. The private operator also signed an Integrated Improvement and Maintenance Contract that included performance standards to be met in the operation of the toll road.

Risk was allocated in a viable manner, with the government bearing regulatory and policy risks, while the private sector bore the commercial risks. To make the deal more attractive for the private sector, the government has also assumed certain contingent liabilities as well as force majeure events. These contractual requirements have been recognized and incorporated in the related documents. The East Coast Road project was one of the first projects of its kind in India, when entrusted to the Public-Private entity TNRDC. The concession agreement was signed in December 2000 to develop the project on a Rehabilitate Improve Maintain Operate and Transfer (RIMOT) basis. The RIMOT contract was signed between the Government of Tamil Nadu and the Tamil Nadu Road Development Company in December 2000 and commercial tolling operations on the road commenced in March 2002.
The business model also allows the private company to make investments in commercially or marginally viable projects and provide advisory, management and Operations and Maintenance services on a fee basis for other commercially infeasible but socially desirable projects.

5. Implementation Metrics

The public-private partnership format of the East Coast Road project in Tamil Nadu is robust and is the basis for the success of the project. The TNRDC contract entrusts existing public assets to the private sector for capacity augmentation and improvement of efficiency, leveraging and freeing up scarce public resources for other projects. The RIMOT framework required the tolls charged to recover improvement and maintenance costs only, allowing for lower tolls rates for users. Project returns for the private sector are capped at 20% and any surplus is reinvested in the state road sector.

Since this was not a green field project, but rather an upgrading of an existing road, there was a strong interest in maintaining as much traffic flow as possible. The private company is allowed significant latitude in the scheduling and manner in which road improvements are done, but with the need to minimize disruption of this flow. This approach led to creative solutions in the scheduling and design of the work. These include optimizing road space while paving road surfaces and effective segregation of traffic to minimize congestion. This in turn reduced the risk of low traffic density, reduced toll revenues and high capital costs that are normally associated with a four-lane highway of this size.

The plan also included an increased toll structure and discount travel cards for regular users and exemption of toll for economically disadvantaged groups. This method has found acceptance with toll payers, since lower income travelers using two-wheelers, three-wheelers and agricultural vehicles, as well as local residents are now exempt from the toll. Only cars, light commercial vehicles, buses and trucks pay toll for use of the road.
Commentary:

1. Methods for Overcoming Impediments

The Government of Tamil Nadu and the private partner view the East Coast Road as a vital project for the development of the state and the welfare of local communities. However, the project has faced some opposition from environmentalists who argue that the ecological damage that would result from the construction and use of the highway would outweigh the benefits, and that a comprehensive impact assessment of the project had not been carried out before the contract was signed.

Public hearings, public interest litigation, commissions of enquiry and debates in the press have brought out many issues about the East Coast Road. During the initial phase following the commencement of tolling, local residents, auto-rickshaw drivers, and other groups protested against having to pay a toll for access to their homes, arguing that tolling an access road to a person's home was unconstitutional and that low-income citizens could not afford the toll. A citizens advocacy group was formed to lobby against the toll on local residents. In July 2002, after some protests that threatened to become violent, the matter was resolved by the Chief Minister of the state of Tamil Nadu who announced that local residents would be given passes by the tolling company for toll-free access to their homes.

2. Key Points for Success or Failure

The success of up-scaling infrastructure projects in Tamil Nadu depends on the demand-driven nature of the projects and the framework of the PPP model used. The success of any public-private partnership is dependent on reaching a financial equilibrium to allow for the recouping of capital investments, either for maintenance and operation, or for new construction. While some questions do remain, the Tamil Nadu structure appears to be sufficient and adaptable, with an effective risk-sharing contractual format. Revision of tolls downward post contract signing, delays in issuing toll notification orders and delays in agreed toll escalations are issues that need to be addressed for public-private partnerships to become a consistently viable form of private financing for infrastructure in the future. However, the combination of the stable and growing national economy and infrastructure sector reforms have created the conditions for attracting private investment in additional road projects, helped in part by the success of the East Coast Road.

The incorporation of sustainable Operations and Maintenance in the project design phase is another key factor in its success. The strong support from the Government of Tamil Nadu in
coordinating departments, combined with transparency in bidding and contracting have allowed the creation of a highly effective partnership in the transport sector.

However, for the model to be replicable in other projects with high maintenance and operations costs, certain problems will have to be addressed. For one, the road has also witnessed a considerable rise in accidents since it has started operation. Unlike in many countries where highways connect human settlements, with few habitations along the route, there are several villages located along the East Coast Road. However, the road does not have any pedestrian underpasses or bridge crossings for local people to cross the road. There is also a lack of access roads connecting local villages to the highway, which results in a number of these villages not receiving the expected economic benefits of connectivity.

It has been suggested by transportation experts that a periodic safety audit involving a team of engineers, road laying organizations and local people should collaborate to solve the problems that have affected the project. For example, there is discussion of allowing two-wheelers and slow-moving traffic to use the shoulders as additional traffic lanes, as opposed to reserving the paved shoulders for emergencies and official vehicles. Given the vehicle mix in Tamil Nadu, this might both increase average traffic speed, but improve the safety and comfort of the travel experience.