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Report No: 23507

IMPLEMENTATION COMPLETION REPORT
(IDA-28380; SCL-39920)

ON A

LOAN

IN THE AMOUNT OF US$200 MILLION

TO INFRASTRUCTURE LEASING AND FINANCIAL SERVICES LIMITED

AND A

CREDIT

IN THE AMOUNT OF SDR3.4 MILLION

TO INDIA

FOR A

PRIVATE INFRASTRUCTURE FINANCE (IL&FS) PROJECT

May 10, 2002

nergy and Infrastructure Unit
outh Asia Region

CURRENCY EQUIVALENTS

(Exchange Rate Effective September 30, 2001)

Currency Unit = Indian Rupee
INR 1 = US$ 0.021
US$ 1 = INR 47.855

FISCAL YEAR
April 1 March 31

ABBREVIATIONS AND ACRONYMS

ADB	Asian Development Bank	IFCI	Industrial Finance Corporation of India
AMTRL	Ahmedabad Mehsana Toll Road Limited	IL&FS	Infrastructure Leasing and Financial Services Ltd.
BOT	Build, Operate and Transfer	IPP	Independent Power Producer
bp	basis point (100 bp = 1%)	LIBOR	London Interbank Offered Rate
CAS	Country Assistance Strategy	NHAI	National Highway Authority of India
CBI	Central Bank of India	NPV	Net Present Value
DEG	German Investment & Development Company	NTBCL	Noida Toll Bridge Company Limited
EA	Environmental Assessment	O&M	Operation and Maintenance
EMP	Environmental Management Plan	PAP	Project Affected Person
EIRR	Economic Internal Rate of Return	PLR	Prime Lending Rate
ES	Environment and Social	QAG	Quality Assurance Group
ESR	Environment and Social Report	R&R	Resettlement and Rehabilitation
FIRR	Financial Internal Rate of Return	RAP	Resettlement Action Plan
FMO	Netherlands Development Finance Company	RBI	Reserve Bank Of India
GOG	Government of Gujarat	SAR	Staff Appraisal Report
GOI	Government of India	SPV	Special Purpose Vehicle
IDA	International Development Association	UTI	Unit Trust Of India
IDBI	Industrial Development Bank of India	VHTRL	Vadodora Halol Toll Road Limited
IFC	International Finance Corporation		

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INDIA
PRIVATE INFRASTRUCTURE FINANCE (IL&FS) PROJECT

CONTENTS

This ICR was prepared based on the findings of an ICR mission that visited India during December 3-14, 2001 as well as various contributions from the Borrower and other documents, such as the report on "India Financial Market Assessment for Private Infrastructure Investments", PriceWaterhouseCoopers, September 2000, which was commissioned by the Bank. The ICR mission was led by Julie Fraser (SASEI) and included Stephan von Klaudy (PSAPP), Bill Denning (consultant), and Manoj Jain (SARFM). The environment and social safeguard team, comprised of P. Illangovan (EASES) and I.U.B. Reddy (SASES), followed with a mission two weeks later. The main report was authored by Julie Fraser and Stephan von Klaudy; Bill Denning contributed Annexes 10 and 11; and Jack Williams, the statistical annexes and editing. Jose Luis Irigoyen (LCSFT) was the peer reviewer.

Project ID: P039935	*Project Name:* ILFS-Private Infrastructure Finance
Team Leader: Julia M. Fraser	*TL Unit:* SASEI
ICR Type: Intensive Learning Model (ILM) of ICR	*Report Date: May 10, 2002*

1. Project Data

Name: ILFS-Private Infrastructure Finance

L/C/TF Number: IDA-28380; SCL-39920

Country/Department: INDIA

Region: South Asia Regional Office

Sector/subsector: DI - Private Infrastructure

KEY DATES

			Original	*Revised/Actual*
PCD:	05/15/1995	*Effective:*		11/22/1996
Appraisal:	00/00/0000	*MTR:*	04/30/1998	12/09/1998
Approval:	03/28/1996	*Closing:*	09/30/2001	09/30/2001

Borrower/Implementing Agency: IL&FS/IL&FS

Other Partners:

STAFF	Current	At Appraisal
Vice President:	Mieko Nishimizu	D. Joseph Wood
Country Manager:	Edwin R. Lim	Heinz Vergin
Sector Manager:	Vincent Gouarne	Jean-Francois Bauer
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2. Principal Performance Ratings

(HS=Highly Satisfactory, S=Satisfactory, U=Unsatisfactory, HL=Highly Likely, L=Likely, UN=Unlikely, HUN=Highly Unlikely, HU=Highly Unsatisfactory, H=High, SU=Substantial, M=Modest, N=Negligible)

Outcome: S

Sustainability: L

Institutional Development Impact: H

Bank Performance: S

Borrower Performance: S

	QAG (if available)	ICR
Quality at Entry:	S	S
Project at Risk at Any Time.	Yes	

3. Assessment of Development Objective and Design, and of Quality at Entry

3.1 Original Objective:

3.1.1 As stated in the Staff Appraisal Report, the objectives of the Private Infrastructure Finance (IL&FS) Project were to: (a) build up India's capacity to attract private investment in infrastructure; (b) pilot-test institutional and contractual arrangements in a variety of subprojects under various administrative and political conditions; (c) help establish a track record as a prerequisite for large-scale private investment in the sector; (d) meet the pressing needs of commercial infrastructure project entities for long-term rupee financing, pending the implementation of financial sector reforms for the development of a domestic long-term debt market; (e) foster efficiency in the delivery and use of selected infrastructure services; (f) encourage the establishment of more efficient practices in the construction and operation of infrastructure projects; and (g) assist in alleviating the severe financial and institutional constraints to the expansion of infrastructure in India.

3.1.2 These objectives, while clear, were ambitious and somewhat overlapping. The Project was rather high risk, given the absence of well-established administrative, legal, policy and regulatory frameworks in the country, the relative inexperience of IL&FS and state governments with executing complex infrastructure project finance structures, and the ambitious pipeline of projects to be implemented by IL&FS over the Project period. In addition, the objectives stated in the Staff Appraisal Report omitted one of the critical institutional development objectives, i.e., creating institutional capacity within IL&FS for project appraisal, risk analysis, formulation of contractual frameworks, evaluation of bids, etc. In this sense, the objectives as summarized in the Loan Agreement were more straightforward and simplified the more detailed objectives described in the SAR:

- to promote the participation of the private sector in infrastructure development;
- to foster efficiency in the delivery and use of selected infrastructure services; and
- to assist in the institutional development of the Borrower as will facilitate the financing of such infrastructure.

3.1.3 Late in the appraisal process, it was decided to add an IDA Credit equivalent to US$5 million to finance the cost of advisory services which public sector authorities (e.g. GOI, state governments, municipalities) could utilize to select BOT operators and negotiate concession agreements. Although the IDA Credit objectives were not explicitly stated in the SAR, the Credit Agreement defined the objective assisting the Government and its agencies, constituent States, Union Territories and their agencies in developing capabilities for structuring commercial infrastructure projects to be financed by the private sector. Overall, the objectives were consistent with the Bank's Country Assistance Strategy which proposed to increase the Bank's assistance in establishing an environment conducive to efficient private investment in infrastructure.

3.1.4 The objectives and design of the Project need to be assessed in the context of the evolving policy and institutional framework for private investment in infrastructure existing at the time of appraisal and which continues today. The expansion and efficient use of infrastructure remains one of India's key development issues. Attracting private investment in infrastructure has been a feature of government policy in India since the early 1990s when the Government took a number of legislative steps to remove formal barriers to private investment in power, telecommunications, highways, etc. The next step was to establish policy and institutional frameworks to fully support such investment and address the lack of finance commensurate with the typical long gestation and revenue-earning capacity of infrastructure projects. The Government selected IL&FS, a majority private, non-banking financial institution established in 1987, as the first financial intermediary to receive the Bank's support, given the pioneering role it was playing in

promoting private investment in infrastructure. The Project was designed as a "process" operation whereby IL&FS was used as a vehicle to build up India's capacity to attract private investment in infrastructure, and the Bank focused on assisting IL&FS first-hand in developing prototype contractual arrangements for private investment in its areas of involvement.

3.1.5 This Project constituted the second Bank initiative to offer private investors in infrastructure term financing with more appropriate maturities than those available. (The first initiative was the restructuring of the then ongoing Tamil Nadu Urban Development Project (Cr. 1923-IN) in September 1995 to promote the entry of a private fund manager to commercially manage the mix of public and private sources of finance provided to the Municipal Development Fund.) The third initiative, which envisaged a much larger scale operation involving a project with several public financial institutions as a vehicle to promote financial policy reforms aimed at developing a domestic long-term debt market, never materialized.

3.2 Revised Objective:

3.2.1 There were no revisions to the project objectives.

3.3 Original Components:

3.3.1 The Project was designed to assist IL&FS in financing infrastructure subprojects such as major bridges, urban bypasses, port facilities, water supply and effluent treatment schemes, and integrated area development projects, to be implemented on a build-operate-transfer (BOT) basis, or variation thereof, and expected to be started within three years of appraisal. It provided IL&FS with a US$200 million line of credit for investment and technical assistance and GOI with an IDA credit of US$5 million equivalent for subproject preparation. It consisted of three interrelated components:

An *investment component* (US$185 million) in the form of a line of credit to IL&FS, the proceeds of which were used to provide long-term finance to special purpose entities established for the construction and operation of commercial infrastructure projects in IL&FS's pipeline.

A *subproject preparation component* (US$19 million, including US$5 million equivalent from the IDA Credit) to cover specialized consultancy services to advise the public authorities granting the subproject concessions or to assist project developers in preparing their subprojects.

A *training and technical assistance component* (US$1 million) to cover (i) IL&FS's staff development for its staff and (ii) specific studies that IL&FS were undertaking to facilitate the evaluation and implementation of commercial infrastructure projects.

3.3.2 The components were clearly related to achieving the development objectives. In recognition that the project would be pioneering frameworks for BOT-type transactions in India where there was little experience in the core sectors of transport, urban and water, significant funds were allocated for subproject preparation and the institutional capacity building of IL&FS and government. In reality, however, IL&FS did not draw on the Bank loan for its training needs, instead relying on its own funds since this was less expensive. In addition, only the IDA Credit (and not the IBRD Loan) was utilized to hire consultants to prepare some of the subprojects, including feasibility and willingness to pay studies, while the remaining preparation work was financed by IL&FS using its own and other resources. Consequently, the major part of the Bank loan category allocated to project preparation was not utilized.

3.4 Revised Components:

3.4.1 There were no revisions to the components.

3.5 Quality at Entry:

3.5.1 The Quality Assurance Group (QAG) made a post approval Quality at Entry assessment of the IL&FS Project in mid-1997, about six months after Loan effectiveness, as part of the QAG review of South Asia Private Sector Infrastructure Development Operations. QAG rated the Project as fully satisfactory citing (i) strong Borrower and Guarantor ownership; (ii) IL&FS, a privately owned, commercial, non-banking financing institution, was viewed in India as being a professionally run institution; (iii) the significant impact in capacity building within IL&FS, especially in the area of environment and social analysis where previously IL&FS had no stated policies or procedures; and (iv) the strong partnership between the Bank and IL&FS's project team.

3.5.2 Some of the project weaknesses identified by QAG included: (i) for the size of the Bank Loan, the pipeline of subprojects ready for financing at project approval stage was weak in terms of their state of preparedness, risking a significant delay in commitments and disbursements when compared to appraisal estimates; (ii) inadequate policy framework and weak capacity of local and state governments; and (iii) the multiplicity of, and possibly conflicting, roles assumed by IL&FS. These weaknesses were also highlighted in the peer reviewers comments received during the preparation and appraisal stage.

3.5.3 In light of the implementation experience of the Project in which each of the above weaknesses became apparent, the quality at entry is rated as only marginally satisfactory at the time of this completion report. Both the Bank and IL&FS underestimated the time it took to prepare projects and related documentation to the standards acceptable to the Bank and international investors, and to negotiate and reach agreement. It was expected that all subprojects, to be supported under the Bank line of credit, would be ready for financing within two and half years as evidenced by the December 31, 1998 deadline for subproject applications in the Loan Agreement. Virtually all of the subprojects were still in the project development phase, and none of the key project documentation (e.g. concession agreement, construction agreement, O&M agreement, service agreement, etc.) had been drafted. Evaluation of experience in project finance transactions in other parts of the world would have revealed these expectations to be unrealistic, in particular since it was explicitly recognized that there was little experience with complex BOT project structures in India. The design may have also benefited from having experienced project finance and legal advisors to the state governments in place at the time of effectiveness for the most advanced projects, and focused institutional development and capacity building should have been included in the Project's design. However in retrospect, while additional preparation could have possibly strengthened the sub-project pipeline, the quality at entry needs to be judged in light of an operation which was designed to support a pioneering private sector-driven process, with all the ensuing uncertainties.

4. Achievement of Objective and Outputs

4.1 Outcome/achievement of objective:

4.1.1 ***Overall Outcome.*** Achievement of objectives and outputs under the Project was satisfactory, despite the low level of disbursement. The Project contributed effectively to promoting private sector participation in infrastructure, thereby fostering efficiency in delivery and use of infrastructure services, and enhancing institutional development. However, pipeline development progressed more slowly than expected, and completed projects remained limited to transport (roads). In the other target sectors (water and urban development), contractual frameworks have been developed, but no subprojects were commissioned. At Loan/Credit closing, two subprojects had started operations (Vadodara-Halol toll road and Delhi-Noida toll bridge), two were under construction (Ahmedabad-Mehsana and East Coast toll roads), one had a committed financing package (Tirupur Water), and 20 were at different stages of preparation (See Table in Section 10). Disbursements, totaling US$31 million, also remained far below initial expectations. While the Project thus fell short of reaching its key numerical goals (number of

subprojects, disbursements), it clearly set in motion a process of reform in the target sectors which greatly facilitates private involvement. The following paragraphs describe the achievement of each objective, as defined in the SAR.

4.1.2 ***Develop prototype contractual arrangements for private investment in IL&FS areas of involvement, pilot-test institutional and contractual arrangements in a variety of subprojects under various administrative and political conditions, help establish a track record as prerequisite for large-scale private investment in the sector (Satisfactory).*** In absence of detailed frameworks at the national or state level for private participation in the target sectors, IL&FS developed, with support under the Project, arrangements at the subproject level as a basis for broader applications. This approach served in the Indian context as an accelerator for the reform process needed to attract more private capital and skills. The essential elements of the contractual and institutional arrangements applied by IL&FS to the development of subprojects consist of well-known building blocks for public-private partnerships. Detailed concession agreements govern the relationships between all relevant parties involved, i.e. fund providers, contractors and public authorities, and stipulate their rights, obligations, events of default, remedies etc. They are complemented by other key documents, primarily the financing agreements, construction contract, operating contract and articles of the concession company. The design of such contractual frameworks with various inter-linked agreements, and in particular the creation of concession structures and multiple lender arrangements for long-term project financing, represented a novelty in the target infrastructure sectors. In order to achieve this objective, nine legislative instruments were approved for implementation of private concession projects by different states. At the time of Loan/Credit closing, complete contractual frameworks had been developed and financial close reached for four transport subprojects, while the framework and financing for the first private water project had been virtually finalized.

4.1.3 The four road subprojects brought to financial close by IL&FS during the Project implementation period ranged between US$11 and US$85 million and totaled about US$200 million. Of those, the smallest one (East Coast toll road) was not financed under the Loan. A further transaction reached financial close in December 2001 (Tirupur Water) at total cost of US$214 million, also without financing from the Bank Loan. The subprojects implemented so far, and those under active preparation, have created a track record, based on which other transactions in the target sectors are being designed and which serves to further develop and fine-tune the underlying contractual and institutional arrangements and basic project structures.

4.1.4 ***Facilitate entry of private sector on a much larger scale in areas so far dominated by the public sector (Partially Satisfactory).*** The Project has been successful in facilitating some of the first private infrastructure investments in the target sectors in India in a number of different states. These subprojects have had a positive impact as demonstration projects and have thus set examples on the basis of which private sector involvement is likely to be expanded along the lines of the appraisal expectations. However, the Project's achievements to date are essentially confined to the roads sector, in which four subprojects have reached financial close and are at different stages between construction and operations. The first water project has long been delayed, but has now reached financial close. Subprojects in other sectors have not progressed beyond preparation.

4.1.5 In the emerging contractual and institutional environment, the transactions initiated under the Project have attracted a total of 26 equity and 39 debt investors (Annex 1). However, they remained essentially inter-Indian deals, with only limited foreign participation on the part of two specialized equity investment funds, and one toll road operator. Even though more than 30 private corporations invested in infrastructure projects in India, key foreign or local corporate players were virtually absent in the target sectors. IL&FS' role as principal subproject promoter and sponsor proved therefore essential for private

sector involvement to materialize. By playing this catalytic function, IL&FS was able to bring together the variety of partners (financial institutions, international equity funds, construction companies, toll road operators) required for the successful structuring, financing and implementation of the subprojects. However, the contractual and institutional arrangements developed by IL&FS under the Project are still evolving and the existing track record in the target sectors is limited. It is therefore expected that, as the framework and structure of subprojects is adapted to international standards, private sector participation in the target sectors will become more attractive to foreign participants.

4.1.6 As a result of the predominance of Indian fund providers, the genuine private sector involvement in the subprojects is only partial. Most of the large Indian banks and financial institutions are fully or majority Government-owned and dominated (at union or state level). From the ownership point of view, it might thus be argued that despite the sophisticated contractual arrangements designed by IL&FS under the Project, a large portion of the financial risk remains ultimately with the state. This was one of the issues raised at the time of the Project's initial review. However, it was also clear during appraisal that a fully private funding environment could not realistically be expected in the medium term, given the policy framework of the Indian financial sector. Considering the starting position and existing constraints, the Project successfully enhanced the provision of genuine private capital, by mobilizing, for each subproject, equity originating primarily from private sources, and raising substantial amounts of private debt through the domestic capital markets.

4.1.7 In addition, the funding provided by public sector banks and financial institutions was based on a changing risk profile during the Project implementation period, as deregulation and reform in the financial sector progressed. Competition between commercial banks increased with the entry of new private sector banks and the permission to foreign banks to increase their number of branches. Following amendments in the Banking Companies Act, public sector banks were allowed to access the capital markets to raise funds, and have in many cases considerably diluted the Government's ownership, even though it remains above 51 percent. In the light of these developments, the funding decisions have become more commercial and the shift towards private financing has been more substantial than expected at appraisal.

4.1.8 ***Meet the pressing needs of commercial infrastructure project entities for long-term rupee financing (Satisfactory).*** At the time of appraisal, long-term commercial financing for subprojects in the target sectors was difficult to arrange. Foreign fund providers would have required far-reaching public guarantees and assurances (similar to those obtained in the power sector), and protection against exchange rate and currency conversion risks. Availability of long-term domestic debt funding was constrained by a financial system that was still heavily regulated, inflexible, public-sector dominated, and not set up for market-based assessment and management of long-term credit risks. The length of debt maturities initially offered was in the range of 5-8 years post-construction, which was insufficient for the type of investments envisaged.

4.1.9 While IL&FS had adopted a more flexible and market-based approach to credit risk management than most other financial institutions, its long-term financing resources were not sufficient for the company to play a significant role in the projected pipeline of investments and to catalyze additional funding from the markets. Availability of the Bank loan was therefore instrumental as a long-term financing source for IL&FS, specifically in the initial period after effectiveness. It underpinned the institution's financial commitment to the first subprojects it arranged, and enabled it to mobilize complete financing packages on a long-term rupee basis (by successfully swapping the disbursed amounts of the Bank Loan into local currency).

4.1.10 Continuing reforms in India's financial system, and the success by IL&FS in structuring

transactions and arranging financing, increased the availability of appropriate domestic funding for investments in the target sectors. More institutions participated, and tenors offered lengthened rapidly over the implementation period to ten years and beyond, as the markets gathered first experience with infrastructure subprojects. Deep discount bonds introduced specifically for the first three subprojects reached maturities of 16 years. These developments, combined with the slower than expected take-up of subprojects, substantially reduced the expected use of the Bank Loan as an instrument to alleviate long-term financing constraints. Even though in the end only 16% of the Bank loan had been drawn, the Project nevertheless contributed directly to the alleviation of long-term financing constraints at a critical juncture and facilitated the initiation of the first demonstration projects in the target sectors. It also supported IL&FS efforts to successfully tap into the domestic financial markets and develop the potential for additional long-term rupee financing which, to an extent, substituted for the direct use of the Bank loan.

4.1.11 ***Assist in alleviating severe financial constraints to expansion of infrastructure (Satisfactory).*** Over the Project implementation period, IL&FS developed a number of initiatives which aimed at addressing deficiencies of the Indian financial system, which were of particular relevance to the development of infrastructure. They included: (i) introduction of deep discount bonds, which provided cost-effective financing tailored to the back-ended cash flows of infrastructure investments; (ii) take-out financing to support the placement of deep discount bonds; it provided a guaranteed exit to the primary investor through the sale of the bond at an agreed price at a predetermined time to a AAA rated financial institution; (iii) risk participation agreements, which syndicated long-term resources otherwise not accessible to Indian commercial banks on a risk-sharing basis, and which were designed similarly to the IFC B Loan structure, whereby IL&FS acts as lender of record; (iv) introduction through IL&FS of the Special Purpose Vehicle (SPV) as a conduit for project financing of infrastructure; (v) granting of specific fiscal concessions for special purpose vehicles; (vi) approval of sinking fund method of depreciation by the Department of Company Affairs for BOT/BOOT; coupled with a back-ended depreciation structure, this method allowed payment of dividends to investors in the SPV earlier than would normally be the case and accumulates to the cost of the investment at the time the asset is transferred back to the Government; and (vii) permission to use Section 208 of the Company's Act, which provides for interest to be paid on equity in capital-intensive projects with heavily back-ended profit generation patterns.

4.1.12 ***Foster efficiency in delivery and use of selected infrastructure services, encourage establishment of more efficient practices in construction and operation of infrastructure projects (Partially Satisfactory).*** It is too early to judge the achievement of these longer-term objectives at the end of the Project's implementation period. Experiences with the first few subprojects promoted by IL&FS, including those that received funding from the Bank Loan, demonstrates that they were implemented efficiently, construction costs were well within established norms, realized construction costs were within budget forecasts, and maintenance and operating systems have been put in place which are designed to assure good condition of the assets over the concession periods. The fact that these are subprojects with private funding, and specifically the injection of equity financing, provide incentives for appropriate maintenance and operation.

4.1.13 Under the terms of the concessions concluded under the Project, a specified rate of return (20%), not taking into account the financing structure, is assured for the subproject over the lifetime of the private sector involvement, even if the concession has to be extended to achieve that goal. Under this structure, the owners of the concession company do not, in principle, assume traffic-related risk. The rate of return on equity, while not guaranteed as such, is then expected to range within a narrow band around the assured project rate of return, and is largely based on financial and treasury management over time. The exception to the assured project rate of return is an event of default caused by the concession company, which can result in early termination of the concession without compensation of the equity holders. Incentives for

good performance of maintenance and operations thus exist even though they are not as strong as in other concession models. They are based on the rationale for investors to avoid a reduction of equity returns through events of default caused by them, or unnecessary extensions of the period needed to achieve the overall project return.

4.1.14 Overall, subprojects could have been designed (and could be designed in the future) with greater incentives for efficiency improvement. Options for achieving this goal were discussed during Project supervision, and specifically in the context of the water projects, which had not yet achieved financial close. As the market matures, one structure to achieve this objective would be to bid concessions on the basis of price/tariff and without assured project rate of return, in the interest of increasing risk transfer to the private sector within the concession agreement. This structure, in line with international good practice, would provide additional productivity incentives and would help in deriving improved efficiencies. The productivity gains obtained during the contract period would be passed on to consumers after the end of the contract.

4.2 Outputs by components

4.2.1 ***Investment component (US$1,580 million SAR, US$200 million actual).*** This component is rated partially satisfactory. It was designed as a line of credit to IL&FS, the proceeds of which would be used to provide long-term financing to special purpose entities established for the construction and operation of commercial infrastructure subprojects in the IL&FS pipeline. At the time of appraisal, the pipeline included 16 projects that were scheduled to be launched over three years, with two standby projects. While the appraisal report recognized the fluidity of such forecasts, it was assumed that subprojects would overall take off approximately at the projected speed, and that pipeline subprojects which did not materialize would be replaced by other opportunities. In reality, only four subprojects (Vadodara Halol toll road, Delhi Noida toll bridge, East Coast road, and Ahmedabad Mehsana toll road) reached financial closing, and one further project (Tirupur Water) was at a very advanced stage of documentation at Loan/Credit closing. The Bank loan was used to finance three of these projects, namely Delhi Noida toll bridge, Vadodara Halol toll road, and Ahmedabad Mehsana toll road.

4.2.2 Total cost of the investment component was projected at US$1,580 million at appraisal. The actual investment realized or committed (measured by financial close of subprojects) amounted to US$200 million, of which the Bank financed US$31 million. If the US$214 million Tirupur project now proceeds, it could arguably be counted as Project output, in which case total costs of the investment component would amount to US$414 million. At 13% or 26% respectively of the appraisal estimate, the physical outputs of the investment component thus lagged far behind the original projections. The disbursements under the Bank loan (exclusively used for the investment component) stood at 16% of the original amount at Loan closing.

4.2.3 Physical implementation of the four projects has been satisfactory. Of those, three have been completed on time and within budget, and the fourth one (Ahmedabad Mehsana) is progressing satisfactorily on its construction and cost schedule. However, the first year's operating results of the Vadodara Halol toll road and the Delhi Noida toll bridge showed a substantially lower traffic volume resulting in correspondingly lower revenues than forecast. This development is likely to require some restructuring of the subprojects in the near term, probably resulting in some rescheduling of debt repayment schedules and an initiation of additional revenue-generating activities (use of land for commercial development). However, the need for new injection of public funding is not anticipated.

4.2.4 ***Training and technical assistance component (US$1 million SAR).*** This component is rated satisfactory. It was intended for IL&FS staff development and technical assistance related to private

infrastructure policy matters and subproject design. The actual amount disbursed from the Bank Loan was US$134,303, the bulk of it for subproject design and virtually nothing for training. The low disbursement for technical assistance is partially a result of the slow pipeline development, and partially due to the use of other funding sources, including IL&FS own sources, to finance these activities. The training record of IL&FS is excellent with about 1,670 staff trained between 1996 and 2000. However, the company was able to finance training out of its own operating funds and did not consider it financially justified to use the Bank loan for this purpose.

4.2.5 ***Subproject preparation component (US$19 million SAR).*** This component is rated partially satisfactory. One part of the component was intended to finance IL&FS project development studies. An amount of US$15 million had been allocated from the US$200 million loan for these purposes. Even though IL&FS did not draw on the Loan for this purpose, it was able to finance all the relevant studies for subproject preparation out of other sources. Another part of the component was to finance advisory services (including computer hardware and software) for public sector authorities to select BOT operators and negotiate concession agreements. An IDA Credit of SDR 3.4 million had been made available for this sub-component. Eight contracts were approved by DEA under the Credit amounting to a total value of approximately US$3.2 million. Of these contracts, six were managed by IL&FS, and two by state authorities. At the time of closing, only US$0.6 million had been disbursed against five IL&FS-managed contracts.

4.2.6 ***Project design***. The design of the project remained unchanged until project completion. However, the Bank and IL&FS were in discussions from late 1999 until March 2001 to extend the Loan for two years and restructure the Project to address some of the design restrictions which emerged during implementation. These included IL&FS's desire to add more flexibility in the use of the line of credit for (i) instruments other than senior terms loans and (ii) in sectors other than transport and urban/water.

4.2.7 The Bank and IL&FS explored the possibility of using the Bank Loan beyond senior term loans for a broader range of financing instruments, such as subordinated loans, deep discount bonds or quasi-equity instruments, in an effort to give greater flexibility to match debt service repayments to the subproject's cash flow requirements. Detailed discussions were begun to ascertain the impact of the greater risk exposure of these instruments on the IL&FS balance sheet. Diversifying the types of financial instruments would have introduced substantial prudential complexities in view of the Bank Loan's relatively rigid repayment schedule and would have required significant changes in the legal agreement. Moreover, even if part of the Bank Loan had been used in this way, it might have increased Loan disbursement slightly, but would have hardly accelerated the development of IL&FS's subproject pipeline.

4.2.8 Given the slow take-up of subprojects, IL&FS was also keen to open up the use of Bank funding to other infrastructure areas, in particular the more active power and telecommunications sectors. This would have provided IL&FS with a broader range of opportunities for the Bank Loan and may have increased disbursements substantially. However, the Bank did not consider it justified to change the sectoral focus of the Project simply to reach a higher disbursement ratio. The issue of expanding sector coverage was therefore a source of disagreement between the Bank and the Borrower for much of the implementation period, and the Bank insisted that IL&FS keep its focus on the original target sectors which were detailed in the Loan Agreement. While such flexibility may have been more compatible with the Borrower's operational approach, it would have shifted the focus of Bank support from developmental to commercial as other market sources of financing were readily available for these sectors. The Bank did agree to consider potential investments in the power sector in reforming states which was consistent with the Bank's power sector policy strategy; however, the power projects identified by IL&FS did not meet this criteria. Upon reflection, IL&FS was well served by staying out of the power business, as other Indian financial

institutions now have substantial credit risk exposure to this problematic sector.

4.2.9 During the mid-term review in December 1998, the Bank had urged IL&FS to cancel a substantial portion of the line of credit as it was evident that, even with an extension, not all of $200 million could be utilized given the subproject pipeline. By March 2001, IL&FS decided to cancel the bulk of the remaining line of credit (about US$169 million) and close the Project as per the original Closing Date which was fully supported by the Bank. This decision was based foremost on their reasoning that the development objectives had been met and also on the realization that the financial target of project disbursement at US$200 million was set too high, given the rudimentary regulatory environment for private infrastructure and the lack of project finance experience in infrastructure at the time of appraisal. Moreover, IL&FS no longer saw the need to pursue restructuring the Bank Project since it now had access to, or was negotiating with, other multi- and bi-lateral institutions (e.g. IFC, ADB, FMO) for additional lines of credit and guarantee facilities which gave them more flexibility in terms of eligible sectors and financial instruments than the Bank Loan, and since more funding with long tenors had become available in the Indian market.

4.2.10 Therefore, while the original design may have been appropriate at the start given the prevailing conditions, IL&FS felt constrained by the Loan Agreement during the Project's implementation. However, additional flexibility in terms of financial instruments would not have resulted in more subprojects being closed during the Project's implementation period as financing proved not to be the key constraint. Exogenous factors were largely responsible for low disbursement, such as a poor enabling environment for private sector participation in infrastructure which required IL&FS to play multiple roles to bring projects to close, including that of project sponsor. More time could have been spent upfront prior to project effectiveness to mobilize experienced international finance and legal advisors to government on concession design and project structure which would have placed less burden on IL&FS, which could have then focused more on financial structuring which is their strength, and on the Bank, which in effect was being used as a "free" source of technical assistance by IL&FS above and beyond the Bank's normal supervisory role.

4.2.11 ***Performance monitoring***. The Staff Appraisal Report (SAR) defined a detailed framework for monitoring performance although specific targets were not defined. The lack of subprojects had adversely affected the ability of the project to meet some of the output indicators developed during Project preparation which were based largely on the number of infrastructure transactions closed and the facilities built. However, the level of disbursements was not reflective of the development impact of the project, and therefore, additional indicators were introduced (e.g. number of legislative instruments approved for implementation of BOT projects by state/regulatory bodies) and other dropped (e.g. the input indicator on overall loan disbursement) at the time of the mid-term review to monitor the progress in developing institutional and contractual arrangements. The re-defined criteria were adequate for judging the achievements of objectives and outputs and were monitored on a continuous basis. (See Annex 1.)

4.3 Net Present Value/Economic rate of return:

4.3.1 The Project was, to a large extent, designed as an onlending operation for subprojects to be defined during Project implementation. Therefore, it was envisaged that the economic evaluation would be carried out at the subproject level. At the subproject level, the analysis pertained to the three investments that received financing from the Bank loan. For the Noida toll bridge and the Vadodara Halol toll road, final construction costs and the results of one year of operations were taken into account in generating revised forecasts of costs and benefits. For the Ahmedabad Mehsana toll road, the information provided in the subproject information memorandum was taken as a basis for the evaluation, under the assumption that construction costs would not be exceeded and construction remained on schedule. The results of the

analysis are presented in Annex 10 and summarized below.

4.3.2 For the Delhi-Noida toll bridge, at the time the project was assessed for feasibility, the economic NPV over 27 years was estimated at Rs 283 million (using a 15% discount rate). The EIRR was estimated as 27.9% with travel time savings included and as 25.4% with these savings excluded. Economic NPV and EIRR were not estimated at the time of project appraisal. At completion, and including the benefit of travel time savings, the economic NPV is estimated at Rs -484 million (over 27 years at 15%, to remain consistent with the feasibility study estimate) and the EIRR as 12.9 percent. With travel time savings excluded, the economic NPV is estimated at Rs -1,416 and the EIRR as 7.6%. The main reason for the difference in economic return between the initial project concept and completion is due to the substantially lower traffic volumes in the first several years of the project than were assumed at concept. Traffic reached only 28% of expected volume and 21% of expected revenue in an estimated first year of operation. The source data are of poor quality, however, benefits from travel time savings are much more important than was assumed at concept.

4.3.3 For the Vadodara-Halol toll road, the economic NPV in the feasibility study was shown as Rs 1,618 million over 20 years and Rs 1,902 million over 30 years using a 12% discount rate. The EIRR was estimated at 31.4% over 20 years and 31.6% over 30 years. At completion the EIRR is estimated at 23.2% over 20 years and 24.1% over 30 years. The economic NPV (using 12% discount to match the feasibility study) is Rs 352 million over 20 years and Rs 531 million over 30 years. As there is insufficient information available at completion to allow post-project economic savings per trip to be calculated, these estimates are based on a conservative assumption of the value of benefits achieved. The main reason for the difference in economic return between the initial project concept and completion is due to the lower traffic volumes in the first several years of the project than were assumed at concept. Traffic reached only 58% of expected volume and 47% of expected revenue in the first year of operation.

4.3.4 For the Ahmedabad-Mehsana toll road, at the time the project was first assessed for feasibility, the economic NPV was estimated at Rs 19,208 million (using a 12% discount rate) including the benefit travel time savings and Rs 10,022 excluding these benefits. The EIRR was estimated as 86.3% with travel time savings included and as 50.5% with these savings excluded. No economic analysis was presented at appraisal. With the project still under construction, no economic re-evaluation has been calculated.

4.4 Financial rate of return:

4.4.1 Similar to the economic evaluation, the financial rate of return has been estimated at the subproject level. Here again, the realized construction costs and the first year's results of operating costs and revenues were taken into account for the Noida bridge and the Vadodara Halol toll road, while the assumption of the information memorandum were maintained for the Ahmedabad Mehsana toll road. The results of the analysis are presented in Annex 10 and summarized below.

4.4.2 For the Delhi-Noida toll bridge, at the time the project was assessed for feasibility, the financial NPV over 22 years was estimated at Rs -7 million (using a 16% discount rate) and at Rs -438 (using a 20% discount rate). The FIRR was estimated as 15.95 percent. At appraisal a financial NPV was not calculated however the FIRR was estimated as 23.0% over a 26 year period. At completion using the Borrower's model of financial flows and estimates of future traffic and revenue growth, the FIRR is 17.1 percent. These figures include an assumed income from the proceeds of land development. If this income is excluded the FIRR falls to 13.1 percent. No NPV was calculated in this financial model. At completion using the Bank's estimates of future traffic and revenue growth the FIRR is 16.4% with land development income and 12.3% without land development income. The financial NPV (over 26 years and using a 16% discount rate) was estimated as Rs 112 million with land development income included and Rs -1,056

million with such income excluded. Using a 20% discount rate yielded an NPV of Rs -740 with land income and Rs -1,591 million without. As with the economic re-evaluation, the financial returns have been affected by the lower than expected traffic volumes in the initial years of the project.

4.4.3 For the Vadodara-Halol toll road, the project at conception was estimated to yield a financial NPV of Rs -115 million over 20 years and Rs 69 million over 30 years (at a 21% discount rate). The FIRR was estimated at 19.1% over 20 years and 21.8% over 30 years. At appraisal no NPV was calculated but the FIRR was essentially unchanged from feasibility at 19.1% over 20 years and 21.5% over 30 years. At completion the NPV (also using a 21% discount rate to match the feasibility study) is estimated to be Rs -493 million over 20 years and Rs -322 million over 30 years. The FIRR is estimated at 15.2% over 20 years and 18.2% over 30 years.

4.4.4 For the Ahmedabad-Mehsana toll road, at the time the project was first assessed for feasibility, the financial NPV over 20 years was estimated at Rs 149 million (using a 20% discount rate). The FIRR was estimated as 20.8%. The financial analysis was unchanged at appraisal. With the project still under construction, no financial re-evaluation has been calculated.

4.5 Institutional development impact:

4.5.1 ***Overall.*** The Project was instrumental in building up the required capacity for private sector involvement on three fronts. First, it supported the Borrower, IL&FS, in its efforts to create and increase its resources and skills in this area and to develop its role as one of the foremost players in private infrastructure promotion, structuring and financing. Second, through its support of IL&FS, the Project contributed to an increasingly active participation of Indian banks and financial institutions and other private investors and thus to a build-up of relevant skills in the Indian market. As an example, eleven Indian financial institutions participated in the Noida toll bridge, the largest subproject financed. Third, specifically through the support of IL&FS in its development function and the use of a portion of the IDA Credit for financing of related activities, the Project enhanced the capacity of public sector institutions in selected states and jurisdictions to understand private infrastructure concepts. Over the Project implementation period, fifteen state governments and nineteen public authorities became involved in subprojects now under implementation or at different levels of preparation.

4.5.2 ***IL&FS.*** The institutional development impact was most significant for IL&FS. The Borrower has strengthened its capacity in various stages of the project development cycle, including technical feasibility and assessment, financial documentation, project structuring and syndication, legal agreements, regulations and documentation. There has been significant progress in terms of institutional development of IL&FS through the creation of its infrastructure strategic business unit, SPVs created around subprojects, and the building of partnerships at the state and local authority level to support business development. In 1997, IL&FS undertook a major reorganization, creating Strategic Business Units for closer monitoring of performance. At the same time, a comprehensive cost accounting system was introduced in accordance with the requirements of the Loan Agreement, in order to monitor and evaluate the relative profitability of its major product lines. Furthermore, the company established a detailed operating framework designed to manage risks effectively, and built up its functional expertise in technical, legal, financial, environmental and social matters. One of the most significant areas of institutional capacity has been IL&FS's success in internalizing environment and social management practices in the project development process (see Annex 12 for more details).

5. Major Factors Affecting Implementation and Outcome

5.1 Factors outside the control of government or implementing agency:

5.1.1 ***Effects of financial and political crises.*** External events negatively impacted the Project's

environment and slowed down the expected pace of implementation. The financial crises of 1997 in Asia and 1998 in Russia, and subsequent economic instability in different regions and countries had a detrimental effect on infrastructure project finance in emerging markets, and specifically in Asia. According to Project Finance International statistics, new commitments for project finance debt decreased sharply during the initial implementation years of the Project, from a peak of US$ 38.3 billion in 1997 to US$ 17.6 billion in 1999, followed by a recovery, which barely exceeded the previous peak in 2000, and ended at a slightly lower level of US$37.1 billion in 2001. The overall trend line for emerging market project debt thus shows a barely positive coefficient, with substantial variations by region. The international developments had a particularly severe effect on Asia. The statistics show a precipitous decline for the East Asia and Pacific Region from US$ 10.9 billion in 1997 to US$ 1.7 billion in 1999 followed by a modest recovery to only US$ 5.9 billion in 2001. For the South Asia Region, the same data source shows a decline of project finance commitments for US$ 1.6 billion in 1996 to US$ 0.5 billion in 2001, albeit with considerable fluctuations. The implications of these external factors for the Project environment were both a reduced availability of international financing and increased risk aversion of private investors vis-à-vis infrastructure projects.

5.1.2 ***Economic sanctions*** imposed on India following the nuclear testing in May 1998 had substantial consequences for India's economic situation and prospects, the viability of private investments in general, and in infrastructure in particular, and the risk perception of potential investors, particularly international ones. The sanctions thus resulted in the financing for the first sub-project, the Delhi-Noida Bridge, which included IFC and ADB, unraveling. As a result, IL&FS had to start from scratch and line up Indian banks and financial institutions which delayed the Project by about one year and contributed to a slower than anticipated development of the subproject pipeline.

5.1.3 ***Relative significance and cost of Bank Loan to sub-borrowers.*** In absence of a well-functioning long-term debt market in India, it was deemed critical at appraisal that IL&FS tap foreign sources to expand infrastructure finance. IFC's capacity to provide suitable funding was limited at that point, and other sources under discussion (DEG, USEximbank, FMO and commercial banks) were still uncertain. The Bank Loan was therefore considered the main source of funds for IL&FS to meet the pressing needs of infrastructure investments for long-term financing, and was expected to provide competitive terms to the ultimate borrowers. However, as indicated earlier, the requirements for long-term funding were much lower than predicted due to slow pipeline development. Moreover, the availability of such funding from Indian financial institutions increased during the Project implementation period, maturities lengthened, interest rates overall decreased, and IL&FS was able to tap the domestic capital market for long-term financing. These factors combined to reduce the importance of the Bank Loan as a funding source on the long end, and made its on-lending terms less attractive than initially assumed.

5.1.4 The swap terms agreed between IL&FS and its counterpart, Canara Bank, for the Bank Loan put the resulting long-term Rupee lending on the basis of the prime lending rate (PLR). The Bank's spread (approximately 30 bp), the guarantee fee charged by the Government (120 bp), and IL&FS's spread (250 bp) were then added to determine the lending rate to the sub-borrower. Other loans extended from financial institutions, which constituted a large part of the debt portion of the first sub-projects, were provided at their respective prime lending rates, which all ranged around similar levels as that of Canara Bank. They carried spreads comparable to that of IL&FS, but without a GOI guarantee fee or Bank spread. This resulted in an overall margin for the on-lent Bank Loan of about 400 bp at 15 years maturity, while the direct loans of the financial institutions carried margins of 200-300 bp at maturities up to 12 years, with some of them carrying a fixed rate of 16% per annum (p.a.). At PLRs of approximately 13%, the ultimate on-lending rate for the Bank Loan to the first sub-projects was thus as high as 17% p.a., a distinctive disadvantage despite the longer maturity. By comparison, the deep discount bond for the Delhi-Noida toll

bridge was issued at a fixed rate of 14.72% p.a. for a 16-year maturity. Although PLRs subsequently came down and are now at 11%-12% p.a., Bank funds remained at a relative disadvantage. This, and the materialization of other long-term financing arrangements (ADB, and guarantee facilities from USAID, IFC and FMO) substantially contributed to IL&FS's decision to cancel its March 2000 request for an extension of the Project.

5.1.5 The issue of relative costs of Bank loans in on-lending arrangements is certainly not new, given the Bank's history of extending credit lines to intermediaries for domestic loan operations. In many cases in the past, the domestic development finance institutions were the only long-term fund providers, and Bank loans (or IDA credits) were on-lent at rates that emulated market conditions, in absence of genuine benchmarks. Moreover, the foreign exchange risk, if not transferred to the ultimate borrower, was often assumed by the respective Government. In a sophisticated, albeit still state-dominated, financial market such as India, the relative position of on-lent Bank funds is much more complex and will to an extent be subject to genuine market forces. If the Bank had (theoretically) had a broad financing base in India, it might have provided IL&FS with a loan at terms closer to Indian treasury rates, i.e. below the PLR, which would have maintained its relative advantage even at the given guarantee fee. However, with Bank funds being US$ based, the underlying conversion effect, and the Government guarantee fee and IL&FS' required spread, this advantage disappeared over time. In other countries, similar situations can arise if a Bank loan is on-lent into a sophisticated financial market with long-term funding potential. Comparable issues have been discussed in recent years, for example with South Africa, even though there the question was more focused on whether the Bank could find an effective way to lend competitively in Rand to a Government which has a long and stable track record of borrowing in multiple instruments and up to 30 years from a sophisticated domestic market. However, if the issue were hard-currency borrowing (e.g. for the Government or hard-currency-earning project), the competitiveness of a Bank loans would be quite obvious. Where sovereign margins for US$-based borrowing are, for example, in the range of 200-300 bp or higher, which is typical for many developing countries, a Bank loan with a Government guarantee fee of 120 bp would be very competitive for the ultimate borrower.

5.2 Factors generally subject to government control:

5.2.1 ***Inadequate framework for private infrastructure development.*** The origin of recent trends in private participation in infrastructure can be traced back to policy shifts in the early 1990s aimed at liberalization of infrastructure service delivery. However, the new policies took time to be implemented, particularly in the target sectors. At the time of appraisal, private participation in infrastructure in India was therefore still in its infancy. A specific regulatory and legal framework for private sector involvement did not exist, and the prototype arrangements to be developed under the Project had not been implemented and tried yet in the country. The initial infrastructure transactions had taken place in 1994-95, primarily in the power generation and telecommunications sectors, in which a substantial number of active international players emerged that are pursuing business opportunities globally. Over the following three-year period, 20 deals in power and telecommunications were concluded (PriceWaterhouseCoopers: Report on India Financial Market Assessment for Private Infrastructure Investments, September 2000). Subprojects in the former were financed principally on the back of off-take agreements and assurances by state electricity boards (with union or state government guarantees) in the form of IPPs, while telecommunications transactions were substantially supported by sponsor undertakings.

5.2.2 Virtually no private involvement existed in the project's target sectors (transport, water and urban development), with the exception of facilities that were part of larger industrial projects. Consequently, specific rules and regulations had not been worked out at the union or state levels, and the public sector capacity to understand and negotiate private concessions for public services was basically absent. Moreover, it is generally more difficult to generate investors' interest and meaningful competition in the

Project's target sectors than in the energy and telecommunications sectors, which were not eligible for Bank financing under the Project. In absence of these key ingredients, the development of prototype contractual and institutional arrangements, and the mobilization of sponsors and financiers for infrastructure took much longer than expected at appraisal and resulted in a considerably truncated deal flow compared to initial ambitious goals. The slow pace and repeated set-backs of private involvement in India's power sector (e.g. the Enron Dahbol Power project), even though not directly linked to the target sectors, may have further reduced the private sector's willingness to invest in India's infrastructure altogether. Initial projects in the target sectors emerged in 1997/98, and over the subsequent four year period, nine road/bypass/bridge projects and one small sanitation project reached financial close. Of these, IL&FS developed four of the road/bridge projects. These data show that in relative terms the Project had a positive impact on development of private participation in the target sectors, and that all the achievements under the Project in terms of deal flow and duration of subproject preparation are consistent with the few experiences of other developers in these sectors during the implementation period.

5.2.3 ***Inadequate development of the financial sector*** constrained the availability of appropriate long-term financing for infrastructure investments. Specific issues have been the absence of suitable benchmarks, lack of dependable and broad inter-bank markets, limited long-term instruments, insufficiently developed secondary markets, weak risk assessment and pricing capabilities, poor credit portfolios, operational inefficiencies, and high spread requirements. While the impact of these constraints on financing available for specific types of credit risk, such as infrastructure, is difficult to assess, the effect on lending terms is quite obvious when compared to developed markets. Appropriate maturities are hard to come by and interest rates charged to ultimate borrowers include hefty premiums for an elevated cost structure and perceived risks. While in international project financing the credit risk premium is levied on widely accepted benchmarks, such as LIBOR for revolving debt or US treasuries for long-term fixed rate debt, project debt in the Indian market is arranged on the basis of prime lending rates with their in-built spreads, and there is no use of treasuries as benchmark for long-term debt. On top of the prime lending rate, institutions then charge a margin of 200-300 bp, while internationally a 200 bp risk premium over benchmark would be rather high. On the long end, the differential between treasuries and the deep discount bonds has even been 5-6 percentage points. These features of the financial markets make it not only difficult, but also expensive for private infrastructure projects to go ahead. However, as noted before, financial sector reforms started in 1991 and have been slowly progressing since then. On the positive side therefore, the low disbursements under the Bank Loan, while partially due to slow pipeline development, have also been a result of increasing capacity of the Indian financial markets to provide suitable financing for infrastructure investments, as a consequence of continuing financial sector reforms.

5.2.4 ***IDA on-lending***. The protracted and convoluted funds flow arrangement between GOI, the state governments and the line agencies implementing the consultant contracts resulted in the IDA Credit not being fully utilized. The sub-component for the preparation of sub-projects did therefore not perform satisfactorily. The procedures for channeling IDA funding through the GOI to different states proved too complicated for the relatively small amount involved and the need for a flexible, demand-based allocation between states. The excessive bureaucratic and procedural requirements proved a major obstacle for implementation of this sub-component and disbursement of funds despite attempts by IL&FS to facilitate the administrative side of implementing the IDA Credit.

5.2.5 ***Resettlement and Environment.*** The implementation of the resettlement action plan for Delhi-Noida sub-project could not be completed by loan losing date due to inordinate delays on the part of Government of Delhi in allotting the land for resettlement and payment of balance 20% of compensation for those who have lost the lands. The borrower (IL&FS) has submitted a revised time frame for completing these actions and the Bank will monitor until they are completed to the satisfaction of the Bank. This was

beyond the control of IL&FS and the SPV, despite their willingness to spend money and resources. This shortcoming is attributable to government's general indifference towards resettlement, which is increasingly seen by the private sector as a major commercial and political risk in infrastructure projects. Environmental management plans (especially air and noise control measures) were based on standards mandated by the national and state governments.

5.3 Factors generally subject to implementing agency control:

5.3.1 ***Sub-project viability assessment.*** Detailed surveys were carried out to determine future traffic flows. Experience after the first year of operations on the Vadodara-Halol toll road and the Noida toll bridge show that these surveys did not explore in sufficient depth the user behavior under tolling and the willingness to pay, but took a more traditional traffic engineering approach. They also did not try to sufficiently disaggregate the travel behavior of different types of vehicles, in particular trucks and buses. The results of the road surveys were thus substantially more optimistic than the actual first year's operating results. In light of these early results, still to be confirmed by a longer operating period, the design of the road user surveys might have contributed to an initial oversizing of capacity and thus higher costs and financing requirements than necessary. The Bank suggested at different times during supervision that demand analyses be used, which are more appropriate for forecasting traffic on tolled facilities, and consistent with international practice in privately financed toll road projects. In the end, the missing ingredient in this emerging infrastructure finance environment was a stricter due diligence approach normally taken by the more experienced private lenders and insurance agencies.

5.4 Costs and financing:

5.4.1 The cost of the investment component (97% of total project cost estimated at appraisal) amounted to about US$200 million, of which US$31 million was financed from the Bank Loan (see Annex 2). The reasons for the considerably lower costs than projected at appraisal have been explained in more detail in section 4.2 above. Financing was provided, in line with the appraisal estimates, from a variety of sources, including IL&FS, Indian financial institutions and banks, capital markets, state governments and agencies, and project sponsors. No export credits or bilateral funds were used in the sub-projects. The overall costs of the sub-project preparation component have not been determined. Project preparation activities carried out by IL&FS on its own account are either part of the projects implemented under the investment component, or were undertaken as part of IL&FS's development activities financed out of its operating resources or other sponsors' funding. Total costs of the public sector project preparation activities is estimated at US$3.2 million based on the contracts concluded. Of this amount, IDA financed about US$0.6 million. While IL&FS implemented a substantial training program for its staff, this was not specifically broken down in project and non-project related elements.

6. Sustainability

6.1 Rationale for sustainability rating:

6.1.1 IL&FS's capacity to continue to develop and finance the implementation of private sector infrastructure projects (Highly Likely). IL&FS has spent considerable time and resources to establish an Infrastructure Business Unit, staffed with well-trained finance and technical experts, together with a first-rate Environment and Social Management Unit. To monitor the status of its financial assets, including the rupee loans to the infrastructure subprojects, IL&FS has established a corporate-wide risk monitoring system. Recognizing the importance of the public-private partnership aspect of most infrastructure projects, IL&FS has also invested time and resources into developing partnerships with state government to enhance project development and advise government, through a variety of mechanisms, on infrastructure policy to improve the enabling environment for private infrastructure investment. As described in the following section, IL&FS also continues to evolve its institutional arrangements to achieve its goals in the

area of commercial infrastructure.

6.1.2 For the implementation of the first four demonstration projects, comprehensive legal and financial frameworks were developed, legislative measures taken, appropriate accounting rules introduced, and cooperative processes established which achieved a coordinated processing of necessary documentation between lenders, equity holders and public authorities. These measures created a suitable and sustainable operating environment for further development of private infrastructure operation and finance. The contribution of the Project to infrastructure development during the implementation period has not been determined with precision. Based on a recent Bank-commissioned report on infrastructure finance, ten private projects in the target sectors reached financial close since 1997/98. Of those, four road projects were developed, structured, and successfully taken to financial close by IL&FS as principal sponsor. The three important factors outlined (i.e. IL&FS capacity, creation of a conducive environment, and IL&FS's important position in the emerging target sectors) provide the basis for the hihgly likely sustainability assessment.

6.1.3 ***Sustainability of Subprojects (Likely).*** It is still too early to predict the sustainability of the four road projects, with only two in commercial operation, one just beyond completion of construction, and one still under construction. The first year's results of the two subprojects in operation, both of which are experiencing more than 50% traffic shortfalls from appraisal estimates, might raise doubts with respect to their sustainability and thus the sustainability of further subprojects. However, concrete measures considered or already implemented include more demand-oriented tariff policies, development of ancillary property, and rescheduling of existing debt. Overall, it is likely that the subprojects are sustainable given the robustness of the contractual structure, and the often-observed lag in toll acceptance in an untried environment. But a more definitive conclusion would require a review of the subprojects in about five years. Since the Project was designed to support a process (Chapter 3), sustainability will also need to be judged by the structure of future infrastructure financings in India that are led by IL&FS or follow the approach developed under the Project. In order to ensure their sustainability from the outset, experiences from implemented subprojects will have to be taken into account. In particular, traffic and/or willingness to pay studies will need to be refined, lenders' due diligence increased and adapted to international standards, and possibly more flexibility introduced into the financing structures to deal with the inevitable start-up uncertainties.

6.1.4 A further aspect of sustainability is the level and durability of the investor's stake in the subprojects under operation. For these existing investments, the concession contracts provide a particularly strong incentive for the equity holders not to pull out because of the ensuing losses (in this case the project rate of return and thus equity return is not assured). Moreover, the fact that at least some important lenders are also equity holders (e.g. IL&FS and IDBI) should prevent a hasty step-in by the lenders in case of payment delays. Finally, while the lenders' repayment is fully assured under the concession agreements, the actual process of handing a subproject back to the public sector is likely to be complex and drawn out, and would thus appear likely only if the subproject's viability is in question for the long term. However, despite the first year's below-target results of the two operating road concessions, the recent financial close of the Ahmedabad-Mehsana toll road and the Tirupur Water project indicates that the finance providers consider the project structures sustainable.

6.2 Transition arrangement to regular operations:

6.2.1 IL&FS is continuing to evolve its business framework in the infrastructure sector. They have presently domiciled their infrastructure activities within IL&FS and across several legal entities:

Consolidated Toll Network Limited (CTNL): a holding company for the surface transportation sector.

The company will undertake development, investment, operation and management of all IL&FS surface transport projects. It is expected that CTNL, with diversified assets and cash flows, would provide an attractive vehicle for mobilizing equity for private transport projects.

IL&FS Project Development Company Limited (IPDC): to work in partnership with government and develop state level capacity for project development across a range of sectors. IL&FS established IPDC to leverage on its experience in the project development cycle for other urban infrastructure projects. Its activities would be supported by the Infrastructure Project Development Fund (IPDF) which has a capital base of Rs. 910 million (about US$19 million) to partly finance project development activities.

Ecosmart India Limited: to undertake the development of comprehensive environment urban master plans in partnership with state and municipal governments in order to catalyze urban infrastructure projects at the level of the local authority.

6.2.2 In addition, IL&FS has taken several steps over the last 18 months to leverage its resources as follows:

Infrastructure Project Development Fund (IPDF): IL&FS established the IPDF over one year ago with contributions totaling Rs. 910 million (about US$19 million) from domestic investment institutions, commercial banks, and domestic and international private corporations.

Infrastructure Guarantee Facilities: IL&FS has obtained guarantee facilities totaling US$65 million from IFC and FMO (the Netherlands) which permits IL&FS to double its exposure in subprojects by taking recourse to credit guarantees from IFC and FMO for 50 percent of the outstanding exposure. IL&FS has also structured a contingent swap facility so as to insulate the subprojects from foreign exchange risk in the event that the guarantees are called.

Line of Credit: IL&FS has been in discussions with the Asian Development Bank and KfW of Germany and has secured from ADB, jointly with IDBI, a line of credit equivalent to US$200 million for the infrastructure sector. In structuring this new line of credit, IL&FS has attempted to build in flexibility in terms of eligible sector and financial instruments, which were restricted under the Bank line of credit. In addition, it is interesting to note that IL&FS negotiated a 0.6% guarantee fee payable to GOI which is half that payable under the Bank line of credit.

6.2.3 The different steps outlined above point to strategy which would more sharply focus the multiple roles that IL&FS has played in infrastructure development to date, and facilitate the management of inherent conflicts of interest. This is expected to bring to the forefront either the project development, advisory, sponsor or debt provider function, depending on the subproject.

7. Bank and Borrower Performance

Bank

7.1 Lending:

7.1.1 The Bank's performance during the lending phase is mixed although rated overall as satisfactory. On the one hand, the Bank did an exceptional job of responding to the Client's request and preparing a complex and innovative project, with a first-time, private sector borrower, in less than one year. The first preparation mission was fielded in March/April 1995 and the Board approved the Project on March 28, 1996. The Bank's due diligence in terms of structuring appropriate financial safeguards was satisfactory

as reflected in the Loan Agreement, including (i) financial covenants to set prudent guidelines for the company's exposure to infrastructure projects and overall operations; and (ii) financial eligibility criteria for onlending to individual subprojects to contain the credit risks of individual subprojects. In addition, the Bank's safeguard team is to be commended for the quality of their assistance to the Borrower throughout the project cycle in building capacity and transferring knowledge to IL&FS in developing an overall framework to identify, assess and manage environmental and social concerns at both the organizational and project level.

7.1.2 The caliber of the peer reviewers was high, and the process elicited a valuable discussion on the Project's risks. However, not all of the issues raised during the review process were adequately addressed at appraisal, in particular the weakness of local and state governments to formulate policy and develop, review and negotiate concession agreements. Although the size of the loan was scaled down from US$250 million to US$200 million, a more appropriate amount would have been US$100 million given the circumstances at appraisal. In fact, IL&FS only drew US$31 million from the Bank line of credit. Although not available at the time, a more appropriate lending instrument may have been an adaptable lending program which could have provided the Project with additional flexibility.

7.2 Supervision:

7.2.1 Due to the size, relative complexity and novelty of the Project, it was agreed that the appraisal activities for the first two subprojects in each sector would be carried out by IL&FS in close consultation with the Bank. In particular, the full documentation on the contractual framework for the subprojects (e.g. concession agreement, construction contract, O&M contract, lenders' agreements and shareholders' agreements) were to be reviewed in detail by the Bank for their risk mitigation aspects. As a result, the Staff Appraisal Report acknowledged that "unusually large supervision resources" would be required to monitor implementation, especially in the first two years where considerable efforts were to be deployed to put in place an appropriate contractual framework that would be replicated for subsequent projects. The Minutes of the Regional Loan Committee Meeting specified a budget of US$200,000 in 1996 dollars as the minimum required for an adequate supervision of the project.

7.2.2 The supervision by the Bank is rated to be generally satisfactory although the budget amount almost never came close to the amount agreed by management at the time of Project approval, partially as a result of region-wide budget constraints. Therefore, available budgets did not support multiple field trips per year and hence the team visited India about once each fiscal year, including site visits to the various subprojects. Extensive desk reviews were carried out of the various technical feasibility, investment banking reports and contractual documents. The Region also brought in specialized consultants in project finance as well as sector specialists with experience in private infrastructure transactions to bolster the team's ability to effectively supervise the Project and advise IL&FS and government.

7.2.3 IL&FS made several visits to Washington at key stages of subproject development to finalize either procurement or financing decisions which, together with regular email correspondence, facilitated supervision. The task leadership of the project changed no less than three times in five years although there was continuity in other team members from appraisal, including legal counsel, environment specialist and social development specialist. In each of these three areas, Bank staff provided extensive support to their IL&FS counterparts and substantially contributed to building institutional capacity. The IL&FS project has been cited by the Bank as "good practice" in dealing with environmental and social issues. In response to IL&FS's request to have more decision-making authority in the Delhi office, the Bank added a field-based staff member to co-task manage the Project. However, this arrangement was made relatively late in the implementation phase and fell through just over a year later when the staff member took a leave of absence.

7.2.4 The Project was highly supervision intensive, and the Bank had difficulty responding quickly with detailed comments on the voluminous documents coming from IL&FS's various sub-project teams. In general, the Bank is not well placed to turn around documents at a pace suitable for private sector. The Bank invested significant time in working with IL&FS to develop a procurement package for the two Gujarat toll roads, with key support from the Operations Procurement Review Committee and the Regional Procurement Advisor. For the first toll road (Vadodara-Halol), the process proved lengthy as the package, which included the concession agreement, construction contract and O&M agreement, was tailor-made to fit the Indian context of public-private partnerships. In addition, the package was developed while IL&FS was still deciding on the project structure and required several iterations between the Bank and IL&FS. However, once this contractual framework was in place, the procurement process for the second Gujarat toll road, Ahmedabad Mehsana, went much faster.

7.2.5 The Bank's performance during supervision and in assisting IL&FS through the subproject appraisal process was satisfactory, though onerous in terms of the signficant resources required. In other private infrastructure fund-type projects under implementation in the Region, the Bank was able to rely extensively on both the legal and financial due diligence carried out by experienced, international firms which was not the case here. This placed more of a burden on Bank staff and consultants to perform detailed technical reviews of feasibility studies, subproject appraisal documents (including the engineering, demand forecasts, financial structure, environment and social aspects) as well as the various contractual documents and consequently slowed response time.

7.3 Overall Bank performance:

7.3.1 The overall rating for Bank performance is satisfactory. IL&FS itself has stated that it gained more through its relationship with Bank in terms of learning and credibility than it did through the monetary benefits from the line of credit. The Bank provided a substantial amount of technical advice, especially during the first years of implementation through extensive comments on feasibility and investment banking reports by various experts. Perhaps more importantly, the Bank provided IL&FS with the necessary credibility to approach state governments, domestic financial institutions, and especially international companies in structuring infrastructure projects on a BOT-type framework.

Borrower

7.4 Preparation:

7.4.1 The Borrower's performance in lending is assessed as satisfactory. Both IL&FS and GOI, through the Department of External Affairs (DEA), showed a high level of commitment to the Project. In addition, there was close cooperation during preparation between IL&FS and the Bank. The IL&FS team was headed by the Managing Director and a dedicated core team which greatly facilitated the ability to prepare the Project quickly. However, as mentioned earlier, IL&FS was optimistic in the timeframe and its ability to implement the large pipeline of subprojects.

7.4.2 Since most subprojects were expected to earn local currency revenue, IL&FS developed an innovative approach to address the foreign exchange risk through a swap arrangement. As there is not a large or developed currency swap market in India, IL&FS identified a swap counterpart in Canara Bank which held an initial US$25 million drawdown from the Bank's line of credit in dollars in their London branch and made available an equivalent amount of rupees to IL&FS which was held in what was referred to as a Swap Account (which functioned similar to a Special Account). In this way, IL&FS, while managing the foreign exchange risk at the corporate level, was able to onlend in rupees and shield the subprojects from foreign exchange risk.

7.5 Government implementation performance:

7.5.1 The Government's implementation performance, in terms of the IDA Credit, is rated as marginally satisfactory. While the state level agencies developed effective partnerships with IL&FS in procuring and managing the consultant contracts, the bureaucratic and burdensome process for payment (referred to in para 5.2.4) reduced the effective use of the IDA Credit. In addition, while timely audit reports in respect of the Special Account were received, the Bank never received the audited project accounts from the state governments despite reminders by the Bank and follow-up by DEA and IL&FS. The Government's performance also has to be seen in terms of its policy development for private participation in infrastructure, which is equally rated as marginally satisfactory. The Union and State Governments, to varying degrees, supported increased private participation and cooperated effectively with IL&FS on the implementation of specific concession frameworks and of policy changes. However, as the implementation performance of the IDA Credit shows, coordination between various Government levels has not been effective, a coherent policy approach has not been developed yet, and institutional weaknesses and capacity constraints, hampering the promotion of private participation on the Government's side, have hardly been addressed.

7.6 Implementing Agency:

7.6.1 IL&FS's performance is assessed as satisfactory. IL&FS strengthened its capacity in various stages of the project development cycle, including technical feasibility and assessment, financial documentation, and project structuring and syndication. IL&FS successfully internalized the Bank's environment and social safeguard guidelines and created a separate Environment and Social Management Unit to integrate these issues early on in subproject design. The capacity building technical assistance component under the Loan was not utilized as IL&FS largely relied on the IDA Credit for subproject development and its own funds for training. Although IL&FS did not meet its original expectations in terms of disbursement under the Bank line of credit, IL&FS was successful in developing contractual frameworks for private infrastructure projects with several state governments.

7.6.2 Given the nascent development of private sector participation in infrastructure when the Project was prepared, IL&FS was required to play a multiplicity of roles to encourage development of infrastructure projects. This led to an inherent conflict of interest between its roles as advisor to government, project developer, sponsor, and lender – the mitigation of which formed a constant theme in the Bank's supervision of the Project. The Bank struggled to gain comfort that IL&FS's lending decisions were not overshadowed by their project development/sponsor role. In this regard, IL&FS did accept the Bank's advice on prudent lending practices and, for example, agreed to the need for separate legal counsel for lenders, sponsors and government, and an independent audit of the financial model. In addition, all lending decisions were submitted to IL&FS's credit committee which was independent of the Infrastructure Strategic Business Unit. However, the process of creating a joint lenders' basis for due diligence was not as smooth as would be desirable, even given the relatively small size of the first subprojects. This pertains in particular to coordinating the lenders' position on the legal opinion of the lenders' counsel, the banking case financial model, and appropriate procedures for the model's audit. The structuring/arranging/syndication process will therefore need to be further streamlined, to ensure effective lenders' coordination in the due diligence, decision, and implementation process, particularly in larger, more complex syndications in the future. The Bank at times differed with IL&FS on the assessment of some of the commercial risks of a transaction and cautioned IL&FS to take a more conservative approach. In particular, the Bank expressed concern about traffic forecasts for the Vadodara-Halol toll road and the lack of robustness in the financial ratios when sensitivity was taken below the 15% variance calculated by IL&FS. However, the Bank agreed that lending decisions were the fiduciary responsibility of the IL&FS Board of Directors and of the respective Boards of the other lenders which had to make an informed decision, based on the information available and the individual institution's due diligence.

7.6.3 IL&FS maintained compliance with the financial covenants and submitted the required accounts and audits in a timely manner. The submission of comprehensive, quarterly progress reports, however, was not achieved and the Bank instead had to rely on ad hoc requests for information as necessary.

7 7 Overall Borrower performance:

7.7.1 Overall, Borrower performance is rated as satisfactory. IL&FS demonstrated a sustained commitment to implementing the Project and achieving the objectives. The Government was fully supportive of the Project and cooperated effectively with IL&FS in its implementation, although slow progress was made on institutional and policy measures necessary to enable private participation in infrastructure in the target sectors.

8. Lessons Learned

8.1 ***Public private partnership structure.*** The Project has demonstrated that the public private partnership (PPP) framework can be used in India successfully to shift construction and operating risks to the private sector and to create infrastructure capacity at competitive cost, where a willingness to pay for improved services can be established. The framework was achieved through comprehensive concession arrangements, developed and agreed upon for the first subprojects, based by and large on international practice. They addressed the inherent risks of an infrastructure investment and allocated these risks broadly along the following lines: (i) political risks with government, for example, compensation in the event of nationalization, freedom for the concession company to collect tolls; (ii) commercial risks with the concession company and government, but assured project return even at low traffic volumes and revenues, if needed through contract extension; and (iii) financing risks with financiers, for example, guarantee to meet cost overruns, debt service reserve. However, the Project's outputs were limited to the road sector, and proof of replicability of the PPP in the other target sectors (water and urban development) is still pending.

8.2 Another lesson is that a proactive PPP approach with defined objectives and outcomes can be an important factor in accelerating reforms that in principle have been decided at the political level. Under the Project, this approach was largely driven forward by IL&FS. Under the given circumstances, there was probably no viable alternative to achieve this objective. However, the implementation of the PPP approach would have benefited from adequate capacity in the public sector to understand, design, negotiate, and monitor PPP projects and to initiate the necessary policy measures. Enhancement of the public sector capacity, both at union and at state level, is thus an urgent requirement for expanding private infrastructure involvement in a major way.

8.3 ***Risk allocation.*** Under the Indian conditions of an emerging framework for private participation, and reflecting experiences in other parts of the world, the commercial risks were only partially assumed by the private sector (to be more precise: by the sponsors and financing institutions, which also included entities with Government ownership). In order to enable financing to be arranged, the state governments had to provide far-reaching comfort to the debt providers, essentially assuring full debt repayment upon termination of the concession. Relatively high comfort was also required on the equity side. An assured project financial return assures an equity return that can be approximately predicted and is subject essentially to variations of financing costs over time, except if an event of default is caused by the concession company. Moreover, in the target sectors under an emerging framework, the number of sponsors and operators was insufficient to get subprojects off the ground. Therefore financial institutions, such as IL&FS or IDBI, as well as construction companies, were required to step into the role of principal sponsors and equity providers, in addition to participating in the debt financing. This multiplicity created

conflicts of interest (in the case of IL&FS, magnified by its promoter function), which was inevitable under the circumstances but needed to be carefully managed.

8.4 Whether the Indian market is ready to accept different risk allocations still needs to be explored. A step towards further transfer of commercial risk to the private sector would be concessions bid out on the basis of fixed tolls/tariffs without assured project returns. However, the achievement of a balanced risk allocation will only be possible if the public sector capacity exists to define the desirable level and to effectively negotiate an appropriate balance. This would, as indicated before, accelerate implementation of policy reform and initiation of projects, and advance private sector involvement and risk assumption. A clarification of the public sector policies and improvement of its capacity in private infrastructure could also enhance the interest from non-financial sponsors, which in the case of toll roads are typically construction companies, and thus mitigate the risk of conflicts of interest between equity and debt holders.

8.5 ***Pace of subproject preparation.*** The subproject development cycle is much longer than originally envisaged. The appraisal report was based on a 12 month preparation period per subproject, while the first subprojects developed under the Project took more than five years each to reach financial close. In light of this experience, the Project's objectives proved ambitious and the Loan amount provided too large. Even though IL&FS estimates that it can now bring down the preparation time for future subprojects to 30 months or less, the upfront costs of infrastructure investments will remain high. As a consequence, they will either have to be fully reflected in the costs of the subprojects and recovered from the users, or partially born by the government as general infrastructure development expense. Based on the experience with the development of private infrastructure under the Project, there seems to be growing interest from private sector promoters to take projects forward to financial close and implementation. However, every project requires a certain amount of upfront design and promotion from the public sector as well. While some shortening of the preparation cycle might still be expected from the private sector side, it will be important to complement enhanced human capacity in the public sector with appropriate funding for the public sector share of initial project design and promotion, which would also include the bidding cycle.

8.6 ***Financing not the binding constraint.*** One of the main justifications of the Project was that it would meet the pressing needs of commercial infrastructure project entities for long-term rupee financing, pending implementation of financial sector reforms for the development of a long-term debt market. During Project implementation, while IL&FS structured the first subprojects, it became clear that financing constraints, which existed at the time of appraisal, were no longer the primary factor impeding private sector involvement. This was also confirmed, independently of the Project, by a consultant study commissioned by the Bank and prepared in 2000, which showed that despite the continuing need for reform, Indian financial markets provided sufficient sophistication and depth to meet the needs of the growing private infrastructure business. For the first subprojects, IL&FS was therefore able to raise sufficient domestic financing, including from the capital markets, at appropriate terms. The Bank Loan facilitated the structuring, but financed only 13% of the costs of three subprojects, as compared to the ceiling of 25% agreed at appraisal. In the end, the slow pace of infrastructure sector reform, the need to create project-specific frameworks for private sector participation and the challenges of structuring commercially viable projects in the difficult target sectors proved to be more important bottlenecks than the lack of appropriate financing. More emphasis should thus be given by the Bank to support the acceleration of reforms and the creation of conducive operating conditions and concession frameworks.

8.7 ***Supervision requirements.*** The design of the Project required the Bank to carry out a far-reaching review, essentially an appraisal, for each subproject. It implied technical analysis of the feasibility studies, as well as careful review of the legal agreements, including concession contracts, and financing agreements. Given the fact that infrastructure financing in the target sectors was just evolving, the input sought and

required from the Bank for each subproject was substantial. In addition, since the subprojects were structured as private sector deals, the Bank's involvement had to cover contractual, legal and risk aspects which are not typically part of its operational focus. The supervision effort required was thus at the very edge of what the Bank could reasonably have provided in terms of available skills and budget funding, but would have far exceeded feasible levels if the subproject pipeline had developed as expected. The Project was thus not comparable to more traditional on-lending operations. The use of independent, experienced legal and financial advisors by the government in its role as promoter would have alleviated the burden on the Bank as would have the participation of international lenders who would have brought to bear high due diligence and appraisal standards. Although a similar project of this type is not planned, IFC is comparatively better suited to support this type of operation in terms of staff skills mix, hands-on experience in project finance, and ability to lend without the need for sovereign guarantees.

8.8 ***Traffic and revenue projections***. The first, albeit very preliminary, results of operational performance of two subprojects have revealed a number of weaknesses in the initial traffic and revenue projections. If these weaknesses are addressed in the preparation of future road projects, the chances to minimize divergence between projected and realized traffic and revenues will be much higher. Consequently, the risk of oversizing subprojects, with the resulting impact on construction costs and financing requirements, will be considerably lowered. The main lessons emerging the first experiences are as follows:

(i) Willingness-to-pay must be evaluated more carefully than through opinion surveys of stated preferences. More sophisticated stated preference approaches, such as conjoint analysis, are needed to evaluate unconscious trade-offs, particularly in introducing a completely new product.

(ii) Willingness-to-pay must be explicitly assessed for truckers (individual owners and operators as well as corporate and fleet owners and operators) and for bus operators, which are expected to contribute a substantial share of toll revenues.

(iii) Traffic forecasts, as carried out under the Project, provide the "trending line" of future levels of traffic. This approach has generally proven adequate for traffic engineering requirements. However a toll facility explicitly enters the realm of commercial products and consumer behavior. A product-launch or ramp-up period therefore needs to be introduced into the forecasts of the first few years of traffic levels. A marketing strategy needs to be introduced and higher or better expenditures on marketing during the ramp-up period could be reflected in improved initial traffic growth.

(iv) Traffic forecasting needs to be more realistic in modeling travel behavior under congestion. The use of an upper capacity limit per lane based on a fixed standard (set at a level below observed traffic levels) rather than a limiting function makes projected traffic diversion between facilities more volatile than is actually the case.

(v) Population forecasts based on centrally planned allocations of population are risky. People often don't live in locations of plan projections, and housing development can be more invasive and of higher density than planned for.

(vi) More care needs to be taken in comparing facilities of different scale. For example, in the 3 lane vs. 4 lane analysis of the Noida bridge, the procedures showed simply a 20% cost decrease accompanied by a 20% traffic decrease and thus was rejected. However, the cost reduction was available immediately while the traffic reduction occurred only in the later years. Similarly, congestion was deemed to limit future traffic to an arbitrary fixed value when in reality traffic tapers off under

congestion.

8.9 These lessons should be of relevance for the future approach of IL&FS to due diligence and project appraisal in its prime role as lender. The measures outlined above would mitigate overall project risks, and would facilitate the creation of a structure, from which also experienced international infrastructure lenders could draw sufficient comfort to participate, without having to rely ultimately on Government undertakings for much of the commercial risk.

8.10 ***Environment and Social Management.*** IL&FS experience has demonstrated that upfront integration of environment and social aspects and their continuous monitoring increased the public acceptability of subprojects and reduced their implementation risks. The role of a citizens committee to monitor and provide feed back to SPV on environmental impacts during the construction phase and establishing a rehabilitation cell for counseling and advising project affected persons (in the case of NTBCL), extensive consultation with PAPs on determining the replace cost of assets (in the case of VHTRL and AMTRL), and adaptive designs minimized land acquisition and resettlement (in the case of NTBCL) improved project's acceptability and also generated good will among the project affected persons. Further, periodic stakeholder consultations, regular supervision by IL&FS and annual environment and social audits have helped IL&FS to be more proactive in addressing the changing needs of environment and social aspects even during project implementation. The costs of implementing the EMP and RAP were fully reflected in the final design costs, and averaged around 3% for the three subprojects.

8.11 ***Special account/Swap account.*** Given that the cost recovery for most infrastructure projects was to be in local currency, it was considered prudent not to pass on the foreign exchange risk to the final beneficiaries of the Loan so as to preserve the financial viability of the subprojects. As such, IL&FS planned to hedge the currency risk by swapping the proceeds of the Bank loan into back-to-back rupee-denominated loans with the same repayment structures as the Bank loan. At the start of the Project, the Bank advanced IL&FS US$25 million which was swapped into rupees and deposited in a Swap Account and used exclusively for eligible expenditures for subprojects. Although the advance was made in March 1997, the account was not adjusted by the Bank until January 2002. This was largely due to the delay in subprojects reaching financial close (as detailed earlier in the report) and a legal covenant which required 80% of the swap account to be utilized before submitting an application for replenishment of the special account. IL&FS did not reach the 80% threshhold until the third and final subproject was approved, toward the end of the implementation period, and never required a replenishment. For future projects that may replicate this swap account feature, it is recommended that legal agreements follow a time-based replenishment application, for example 12 months or 80% of the advance whichever is earlier, to avoid having a dormant special account outstanding in the Bank's books for a long period of time.

9. Partner Comments

(a) Borrower/implementing agency:

9.1 The comments as provided by IL&FS on the draft ICR appear in their entirety in Annex 7 as an electronic copy. The following are excerpts and does not include the factual corrections or other comments which were incorporated in the final ICR. IL&FS's comments have been given on respective sections of the draft ICR sent by the Bank which have either been referred to or reproduced in italics below. The views of IL&FS are also represented separately in the Borrower Evaluation Report (Annex 13) of the main document.

(1) **Reference : Section 2. Principal Performance Ratings**

- It is our submission that the Sustainability of the Project be rated as 'Highly Likely' (against 'Likely') which is more in line with the contents of Section 6.

- The basis for 'Project to be at Risk at any Time' is not clear and needs to be elaborated by the Bank. We reserve our views till then.

(2) **Reference : Sections 3.5.3, 7.6.2 and 8.3**

The following sections have been included by the Bank in the Draft ICR:

'Another design weakness was the inherent conflict of interest in the various role played by IL&FS, and in particular, their advisory capacity (informal or otherwise) to state governments with whom they were developing and negotiating concession agreements'

'IL&FS was required to play a multiplicity of roles to encourage development of infrastructure projects. This led to an inherent conflict of interest between its roles as advisor to government, project developer, sponsor, and lender – the mitigation of which formed a constant theme in the Bank's supervision of the Project. The Bank struggled to gain comfort that IL&FS's lending decisions were and not overshadowed by their project development/sponsor role'

'This multiplicity created inherent conflicts of interest (in the case of IL&FS, magnified by its promoter function), which needed to be carefully managed'

Comments

(a) IL&FS considers its multiple roles more as a design strength than as a design weakness. In fact, as brought out in the Appraisal Report, one of the reasons for the GoI to select IL&FS as the beneficiary of the Loan was the pioneering roles of IL&FS in creating synergy between public and private interests. Over the years, ILFS has achieved and sustained this position necessarily by playing multiple roles.

(b) Given the rudimentary stage of the market for commercialized infrastructure in India, a single agency that can provide an integrated set of services and support is imperative to kick start the process. In the end, the commitment shown and confluence of interests created by IL&FS for the ultimate success of the project through a realistic distribution of risks was far more important than concerns about conflicts of interests arising from its multiple roles. To lose this would be to ignore an important lesson of this project.

(c) The relationships and credibility built by IL&FS with the State Governments are in fact a strong and integral part of the project development efforts taken up by IL&FS. This has helped create several opportunities for private sector participation in infrastructure projects and appropriate policy and legal frameworks in the states. Thus, the long term sustainability of the Project has been enhanced.

(d) The Bank should also note that at a meeting of it's Board, the Directors recommended that IL&FS continue to maintain its sponsorship and developer roles since there was no other Institution willing to undertake this critical role. The Bank has itself stated in its earlier Aide Memoirs that IL&FS has done an admirable job of managing its inherent conflicts of

interests. As also acknowledged by the Bank, IL&FS has consciously built an operating framework to specifically manage the related issues.

(e) Lastly, IL&FS believes that there has been no negative impact on the Project arising out of the risks of conflict of interest. In fact, IL&FS would recommend that such a design feature should be an important part of the Bank preparation for future Loans in developing countries, so as to ensure sustainable congruence of interests by stakeholders in specific projects.

(3) **Reference : Section 3.5.3**

While this section brings about the weaknesses of the Project which, based on implementation experience have led to a marginally unsatisfactory Quality rating at the time of completion, we feel that this should be preceded by a corresponding section that, post implementation, acknowledges the strengths of the Project as cited by the the QAG (as brought out in Section 3.5.1 of the ICR).

The issue of conflict of interest in the design of the Project as referred to in this section of the ICR should be reviewed by the Bank in the light of our earlier comments.

(4) **Reference : Section 4.1.4**

(a) The first section may be updated to include that the first water project has achieved financial close.

(b) *'Facilitate entry of private sector on a much larger scale in areas so far dominated by the public sector (Partially Satisfactory)'*

Comment

While, admittedly, the Project has not been as successful in terms of number of sub-projects commissioned, clearly the quality and replicable nature of the sub-projects commissioned as well as the contractual documentation developed serve adequately to facilitate the entry of private sector. It is suggested to the Bank to modify the rating to 'Satisfactory'. This would also be more reflective of the content of sections 4.1.4 through 4.1.7 of the ICR.

(5) **Reference : Section 4.1.12**

'Foster efficiency in delivery and use of selected infrastructure services, encourage establishment of more efficient practices in construction and operation of infrastructure projects (Partially Satisfactory).

Comment

It is our submission that given the content of the section itself, the achievement of this objective warrants a 'Satisfactory' rating.

(6) **Reference : Section 4.2.10**

'However, additional flexibility in terms of financial instruments and eligible sectors would not

have contributed significantly to meeting the project's objectives although it may have increased disbursement.

Comment :

This remark appears to indicate a conflict of interest in the goals of the Project. It would be better to instead merely accept the possibility of sector and instrument flexibility contributing to the higher achievement of the disbursements/investments related outcomes and outputs – given that the achievement of these has been rated lower than of the development objectives. Since only a small part of the line was used, such flexibility need not have reduced the development impact in the other sectors: this was not a zero sum game.

If flexibility in terms of financial instruments or sectors had been provided to IL&FS over the 5 year period of the loan, IL&FS would have been able to disburse a substantial portion of the line of credit. IL&FS exposure to the existing sub-projects, stands at $ 31 million as against an entitlement of about $ 47 million. If we were to add Tirupur and also other infrastructure sectors over the same period, it would amount to close to $ 200 million. Accordingly, the Bank may wish to revisit the statement in Section 4.2.10.

(7) **Reference : Annex 5**

The ratings given to achievements under the project need to reflect the extremely difficult enabling environment the project was implemented under. The ICR has in several places captured the challenges imposed by the inadequate preparation in the environment. The ICR has also correctly rated the Quality at Entry at completion as marginally Unsatisfactory. But this then should serve as the bench mark against which the project performance is measured - just as, in the light of implementation experience, the project outcomes and outputs were modified during the mid-term appraisal of the project.

It is our submission that the ratings provided by the Bank for achievement of certain outputs be upgraded as follows. This is based on our overall assessment and put up to the Bank for suitable consideration:

Physical	:	Substantial (from Modest)
Financial	:	High (from Modest)
Institutional Development	:	High (from Substantial)
Land acq./resettlement	:	High (from Substantial)
Private sector development	:	High (from Substantial)

(a) In terms of physical performance, it is acknowledged that only 5 sub-projects have been completed or are at an advanced stage out of the 18 sub-projects envisaged at the time of appraisal. The Bank has itself acknowledged that out of ten private projects in the target sectors which reached financial close since 1997-98, four road projects were taken to financial close by IL&FS. If we also include the bulk water supply Tirupur sub-project, the results are highly encouraging given that IL&FS had to put up with several handicaps. In addition, the Bank has not been able to accommodate financing of sub-projects across different sectors and States as requested by IL&FS. The time taken to receive Bank approval also added to the delay.

IL&FS has substantially cut down on the time taken to complete project development work

as demonstrated in the subsequent sub-projects. The current pipeline of sub-projects reflects a healthy portfolio at different stages of project preparation. It is expected that several of these will see completion over the next 2-3 years. Thus, the physical success of the Project would have been much higher over an extended tenor. The profile of the current portfolio is also different from the original one and reflects the changing market environment for sub-projects amenable to private financing.

(b) In terms of financial performance, the utilization has been low at 15%. This under performance has to be considered from two angles.

While in retrospect, it may appear that the original amount of $200 million was oversized, it was however justified at the time of appraisal. IL&FS could pursue project development work simultaneously on several sub-projects given the corpus of $200 million. The fact that only 5 projects could substantially materialize only reemphasizes the lack of an enabling environment was underestimated both by the Bank and IL&FS.

Had Tirupur been included the utilisation would have increased to a modest figure of more than 40%. This would also have increased substantially had there been an extended closing date, flexibility in use of Bank Loan across financial instruments and sectors.

(c) The upgradation of the ratings of the other components as suggested above is in line with the contents given in the draft report itself and takes into account the significant achievements by IL&FS under the Project.

(b) Cofinanciers:

(c) Other partners (NGOs/private sector):

10. Additional Information

10.1 The following provides a summary overview of IL&FS sub-projects in three categories: (i) those commissioned or under construction; (ii) those in the pipeline; and (iii) those dropped from the original pipeline provided in the Staff Appraisal Report.

A. Sub-Projects Commissioned or under Construction				
	Sub-Project	**Description**	**Cost (Rs. Million)**	**Status**
1	Delhi-Noida Bridge UP/Delhi	550-m eight-lane new bridge across river Yamuna;	4,080 (Bank Loan: 600)	Project completed and commissioned in Feb 2001; Ashram Chowk fly-over completed in Oct 2001.
2	Vadodara Halol Toll Road Gujarat	Widening and strengthening of 32 km existing highway	1,608 (Bank Loan: 100)	Project completed and commissioned in October 2000
3	East Coast Road Tamil Nadu	Improvement/ maintenance of Chennai-Pondicherry highway	610	Substantially completed in December 2001, to be commissioned shortly
4	Ahmedabad Mehsana Toll Road Gujarat	Widening and strengthening of 52 km existing highway	3,230 (Bank Loan: 500)	Under construction; completion scheduled Oct 2002
B. Sub-Project Pipeline				
1	Tirupur Area Development Program Tamil Nadu	Integrated area development scheme including water supply, drainage, effluent treatment, roads and telecom	10,230	GOTN's approval obtained for proceeding with the project and financial closure achieved.
2	Dewas Water Supply Madhya Pradesh	The project seeks to substantially augment the water supply to Dewas industrial estate.	2,500	RFP Documentation for the selection of Operator being prepared by the Consultants.
3	Mhow Ghatabillod Toll Road Madhya Pradesh		1,260	Being implemented by GoMP as O&M project
4	Bhubaneshwar Integrated Road Network Enhancememt Project Orissa	Bypass to National Highway 5 (NH5); includes roads & bridges	1,472	Detailed Feasibility Studies are in progress
5	Ennore Manali Road Project Tamil Nadu		1,400	Consultation with NHAI
6	Vizag Area Development Project Andhra Pradesh	420 MLD water supply scheme to the industry	5,865	Request for Qualification for the selection of Operator issued in December 2001 and RFP likely to be issued in April 2002.

7	Integrated Area Development Project Rajasthan	Development of an integrated area development scheme, consisting of both industrial and social infrastructure, for Bhiwadi Industrial Area. It is proposed to develop the area as a Special Economic Zone.	2,000	Procurement of Consultants for project preparation is under way
8	Dry Port Kotaquasim (Alwar) Rajasthan	Development of a multi-modal logistics centre to facilitate the management of container and export-import cargo in the northern India.	1,500	Detailed Feasibility Studies are in progress
9	Adityapur Bridge Jharkhand	500-m, 2-lane high level bridge; 5-km approach roads	570	New State Government pursuing the legal amendments. Subsequently, RFP would be issued to the shortlisted parties.
10	Jal Mahal Tourism Infrastructure Project Rajasthan	A state tourism project to restore the ecological balance of Mansagar Lake along with the archaeological conservation of Jal Mahal monument located within the lake.	1200	Project bidding in process
11	Integrated Parking Infrastructure Project Rajasthan	Implementation of multi-storied parking complexes for four wheelers and two wheelers in the walled city area of Jaipur	400	Project studies have been completed. Request for Proposal documents to be issued to the shortlisted parties
12	Bhiwadi Waste Water Treatment Project Rajasthan	Rehabilitation/ augmentation of the Common Effluent Treatment Plant for industries and township in Bhiwadi Industrial Area	1500	Request for Qualification for the selection of Operator (Rehabilitation of existing system) to be issued soon.

13	Beach Management Project – Panaji Goa	The Project envisages management of beaches at three selected locations in Goa namely Miramar, Colva and Calangaute.	150	Miramar Beach stretch, near the state capital has been selected as a model project. Bidding in process
14	Multi-storey Car Parking Project in Panjim Goa	Development of mechanized multi-storey off-street parking facility for four wheelers, in the City Centre of Panjim.	200	Parking Study for the project area has been completed. Bidding Documents being prepared.
15	Integrated Convention centre Project Andhra Pradesh	Development of Plenary Hal with hospitality centre, parking place, exhibition facilities, cafeteria, restaurants, etc. Also includes Golf Course with Club House and accommodation.	5,000	Project bidding is in process
16	Town Gas Project Andhra Pradesh	Provision of piped natural gas for 10 towns in East and West Godavari districts.	750	Project studies are in progress. Institutional structure for project implementation being decided.
17	Gangavaram Port Andhra Pradesh	Development of minor port 12km south of Visakhapatnam Port (VPT) and adjacent to Steel Plant (VSP).		Feasibility Studies are in progress.
18	Hyderabad Suburban Mass Rapid Transit System Andhra Pradesh	Development of a suburban railway system for Hyderabad by augmenting the existing infrastructure through signaling, tracks and rolling stocks & locomotives.		Project Studies to be initiated
19	Special Economic Zone (SEZ) Andhra Pradesh	A SEZ is proposed about 30 km away from Visakhapatnam to establish a delineated duty-free enclave. Target industries include medium & light engineering and information technology.	18,700	SEZ policy framework is being developed. Preliminary financial viability studies with special industrial focus are complete. Institutional framework, such as incorporation of Project JV, being finalised.

20	Sangli-Miraj-Kupwad (SMK) Water supply and sewerage project Maharashtra	Involves phased operations, rehabilitation and augmentation of the existing water supply and sewerage system for the municipalities of Snagli, Miraj and Kupwad	Phase 1 – 250 Phase II – 2,500	Memorandum of Agreement to be signed with Sangli Municipal Corporation and GOM. Prequalification process has been initiated. Request for Proposals expected to be issued by March 2002.
C. Sub-Projects Dropped from Original Pipeline at Appraisal				
1	Panvel Bypass Maharashtra	-National Highway project - 10.135-km, four-lane bypass to Panvel town on Highway 4 (NH4); includes one flyover, three river bridges, one ROB and seven underpasses.	2,072	Not being pursued by IL&FS.
2	Borivili-Virar Quadrupling Project Maharashtra	- Indian Railway project - Project being implemented on a commercial format - 60 km of additional track - 6 new stations - Commercial development of space	2,800	Not being pursued by IL&FS.
3	Elevated Highway Panipat Haryana	- National Highway project - 5-km elevated highway on National Highway 1 (NH1)	1,000	Not being pursued by IL&FS.
4	Moradabad Area Development Program Uttar Pradesh	- National Highway & Ministry of Commerce project - The program envisages two distinct schemes: (a) Implementation of a 2-lane bypass of 20 km on National Highway 24 (NH24) (b) Provision of captive power facility for Moradabad export units.	600 1,000	Not being pursued by IL&FS.

5	Mangalore Area Development Program Karnataka	- State project - Water supply scheme for Mangalore industry and town	7,225	Not being pursued by IL&FS.
6	Worli-Bandra Link Bridge Maharashtra	-State project 1.2-km 6-lane, partially cable-stayed bridge 5.8-km approach roads	6,331	Implemented by the government; under construction.
7	Vasai-Virar Area Development Program Maharashtra	-State project - Provision of water, transport and related infrastructure to rapidly developing region north of Bombay	12,000	
8	Indore-Bhopal Highway Madhya Pradesh	-State project - 200-km state highway linking Indore, commercial capital of Madhya Pradesh to Bhopal administrative capital of MP	2,000	
9	Tuticorin Port Tamil Nadu	-National port project - Upgrading, modernization and expansion of existing port on a commercial format.	7,000	
10	Outer Ring Road Tamil Nadu	- State project - 60-km 2-lane highway	3,000	
11	Gulf of Cambay Gujarat	-State project -Multi-facility bridge, including road, rail, water, gas and oil pipeline - Approach roads - Area development	50,000	

Annex 1. Key Performance Indicators/Log Frame Matrix

Outcome/Impact Indicators

Indicator/Matrix	Projected At Mid-Term Review	Actual/Latest Estimate
Number of financial institutions and banks committed to project financing	Equity Investors: 10 Debt Investors: 20	Equity Investors: 26 Debt Investors: 39
Number of international firms committed to project finance in water and tansport sectors	4 firms	3 firms
Number of legislative instruments approved for implementation of BOT projects by state/regulatory bodies	6 (including instruments initiated)	9 (including instruments initiated)
Number of private corporations investing in privately financed infastructure	7 (plus 4, which plan equity investments)	31
Ratio of final cost vs closure estimate by subproject	n/a	Vadodara Halol Road Project: 1 Delhi NOIDA Toll Bridge: 1

Output Indicators

Indicator/Matrix	Projected At Mid-Term Review	Actual/Latest Estimate
Number of subprojects reaching financial closure	1 (using revised indicators from mid-term review)	5 sub-projects 1998 - Delhi Noida Toll Bridge 1999 - Vadodara Halol Road 2000 - East Coast Road 2000 - Ahmedabad Mehsana Toll Road 2001 - Tirupur Water Project
Magnitude of private sector funds averaged (excl. IL&FS)	Debt: Rs. 3,882.6 million Equity: Rs. 1,014 million	Debt: Rs. 11,793.6 million Equity: Rs. 4,193.0 million
Number of subprojects commissioned	0	2 sub-projects
Number of concession contracts signed with local/state government entities	2	6 contracts
Kilometers of roads constructed	0	240 km of lane length
Litre/day of water distribution	0	0

[1]Projections taken from mission following revision of indicators during mid-term review, dated December 22, 1998

See Annex 7, List of Supporting Documents, item 7, for more details.

Annex 2. Project Costs and Financing

Exchange rate:
INR 1 = US$0.021
US$1 = INR 47.855

Project Cost by Component (in US$ million equivalent)

Project Cost By Component	Appraisal Estimate US$ million	Actual/Latest Estimate US$ million	Percentage of Appraisal
Investment	1580.0	199.1	13%
Delhi Noida Toll Bridge [1]		*85.3*	
Vadodara Halol Toll Road [2]		*33.6*	
Ahmedabad Mahsena Toll Road [3]		*67.5*	
East Coast Road [4]		*12.7*	
Subproject Preparation[5]	19.0	0.6	3%
Training & Technical Assistance[6]	1.0	0.1	10%
Total	1600.0	199.8	12%

[1/] Total amount for the EPC contract was Rs. 2,120 million (US$44.3 million equivalent), of which the Bank financed Rs. 600 million (US$12.5 million equivalent). Total landed project cost was Rs. 4,080 million (US$85.3 million equivalent).
[2/] Total amount for the EPC contract was Rs. 1,190 million (US$24.9 million equivalent), of which the Bank financed Rs. 100 million (US$2.1 million). Total landed project cost was Rs. 1,608 million (US$33.6 million equivalent).
[3/] Total amount for the EPC contract was Rs. 5,115.29 million (US$106.9 million equivalent), of which the Bank financed Rs. 500 million (US$10.4 million equivalent). Total landed project cost was Rs. 3,230 million (US$67.5 million equivalent).
[4/] Total landed project cost was Rs. 610 million (US$12.7 million). Although not financed by the Bank, this subproject is included in the overall Project since it is in one of the target sectors and was implemented during the Project period.
[5/] Appraisal estimate includes IDA Credit of US$5 million equivalent. Actual includes amount disbursed under the IDA Credit only.
[6/] Actual/latest estimate reflects the amount disbursed under the Bank Loan. However, no information is available on the amount spent from IL&FS's own resources.

Project Cost by Procurement Arrangements (Appraisal Estimate[1])
(US$ million equivalent)

Expenditure Category	Procurement Method				
	ICB	NCB	Other	NBF	Total Cost
Subprojects	110.0		75.0		185.0
Technical Assistance					
Implementation Support			19.0		19.0
Policy Support			0.5		0.5
Capacity Building			0.5		0.5
Total	110.0		95.0		205.0

[1] As provided in SAR, which only includes Bank-financed portion.

Project Costs By Procurement Arrangements (Actual/Latest Estimate) [1,2]
(US$ million equivalent)

Expenditure Category	Procurement Method				Total Cost
	ICB	NCB	Other	NBF	
Subprojects			31.0		31.0
Technical Assistance					
Implementation Support			0.6 (IDA Credit)		0.6 (IDA Credit)
Policy Support					
Capacity Building			0.13		0.13
IDA					
Total			31.7		31.7

[1/] Figures are the amounts financed by the Bank Loan. All costs include contingencies.
[2/] Includes civil works and goods to be procured through national shopping, consulting services, services of contracted staff of the project management office, training, technical assistance services, and incremental operating costs related to (i) managing the project and (ii) re-lending project funds to local government units.

Project Financing by Source (in US$ million equivalent)

Component	Appraisal Estimate	Actual/Latest Estimate	Percentage of Appraisal
IBRD	200.0	31.1	13%
IDA	5.0	0.6	12%
IL&FS[8]	44.0	28.7	65%
Indian Fin Inst/banks[8]	430.0	84.3	20%
Capital Markets	150.0	29.4	20%
State Govts. & Agencies	100.0	13.6	14%
Export Credit Agencies	200.0	0.0	0%
Bilateral Funds	75.0	0.0	0%
Project Sponsors & Others	396.0	18.2	5%
Total [10]	1600.0	205.9	13%

[8/] Includes both debt and equity contributions.
[9/] This includes deep discount bonds both issued in the market and privately placed.
[10/] Total does not match total in Project Cost by Component table due to use of different exchange rates. For this table, the IBRD amounts are converted using different exchange rates over time as shown in the Bank's accounts. The remaining financing components are converted at the exchange rate quoted in the ICR.

Annex 3. Economic Costs and Benefits

See Annex 10 which includes analysis of the economic costs and benefits for each of the three road sub-projects financed under the Loan.

Annex 4. Bank Inputs

(a) Missions:

Stage of Project Cycle	No. of Persons and Specialty (e.g. 2 Economists, 1 FMS, etc.)		Performance Rating	
Month/Year	Count	Specialty	Implementation Progress	Development Objective
Identification/Preparation				
March/April 1995	1	Fin. Analyst		
	1	Finance Specialist		
	1	Transport Economist		
	1	Environmental Eng.		
	1	Social Dev. Spec.		
Pre-Appraisal June 1995	2	Fin. Analyst		
	1	Municipal Engr.		
	1	Transport Economist		
	1	Env. Engr.		
	1	Social Dev. Specialist		
	1	Transport Specialist		
Appraisal/Negotiation				
Appraisal November 1995	1	Fin. Analyst		
	1	Finance Specialist		
	1	Urban Dev. Specialist		
	2	Social Dev. Specialist		
	1	Lawyer		
	1	Municipal Engr.		
	1	Transport Economist		
	1	Urban Transport Spec.		
	1	Env. Engr.		
	1	Transport Economist		
Supervision				
July 1997	1	Transport Economist	S	S
	1	Fin. Analyst		
	1	Transport Specialist		
	1	Proj. Fin. Specialist		
	1	Env. Engr.		
July 1998	1	PSD Specialist	U	U
	1	Transport Spec.		
	1	Env. Eng.		
	1	Financial Analyst		
	1	PSD Advisor		
	1	Economist		
	1	FMS		
December 1998	1	PSD Specialist	S	S
	1	Transport Specialist		
	1	Fin. Analyst		
	1	Engineer		
	1	Lawyer		

		1	Project Fin. Consultant		
	December 1999	1	Transport Specialist	S	S
		1	Fin. Analyst		
		1	Finance Specialist		
		1	Hwy. Engr.		
		1	Engineer		
		1	Water Sector Spec.		
		1	Priv. Sector Infr. Spec.		
		1	FMS		
		1	Env. Engr.		
		1	Social Dev. Specialist (separate mission--10/1999)		
	March 2001	1	Fin. Analyst	S	S
		1	PSD Specialist		
		1	Hwy. Engr.		
		1	Transport Economist		
		1	Social Dev. Spec.		
		1	Env. Spec.		
		1	FMS		
ICR					
	December 2001	1	Fin. Analyst		
		1	PSD Specialist		
		1	Hwy. Engr.		
		1	Transport Economist		
		1	Social Dev. Spec.		
		1	Env. Engr.		
		1	FMS		

(b) Staff:

Stage of Project Cycle	Actual/Latest Estimate	
	No. Staff weeks	US$ ('000)
Identification/Preparation	49.4	204
Appraisal/Negotiation	included with identification/ preparation figure above	included with identification/ preparation figure above
Supervision	237.1	930
ICR	16.6	68
Total	303.1	1,202

Annex 5. Ratings for Achievement of Objectives/Outputs of Components

(H=High, SU=Substantial, M=Modest, N=Negligible, NA=Not Applicable)

	Rating
☐ *Macro policies*	○ *H* ○ *SU* ○ *M* ○ *N* ● *NA*
☐ *Sector Policies*	○ *H* ○ *SU* ○ *M* ○ *N* ● *NA*
☒ *Physical*	○ *H* ○ *SU* ● *M* ○ *N* ○ *NA*
☒ *Financial*	○ *H* ○ *SU* ● *M* ○ *N* ○ *NA*
☒ *Institutional Development*	● *H* ○ *SU* ○ *M* ○ *N* ○ *NA*
☒ *Environmental*	● *H* ○ *SU* ○ *M* ○ *N* ○ *NA*
Social	
☐ *Poverty Reduction*	○ *H* ○ *SU* ○ *M* ○ *N* ● *NA*
☐ *Gender*	○ *H* ○ *SU* ○ *M* ○ *N* ● *NA*
☒ *Other (Please specify)*	○ *H* ● *SU* ○ *M* ○ *N* ○ *NA*
Land acquisition and resettlement	
☒ *Private sector development*	○ *H* ● *SU* ○ *M* ○ *N* ○ *NA*
☐ *Public sector management*	○ *H* ○ *SU* ○ *M* ○ *N* ● *NA*
☐ *Other (Please specify)*	○ *H* ○ *SU* ○ *M* ○ *N* ● *NA*

Annex 6. Ratings of Bank and Borrower Performance

(HS=Highly Satisfactory, S=Satisfactory, U=Unsatisfactory, HU=Highly Unsatisfactory)

6.1 Bank performance	*Rating*
☒ *Lending*	○ *HS* ● *S* ○ *U* ○ *HU*
☒ *Supervision*	○ *HS* ● *S* ○ *U* ○ *HU*
☒ *Overall*	○ *HS* ● *S* ○ *U* ○ *HU*

6.2 Borrower performance	*Rating*
☒ *Preparation*	○ *HS* ● *S* ○ *U* ○ *HU*
☒ *Government implementation performance*	○ *HS* ● *S* ○ *U* ○ *HU*
☒ *Implementation agency performance*	○ *HS* ● *S* ○ *U* ○ *HU*
☒ *Overall*	○ *HS* ● *S* ○ *U* ○ *HU*

Annex 7. List of Supporting Documents

1. Aide Memoire, Implementation Completion Report Mission, December 2001
2. 1996-1999 – Three Formative Years, prepared by IL&FS
3. Application from IL&FS for extension of loan closing date and a "Brief Report on the Project to accompany the Proposal for Extension of the Loan Closing Date" (March 15, 2000)
4. The Development Perspective, Volume I, prepared by IL&FS (March 2001)
5. The Development Perspective, Volume II (Annexes), prepared by IL&FS (March 2001)
6. Ahmedabad Mahsena Toll Road Subproject – Credit Report from Duff & Phelps
7. IL&FS Performance Monitoring Indicators

perf mon indicators-annex 7.doc

8. Draft Borrower Evaluation Report

IL&FS-ICR contribution.d

9. Annexes to Draft Borrower Evaluation Report

IL&FS-ICR contribution-annexes.

Additional details for sub-projects.

DELHI-NOIDA TOLL BRIDGE
From World Bank

D-N_costs.xls

D-N_traffic.xls

D-N_re-eval.xls

D-N_benefits.xls

D-N_Veh-Inc-CPI.xl

D-N_other_bridges.x

D-N_population01.xl

From Borrower

Revenue Model.xls

ntb-408__denning.xl

VADODARA-HALOL TOLL ROAD
From World Bank

V-H_costs01.xls

V-H_traffic.xls

V-H_re-eval.xls

V-H_benefits.xls

V-H_serviceroad02.x

V-H_early-fcsts.xl

From Borrower

FCloseFinal.xl:

MPR-Nov'01-Source Data.)

AHMEDABAD-MEHSANA TOLL ROAD

From World Bank

A-M_costs01.xls

From Borrower

AMTRL - Model.xl:

Annex 8. Beneficiary Survey Results

The beneficiary survey covered essentially the stakeholders invited to the workshop during the ICR mission. The survey was carried out during the ICR mission and, while not fully evaluated at that time, its responses provided a basis for the discussions at the stakeholder workshop. The survey included the banking and construction industries, state development institutions, concession companies, and the union government. The institutions surveyed and represented at the Stakeholder Workshop comprised IL&FS, Industrial Development Bank of India (IDBI), State Bank of India (SBI), Mitsui-Marubeni Corp., Punj Lloyd Limited, Intertoll, Noida Toll Bridge Company Ltd., Vadodara Halol Toll Road Ltd, Ahmedabad Mehsana Toll Road Ltd, Consolidated Toll Network Ltd., Noida Authority, Andhra Pradesh Industrial Infrastructure Corporation Ltd (APIIC), New Tirupur Area Development Corporation Ltd., Dewas Industrial Water Supply Company, and Department of Economic Affairs (DEA) of Ministry of Finance.

The feedback from the surveys and the workshop is incorporated in the main text, and the main results and ratings have been substantially influenced by this process. There was a clear consensus that the overall outcome of the Project was positive in terms of concrete subproject initiation and implementation, and achievement of concrete policy measures needed to facilitate private sector involvement. It was also concluded that these positive results were achieved against the backdrop of a much slower development of the subproject pipeline than expected at appraisal, and of only a rudimentary framework for private sector involvement at the start of the Project. For the way forward, the participants thought that increasing emphasis should be put on project development through further public-private partnerships, and enhancing the capacity of the public sector to understand and facilitate private infrastructure projects.

1. What have been the major improvements you have seen over the last five years in developing and closing private infrastructure projects?

Regulatory/Technical

- Land acquisition process streamlined
- Resettlement issues relatively stabilized
- Project development cycle truncated from 7 (Delhi Noida Bridge) to about 2 years (Vadodar Halol and Ahmedabad Mehsana Toll Road)
- Establishment of transparent processes
- Standardized documentation
- Innovative bid documents on whole life costing cycle.
- More detailed feasibility studies
- Redefined approach to tackle feasibilities in future projects.
- Established replicable legal framework for implementation of road projects.

Lenders

- Concession Agreement made acceptable to lenders
- Concession Agreement provides comfort against shortfall from force majeure
- Banks and financial institutions more accepting of projects
- Better understanding of legal and commercial structure of projects by lenders
- Longer repayment periods offered by lenders
- Guarantees against non-payment on account of revenue shortfall in several cases
- Availability of longer tenor funds and structured instruments

Timeliness/Administrative Processes

- Closure of a large number of privately initiated projects
- Projects being completed largely on time and within stipulated budgets
- Quicker financial closures
- Truncate timelines by studying only up to the required levels, which receive developer confidence to bid—leave freedom to developer to develop the details
- Work with end-game of closing project in mind
- Establish dialogue with stakeholders during process—especially with prospective consultants, developers, and government from scoping and terms of reference itself—brings in perspectives from other international projects to the table

2. What have been the forces that have most contributed to these improvements?

- Mindset change of all players on need for such facilities

Private

- Lenders understand and appreciate the need for longer tenure for infrastructure projects
- Private sector and multilateral interest
- Capacity within the APIIC and its partners IL&FS
- Competing investment opportunities for developers in world market and between Indian states to receive investments in infrastructure

Government

- Simplified land acquisition processes
- Favorable Government policy
- Recognition of PPP in infrastructure as an important growth component in Vision 2020 for State
- For road projects, due diligence has been done on the consultants involved, resulting in reputable and qualifed work
- Establishment of project recourse lending
- Policy framework in State through AP-IDEA which emphasizes project development and procurement structures
- Increasing awareness of Government authorities on the privatization process coupled with successful delivery of the other IL&FS projects
- Corporate objective IL&FS to establish and prove that infrastructure projects can be implemented in commercial format.
- Fiscal regimen at central level

Bank/Others

- World Bank participation and handholding
- Strong support from counterpart governments
- Continuity in counterpart personnel

3. From your point of view, what are the major factors you think constrain private infrastructure projects from being implemented?

Government

- Need for more Government commitment
- Streamlined government clearances, especially involving interstate projects
- Better regulatory authority for tolling of roads
- Policy Framework for Private Investment in Express Highway Developments, e.g., non-compliance with and non-enforcement of maintenance standards and overloading of trucks
- Delay in clearances for shifting of existing facilities
- Lack of consistent government approach towards encouraging private sector participation
- Lack of understanding of PPP within all quarters of State and Centre administration
- Suspicion, apprehension and skepticism on the part of bureaucracy for private sector participation—possibly an element of threat to their role/authority
- Government's unwillingness to play proactive facilitator role and wrong perception on private sector participation

Technical

- Better traffic studies (traffic numbers below projections)
- Willingness of users to get used to paying for services
- Cumbersome land acquisition that does not bring in landowner as stakeholder
- Delays in land acquisition (for the relevant sector)
- Lack of cogent environmental and social rehabilitation planning
- Improper estimation of demand and cash flows

Finance

- Lack of project development funds, with streamlined approval and disbursement schedules
- Risk profile of transport sector projects
- Compounded by high cost of borrowing

Private Sector

- Precedence of many exits of developers from PPP projects in Power sector, impacting perception on Indian investments
- Projects not being offered to private sector in format that can be commercially implemented. Project development inadequate resulting in non-mitigation of risks which the private sector cannot assume
- Government's selection/positioning of projects to private sector
- Mindset on cost of project
- Mismatch in project objectives from amongst stakeholders
- Concept of speed between public vs. private sector

4. (a) Which sectors do you think are easiest to finance in the private sector and why? (e.g., electric power, oil and gas, telecom, rail, road, water supply and sanitation, ports, urban transport, other urban)? (b) Which was the hardest and why?

- Depends on payment mechanisms – whether direct from user or otherwise
- Electric power:
  - non-availability of escrow cover, poor state of SEBs, no proper support from government, tariff issues
  - Issues concerning fuel supply
  - State Government related issues
  - PSP already underway
  - Success dependent on degree of monopoly and users who are willing and able to pay
  - Enabling framework in place

- Oil and gas:
  - major hindrance is reluctance of oil majors to sign offtake contract with take-or-pay clause

- Telecom:
  - technological obsolescence, frequent disputes between DoT and TRAI and cellular and basic promoter companies, tariff policies, and licensing are major issues
  - Investor appetite owing to attractive return profile
  - Demonstrated success
  - Existence of a replicable model for projects
  - PSP already underway
  - Most legal/regulatory constraints removed, sector reforms at an advanced stage and being carried out as scheduled.
  - Main project risks confined to commercial and technical risks which can be objectively evaluated by investors

- Road sector:
  - One of easiest sectors, partly because of standardization of concession agreement, known technology, etc.
  - Investor appetite owing to attractive return profile
  - Demonstrated success
  - Existence of a replicable model for projects
  - Just starting
  - Potential users/beneficiaries easily identifiable, thus, revenue generation more predictible
  - Difficult especially where private developer is required to assume the traffic risk. Security available to the lenders is not enforceable, e.g., other projects can be salvaged by selling off equipment if project becomes unviable, whereas roads usually involve civil structures not available to be sold to mitigate losses.

5. What do you consider has been the degree of impact of the Project in the following areas?	Average Participant Rating
Project Objectives	**Impact 1 (Neglible)→4 (Substantial)**
Build up India's capacity to attract private investment in infrastructure	3.5
Pilot-test institutional and contractual arrangements in a variety of subprojects under various administrative and political conditions	3.4
Help establish a track record as a prerequisite for a large-scale private investment in the sector	3.1
Meet the pressing needs of commercial infrastructure project entities for long-term rupee financing (pending development of a long-term debt market)	3.3
Foster efficiency in the delivery and use of selected infrastructure service	3.1
Practices in the construction and operation of infrastructure projects	3.5
Assist in alleviating the severe financial and institutional constraints to the expansion of infrastructure in India	3.3

6. What do you view as the World Bank's impact in the following areas?	Average Participant Rating
Bank Role	**Impact 1 (Neglible)→4 (Substantial)**
Technical advice	3.0
Facilitator/catalyst	3.0
Honest broker	2.5
Financier	2.8
Other (explain)	n/a

7. What has been the impact of IL&FS in the following areas?	**Average Participant Rating**
Bank Role	**Impact 1 (Neglible)→4 (Substantial)**
Advising government on public-private partnership opportunities in infrastructure	3.4
Project development (technical feasibility studies, etc.)	3.4
Project structuring	
Concession design	3.5
Risk mitigation	3.3
Environment/resettlement	3.6
Financial structuring	3.3

8. (a) How could the design (by the Bank and/or IL&FS) of the Project been improved?

- Traffic counts could have been more conservative (ILFS)
- Willingness-to-pay study could have been more realistic (ILFS)
- Some alternate routes have caused projects to underperform, and could have been considered more realistically. (Bank)
- Consider that users used to free service and that mindset takes long time to change
- Relax some of the stringent conditionalities
- Chang or relax procurement norms which often result in dissuading potential players from participating
- A more apparent linkage between the two at the delivery end
- Structure financing to (i) contain the financing/interest cost at sustainable level (11-12% p.a.) and (ii) minimize the debit service during the construction period and initial operation period.
- Reduced project development cycle

9. In your view, what aspect(s) should the World Bank concentrate on in the future in order to facilitate private infrastructure projects in India?	
75%	sector reform
38%	regulation
38%	financing (term loans)
75%	guarantee (partial risk guarantee for commercial lenders and/or equity)
13%	advisory services to government agencies
	other (explain) training of government agencies project development (funding and marketing of projects) review of specialist studies supporting private infrastructure projects to ensure greater pragmatism and success greater selectivity of projects – Bank should be more conservative in identifying projects

Annex 9. Stakeholder Workshop Results

1. Purpose

During the ICR mission, a stakeholders' workshop was organized on December 13, 2002 in New Delhi. The purpose of this workshop was to:

(i) Solicit broad ranging inputs from a variety of stakeholders to the relevant aspects of the ICR, namely:
- achievement of project objectives
- achievement of specific outputs
- factors affecting implementation
- problems encountered
- lessons learned

(ii) Provide an opportunity to IL&FS, the Borrower, and the representative of the Ministry of Finance, Department of Economic Affairs, for sharing experience and exchanging views with the other stakeholders and the Bank on the Project and the lessons deriving from it.

2. Participants

About 30 participants attended the workshop and took active part in discussions. Senior managers from the banking and construction industries, state development institutions, concession companies, and a representative from the central government were present. The institutions represented comprised IL&FS, Industrial Development Bank of India (IDBI), State Bank of India (SBI), Mitsui-Marubeni Corp., Punj Lloyd Limited, Intertoll, Noida Toll Bridge Company Ltd., Vadodara Halol Toll Road Ltd, Ahmedabad Mehsana Toll Road Ltd, Consolidated Toll Network Ltd., Noida Authority, Andhra Pradesh Industrial Infrastructure Corporation Ltd (APIIC), New Tirupur Area Development Corporation Ltd., Dewas Industrial Water Supply Company, and Department of Economic Affairs (DEA) of Ministry of Finance. Thus the audience represented a wide cross-section of the Project's stakeholders.

On the Bank's side the following persons participated: Julia Fraser, Aduthurai Swaminathan (SASEI), Stephan von Klaudy (PSAPP), William Denning (ECSIE), I.U.B. Reddy (SASES).

3. Proceedings

The focus of discussion in the workshop was the experience of IL&FS, financial institutions, sponsors, development corporations and state agencies with the promotion, financing and implementation of private infrastructure projects, specifically in the target sectors transport, water, sanitation, and urban. IL&FS, Noida Toll Bridge Corporation, Consolidated Toll Network, and Andhra Pradesh Industrial Infrastructure Corporation gave formal presentations in which presenters gave their own evaluation on the following:

1. The Bank Loan's role in financing of subprojects, cooperation with the Bank, and the Bank's overall contribution to private infrastructure development through the Project;
2. Strategy for acceleration of development in the target sectors (transport, urban, water and sanitation) through increased emphasis on project development;
3. Role of the Project in supporting policy measures necessary to enhance private involvement in infrastructure;
4. Implementation experience with the first three road/bridge sub-projects (planning, construction,

traffic forecasts, tariff structure, first year's results, ancillary property developments);
5. Experience of APIIC in the preparation of the Vizag water project.

A lively discussion ensued on the above topics, in which most participants engaged actively. It was acknowledged that the Project performance has to be viewed against several constraining backdrops. For instance, at the time of initiation of the Project, privatization of infrastructure was at its infancy in terms of acceptance at all levels, establishing frameworks and availability of financing options. Viewed against this, some participants emphasized the advances made in the creation of capacity, a policy framework, legal structures, contract documentation and a supportive fiscal regime as a result of the Project. This was achieved despite the fact that only three sub-projects have been financed under the Loan and a substantial portion of the Loan had to be cancelled. IL&FS also stated that the utilisation of the Loan could have been much higher had there been more flexibility in terms of eligible sectors and financial instruments that could be used under the Loan.

In terms of sectors, there has been significant progress in roads in terms of number of projects, enabling framework, reduced gestation periods and a more responsive private sector. The water sector has been a relatively difficult sector. In terms of direction, there is an impelling need to take up the urban agenda and IL&FS has built up several niches to accomplish this. It plans to take this forward and may seek multilateral support in this respect.

There was consensus that the Bank's contribution to the Project has been substantial and that it partnered IL&FS in several ways. Special mention was made of the Bank's contribution in terms of technical issues, environment and social aspects and procurement process. It was also noted that IL&FS benefited as much from leveraging the credibility gained from the association with the Bank as from the use of the Bank funds. Cooperation with the Bank and its supervision efforts was acknowledged as very positive. It was also pointed out that during the Project's implementation period, the Delhi office was increasingly involved in supervision and started serving as easily accessible contact point for the Project, a trend which was felt should be continued.

A major topic of the discussion, with partially diverging views, was the rationale for a Bank Loan to a private entity for on-lending to commercially structured projects. On the public sector side, doubts were held whether it was justified to provide funds with central government guarantees in an environment in which private, or at least commercial, financiers are prepared to step in and financing as such does not seem to be the issue. Definition of appropriate on-lending terms for such a guaranteed loan was deemed a difficult practical question related to this issue. Against this, the view was held that, at the time the Loan was approved, the environment was not conducive yet for private involvement and consequently commercial funding was not sufficiently available. From that angle, not only was the Bank's funding considered essential to facilitate the financial close of the first subprojects, but the Bank's participation also ensured a strong focus on enhancing policy reform, and thus the framework for private sector entry. This again was contrasted with the question whether it would not have made more sense to go for an adjustment operation first, based on Bank involvement, and subsequently to rely entirely on the private sector and commercial sources to initiate subprojects. It was, however, broadly felt that adjustment measures without accompanying concrete project actions would not be effective as they would not create the needed track record. In this context, it was also felt that the promotional function should be taken up by other institutions besides IL&FS.

Some doubts were voiced from the banking community whether sufficient long-term financing was actually now available to the target sectors. The first experience with operating toll roads indicated strong reluctance of users to pay tolls, state or local governments were not particularly supportive in resolving this

issue, too much assistance for the developmental function was expected from the banks, and the proper implementation of securities was seen as a potential problem. [As a side remark, it should be stressed that the workshop was held just shortly after Enron had decided to pull out of the Dabhol power project, and Indian financial institutions were starting to face the risk of major losses and the burden of a major restructuring of large lending volumes].

The issue of insufficient support to the public for capacity building and project preparation/promotion was also discussed. While substantial funds were available through the parallel IDA Credit, both the Bank's procurement procedures, and the Government's complex system of channeling these funds to the states was made responsible for the relatively minor contribution of the Credit. Solutions suggested aimed at re-thinking the money flow and considering direct payments to consultants where possible.

4. Stakeholders' Feedback

The feedback from the workshop is incorporated in the main text and given in Beneficiary Survey (see Annex 8).

5. Conclusions

The Stakeholder Workshop provided an opportunity for the financial institutions, companies and agencies participating in the Project to share their views on the Project's outcomes, lessons learned, and forward actions. There was a clear consensus that the overall outcome of the Project was positive in terms of concrete subproject initiation and implementation, and achievement of concrete policy measures needed to facilitate private sector involvement. It was also concluded that these positive results were achieved against the backdrop of a much slower development of the subproject pipeline than expected at appraisal, and of only a rudimentary framework for private sector involvement at the start of the Project. For the way forward, the participants thought that increasing emphasis should be put on project development through public-private partnerships, and enhancing the capacity of the public sector to understand and facilitate private infrastructure projects.

Additional Annex 10. Subprojects Financed Under the Bank Line of Credit

This annex provides details on the three subprojects financed under the World Bank Line of Credit:

A. Delhi-Noida Toll Bridge
B. Vadodara-Halol Toll Road
C. Ahmedabad-Mehsana Toll Road

A. DELHI - NOIDA TOLL BRIDGE

Description of the Sub-project

The New Okhla Industrial Development Authority (NOIDA) was created in the State of Uttar Pradesh (UP), adjoining the Delhi National Capital Territory, in 1976. The growth of the industrial estate, its residential areas, and the adjacent Greater Noida residential district lead to additional congestion on existing road facilities and so to the desire for a bridge linking the new areas with Delhi. A Feasibility Report for this subproject was completed for IL&FS by Indian consultants Kampsax International in January 1994. The traffic and revenue forecasts were updated in March 1998 by Kampsax. The traffic and revenue forecasts were reviewed by consultants Louis Berger in August 1998. An Information Memorandum for investors was finalized in November 1998.

The Feasibility Report (January 1994) reviewed the existing land use and traffic situation and examined six different alignments for a new bridge. The examination made use of a network simulation traffic model, the first time such a model had been applied in Delhi. The first and second ranked alternatives were very close in design, cost, and desirability. The second ranked alignment (Scheme 1A) eventually became the route of the present bridge and approach roads. The Information Memorandum (November 1998) presented only the final routing.

The Delhi - Noida toll bridge was inaugurated on 24 January 2001. Construction of the bridge was completed four months ahead of schedule (in 25 months) and within budget. Commercial operations began on 7 February 2001. The project consists of an eight lane link across the Yamuna River, with a 552 metre long main bridge, 3 minor bridges, and eight lane approach roads on embankments, for a total road length of 7.5 km. There is a 27 lane computerized toll plaza equipped with latest toll collection technology including electronic toll collection. The project also included grade-separated ("cloverleaf") interchanges at each end of the facility, river training works, and a flyover at Ashram Crossing (no toll).

The Delhi - Noida link is being marketed as the "DND Flyway". The landed cost of the project is Rs 4,080 million. NOIDA Toll Bridge was implemented on a BOOT format through a Special Purpose Vehicle (SPV), the NOIDA Toll Bridge Company Limited (NTBCL). Shareholders include the NOIDA Authority, IL&FS, IFCI, and Intertoll. A Concession Agreement was signed on 12 November 1997 between NOIDA, NTBCL and IL&FS, based on predetermined post tax returns of 20 percent.

The project was completed as described in the Information Memorandum.

Project Costs and Financing

The following table summarizes the projects costs as they were presented in the Information Memorandum and as completed.

Delhi-Noida Project Cost (Rs millions)	**Original**	**Revised**
EPC cost	2120.0	1935.0
Guard Rail, Landscaping etc.		63.0
O&M Equipment Cost		112.0
Shahadra Bridge/Approach Road	200.0	48.7
Ashram Flyover		143.6
Works Contract Tax	0.0	17.7
Bonus to EPC Contractor	0.0	69.0
sub-total Construction Cost	**2,320.0**	**2,389.0**
Land Acquisition/PAP	100.0	115.1
Prelim / Preoperative Expenses	122.4	168.2
Financing Charges & Kampsax Fees	253.3	319.4
Contingencies		
- Price Escalation	396.3	193.7
- Forex Fluctuation		186.8
- Physical Contingency		10.4
Interest During Construction	701.7	517.2
Investment for Senior Debt Service	80.0	80.0
Depreciation Fund	108.0	101.7
Landed Project Cost	**4,081.7**	**4,081.5**

Delhi-Noida Financing Plan (Rs millions)	**Original**	**Revised**
Equity		
IL&FS	360.0	360.0
NOIDA	100.0	100.0
IFCI	50.0	50.0
O&M Contractor	106.2	106.2
FCDs	207.8	207.8
Private Infrastructure Funds	400.0	400.0
Total Equity	**1,224.0**	**1,224.0**
Debt		
IL&FS World Bank Line	600.0	600.0
Banks/Institutions	1,757.7	1,757.7
Deep Discount Bonds (DDBs)	500.0	500.0
Total Debt	**2,857.7**	**2,857.7**
Grand Total	**4,081.7**	**4,081.7**

The costing approach in the Information Memorandum was comprehensive and well done. The project has been built on budget, with no significant cost overruns. More detailed information and notes are provided in the spreadsheet "D-N_costs.xls" as attached to the electronic version of the ICR in Annex 7 - List of Supporting Documents, and in the project files.

Project Benefits

The project provides the following benefits:

- Saving in travel time between Delhi and Noida
- Saving in fuel and other vehicle operating cost to the users
- Reduction in fuel consumption and reduction in pollution
- Direct employment during construction and operation
- Reduced congestion on existing bridges
- Improved linkage between Noida and Delhi with stimulus to overall economic activity in the region.

Traffic

Traffic forecasts were prepared in the Feasibility Report based on an aggregate-level network simulation model, apparently the first application of this type of modelling in Delhi.

Traffic on the bridge has been much lower than anticipated. Using figures from the ninth full month since commissioning (November 2001) and expanding this latest month figure to an annual total shows that the equivalent annual traffic is only 28% of the projected annual traffic for the year 2001-02 and that revenue is only 21% of the projected annual value. Traffic is low across all vehicle types. In particular commercial traffic (i.e. trucks) is negligible resulting in lower average revenue per vehicle. Bus traffic, which had been expected to contribute 33% of revenue, is contributing less than 1% of revenue. The table below illustrates these results.

Delhi-Noida Traffic Forecasts (comparison of traffic forecast to initial actual traffic)					
	Two wheelers	Cars	Trucks	Buses	Total
	I	II	III, IV, VI	V	All
Information Memorandum, November 1998 - forecast for 2001-2002					
annual vehicles (million trips)	15.64	11.3	4.00	4.49	35.43
% distribution	44%	32%	11%	13%	100%
toll rate (Rs)	7.0	14.0	27.0	41.0	
annual revenue (Rs million)	109	158	108	184	559
% distribution	20%	28%	19%	33%	100%
November 2001 actuals					
average veh/day (000s)	7.8	18.9	0.9	0.06	27.7
equivalent annual vehicles (million trips)	2.83	6.90	0.34	0.02	10.09
% distribution	28%	68%	3%	0%	100%
Comparison, actual and equivalent to forecast					
equivalent veh as % of forecast	18%	61%	9%	0%	**28%**
actual average rev/veh (Rs)	6.5	13.1	25.3	32.8	11.7
estimated annual revenue (Rs mn)	18.5	90.1	8.6	0.7	118.4
% distribution	16%	77%	7%	1%	100%
estimated revenue as % of forecast	17%	57%	8%	0%	**21%**

More detailed information and notes are provided in the spreadsheet "D-N_traffic.xls" as attached to the electronic version of the ICR in Annex 7 - List of Supporting Documents, and in the project files.

Reasons for the lower than expected traffic, particularly initially, include:

- delayed opening of the Ashram Flyover,
- unanticipated effect of the Delhi truck traffic ban,
- recent substantial expansions of competing bridges,
- overestimation of population growth shift from central and old suburbs of Delhi to new suburbs in the near term,
- feasibility analysis was inadequate for a toll project, including the examination of willingness-to-pay for tolls.

Ashram Flyover

One reason for the initially low traffic has been the delay in completion of the Ashram Flyover Project that was essential for the efficient dispersal of the traffic using the Toll Bridge. After completion of the Flyover in October 2001, the daily traffic has increased by about 50% and is expected to grow at a high rate in the coming months as the other flyovers in the vicinity of the project that are under construction get completed. Efforts are also being made to effect network improvements around the facility so as to attract more traffic particularly the commercial segment

Truck Traffic Ban

Contributing to the low level of truck traffic is the Delhi daytime truck ban. It was mentioned in the 1998 Feasibility Report as an influence on travel demand but was not followed up on. This law prohibits all heavy commercial vehicles from entering or operating within the boundaries of the Delhi Municipal Council between 08:00 and 21:00. Light commercial vehicles are subject to the same restriction with a mid-day exception period from 11:00 to 17:00. This leaves only the Okhla Bridge, the southernmost, as the legal truck route between points south of Delhi and points east of Delhi. The ban precludes truck traffic from using the Delhi-Noida bridge because its western end is within Delhi.

Expansion of Other Bridges

The Nizamuddin Bridge, the next bridge over the Yamuna to the north of Delhi-Noida, was expanded from four lane to eight lanes in 1998. Similarly the next bridge north (ITO Bridge) was expanded from four lane to eight lanes, also opening in 1998. These expansions were anticipated in the traffic forecasting work. However the traffic "assignment" of flows to bridges was not explicitly sensitive to the presence of tolls on the Dehli-Noida bridge and may well have underestimated the attractiveness of the now uncongested Nizamuddin Bridge only a short distance away. This effect will diminish as overall growth again pushes up traffic use of the other bridges, however it contributes substantially to the initial resistance to paying for a trip which is not appreciable faster for many drivers. More information on traffic levels on other bridges is provided in the spreadsheet "D-N_other_bridges.xls" as attached to the electronic version of the ICR in Annex 7 - List of Supporting Documents, and in the project files.

Population Forecasts

The population forecasts which were used to derive the traffic forecasts have turned out to have been "optimistic" in ways which emphasized an early increase in suburb-to-suburb trips. The table below compares the earlier population forecasts with more recent demographic work.

Delhi, Noida, and Regional Population Forecasts (showing compound annual percent change for comparable time periods)				
	Original forecasts		**Actual and revised forecasts**	
Area	Feasibility Report	Feasibility Report	Census	NCRBP
	1993 to 2001	2001 to 2017	1991 to 2001	2001 to 2016
Delhi	1.15	2.21	3.88	2.63
Noida traffic zone	12.36	8.33		
Noida			3.10	5.23
Other external zones	4.87	3.21		
Other external			3.94	3.61
Total Region	2.21	2.76	3.85	3.08

The Feasibility Report stressed differential population growth rates (1993-2001) according to planned population allocations within narrowly defined traffic zones. Delhi itself is the one unambiguous geographic area as the sum of the traffic zones and the municipal definition used in the census are the same. Noida was expected to grow rapidly because Delhi would not be able to accommodate all the expected growth. In practice Delhi's population of 13.8 million is now about 3 million larger than forecast in the Feasibility Report. Other external zones were also expected to grow much faster than Delhi (at 4.87% instead of 1.15% for Delhi). In practice these have grown at about the same rate (3.94% and 3.88% respectively).

New forecasts of demographics in the Delhi region have been prepared for the "Feasibility Study on the Construction of Expressways in the National Capital Region in India" (National Capital Region Planning Board - NCRPB, Government of India, Japan International Development Agency, March 2000). These suggest that the shift in population growth from Delhi to Noida and other external municipalities will occur over the next 15 years – a much slower and more gradual shift than assumed.

In retrospect it seems the Feasibility Report forecasts were too optimistic by about 5 - 10 years on the "filling up" of the territory of Delhi and the subsequent shift in most growth to the suburbs. The continuing high overall growth rates make higher future traffic demand very likely. The population growth rate of Noida municipality is expected to jump from 3.10% (1991-2001) to 5.23% (2001-2016). More detailed information and notes on population are provided in the spreadsheet "D-N_population.xls" as attached to the electronic version of the ICR in Annex 7 - List of Supporting Documents, and in the project files.

Inadequate Feasibility

The feasibility studies correctly used an overall systemic approach to distribute traffic flows. The reports indicate that this was the first use of a "modern" traffic simulation model in Delhi. However traffic levels were calculated using simple elasticities of vehicle use with respect to a forecast level of national income. This approach is adequate for inter-city roads or where data and analysis resources are primitive but was not adequate in this case. On the request of potential investors the original feasibility work was assessed by an outside reviewer. However the outside reviewer, although a well respected major international

consulting firm, was also a traditional engineering-based consultancy which did not undertake any substantial testing of the customer behaviour assumptions underlying the earlier work. Both the original work and the review were done from a traditional traffic engineering base appropriate to zero-charge facilities with minimal consideration of user behaviour and price response.

The effect of the toll was considered in a simplistic way. After testing willingness to pay by means of an opinion survey the resulting toll figure was applied to the estimated traffic flow with the assumption that the traffic flow would remain the same, i.e. a zero elasticity of demand with respect to price. There was no survey of willingness to pay on part of truckers nor bus operators. There was no analysis of travel behaviour where passenger and freight flows were dissaggregated. Traffic on the ITO bridge moves with 3,500 PCUs/hour/lane. The engineering standard flow is 1,500 PCUs/hour/lane. Therefore in all traffic modelling the maximum volume allowed across the bridge was set to 2,000 PCUs/hour/lane.

There is no legislative authority to collect tolls in Delhi itself, so all bridge designs were prepared and costs estimated with the requirement that the toll plaza be within UP territory. This added a constraint to the civil engineering design and is an example of an institutional constraint driving design and cost.

Project Returns

The economic and financial re-evaluations are based on the following assumptions.

- update first year traffic, toll revenue, and revenue per vehicle assumptions using actual figures from first 10 months of operations, including two months after the Ashram flyover was opened
- project from this revised base into future years using the percent change assumptions of the Information Memorandum with respect to traffic and toll levels.

Summary of Economic Re-Evaluation Results - Delhi-Noida Toll Bridge (Indian Rs millions)				
	At concept	**At "appraisal"**	**At completion**	
Source	Feasibility Report, Jan. 1994 (Scheme 1A)	Information Memorandum, Nov. 1998 (Scenario IV)	Borrower Dec. 2001	ICR Jan. 2002
Economic NPV (at 15%)	over 27 years (1995-2021) including travel time savings 283	not included	not included	including travel time savings over 20 years (1998-2017) - 792 over 27 years (1998-2024) - 484 excluding travel time savings over 20 years 1,586 over 27 years 1,416
EIRR	over 27 years (1995-2021) including travel time savings 27.9% excluding travel time savings 25.4% including travel time savings but initially construct only 6 lanes: 30.7%	not included	not included	including travel time savings over 20 years (1998-2017) 10.5% over 27 years (1998-2024) 12.9% excluding travel time savings over 20 years 4.4% over 27 years 7.6%

Summary of Financial Re-Evaluation Results - Delhi-Noida Toll Bridge (Indian Rs millions)				
	At concept	**At "appraisal"**	**At completion**	
Source	Feasibility Report, Jan. 1994 (Scheme 1A)	Information Memorandum, Nov. 1998 (Scenario IV)	Borrower Dec. 2001	ICR Jan. 2002
Financial NPV	at 16% over 17 years (1996-2012) - 273 over 22 years (1996-2017) - 7 at 20% over 17 years - 573 over 22 years - 438	not included	not included	over 26 years (1998-2023) at 16% with land development income 112 without land income - 1,056 at 20% with land income - 740 without land income - 1,591
FIRR	over 22 years (1996-2017) 15.95% (target was 20%)	over 26 years (FY1999-FY024) pre-tax, 23.0% post-tax, 21.1%	over 26 years (1998-2023) with land development income pre-tax, 17.1% post-tax, 9.7% without land income pre-tax, 13.1%	over 26 years (1998-2023) with land development income pre-tax, 16.4% without land income pre-tax, 12.3%

More detailed information and major assumptions for the economic and financial analysis are documented in the spreadsheets "D-N_benefits.xls" and "D-N_re-eval.xls" as attached to the electronic version of the ICR in Annex 7 - List of Supporting Documents, and in the project files.

Factors Affecting the Subproject

Factors outside the control of the government or implementing agency included the depreciation of the Rupee from Rs. 36/US$ to Rs. 46/US$ at the end of implementation, and from Rs. 0.30/Yen to almost Rs. 0.44/Yen during implementation

Factors generally subject to government control included: (1) nuclear tests in May 1998, the Pokharan-II phenomenon resulted in complete restructuring of the Financing Consortium resulting in higher cost of financing and delay in financial closure, (2) delays in awarding various governmental and other statutory approvals. The total time required to start construction was almost 7 years from the date the Memorandum

of Understanding was signed for the Project between Noida, Delhi Government and IL&FS. This delay resulted in higher construction, establishment and other costs.

Factors generally subject to implementing agency control included: (1) timely approval of designs, specifications etc., (2) timely payments to the contractor, (3) other assistance to the contractors/consultants to expedite construction. These factors resulted in completion of the project in 25 months as against 32 months bid by the contractor and subsequently reduced to 29 months during negotiations.

Although the project cost was severely adversely effected due to the above factors, the actual cost has been kept within the budget mainly due to strict project supervision, value and financial engineering, and time saving.

NTBCL has responded to weak demand by revising its price structure in August 2001 to encourage greater use of the bridge. This has caused average revenue per vehicle to fall from Rs 12.84 (as measured over February 2001 to July 2001) to Rs 11.58 (as measured over August to November 2001).

Sustainability and Future Operations

The project is likely to be sustainable based on expected growth of suburban residential and economic activity and thus growth in traffic and toll revenues. To meet the temporary short fall in revenue the NTBCL has initiated:

- additional market research on pricing
- ongoing marketing activities
- restructured financing
- actively pursue short and long run land development opportunities (commercial development of surplus land available on the vicinity of the project to increase traffic and also to generate up-front liquidity through license fees/lease premium etc.)
- evaluating possible link road to the NE (additional road and bridge connection to provide another access point into Noida).

Lessons Learned

There is now an example of an major toll bridge in a major urban area in India, where previously there was no such example. This will allow future similar proposals to be evaluated with greater certainty in cost estimates, benefit estimates, and user response to paying tolls.

Willingness-to-pay must be evaluated more carefully than an opinion survey of stated preferences. More sophisticated stated preference approaches, such as conjoint analysis, are needed to evaluate unconscious trade-offs, particularly in introducing a completely new product. Such simple techniques as randomly splitting the sample into two or three sub-groups and using different "test values" for the willingness-to-pay survey can reduce the bias introduced by the phrasing of the survey question.

Willingness-to-pay must be explicitly assessed for truckers (individual owners and operators as well as corporate and fleet owners and operators) and for bus operators.

Traffic forecasts provide the "trending line" of future levels of traffic. This approach has generally proven adequate for traffic engineering requirements. However a toll facility explicitly enters the realm of commercial products and consumer behaviour. A product-launch or ramp-up period needs to be introduced into the forecasts of the first few years of traffic levels. For example, with a linear ramp-up in the first month out of a 24 month start up period traffic would be set at only 1/24th of the projected level. Each month would increase the expected traffic amount by another 1/24th of the projected total. Higher or better expenditures on marketing during the ramp-up period could be reflected in improved initial traffic growth.

Population forecasts based on centrally planned allocations of population are risky, people often don't take up residence where they have been told, housing development can be more opportunistic, invasive, and at higher density than officially planned for.

Traffic forecasting needs to be more realistic in modelling travel behaviour under congestion. In the Delhi-Noida analysis the upper capacity limit per lane was based on a fixed standard (which in this case was set at a level below traffic levels actually observed on other bridges) rather than an asymtotic or limiting function. This makes projected traffic diversions between facilities more volatile than is actually the case. Similarly the assumption that a facility has reached its overall capacity when capacity is reached during the peak one hour time period does not match observed behaviour. In reality travellers elongate the peak period and the total capacity is greater than assumed.

More care needs to be taken in comparing facilities of different size and timing. At feasibility the option was considered of building a 4+4 lane facility from the start versus a facility of 3+3 lanes with 1+1 lane added later. The analysis showed a 20% cost decrease accompanied by a 20% traffic decrease and thus was rejected. However the cost reduction was available immediately and was well understood, while the traffic reduction occurred only in later years and depended on the accuracy of the traffic forecast. The difference between the two ERRs (27.9% with 4+4 lanes from the outset, 30.7% with an initial 3+3 lanes) was deemed too small to be worth the effort of doing the project in two stages. Such a casual approach to cost sensitivity may be acceptable in a traditional publicly funded non-toll facility but it is too weak for a privately financed facility. Also following on the point above, congestion was assumed to limit future traffic capacity to an arbitrary fixed value so that the "need" for additional capacity, and thus a bias for 4+4 lanes, was built in to the analysis.

The project should perhaps have retained non-motorized access. Non-motor transport is extensively used in Delhi and its surroundings.

The successful implementation of the Project has demonstrated that the Public Private Partnership framework can be used to create infrastructure capacity at minimal cost to Government

A robust concession agreement was developed and agreed upon that addressed the inherent risks of an infrastructure project and allocated these risks clearly:

- political risks with government -- e.g. compensation in the event of nationalization, freedom for NTBCL to collect tolls
- commercial risks with operator (NTBCL) -- e.g. low traffic volumes
- financing risks with financiers (IL&FS/NTBCL) -- e.g. guarantee to meet 10% cost overrun, debt service reserve

The final concession agreement required considerable effort and will on the part of all parties to develop. The result of successfully completing this first concession agreement was that the subsequent concessions (Vadodara-Halol and Ahmenadab-Mesana) could build on the work and were developed and agreed upon

more quickly, and more easily.

B. VADODARA - HALOL TOLL ROAD

Description of the Subproject

The Vadodara-Halol Toll Road Project envisaged the widening and strengthening of 32 km of an existing State Highway (SH 87) from a two-lane facility to a four-lane facility, along with service roads on both sides. Other project features include three major bridges, three minor bridges, two main toll plazas, and one intermediate toll plaza.

The Toll Road starts at km 8/300, at its intersection with Vadodara bypass (National Highway 8 bypass to Vadodara City) and ends at km 40 at the start of Halol bypass. Vadodara is the third largest city in Gujarat with an estimated population of over 1.2 million and is an important industrial centre. Halol, because of "backward area" industrial incentives, has become an important industrial hub to Vadodara. The project road caters to industrial and goods traffic movement and passenger work trips to and from Vadodara to Halol.

The project road provides the shortest link for long distance industrial and goods traffic moving from Mumbai and other parts of Western India to parts of Northern and Central India. The SH87 with one end on the Vadodara Bypass of NH-8 and the other at Shamlaji (on the NH8) 100 km northeast of Ahmedabad provides, to long distance traffic, an alternate corridor to the NH8, shorter by almost 90 km.

A Detailed Feasibility Report (DFR) was prepared by Kirloskar Consultants in November 1997. It covered project engineering and design alternatives, traffic forecast, costing, environment and social assessments (including resettlement and rehabilitation), risk assessment, financial and economic rate of return and an Environment and Social Assessment (ESA). IL&FS prepared an Investment Appraisal Memorandum in December 1999. The report outlines the returns on the project, debt instruments required for enabling the project to meet lender covenants, and the risks associated with investing in the project on a project recourse basis.

The project is structured on a public private partnership format where the implementation is done through a special purpose vehicle (SPV), namely the Vadodara Halol Toll Road Company Limited (VHTRL). A concession agreement was signed on 17 October 1998 between the Government of Gujarat (GOG) and VHTRL based on predetermined post tax return of 20 percent. The recovery of investment is through imposing user charges for a concession period of 30 years. Commercial operation began on 24 October 2000.

Project Costs and Financing Plan

Vadodara Halol Toll Road
Cost Summary
(Indian Rupees millions unless noted)

Item	Investment Appraisal Memorandum December 1999	Vadodara-Halol Toll Road Co. December 2001	
		Budgeted (revised construction budget as approved 29 Aug. 2000)	Actual (Project final as of 23 Oct. 2001)
Construction Cost	1,195.27	1,195.30	1,195.20
Social & Environ	41.35	44.90	47.46
Preliminary & Preoperative Expenses			
Preliminary Expense	49.05	32.70	32.61
Establishment Cost	19.41	20.10	21.76
Indep. Eng., Ind. Auditor	5.73	5.70	6.16
Construction Supervision	13.53	13.50	12.06
Insurance charges	2.35	2.40	2.99
Sub Total	**90.07**	**74.40**	**75.58**
Interest During Construction	119.15	121.00	138.04
Fees			
Project Management Fees	35.00	35.00	35.00
Mobilisation charges	36.78	14.00	15.38
Other financial charges	4.30	22.80	27.81
Sub Total	**76.08**	**71.80**	**78.19**
Sinking Fund	39.43	39.90	50.00
Debt Service Reserve	100.00	135.10	0.00
Contingency Provision	88.65	67.60	23.83
Landed Project Cost	**1,750.00**	**1,750.00**	**1,608.30**

Vadodara-Halol Toll Road Financing Plan			
	Investment Appraisal Memorandum December 1999	Vadodara-Halol Toll Road Co. December 2001	
		Budgeted	Actual
Equity			
Government of Gujarat	150	150	150
IL&FS	150	150	150
Contractor Consortium	150	150	150
Financial Investors	100	100	100
Total Equity	**550**	**550**	**550**
Debt			
IFCI	250	184.1	-
IDBI	250	184.1	197.4
IL&FS	200	200.0	200.0
GIIC	100	73.7	59.0
CBI	100	73.7	100.0
BOB	100	73.7	81.9
SBI	150	110.7	120.0
DDBs	250	300.0	300.0
Total Debt	**1,400**	**1,200.0**	**1,058.3**
Grand Total	**1,950**	**1,750.0**	**1,608.3**

More detailed information and notes on costs are provided in the spreadsheet "V-H_costs.xls" as attached to the electronic version of the ICR in Annex 7 - List of Supporting Documents, and in the project files.

Project Benefits

The traffic studies undertaken at feasibility showed that a significant portion of the commercial vehicle trips go beyond Halol towards Godhra, with the majority bound for North India. It was estimated that the proportion of this traffic is likely to grow at a higher rate than the traffic between Vadodara and Halol in future years. Given that this route is significantly shorter and that the GOG would strengthen the road beyond Halol, as a part of the first phase of its World Bank approved loan (Gujarat State Highway Project), the road will continue to increasingly divert this traffic which currently uses the NH8 through Ahmedabad.

Since operations began, traffic levels are lower than what had been projected. Traffic volumes are only 58% of the estimated initial volumes and revenues are only 47% of estimated initial values. The table below provides more detail.

Vadodara-Halol Traffic Forecasts (comparison of traffic forecast to initial actual traffic)						
	2 & 3 wheelers	Cars	Light CVs	Trucks	Buses	Total
	I	II	III	IV, VI	V	All
Investment Appraisal Memorandum, December 1999 - forecast for 2000/01						
annual vehicles (million trips)	0.55	0.95	0.41	1.72	0.28	3.91
% distribution	14%	24%	10%	44%	7%	100%
toll rate (Rs)	5, 10	30	45	65	65	
annual revenue (Rs million)	3.08	28.50	18.90	111.80	18.20	180.48
% distribution	2%	16%	10%	62%	10%	100%
October 2001 actuals						
average veh/day (000s)	1,117	1,612	559	2,260	606	6,155
equivalent annual vehicles (million trips)	0.41	0.59	0.2	0.82	0.22	2.25
% distribution	18%	26%	9%	37%	10%	100%
Comparison, actual and equivalent to forecast						
equivalent veh as % of forecast	75%	62%	49%	48%	79%	**58%**
actual average rev/veh (Rs)	5.65	23.25	31.59	67.94	27.06	37.6
estimated annual revenue (Rs mn)	2.30	13.68	6.45	56.05	5.98	84.46
% distribution	3%	16%	8%	66%	7%	100%
estimated revenue as % of forecast	75%	48%	34%	50%	33%	**47%**

More detailed information and notes on costs are provided in the spreadsheet "V-H_traffic.xls" as attached to the electronic version of the ICR in Annex 7 - List of Supporting Documents, and in the project files. (Very slight revisions to the above table, based on Borrower comments received 12 March 2002, mean that the figures shown here no longer precisely match those in the spreadsheet. There are no material changes.)

One concern is the volume of commercial traffic which is using the non-toll service road rather than the toll road. This traffic may shift back to the main road as overall traffic growth leads to more congestion on the service road. The following table illustrates the difference between the forecast use of the service road and its actual use in 2001.

Vadodara-Halol Toll Road Distribution of Vehicle Types on Service Road (non-toll)						
	Two Wheelers	Three Wheelers	Cars	Light Commercial Vehicles	Heavy Commercial Vehicles (trucks & buses)	Total
Forecast for 2000						
	46.9%	25.5%	13.9%	7.2%	6.5%	100%
Survey, Nov. 2001 (both directions)						
At Halol	38.9%	16.9%	15.2%	17.1%	11.8%	100%
At Baroda	30.4%	10.2%	21.4%	21.2%	16.8%	100%
Both locations combined	35.5%	14.2%	17.7%	18.7%	13.8%	100%

Project Returns

The financial re-evaluation is based on the following assumptions.

- update first two years of traffic, toll revenue, and revenue per vehicle assumptions using actual figures from first 13 months of operations.
- project from this revised base into future years using the percent change assumptions of the Investment Appraisal Memorandum with respect to traffic and toll levels.
- there is insufficient information available at completion to allow the economic benefits to be calculated from first principles. The target value of a cost saving of Rs 49.7 per trip has been assumed to have been 50% achieved. This represents a conservative assumption of the benefits likely from the project.

Summary of Re-Evaluation Results - Vadodara-Halol Toll Road (Indian Rs millions)				
	At concept		**At "appraisal"**	**At completion**
Source	Detailed Feasibility Study, July, 1997		Investment Appraisal Memorandum, April 1999	ICR Jan. 2002
	Option 2 *	Option 3 **		
Economic NPV (12% discount)	20 year: 1,030 30 year: 1,313	20 year: 1,618 30 year: 1,902	not included	<u>at 12%</u> 20 year: 352 30 year: 531 <u>at 20%</u> 20 year: 57 30 year: 85
EIRR	20 year: 22.6% 30 year: 23.1%	20 year: 31.4% 30 year: 31.6%	"in excess of 12% and therefore economically viable"	20 year: 23.2% 30 year: 24.1%
Financial NPV (21% discount)	20 year: -428 30 year: -245	20 year: -115 30 year: 69	not included	20 year: -493 30 year: -322
FIRR	20 year: 14.9% 30 year: 18.6%	20 year: 19.1% 30 year: 21.8%	<u>pre-tax</u> 20 year: 19.1% 30 year: 21.5% <u>post-tax</u> 20 year: 18.7% 30 year: 20.5%	<u>pre-tax</u> 20 year: 15.2% 30 year: 18.2%
* Option 2 provided for through service roads with no toll. The construction cost estimates used later came from this scenario.				
** Option 3 provided different service roads with some level of toll. The traffic forecasts used later came from this scenario. This Option is considered to be the "base case" for all analysis except construction costs.				

More detailed information and major assumptions for economic and financial analysis are documented in the spreadsheets "V-H_benefits.xls" and "V-H_re-eval.xls" attached to the electronic version of the ICR in Annex 7 - List of Supporting Documents, and kept in the project files.

<u>Factors Affecting the Subproject</u>

On-going discussions have been held with the GOG to assess the low level of traffic and to determine solutions. In informal discussions, the GOG has accepted that one factor in the decline in truck traffic could be the scrutiny of truck over-loading that is now being undertaken at the State border. This has resulted in the flow of traffic avoiding the State of Gujarat altogether and using alternate roads via Madhya

Pradesh to reach North India.

VHTRL has responded to weak demand by revising its price structure to encourage greater use of the road. This has caused average revenue per vehicle to fall from Rs 42.2 (as measured over November 2000 to March 2001) to Rs 37.6 (October 2001). See spreadsheet "V-H_traffic.xls" for detailed revenue per vehicle type per month data.

Sustainability and Future Operations

VHTRL is taking steps to minimize toll leakage and avoidance by increasing patrolling and performing exit checks. Several small intermediate connections between the service roads and the toll road have been closed off by chains to prevent traffic avoiding the toll barriers. The existing toll rates and volume schemes are being revised and rationalized with a view to increase toll revenues and to prevent diverting of traffic to other competing routes. VHTRL is confident that the lower revenue will not affect the interest payments to the lenders at present, partially due to lower initial and operating costs having been incurred. Traffic on the facility is expected to increase sufficiently in the near future to support principal payments as and when they begin. The dispersal of traffic beyond Halol is also expected to improve with the upgrading of the Halol-Godhra road in the Gujarat State Highway Project in the coming years.

Lessons Learned

Similar to the lessons learned for the Delhi-Noida Toll Bridge, willingness-to-pay must be evaluated more carefully and using better approaches. In the Feasibility Study for this subproject willingness-to-pay was assessed separately for truckers and car drivers, although not for bus operators. However, despite 43% of truckers saying they would reduce trips or change route rather than use a toll road and 40% of truckers saying they would switch to an inferior road rather than use a toll road, the Feasibility Study concluded that truckers would have nowhere else to go and "a reduction in trips by reassignment is negligible". The lessons here is that "difficult" responses should be the focus of further analysis rather than dismissing them because they run counter to accepted wisdom. Project preparation resources and schedules should allow for the possibility of a second round of analysis before declaring the first round victorious.

Again, traffic forecasts provide only the "trending line" of future levels of traffic. For a "consumer" product a product-launch or ramp-up period needs to be introduced into the forecasts of the first few years of traffic levels. As with urban roads and bridges traffic forecasting needs to be more realistic in modelling travel behaviour under congestion. The feasibility study for Vadodara-Halol assumed that the facility reaches its overall capacity when capacity is reached during the peak one hour time period. This does not match observed behaviour, in reality travellers elongate the peak period and the total "peak" capacity is greater.

Loop detectors were installed at the entry points of the toll road to allow for a cross-check of traffic volumes against toll transactions data. However no loop detectors were installed at exit points or in the adjacent service roads. Counts upon exit could be compared with entry flows to estimate "leakage" in or out of the toll road. Data on traffic flows in the service roads is an important part of understanding the toll road market and in understanding overall user impact of the facility. In future consideration should be given to installing such detectors at the time of construction and requiring in the concession agreement the gathering and provision service road traffic data to the state government.

C. AHMEDABAD - MEHSANA TOLL ROAD

Description of the Subproject

The Ahmedabad Mehsana Toll Road Project involves widening and strengthening of a 51.6 km stretch of existing the State Highway between Ahmedabad and Mehsana, from two lanes to four lanes along with service roads. The project also includes widening and strengthening of 11.5 km of existing Kadi-Kalol spur road, a bypass of 2.3 km at Sertha village, two railway over bridges, two minor bridges, one road under bridge, five underpasses, five cattle crossings cum box culverts, and two toll plazas.

The project is currently under construction. Construction began in May 2000 and is being undertaken in two phases. As per original schedule, Phase I was to have been completed by October 2001, and Phase II by August 2003. Due to the major earthquake in Gujarat state in January 2001 there has been a substantial slippage in the progress (by about 18%). AMTRL, the contractors and other concerned agencies have revised the construction schedule, according to which Phase I is expected to be completed by 30 June 2002. The completion for Phase II has been advanced to 31 October 2002.

The October 2001 Monthly Progress Report was received by the ICR Mission in December 2001. The overall cumulative achieved progress to date is 56%. Target is set to complete the overall project in 30 months instead of 39 months.

The implementation mechanism for the project remains a BOOT format, through a designated special purpose vehicle (SPV), the Ahmedabad-Mehsana Toll Road Company Limited (AMTRL). The Government of Gujarat (GOG) and IL&FS are the main shareholders of the company. A concession agreement was signed on May 12, 1999 between GOG and AMTRL based on predetermined post tax return of 20 percent. The recovery of investment is through imposing user charges for a concession period of 30 years.

Project Costs and Financing Plan

The budgeted landed cost of the project is Rs. 3,230.5 million, inclusive of the cost of construction, interest during construction and other financial engineering costs. The AMTRL has spent an amount of Rs 1,149.8 million up to October, 2001. See following table.

Ahmedabad - Mehsana Toll Road			
(Indian Rupees millions unless noted)			
	Information Memorandum March 2000	**Ahmedabad - Mehsana Toll Road Co. Ltd. December 2001**	
		Budgeted	Actual as of Oct. 2001
Cost Summary			
Construction Cost	2,243.59	2,243.59	883.39
O&M Mobilization	40.00	40.00	
Non-Financing Costs			
Preliminary Expenses	56.09	56.09	36.20
Establishment Cost	60.00	60.00	35.46
Indep Engr, Indep Auditor	15.00	15.00	2.09
Social & Environmental Costs	80.00	80.00	37.63
Construction Supervision	44.87	44.87	26.40
Insurance Charges	11.22	11.22	7.29
Sub Total	267.18	267.18	145.07
Financing Costs			
Project Management Fees	64.61	64.61	32.31
Mobilisation Charges - Debt	69.16	22.60	16.18
Mobilisation Charges - Equity		5.15	3.25
Upfront Guarantee Charges		3.15	2.75
Other Financing Charges		38.26	38.03
Contingencies	127.54	127.54	
Base Project Cost	2,812.08	2,812.08	1,120.98
Other Costs			
Interest During Construction	178.04	178.04	28.91
Sinking Fund	89.34	89.34	
Debt Service Reserve	151.04	151.04	
Landed Project Cost	3,230.50	3,230.50	1,149.89

Ahmedabad - Mehsana Toll Road			
Financing Plan			
(Indian Rupees millions unless noted)			
		Ahmedabad - Mehsana Toll Road Co. Ltd.	
	Information Memorandum (March 2000)	Budget	Actual as of Oct. 2001
Equity			
Gujarat Toll Road Co. Ltd.	550.00	550.00	365.00
Construction Contractor	214.30	214.30	214.30
Institutional Investors	225.70	225.70	Nil
Total Equity	990.00	990.00	579.30
Debt			
IL&FS-World Bank Line	500.00	500	-
Deep Discount Bond (DDBs)	400.00	400	-
Institutions and Banks	1,340.50	1,340.50	292.50
Total Debt	2,240.50	2,240.50	292.50
Grand Total	3,230.50	3,230.50	871.80

Project Benefits

With the project still under construction it is not yet possible to have an indication of actual use of the new facility.

Project Returns

Summary of Re-Evaluation Results - Ahmenabad-Mesana Toll Road (Indian Rs millions)				
	At concept	**At "appraisal"**	**At completion**	
Source	Feasibility Study, Final Report, August 1997 (Option 3A)	Information Memorandum, March 2000 (Option 3A)	Borrower	ICR Jan. 2002
Economic NPV (12% discount)	Vehicle Operating Cost (VOC) Savings 10,022 VOC plus Time Savings 19,208 VOC + Time + Accident Cost Saving 19,307	not included	project not yet complete	
EIRR	VOC only 50.5% VOC + Time 86.3% VOC + Time + Accident 86.9%	not included	project not yet complete	
Financial NPV (at 20%)	over 20 years 149 over 30 years 585	not included	project not yet complete	
FIRR	over 20 years 20.8% over 30 years 22.4%	over 20 years 20.8% over 30 years 22.4%	project not yet complete	

Factors Affecting the Subproject

A second railway grade separation (railway over-bridge) was added after the project began. Indian Railways reconsidered the expected future use of a line, resulting in an increased number of future trains. This caused the threshold of expected rail - highway crossing movements to exceed the standard for grade separations and so an over-bridge was required.

Additional Annex 11. Studies Financed Under The IDA Credit

IDA CREDIT (Cr. 2838-IN)

The status of the IDA credit in respect of the six contracts being managed by IL&FS plus two contracts managed by government agencies is given in the following table. Of these, five have received disbursements for a total amount of US$ 588,995.83. Brief status notes on the project preparation studies managed by IL&FS are provided below.

Status of IDA Credit (Cr. 2838-IN)

Sub-Project / Government Implementing Agency	Funds Approved by DEA (USD)	Name of Consultant	Costs			Total Cost in USD Approved	Total Funds Expended	Total Amount Paid	Claims Filed	Funds Drawn Down under Cr. 2838 (USD)
			Indian Rs.	British Pounds	Dollars					
Mhow Ghatabillod Road (Madhya Pradesh State Industrial Development Corp.)	150,000	M/s Consulting Engineering Services	Rs. 4,442,192			91,113	INR 44,42,192	INR 35,53,753.60	INR 3,353,000	21,336.12
Raipur Ring Road (Madhya Pradesh State Industrial Development Corp		Kirloskar Consultants	Rs. 5,826,883			119,514	INR 22,09,000	INR 22,09,000	INR 2,209,000	27,873.84
Dry Port of Rajasthan (Rajasthan Industrial Infrastructure Corp)	482,000	Lea Associates South Asia	Rs. 11,366,754		C$ 188,711	351,581	INR 38,48,205 C$ 84997.60	INR 3,848,205 C$ 84997	INR 3,848,205 C$ 84,997.60	136,766.95
BIRNEP (Orissa Industrial Develop ment Corp.)	458,800	M/s Consulting Engineering Services	Rs. 11,652,420		US$ 99,706	338,705	INR 56,61,225 USD 29,366.72	INR 2,560,000 USD 8,263	INR 2,560,000 USD 8,263.60	114,064.00
Vizag Water Supply (Andhra Pradesh Industrial Infrastructure Corp)	847,000	M/s Binnie and Black, UK	Rs. 6,024,358	£95,085		259,217	INR 48,16,744 £ 76,068	INR 4,816,744 £ 76,068	INR 4,816,744 £ 76,068	228,954.95
Dewas Water Supply (MP Industrial Development Corp.)	563,760	M/s Tata Consulting Engineers	Rs. 4,800,785			170,255	INR 14,40,236	INR 480,078	Nil	Nil
Sub-Total – IL&FS	2,501,560		Rs 44,113,392	£95,085	C$188,711 US$99,706	1,330,385	INR22,417,602 C$84,997.60 USD 29,366.72 £ 76,068	INR17,467,781 C$84,997 USD 8,263 £ 76,068	INR 16,787,949 C$ 84,997 USD8,263 £ 76,068	588,994.83
Tariff Authority for Major Ports (managed by TAMP)	710,000	M/s John H. Arnold			168,820	168,820				Nil
TN Solid Waste	490,000	M/s Camp Dress, Mckee			490,000					Nil
GRAND TOTAL	3,211,560					1,499,205				588,995.83

IDA CREDIT (Cr. 2838-IN): PROJECT PREPARATION STUDIES MANAGED BY IL&FS - STATUS NOTES

1. **Mhow Ghatabillod Road Project**

No.	Items	Description
1.	Name of Project	Mhow Ghatabillod Road Project
2.	Project Description	35 km long Road Project. Strengthening and widening of existing State Highway Seeks to improve the connectivity to Pithampur Industrial Area.
3.	State Counterpart	Madhya Pradesh State Industrial Development Corporation (MPSIDC) on behalf of Government of Madhya Pradesh.
4.	Name of Consultants	Consulting Engineering Services (I) Limited
5.	Scope of Consultants' Work	Preparation of Detailed Feasibility and Environment & Social Assessment Report
6.	Consultancy Contract Description	Contract signed between CES (I) and MPSIDC for an amount of Rs. 44,24,192 /-, during May 1998. Amount approved by WB/DEA for funding under IDA 2838 IN
7.	Amount Disbursed	USD 74,860.80
8.	Project Status	Consultants have completed detailed feasibility studies. All the payments have been made to the Consultants. IDA claims for balance reimbursements are being filed by MPSIDC on behalf of GoMP

2. **Raipur Ring Road Project**

No.	Items	Description
1.	Name of Project	Raipur Ring Road Project
2.	Project Description	Construction of 45 km long Ring Road around Raipur city, bypassing the industrial estates and residential colonies.
3.	State Counterpart	Government of Madhya Pradesh Madhya Pradesh State Industrial Development Corporation (MPSIDC)
4.	Name of Consultants	Kirloskar Consultants
5.	Scope of Consultants' Work	Preparation of Detailed Feasibility and Environment & Social Assessment Report in two phases. First phase involved pre-feasibility study and preparation of Preferred Alignment Report.
6.	Consultancy Contract Description	Contract signed between Kirloskar Consultants and MPSIDC for an amount of Rs. 58,26,883 during May 1998. Amount approved by WB/DEA for funding under IDA 2838 IN
7.	Amount Disbursed	USD 50, 723.31
8.	Project Status	Phase I of Study has been completed by the Consultants. With the formation of new State, project now falls in Chattisgarh. New Government reviewing the proposal. Payments for phase I study have been made to the Consultants

3. Dry Port of Rajasthan

No.	Items	Description
1.	Name of Project	Dry Port Project, Kotaqasim, Rajasthan
2.	Project Description	Seeks to develop a multi-modal logistics centre to facilitate the management of container and export-import cargo in the northern India.
3.	State Counterpart	Rajasthan State Industrial Development and Investment Corporation Ltd. (RIICO) on behalf of Government of Rajasthan.
4.	Name of Consultants	Lea Associates South Asia Pvt. Ltd.
5.	Scope of Consultants' Work	Detailed Feasibility and Environment & Social Assessment Study
6.	Consultancy Contract Description	Consultancy Contract signed between RIICO and Consultants during July 2000 for a cost of Rs. 11,366,754/- and Canadian $1,88,711/-, after seeking necessary WB/DEA approvals.
7.	Amount Disbursed	USD 1,36,766.95
8.	Project Status	Phase I comprising of 'Pre-feasibility Study' has been completed. Second Phase involving preferred site selection and detailed feasibility study to be completed by March 2002.

4. Bhubaneswar Integrated Road Network Plan Project

No.	Items	Description
1.	Name of Project	Bhubaneswar Integrated Road Network Plan Project in Orissa
2.	Project Description	Project involves construction of bypass to Bhubaneswar town, intercity corridor between Bhubaneswar & Cuttack and shorter connectivity link between Bhubaneswar and western parts of Orissa
3.	State Counterpart	Orissa Industrial Infrastructure Development Corporation (IDCO) on behalf of Government of Orissa
4.	Name of Consultants	Consulting Engineering Services (I) Ltd. in association with Beca International Consultants
5.	Scope of Consultants' Work	Detailed Feasibility and Environment & Social Assessment Studies. Preparation of Bid documentation and assistance to Project SPV during project bidding stage.
6.	Consultancy Contract Description	Consultancy Contract signed between Project SPV (Bhubaneswar Integrated Road Network Co. Ltd.) and Consultants during July 1999, at a cost of Rs. 11,652,420/- and USD 99,706. Necessary WB approvals availed before signing Consultancy contract.
7.	Amount Disbursed	USD 63,340.69
8.	Project Status	Phase I, Preferred Alignment Study, has been completed. Detailed Feasibility phase is in progress

5. Visakhapatnam Industrial Water Supply Project

No.	Items	Description
1.	Name of Project	Visakhapatnam Industrial Water Supply Project
2.	Project Description	State water supply project seeks to provide 420 MLD water to the industry
3.	State Counterpart	Andhra Pradesh Industrial Infrastructure Development Corporation (APIIC) Ltd.
4.	Name of Consultants	M/s Binnie Black and Veatch Ltd. in association with Kirloskar Consultants.
5.	Scope of Consultants' Work	Detailed Feasibility, Environment & Social Assessment Studies and preparation of Investment Banking Report.
6.	Consultancy Contract Description	Consultancy Contract singed between APIIC and Consultants during May 1998 after availing necessary approvals from World Bank.
7.	Amount Disbursed	USD 2,29,973.91
8.	Project Status	Detailed Engineering Report is under preparation. Request For Qualification for the selection of Operator to be issued during December 2001.

6. Dewas Water Supply Project

No.	Items	Description
1.	Name of Project	Dewas Industrial Water Supply Project
2.	Project Description	State water supply project. to substantially augment the water supply to Dewas industrial estate
3.	State Counterpart	Madhya Pradesh State Industrial Development Corporation (MPSIDC) on behalf of Government of Madhya Pradesh.
4.	Name of Consultants	Tata Consulting Engineers (TCE)
5.	Scope of Consultants' Work	Preparation of Bid documents and assistance to Project SPV in bidding phase
6.	Consultancy Contract Description	Contract awarded for USD 860,215/-
7.	Amount Disbursed	Nil
8.	Project Status	Preparation of bid documentation in process.

Additional Annex 12. Environment and Social Safeguards

1. This annex relates to the description of the implementing agency's (IL&FS) capacity to address environment and social aspects of private infrastructure projects and highlights some of the good practices adopted in integrating the environment and social dimension in sub-project preparation and implementation phase.

Application of Environment and Social Safeguards Policies and Practices

2. Internalization of environmental and social considerations in project development and business processes of IL&FS has been a noteworthy accomplishment of the Project. IL&FS has invested extensively in internal capacity building that began with the formulation of the Environmental and Social Report (ESR) which enunciated the environmental and social policy and practices of the company. During project preparation, IL&FS with the assistance from an NGO, prepared the Environment and Social Report (ESR) as a tool to mitigate adverse impacts associated with environment and land acquisition. The ESR is consistent with the local requirements and the Bank's operational directives (4.01 Environmental Assessment and 4.30 Involuntary Resettlement). The report was subsequently adopted by IL&FS as its corporate policy in November 1995. IL&FS created a separate Environment and Social Management Group (ESMG) and adequately staffed it over the years. The due diligence mechanism is working effectively, and the three sub-projects (Delhi-Noida, Vadodara-Halol and Ahmedabad-Mehsana toll roads) financed by the Bank can be highlighted for their environmental and social soundness. This practice is being continued in the other projects (East Coast Road, Tirupur Area Development and Vizag Industrial Water Supply) that are currently under development. Over the years, IL&FS has further evolved these mechanisms and has begun the task of strengthening the capacity of SPVs to ensure high environmental and social standards in the construction and operation phases of projects. The 2000-2001 Environmental and Social Audit for the first time assessed the performance of projects at advanced stages of construction and operation - and its findings have established that the provisions of the ESR have been effective in ensuring adequate implementation of Environmental Management Plans (EMPs) and Resettlement Action Plans (RAPs). In recent times, SPVs have started to play increasing role in ES supervision of their projects by hiring and training dedicated project staff. The approach taken by IL&FS has set precedence in India and other financial institutions have developed or in the process of developing similar due diligence mechanism for addressing environmental and social impacts. More recently, IL&FS has transformed its environmental and social knowledge practice into a full fledged business entity – Eco-Smart India Ltd. The progress IL&FS has made in mainstreaming environmental and safeguards in its business processes and transactions is captured in following table.

Table 1: Environmental and Social Safeguards Progress of IL&FS

Indicator	Progress		Remarks
	1996	2001	
Dedicated ES Staff	1	4	All staff re-assigned to IL&FS subsidiary Ecosmart India Ltd
Skills Enhancement of IL&FS Project Staff	3	30	Internal and external training
ESR Updates and Annual ES audit reports	ESR	ESR (same) 4 Audit reports	The findings of E&S audit are presented in the annual Report and discussed internally

Knowledge Sharing and Outreach	None	several	Retained as knowledge provider by FIs and government agencies
ILFS Sub-project supervision cost	Minimal	DNB: Rs. 7.0 m VHR: Rs 3.5 m AMR: Rs 3.5 m	Ensuring satisfactory adherence to ESR provision by sub-projects
Mitigation costs per sub-project	Minimal (Rau-Pitampur set as benchmark)	DNB: Rs 75.3 m VHR: Rs 57.0 m AMR:Rs 31.0 m	Costs include payment for land and assets at replacement value and adaptive designs

Lessons Learned

3. IL&FS experience has demonstrated that upfront integration of environmental and social (ES) safeguard aspects have increased sub-project's public acceptability and reduced project risks normally caused by environmental and social issues.

- Adaptive designs minimized resettlement and rehabilitation requirements on Delhi Noida Toll Bridge subproject (DNBP) and Vadodra Halol Road sub-project (VHRP). The opportunity provided to project affected persons (PAPs) to participate at the sub-project design stage, significantly improved people's perception. The use of replacement value to compensate for loss of acquired assets also generated goodwill among the PAPs and people at large. This is further elaborated elsewhere;

- The Ahmedabad High Court dismissed a public interest litigation that was filed against VHRP for not complying with the environmental clearance requirements of Government of India. In its judgment, among other reasons cited, the court held that the integration of environmental and social aspects in all stages of project design makes the sub-project fully compliant with the provisions of the law.

4. Capability Building beyond project contours has created a positive development impact as well as new business opportunity for IL&FS.

- The in-house environmental and social management capacity that began as a one-person due diligence shop five years ago, has grown to become a 6-person outfit and has now been transformed to a full-fledged subsidiary of IL&FS – Eco-Smart India Ltd. As a result of its emphasis on the integration of environmental and social aspects in sub-project development, continual sharing of experience and on-job training, the staff are equally adept at handling environment and social safeguard issues;

- Eco-smart India Ltd was set-up nine months ago to provide a variety of professional environmental services. Among other tasks, it undertakes training programs for government agencies on resettlement and is establishing a national database of environmental trends to aid future environmental assessment studies in the country; and

- Since FY 1997-98, IL&FS has been conducting Annual Environmental and Social Audit (AESA) for all its infrastructure projects. The findings of the AESA are shared with the IL&FS Board members and include in its annual report.

5. Identification of environmental issues occurred throughout the project cycle and not necessarily limited to the identification stage only, which enabled IL&FS to be responsive to changing nature of project development and use of safeguards as an enhancement tool. This was largely done through a process that involved: (i) stakeholder consultation (ii) IL&FS supervision and (iii) annual environmental and social audits.

- For instance in VHRP, during the construction phase the project design was enhanced to include: (i) under-pass near a village school so that the safety of children was not compromised; (ii) additional noise barriers that were not previously included in the design; (iii) transplantation of mature trees; and (iv) use of village ponds as earth borrow areas to achieve twin benefits of improved water availability during the dry period and reduced environmental impacts due to avoidance of opening up of new borrow areas.

- In case of DNBP, pre-design surveys were done when water levels were high, and the therefore cattle grazing areas were not evident. During the dry season construction, it was realized that design modification was needed to allow for passage of cattle across the alignment of approach roads to the bridge. Accordingly cattle underpass was constructed with fencing to prevent cattle from straying into the carriage-way and minimize accidents.

6. Improved implementation of EMPs and RAPs, when compared to similar projects in the highway sector in India, due to proactive citizen engagement in monitoring implementation.

- In Delhi-Noida Bridge sub-project, the citizens' committee provided timely feedback to the SPV to take corrective actions on non-compliant aspects of the EMP. This included: (i) noise abatement measures during construction, (ii) dust suppression; and (iii) improved health care and safety in labor camps. These actions of the citizens, also encouraged the government agency – NOIDA—to be more responsive to other issues raised by the committee, beyond project-related issues. This approach largely averted problems normally encountered by similar projects in urban areas in India.

- For the other two sub-projects, located in rural areas, feedback measures were instituted through a process which enabled villages along the road alignment to be involved in their design and construction.

7. RAP implementation was affected in case of DNBP due to bureacratic delays which fully tested the dynamics of public-private partnership. Some of these are described in the section below.

- Delay in payment of compensation to agricultural and land owners despite depositing the compensation by the company.

- Inordinate delay in allotment of alternate lands for resettlement colony to the displaced PAFs at Ashram Chowk.

8. Costs of implementing the environmental and social (ES) safeguards averaged around 3 percent of the overall sub-project costs, while the benefits to the local environment and the goodwill created to ILFS and SPVs was several fold higher. The ES safeguard costs incurred for the three sub-projects are summarized below.

Table 2: Estimates of ES Safeguard Costs for Sub-projects
(Expenditure on Sub-projects in Rs. million)

	VHRP	AMRP	DNBP
Project Development – Value of studies outsourced	2.0	1.2	2.0
EMP implementation	10.5	18.3	15.8
RAP Implementation (including cost of land and replacement value)	46.5	12.7	59.3
Total cost of IL&FS supervision	3.5	3.5	7.0
Total	**62.5**	**35.7**	**84.1**

Good Practices in Resettlement in the Highway Sector

9. Method of determining the replacement cost of the lost assets: IL&FS deviated from the standard approach by using a combination of methods to determine replacement cost for land and houses. These include: data from market survey, village records, assessment of agriculture specialists and consultation with PAPs. This resulted in values which were 4-6 times higher then the compensation paid by the government under the Land Acquisition Act in the case of both VHTR and AMTR projects. The difference was paid as rehabilitation assistance from the project funds. In case of structures, the replacement cost was based on the engineering evaluation for new construction without depreciation. In case of DNBP, IL&FS paid compensation at the rates applicable for residential properties for some of the agricultural properties since the PAPs had previously purchased these lands with the aim of converting them into residential properties. The compensation amounts were equivalent to the return on investment on fixed deposit schemes offered by nationalized banks.

10. Incentive based income generation activities: As part of rehabilitation assistance, the eligible families were provided with self-employment assets. However, this was split in two parts: (i) assurance to reimburse 50 per cent of the asset value at the end of 18th month; and (ii) the remaining value of the asset was to be provided at the end of the three year period, contingent upon the PAPs continuing with the activities and earn the targeted incomes. During this three year period, SPVs have offered them with maintenance allowance in the first year and insurance of the asset against theft, diseases, etc. as appropriate thereafter. This approach enabled successful implementation of income generation activities in the VHTR sub-project and the same is being followed for AMTR.

11. Support for Vulnerable Families: Some of the special measure provided to vulnerable families included:

- Old age pension to all above 60 years of age in urban areas,
- Support for income generation activities to an additional member in case of those having older menbers in rural setting,
- Repayment of debts out of asset lost as grant, and
- Issue of fixed deposit receipts for long term financial needs.

12. Avoiding Fragmentation of Community in Physical relocation. The VHTR sub-project avoided the fragmentation of a community through relocating the entire community of 17 families (instead of the 7 affected families) by offering them an alternative developed plot and construction cost which enabled them to live together and retain their economic and social linkages.

Additional Annex 13. Borrower's Contribution

INDIA- Private Infrastructure Finance (IL&FS) Project
(Ln 3992-IN/Cr 2838-IN)

Borrower Evaluation Report
(Annexure 13 of the World Bank Implementation Completion Report)

April, 2002

IL&FS

I Summary of Ratings

(1) Principal Performance Ratings

(HS=Highly Satisfactory, S=Satisfactory, U=Unsatisfactory, HL=Highly Likely, L=Likely, UN=Unlikely, HUN=Highly Unlikely, HU=Highly Unsatisfactory, H=High, SU=Substantial, M=Modest, N=Negligible)

Outcome:	S
Sustainability:	HL
Institutional Development Impact:	HS
Bank Performance:	S
Borrower Performance:	S

	Appraisal	ICR
Quality at Entry:	S	S

(2) Rating of Achievement of Objective/Output by Components

Objectives/Outputs	H	SU	M	N
Physical		•		
Financial	•			
Institutional Development	•			
Environmental	•			
Social-Land Acquisition & Resettlement	•			
Private Sector Development	•			

(3) Ratings of Bank and Borrower Performance

Bank Performance	HS	S	U	HU
Lending	•			
Supervision	•			
Overall	•			
Borrower Performance				
Preparation	•			
Government Implementation Performance	•			
Implementing Agency Performance	•			
Overall	•			

Note : Refer Section V

(4) Project Cost (Appraisal and Actual)($million)

Category	Appraisal	Actual/Latest Estimate
Subprojects	185.0	31.0
Consultants' Services and Training	15.0	0.13
IDA	5.0	0.77*

* including IL&FS Managed

II Assessment of Development Objective and Design and of Quality at Entry

(1) Assessment of Development Objectives

(a) **Development Objectives** : For the Private Infrastructure Finance Project the original project objectives as summarized in the Loan Agreement were:

(i) to promote the participation of the private sector in infrastructure development;

(ii) to foster efficiency in the delivery and use of selected infrastructure services; and

(iii) to assist in the institutional development of IL&FS to facilitate the financing of such infrastructure.

There were no revisions in the objectives. The project was in line with the directional thrust of the Government. It took into account the evolving policy and institutional framework for private investment in infrastructure in the country. The project was designed to build capacity in the country in this regard through IL&FS and with the active support of the Bank

(b) **Components** : To achieve the above objectives, the Project provided

IL&FS with three interrelated funding components :

(i) an investment component of $ 185 million in the form of a line of credit to IL&FS;

(ii) a subproject preparation component of $ 19 million (including $ 5 million as IDA credit); and

(iii) a training and technical assistance component of $ 1million.

(c) **Quality at Entry :**

In our opinion, the Quality of the Project both at entry and on completion has been satisfactory on account of the following :

(i) At Appraisal : IL&FS as the Borrower had several positive features in its favor. It was a pioneer in promoting private investment in infrastructure; it had taken effective steps for access to international technology and training; it had positioned itself as the leader in developing the concept for commercializing infrastructure projects and it had put in place an effective environmental and social assessment process. Perhaps, most importantly, IL&FS had successfully and uniquely engaged, on a partnership mode, a large number of State and Central Government agencies in identifying and developing specific projects on a commercial format.

(ii) On Completion : At the time of appraisal, IL&FS had indicated a pipeline of 18 sub-projects of which there were 10 sub-projects where formal agreements to develop each sub-project were in place. By FY 2001-02, IL&FS had five road sub-projects commissioned or under construction and one water supply project achieving financial close. Each completed sub-project has contributed significantly in establishing the framework for commercialisation of infrastructure in the country. In our opinion, the objectives of the Project have been more than substantially met.

From a developers perspective, a 50% hit rate is remarkably high considering the nascent stage of the Indian market. A smaller pipeline would have implied a higher hit rate which would have been even more difficult to achieve.

(iii) Sub-projects Outside the Loan : In addition to the projects posed to the World Bank, IL&FS has successfully closed projects in power, telecom, airports, industrial estates, water, etc. IL&FS current pipeline of investments is able to close much quicker and to appropriate standards : the East Coast Road (113 km road improvement works) project was developed, closed technically and financially, and constructed in 18 months.

III Achievement of Objectives and Outputs

(1) **Backdrop** : In 1996, the concept of commercialization was still novel (especially in

sectors such as roads, water, etc) and did not enjoy the support of most stakeholders :

(a) Government (political, administrative or judiciary) were wary of the concept and did not institutionally understand its implications. Their capacity to support initiatives was limited. The experiences in power and telecom only served to make them more cautious and suspicious of private sector effort. In addition, the regulatory, fiscal and legal framework to support private sector participation and investment was still largely absent

(b) From a private sector point of view, most of the early efforts at commercialization by Government had taken an inordinate amount of time, resulted in constant mid-course changes, supported by infirm contractual documentation not amenable to project or limited recourse financing, and were often abandoned mid-way through the bidding process. As a result, private sector willingness to assume risks decreased substantially with the size of the project, type of sector and perceived counter party commitment and preparedness. As a result, few serious players participated in tenders

(c) IL&FS was required to develop and close projects in the context of the foregoing. The severe economic slowdown witnessed in the country over the period of the loan imposed additional challenges to the project

(d) In addition, there was an absence of credible players to work with Government in developing projects, facilitating broad based stakeholder participation and/or master minding the implementation projects from concept to commissioning. In the absence of such players, Government and the private sector were severely handicapped in taking projects forward

It is in the context of the foregoing that IL&FS role, performance and strategy in meeting the objectives and outputs of the Loan require to be assessed

(2) **Constraints in the Road Sector (Pre-Project)** : In 1996, the issues faced by the road sector included, inter alia, inadequate institutional capacity of Government, its agencies, counter-parties and stakeholders to develop and commercialize projects; negligible private sector exposure; absence of a well defined policy on returns, toll collection, environmental and social issues; insufficient degree of sophistication in place in terms of equipment and technology; lack of awareness and tenor in capital and debt markets to support the sector and absence of project development

(3) **Constraints of the Water Supply Sector (Pre-Project) :** In 1996, the water sector had not been opened to the private sector in any significant manner. The domination of the public sector continues : institutional arrangements leading to overlapping roles and conflicts, lack of customer orientation, sub-optimal pricing and managerial (in)efficiencies. Ineffective policy reforms also resulted in insignificant private sector involvement; lack of financial initiatives, willingness to charge and/or collect. Finally, there simply did not exist any project development capability in the sector

(4) **Performance of IL&FS-Project** :

Selected Performance Indicators : The contribution by IL&FS towards achieving the Project objectives can be summarized as follows :

Table 1 : IL&FS Performance-Selected Indicators

Indicator	1996-2001
Financial Closure of sub-projects	5
Magnitude of Private Sector Funds Leveraged (excluding IL&FS)	Debt Rs 11.8 bn Equity Rs 4.2 bn
No. of Sub-Projects commissioned	2
Number of concession agreements signed	6
Number of local/state governments actively involved in project transactions	15
No. of Local Governments and Area Development Authorities involved	22
Value of construction (EPC)/O&M contracts executed	Rs 12.8 bn
Value of new financial instruments	Rs 3 bn
Km. Of roads constructed/improved	240 of lane length
No. of financial institutions and banks involved	Equity 26 Debt 39
No. of international firms involved in project finance	3
No. of legislative, policy instruments approved	9 (including instruments initiated)
No. of Private corporations investing	31
No. of private sector firms (domestic and international) that bid	40

(5) **Promoting private participation in infrastructure** : IL&FS worked towards changes in legislation, developing concession agreements that seek to balance public and private interests, formulating new financial instruments and underlying documentation. It has partnered with the Central and State Governments and other Financial institutions in India in the process of developing improved policy and regulatory frameworks for commercialized infrastructure development

(a) **Sub-Project Implementation** : Two of its road projects have been successfully completed (with Bank financing) and two more are scheduled for completion shortly (including one with Bank financing). All these are structured on a public-private partnership and have set good precedents for limited recourse financing in India

(b) **SPV Structure** : IL&FS introduced the SPV structure for its road and water projects. The concept also solved the issue of stakeholding by the Government and the promoters and provided flexibility for other investors to come in. This format is now being extensively used for infrastructure projects in the country

(c) **Project Development Cycle and Development of Institutional Capacity to Support Project Implementation** : IL&FS developed, along with the Bank, an

explicit project development cycle to position projects for commercialization. In so far as there were no other agencies that provided such services on a holistic basis, IL&FS was required to undertake a multiplicity of roles as each project progressed through the project development cycle. Accordingly, IL&FS developed significant technical, managerial and financial capacity covering all facets of the process. IL&FS considers its organization of managerial and technical resources - to transparently handle multiple roles through the project development cycle - a design strength of the Project. The relationships and credibility built up with the State Governments have been a strong and integral part of the project development efforts taken up by IL&FS. Within this, IL&FS has avoided conflicts of interest by building an explicit operating framework, including chinese walls and domiciling activities in separate legal entities, to manage the issue. At another level, it has enabled IL&FS to "keep" with a project and steer it towards successful implementation

(d) **Financial Initiatives** : IL&FS has been innovative in structuring financial options and instruments to meet the varied needs of each sub-project. Financing from both local and international investors has been raised. Despite the immense difficulties faced, IL&FS successfully attracted three large and credible international equity funds to invest in the sub-projects

(e) **Select Interventions by IL&FS in the Road Sector** :

(i) Capacity : In terms of capacity, IL&FS has commissioned 240 km of lane length with an investment value of Rs 6 bn. Along with group company CTNL, road projects of investment value Rs 8 bn are to be commissioned shortly. IL&FS commissioned the first commercial toll road project in India and thereby created awareness of its feasibility

(ii) Policy Reforms : Over the years, IL&FS has contributed to introducing significant policy reforms : including, but not limited to the concept of SPV's, seeking amendments to the Toll Act, Regulatory Framework, Concession and other Contractual Frameworks, Amendments to the Companies Act, SEBI, CBDT and toll collecation in different states. As of date the policy and regulatory framework is largely in place to support private sector participation in the road sector

(iii) Financial Initiatives : At the initial juncture, domestic appetite, wholesale or retail, for the road sector was non-existent. To develop awareness and an interest in the sector, IL&FS developed significantly larger than required consortia of lenders for each project. IL&FS also worked closely with Government in introducing specific financial measures such as the depreciation reserve fund, deep discount bond with take out guarantee, NCD, FCD and CCP as the part of the project finance structure so as to make the participation of the wholesale and retail market feasible. In fact, NTBCL was the first green field infrastructure project to tap the capital market. The issue was wholly subscribed

(iv) Sustaining the Sectoral Intervention : Having built up adequate expertise

in the sector as well as having identified the sector as a business strategy, IL&FS has promoted Consolidated Toll Networks ltd. (CTNL), a holding company for building a pan-India business in surface transport. The main objective of CTNL would be to develop a diversified asset and cash flow profile so as to provide an attractive balance sheet for capital market intermediation : in the medium term, CTNL would link the capital market to the road sector

(f) **Interventions by IL&FS in the Water Sector** :

(i) Policy Reforms : IL&FS has consciously worked towards increasing awareness towards the need for reforms in the sector. The need has been propagated on various platforms both within the national government and at the state level. The Tirupur project has enabled the development of the contractual and policy framework required for green field investments in the sector. Similarly, IL&FS actively participated in the Sukthankar Committee set up by the GoM to deal with improvements to existing water systems in urban and rural areas

(ii) Municipal Approach : Based on its experience, IL&FS initiated a phased approach of bringing in operational and managerial efficiencies in the existing UWSS, prior to large scale investments. The approach is being tried in Sangli in Maharashtra and Hyderabad in Andhra Pradesh and would thereafter be extended to other urban towns. IL&FS proposes to establish a "Municipal Desk" to provide support to municipalities for solutions to privatization

(iii) Sustainability of Intervention : At the point in time that the line of credit commenced, IL&FS was working on implementing a large, green field, integrated water and sewerage project. At close, IL&FS has successfully taken the project forward as well as developed appropriate interventions for improvements to existing systems through private sector participation. Between Tirupur and Sangli, IL&FS has put in place the supporting contractual documentation and other processes to support such interventions. It is the assessment of IL&FS that the sector is now ready for scalability on a sustainable basis

(6) **Efficiency in delivery and use of infrastructure services.** :

(a) Road : Contract structures novel to India were implemented for the first time under this Project. The intervention strategy at a project level also sought to progressively transfer risks to the private sector with suitable incentive arrangements to achieve greater efficiencies in the delivery of service and output. For example while the O&M contract was bid out separately for the Delhi-Noida bridge project, the same was integrated with the construction contract for the Gujarat road projects. Extensive pre-bid meetings were conducted to ensure adequate awareness and understanding, amongst all stakeholders, of the proposed procurement strategy

The sub-projects were completed ahead of schedule and within the cost limits despite numerous constraints faced during implementation. Both these have been

funded by the Bank. Though the initial traffic estimates are short of expectations, it would be premature to extend this to a long term view. Several corrective steps are being taken up

(b) Water : The water sector has proved to be more difficult. Tirupur currently remains the only water project envisaging significant private sector investment in India. The start of construction has been delayed but is expected to commence shortly. Besides this, IL&FS is pursuing two other green field water projects viz. Vizag and Dewas and one improvement project at Sangli. Of these, the Vizag and Sangli water projects are at the procurement stage. With this, the exposure of IL&FS in the water is poised to increase significantly

(c) Other Sectors : IL&FS is pursuing several other sub-projects without recourse to Bank financing. In addition to projects in the aforementioned sectors, IL&FS is working on projects in waste water, area development, tourism, airport, urban infrastructure and port projects. These are at different stages of development and most of them are likely to commence implementation over the next 2 to3 years

(7) **Institutional Development of IL&FS** : Over the years, IL&FS has built up competencies in several areas. There has been significant progress in terms of institutional development of IL&FS through the creation of its infrastructure strategic business unit, SPV's created around subprojects and the building of partnerships at the state and local authority level :

(a) Reorganisation : As part of compliance under the Loan Agreement the entire organization of IL&FS was restructured on lines of Strategic Business Units (SBUs) for closer monitoring of performance. This yielded several benefits. The entire accounting function was decentralized with SBU-wise accounts and sub-project accounts

(b) Operating Framework : IL&FS has established a corporate-wide risk monitoring system and developed an internal credit rating system for its outstanding assets. The operating framework of IL&FS helps it in managing its business risks as well as maximizing stakeholder value

(c) Risk Management : IL&FS has put in place a risk management plan to safeguard the Government, promoters and investors from down stream reversals. A comprehensive risk mitigation plan is prepared for each project addressing issues coming out of the risk matrix. Innovative risk mitigation measures have now been established

(d) Facilitating Infrastructure Development : IL&FS has also promoted specific Boards for infrastructure development in various States. Further, a number of high level committees have been formed at the state and central level at the behest of IL&FS regarding infrastructure initiatives

(e) Building Relationships : IL&FS has maintained relationships with multilaterals, banks and institutions, entered into government partnerships and association with consultants/developers. Furthermore, it has contributed to the process of change at the Central, State and Municipal Government levels in India

IV **Lessons Learned :** These include but are not limited to the following :

(1) **Concept to Commissioning :** It is clear that significant managerial resources are required to take a project from concept to commissioning. The availability of managerial resources is not just limited to the advisor, sponsor or developer, but extends to all stakeholders. A joint learning has been that it takes much longer than estimated to bring innovative limited recourse infrastructure projects to a technical and financial close. The environment in the country is not conducive to quick turnaround of such projects. Furthermore, failure to integrate implementation as part of this process would jeopardize the original developmental effort. IL&FS has successfully brought projects to commissioning to budget and to time for this reason

(2) **Flexibility in Financial Instruments** : There is a need for flexibility in the financial instruments so as to make it more amenable to meeting/supporting the cash flows of the project. In the case of the IL&FS line of credit, for instance, utilization would have been significantly higher if such flexibility had been provided

(3) **Flexibility in Project Design** : The delivery of commercial infrastructure projects is a time consuming, complex and slow process. The success rate in project implementation (from concept to commissioning) is highly skewed. To support commercial players in this area, it is necessary that maximum flexibility be incorporated in the design of the project. Such flexibility should be extended to sectors, scale, procurement, contract structures, eligibility for financing, etc. In the case of the IL&FS line of credit, for instance, such flexibility would have resulted in higher utilization of the line of credit

(4) **Contractual Framework** : An improved understanding and acceptance among the various entities about the requisite contractual framework and due diligence procedures, apriori, will result in a shorter time period for financial close for the on-going sub-projects. Thus the implementation of a sub-project on a fast track basis, would have served to provide a replicable prototype

(5) **Equity linked instruments** : Raising equity for such projects remains a problem. Institutional and market mechanism in the country is not fully geared for it as yet as there are few success stories. In the interim, there is a need to develop a market for quasi-equity instruments to meet the objective

(6) **More Focused Approach** : Based on its experience, IL&FS intends to evolve the risk allocation paradigm in order to successfully transfer more and more risk to the private sector on a considered basis. In this regard, IL&FS intends to evolve its own future role from project sponsor and financial arranger, to a project developer in partnership with selected state governments

V **Bank and Borrower Performance :**

(1) **Project Identification :** The Project as identified by the Bank was very much in line with

the development objectives of the GoI for promoting private investment in infrastructure. As a financial intermediary, IL&FS was a vehicle to build up India's capacity to attract private investment in infrastructure, pilot test institutional and contractual arrangements in a variety of sub-projects under various administrative and political conditions and help establish a track record as a pre-requisite for large scale private investment in the sector

(2) **Project Preparation & Appraisal** : Project preparation and appraisal involved active participation of the Bank through consultations, meetings and missions. Given that appraisal of infrastructure projects was still an area where the company had least experience and where the Bank could contribute most, there was close interaction with the Bank for the first two subprojects in each sector category (e.g. roads, water supply, integrated area development) as agreed during Project finalisation. In particular, the full documentation on the contractual framework for the subprojects was reviewed in detail by the Bank for their risk mitigation aspects

(3) **Project Review** : On an on-going basis, the Bank has provided valuable inputs by way of assistance in developing acceptable procedures for inviting and evaluating proposals and providing general guidelines which helped in meeting with the project objectives. The supervision missions, mid-term reviews and partial reviews were used to jointly identify implementation constraints, providing corrections and effective learning processes. Aide-Memoirs were discussed for action and improvement

(4) **Compliance by Borrower** : As Borrower, IL&FS has managed well the various issues arising from its roles in the sector/project. IL&FS will continue to ensure that its role as lender is protected through the establishment of "good lending practices", e.g. retention of separate lenders counsel, independent audit of financial model, etc. Further, IL&FS continues to comply with all the covenants as stipulated by its lending consortia and continues to be rated as AAA by the rating agencies

(5) **Movement of Pipeline** : Of the indicative pipeline of 18 sub-projects at the time of appraisal, 5 reached a stage where they could be posed for Bank draw down and draw down was achieved for 3. This reflects on the extremely difficult environment under which IL&FS operated. There were also project specific reasons : (i) the time it took IL&FS and the Bank to agree on project documentation (ii) the time it took to achieve technical and financial closure for each sub-project and (iii) the time it took to receive project level clearances

(6) **Review of Performance Indicators** : There was a joint revision in the original project performance indicators developed by the Bank and IL&FS during project preparation in light of (i) development objectives and (ii) performance indicators which would take into account the realities of the operating environment

(7) **Cancellation** : IL&FS cancelled the unutilized portion amounting to about $169 million effective March 23, 2001

(8) **Effective Utilisation of LOC**: Utilisation of the investment component has been low at about 16%. However, this should be viewed in the context that it enabled IL&FS to pursue project development work simultaneously on several sub-projects given the corpus of $200 million. The fact that only 5 projects could substantially materialize only serves to

emphasize the drag effect of the environment which had been underestimated by both the Bank and IL&FS. Had Tirupur been included the utilisation would have increased to more than 40%

Earlier, IL&FS had requested the Bank to restructure the project based on the changed nature of the market which became apparent during project implementation. For instance, IL&FS had suggested that the Bank allow more sub-projects to be considered under the loan where construction had not been completed by the time of the loan closing date. Such changes were not implemented. IL&FS submits that similar Lines of Credit should exhibit greater responsiveness to market changes during implementation

(9) **Overall Assessment** : Development objectives have been met despite slow disbursements. As pointed out earlier, government acceptance of the unique contractual framework certainly took its time. Despite this, the government implementation performance can be treated as satisfactory given the socio-political environment in the country. Given the constraints that the Borrower had to face during the implementation of the project, the timely completion of major landmark sub-projects lends itself to a satisfactory rating. Institutional development of the Borrower in fact has been highly satisfactory with a special emphasis on surface transport, urban infrastructure (water) and environmental sector specialization

VI Sustainability of the Project

(1) **From the point of the individual subprojects** : The Bank loan has been utilized for three sub-projects in the road sector. Of these, two have been successfully completed and the third is to be commissioned shortly. While initial traffic performance of the completed projects has been below expectations, these have been the result of specific identified factors. For instance, in the case of the Vadodara-Halol road project, industrial recession alone accounts for a 30% dip in traffic to forecast. The Government has further exacerbated this by levying a cess on overloaded trucks entering the State. Based on specific studies undertaken, it is clear that these constitute short term blips in traffic growth with the fundamentals still sound

The other projects being taken up by IL&FS are without recourse to the Bank. The framework for risk allocation and mitigation as developed in the security packages for the initial projects are basically sound and should provide a good basis for other viable and sustainable projects. IL&FS has benefited from its experience in the initial sub-projects and will utilize it to ensure the sustainability of subsequent sub-projects

(2) **Sustainability of IL&FS** : Despite a difficult operating environment, IL&FS has maintained its profitability and AAA rating. The company's operating framework, inter alia, sets out a risk management framework and related policies as well as the company's guidelines and framework of operations. Further, IL&FS has in- built safeguards relating to limits to the company's exposure to infrastructure projects. Financial eligibility criteria which continue to be used for on lending to individual subprojects are expected to contain the credit risks of individual subprojects. In addition, IL&FS has successfully established a framework of risk participation with a consortium of banks to reduce the level of risks on its own books

(3) **Broad Sectoral Perspective** : At the macro level, the Loan and IL&FS's efforts have had a catalytic effect. The benchmarks established by IL&FS in the development of private infrastructure investments, in collaboration with the concerned agencies of GOI and individual states, are bound to be replicated and improved upon not only by IL&FS but other entities in the infrastructure sector in the country. Thus, we are of the opinion that the project has defined an improved regulatory and institutional framework for the sector and hence establishing the sustainability of private infrastructure investments in India

VII Agenda : Urban Infrastructure :

(1) **Business Areas** : Future infrastructure operations are to be carried forward through the following legal entities established by IL&FS :

(a) IPDC: The infrastructure project development business;

(b) CTNL : The surface transport business ;

(c) The water supply and municipality services business;

(d) Ecosmart : The environmental sector based business; and

(e) ITCL: Design Engineering and Geo Mapping

(2) **The Project Development Business/IPDC**: The project development activities till now domiciled in IL&FS, are being transferred to and undertaken by an independent, commercially viable company. This represents a consolidation of project development activities under one roof leading to closer monitoring of performance and ease of accounting. In a way, this is an extension of the earlier reorganization and streamlining of accounting system carried out in 1997

(3) **Surface Transportation business/CTNL** : CTNL will act as a sponsor, financial investor, offer advisory services and undertake project development work in the surface transport sector. Investors in CTNL will benefit from a diversified portfolio of assets and revenues and hence risks. With a strong asset and revenue portfolio, the company will attract higher valuations. This will enable it to make a public offering and at the same time offer exit opportunities to investors. CTNL presently has interests in properties valued at almost $1 bn

(4) **The Water Sector and Municipal Business** : The company is presently pursuing three greenfield bulk water supply projects. The Tirupur project has recently received approval from the GoTN to proceed with the project. Between the other two projects, the Vizag project is more advanced than the Dewas project. IL&FS is also capturing opportunities being offered by the municipalities. It plans to develop capacity at the municipal level to implement several projects in urban municipal services, including in Sangli (Maharashtra) and Hyderabad Metro (Andhra Pradesh)

(5) **Environmental Initiative/Ecosmart** : IL&FS proposes to transform its environmental and social knowledge practice to a full-fledged business opportunity through an Environment fund, a new vehicle Ecosmart India Ltd. and a Trust for Environmental and Social Change. New ventures include environmental information system, data centres, eco-cities, emissions trading, energy efficiency, etc. The company is actively pursuing contracts in these areas

(6) **Engineering and Design/ITCL** : IL&FS is attracting global consultants to domicile in India in order to develop world class consulting experience and talent in the country. Equally, it is envisaged that global consulting companies could use this framework to source local Indian consulting talent for global assignments. IL&FS has already received significant interest in this concept

(7) **Meeting Financing Needs for Project Development and Implementation**:

(a) **Lines of Credit** : IL&FS is pursuing with ADB and KfW for providing long term funding assistance for the on-going initiatives. The credit terms are being tailored to meet the needs in terms of cost competitiveness and flexibility

(b) **Project Development Fund** : The IPDF has been formed to assist project development efforts relating to infrastructure and to take them to financial close. A recently developed fund, it has already committed support to projects in the sector

(c) **AIGF** : The investment objective of the AIG Indian Sectoral Equity Fund is to achieve capital appreciation by primarily making equity and equity related direct investments in Indian companies and projects in the infrastructure sector. The fund is substantially committed in this sector

(d) **Merchant Banking Services** : IL&FS Merchant Banking Services Ltd (IMBSL) is currently providing the full range of merchant banking services to its clients and supports in achieving financial close for the projects by way of syndication of equity and loan

(e) **Guarantee Facility** : IL&FS has recently entered into agreements with IFC and FMO, Netherlands for guarantee facilities for meeting the needs of infrastructure projects

(8) **Urban Infrastructure Business : An integrated Approach :** Emerging trends in urban infrastructure indicate that Urban local bodies (ULBs) are actively exploring project development and implementation through public-private partnership (PPP). The driving force is the paucity of funds faced by them as well as the States and responsibilities for service provisioning resting with the ULB's as a result of constitutional amendments. In seeking PPPs, the initial focus will be on those activities that have the potential to generate revenues for the delivery of services

IL&FS has fundamentally evolved to take up initiatives in the urban infrastructure sector in an integrated manner covering roads and bridges, waters supply, sewerage and sanitation, other environmental based proposals. This will be a culmination of past efforts,

building up on competencies and provides a highly focused way forward. This will meet the needs of the sector as more urban development authorities are becoming proactive in their approach and amenable to private sector participation