

on the project preparation is needed to ensure deadlines are met and particularly that the quality of the output is ensured.

	Action	Agreed date June 2005	Status November 2005
1.	Periodic maintenance component to be included in project: draft plan and bidding documents to be forwarded to the Bank	end September, 2005	Not received, agreed this would now be submitted end December 2005
2.	Selection of independent consultants for review of environmental and social assessments to be initiated	End July 2005	Under discussion
3.	Request for expressions of interest for Institutional Assessment and Strengthening Study to be published	July 15, 2005	Proposal submission due December 29, 2005
4.	Draft Resettlement Policy Framework	End July 15, 2005	Received and comments sent September 22, 2005, under review by various government departments, revised draft to be made available December 15
5.	Draft proposal for inclusion of an HIV/AIDS component	September 2005	Not received, now agreed date end January 2005
6.	Draft Project Implementation Plan	End October 2005	Received October 31, 2005 comments sent November 7, 2005, agreed new revised version to be sent end December 2005
7.	PRBDB/PWD to initiate the process to obtain all applicable regulatory clearances, for example, from Forestry Department, Pollution Control Board, etc.		Under process
8.	"Prototype" bidding document.	n/a	December 15, 2005
9.	Information for completion of the procurement assessment, procurement plan	September 2005, information received but incomplete	December 15, 2005
10.	E-procurement system, with "module" for this PSRSP		End February 2006
11.	Road safety program	n/a	End January 2006
12.	Environment and Social Screening Report with environment	n/a	December 15, 2005. (Three sets of comments

	management framework for entire 1700 kms, along with Executive summary and Generic Environment Management Plan		provided to improve quality).
13.	Upgradation: EA and corridor specific EMPs	n/a	End January 2006
14.	Rehabilitation: Generic EMP for works and EMP for Bridge works	n/a	End January 2006
15.	Public disclosure of Environment Screening report in project districts. Translation of Executive summary in Punjabi.	n/a	February 2006 (required 120 days before expected Bank Board date of June 2006)

5. It was agreed that PRBDB will develop a consistent "prototype" bidding document in complete format ready of issuance to contractors on sample road for each upgrading and rehabilitation. The document should be fully consistent between the upgrading, and the rehabilitation contracts. This would include full contractual items completed including the completed advertisement, the bid data sheet and the bill of quantities, the generic environment management plan plus the corridor specific environment management plan items, the standard drawings all in the May 2005 version of the bidding document. Similarly the PRBDB will also develop such a document for its periodic maintenance contracts.

### III. PROPOSED PROJECT OBJECTIVE AND COMPOSITION

6. The mission emphasized that the objective of the project and description of the project would be reflected in the legal agreement and thus PRBDB/PWD should specifically confirm their proposals on these. Specifically this should be reflected in their revised Project Implementation Plan.

7. The proposed project objective is to raise the service levels provided by the state roads which connect the village roads to the National Highways through: (a) eliminating the growing bottlenecks in the network; (b) increasing vehicle speeds; (c) reducing transport costs by reducing road roughness; and (d) strengthening GOP's capacity to plan and manage the network. The project covers the 7374 km network of state roads comprising State Highways, Major District Roads and Other District Roads.

8. The proposed project components of the US\$400 million project are:

*Component 1: Road Upgrading, Rehabilitation and periodic maintenance (approximately US\$300 million) (Annex 2)* The project would fund a combination of road upgrading/widening, rehabilitation and periodic maintenance as follows:

- i) upgrading of about 400 km of roads (US\$ 180 million)
- ii) rehabilitation/strengthening of about 800 km of roads (US\$ 80 million) and
- iii) periodic maintenance of about 400 km (US\$ 20 million)
- iv) blackspot improvement (US\$ 2.5 million)

The works will be divided into two Phases. Phase I, which will be ready for bidding at appraisal, comprises about 144 km of upgradation, 254 km of rehabilitation and 400 km of periodic maintenance. Phase II comprises 700 km which will be prioritized on the basis of ongoing

feasibility studies. Some contracts may be implemented under performance based contracting mechanism. Options for including a maintenance period in contracts will also be reviewed. The GOP has developed a policy for Public-Private Partnership and prepared model road concession documents. Several of the most heavily trafficked Plan roads might be improved through PPP and the project could support this initiative through funding the viability gap component. The cost of this component includes all civil works, supervision costs, land acquisition and resettlement costs, and contingencies.

*Component 2: Road Routine Maintenance (approximately US\$90 million)* The total project cost, though not Bank funding, will cover the whole 7,374 km network and include the routine maintenance costs (to be fully funded by GOP).

*Component 3: Institutional Strengthening (approximately US\$10 million).* (Annex 3) The component will include the following although this may be revised based on the findings of the institutional assessment study

- i) E-governance and e-procurement (US\$1 million).
- ii) Computerization of the PWD, Geographical information system and traffic data collection systems (US\$1 million)
- iii) Training (US\$ 1 million)
- iv) Road Safety (US\$ 2 million)
- v) HIV/AIDS (US\$0.2 million)

#### IV. OVERALL PROJECT FINANCING

9. The proposed project size is US\$400 million of which the World Bank Loan would be US\$250 million and State contribution is US\$60 million for the counterpart funding plus US\$90 million for routine maintenance. The State funding of routine maintenance is US\$90 million over the five year period is already in place, with Rs 100 Crore having been made available this year. Of the remaining cost, about 80% is expected to be met from World Bank loan and the remaining 20% will be financed by the Government of Punjab (counterpart funding). A front end fee of 1% is payable on all World Bank loans i.e. US\$2.5 million. A tentative cost estimate and financing plan is given in the table below with the following assumptions:

- o Front end fee of 1% -Note: IBRD cut front-end fees by 25 basis points (0.25 percentage points of the loan amount) by increasing the existing fee waiver to 75 from 50 basis points. The fee cut affects all loans presented to the Bank's board from July 1, 2005 and applies through June 30, 2006. The Bank introduced its 100 basis point front-end fee in 1998 and first waived part of it in fiscal 2005 with the 50 basis point waiver.
- o The cost of land acquisition and resettlement costs will be included in the State Government share
- o Exchange rate of 45 Rs. = 1 USD

## Cost Estimate and Financing Plan

Project scope	Rs			Exch. Rate			
	Total Project Cost	World Bank share	GoP share	45	US \$ million	World Bank share	GoP share
<b>Component 1 - Road development (\$300 million)</b>							
Upgrading	8,100	6,480	1,620	80%	180.0	144.0	36.0
Rehabilitation	3,600	2,880	720	80%	80.0	64.0	16.0
Periodic Maintenance	900	720	180	80%	20.0	16.0	4.0
Blackspot improvement	9	7	2	80%	0.2	0.2	0.0
Land Acquisition	90	-	90	0%	2.0	-	2.0
R&R	45	-	45	0%	1.0	-	1.0
Supervision Consultancy	567	567	-	100%	12.6	12.6	-
Technical Audit Consultancy	23	23	-	100%	0.5	0.5	-
<b>Component 2 - Road Routine Maintenance (\$90 million)</b>	<b>4,050</b>	<b>-</b>	<b>4,050</b>	<b>0%</b>	<b>90.0</b>	<b>-</b>	<b>90.0</b>
<b>Component 3 - Institutional strengthening (\$10 million)</b>							
E-governance and e-procurement	45	36	9	80%	1.0	0.8	0.2
Computerization of PWD systems, GIS and traffic data collection	45	36	9	80%	1.0	0.8	0.2
Training	45	36	9	80%	1.0	0.8	0.2
Road Safety	90	90	-	100%	2.0	2.0	-
HIV/AIDS	9	9	-	100%	0.2	0.2	-
Other	216	216	-	100%	4.8	4.8	-
<b>Total Baseline Cost</b>	<b>17,834</b>	<b>10,884</b>	<b>6,734</b>		<b>396.3</b>	<b>246.7</b>	<b>149.6</b>
<b>Refunding of Project Preparation Advance</b>	<b>90</b>	<b>90</b>	<b>-</b>		<b>2.0</b>	<b>2.0</b>	<b>-</b>
<b>Front End Fee</b>	<b>113</b>	<b>113</b>	<b>-</b>		<b>2.50</b>	<b>2.50</b>	<b>-</b>
<b>Total Financing Required</b>	<b>18,036</b>	<b>11,086</b>	<b>6,734</b>		<b>400</b>	<b>250</b>	<b>150</b>

10. *Retroactive financing.* Retroactive financing is permitted under the following conditions: (a) the activities financed are included in the project description; (b) the payments are for items procured in accordance with applicable Bank procurement procedures; (c) such payments do not exceed 20 percent of the loan amount; and (d) the payments were made by the borrower not more than 12 months before the expected date of Loan Agreement signing. The date after which payments may be made is agreed at appraisal, confirmed during negotiations, and recorded in the Loan Agreement. PRBDB/PWD intends to use the retroactive funding for the periodic maintenance for which contract award is scheduled for the time of appraisal.

11. *Road Fund.* The mission in their meeting with the Minister of PWD and the Secretary Finance discussed about setting up of Road Fund or any other financial instrument to provide regular and known amount for maintenance of state road network every year. This fund should not be affected by the budget. The mission was informed that the GoP has already prepared a note on this which is under consideration by a committee of Secretaries. There were some apprehensions on its being raided for purposes other than road maintenance. The government wanted to know the mechanism that would help in ring fencing the fund, if set up, from raids. The

mission suggested that the government should set up a Road Board with at least fifty percent of its members from private road users (total number of members ideally not more than ten) to operate this fund with. The PWD should prepare a yearly maintenance plan using road maintenance management system and submit for the scrutiny and approval to the Board. Once the plan is approved the Board and the PWD would sign a contract agreement for implementation of the plan and the Board would audit the works at the end of the year before releasing the funds for next year. The Board may also use private sector for awarding medium to long term maintenance contracts using these funds and audit the quality of road on a periodic basis.

12. The mission met with the Finance Department during which the following items were discussed and would need to be finalized prior to appraisal:

- i) The loan amount was confirmed at US\$250 million
- ii) Provision for the project will be confirmed in the budget and in the 5 year plan, details of requirements for 06/07 budget would be confirmed by February 2006 by PRBDB/PWD
- iii) Pre-financing would be available from GOP for 06/07 to cover any use of the retroactive funding option of the Bank.
- iv) The relevant GOP approvals for the project would be sought
- v) The Finance Department would finalize with GOI/DEA on the financing arrangements between GOI and GOP
- vi) The loan type would be finalized – the World Bank has different loan products and the team had shared this information – variable or fixed spread loans could be taken – the GOI has been taking variable spread loans for recent loans.

## V. STATUS OF PROJECT PREPARATION

13. Project appraisal is scheduled for April 2006. Shortly after appraisal, Loan negotiations take place after which the project is then sent to the World Bank's Board for approval (targeted by June 2006). There is a minimum of 6 weeks between negotiations and World Bank Board approval for the purposes of finalizing documentation. After Board approval the legal agreements need to be signed and loan declared effective. There will be no conditions of Board approval or of effectiveness. The mission shared examples of loan agreements from other projects. It is important that details be finalized well in advance of negotiations so that there are very few items remaining to be discussed at the negotiations.

### *Project Readiness Filters*

14. A set of project readiness filters are agreed between the GOI/DEA and the World Bank for the processing of projects (and are reflected in the Country Strategy September 2004). The intent of the filters is to ensure that projects are able to go out to bid, at least, as soon as the project is cleared by the World Bank Board and that funds will be disbursed as soon as the loan becomes "effective". Compliance with these readiness filters are checked as a condition of the Bank commencing the Appraisal mission – a key step in finalizing project preparation. These filters are currently under discussion between the GOI/DEA and the Bank and a current unapproved draft is attached as Annex 3. The main filters are as follows:

- "First year" roads works ready to bid (should comprise in value a minimum of 20% of the Loan amount of US\$250 million)
- Bidding documents and detailed designs complete for the "first year" roads
- Any Resettlement Action Plans for the "first year" roads complete including all land acquisition plans.

- Environment Screening with environment management framework for entire road network , generic environment management plan and Corridor specific Environmental Management Plan for the "first year" roads complete,
- Public Disclosure of the Resettlement Policy Framework and Environment and Social Screening and Management Framework, with Executive summary translated in local language and disclosed in project districts.
- Procurement Assessment complete (undertaken by the Bank)
- Financial Management Assessment complete (undertaken by the Bank)

*Phase I:*

15. Project preparation is being funded through a US\$2 million Project Preparation Advance; the status of the studies being financed is as follows:

Package	Description	Status
I	Feasibility study, social/environmental screening and environment management framework with generic environment management plan, preliminary design of Phase II roads	Consultants mobilized, June 13, 2005
II	Design and technical advisory services, Phase I Major Maintenance Contracts (RMC)/ rehabilitation	Consultants mobilized, June 27, 2005
III	Design and supervision, Phase I Upgradation Contracts, with Environment assessment and corridor specific environment management plans	Consultants mobilized September 23, 2005
IV	Institutional assessment and strengthening study	Proposals to be submitted December 29, 2005
V	Independent review of environmental and social assessments	Under discussion

16. As envisaged during the last mission in June 2005, design studies on Phase I roads are underway but the progress is very slow and the mission felt that the target of appraisal in April 2006 would be very difficult to meet if no appropriate actions are taken by PRBDB/PWD. The mission urges PRBDB/PWD to resolve following issues to expedite the design progress and to target the preparation of bidding documents for Phase I contracts by March 2006:

- there is an urgent need for PRBDB/PWD to finalize proposed rehabilitation and upgrading strategy including bypasses, urban stretches, bridges and culverts treatment for phase I roads in consultation with feasibility and design consultants with inputs from public consultations.
- there is a need of better coordination and partnering among PRBDB/PWD and consultants so that decision on design issues could be taken promptly.
- During discussions with PRBDB/PWD consultants, the mission also suggested to prepare a 'prototype' bidding document which would expedite various pending design issues and facilitate the team to focus on the final outcome. It was agreed this would be submitted to the Bank December 15, 2005

17. Assuming that appraisal is undertaken in April, 2006, and the tendering process is immediately commenced on the upgrading and rehabilitation contracts, construction activities could commence by October, 2006, assuming that any necessary land has been acquired and arrangements completed to provide the contractors with unencumbered roads.

**Phase II:**

18. The selection of rehabilitation and upgradation roads for Phase II of the project will be made on the basis of the feasibility study currently being undertaken. The economic analysis and prioritization of Phase II roads are under progress. The feasibility consultants have done initial run of HDM, which were presented to the mission. PRBDB/PWD should finalize the selection of roads to be taken up for Phase II so that the design work could commence. The selection process for the Phase II detailed design consultants should thus commence, with a request for expressions of interest, in December, 2005, with the selected consultants mobilized by June, 2006.

**Project Implementation Plan**

19. PRBDB/PWD has drafted a Project Implementation Plan (PIP). The PIP should provide clear outline of the all the necessary steps within each key function. The mission discussed the needs for detailed cost calculations including for procurement packaging. The relevant PWD departments should review the PIP. The PRBDB will forward a revised version of the PIP by end December 2005. The PRBDB is already operating a project web site <http://prbdb.gov.in/> where its project reports are available and this is very effective.

**VI. PROJECT IMPLEMENTATION ARRANGEMENTS****Overall Implementation**

20. PRBDB will be the Project Implementing Entity for the proposed project on behalf of the Government of Punjab. It had been agreed in the June 2005 mission that the PRBDB would assign the execution of the road works to the PWD with the PWD undertaking the procurement of the civil works contracts (issue the adverts, issue the bidding documents receive bids, evaluate the bids, makes the award, issue payment to the contractors). The mission notes that PRBDB is now recommending for all procurement processes to be done by PRBDB rather than in the PWD. The mission has concerns about this apparent centralization of such activities in the PRBDB which might normally be the responsibility of the PWD and may reduce the institutional development impact of the project. The internal arrangements should be finalized by Government. The interest of the Bank is two-fold in this regard – efficiency of implementation and sustainable institutional development of whichever agency is to manage the road network.

21. Within the PWD, a Chief Engineer (World Bank) will be designated and will be act as the Owner's representative as the Employer for the civil works contracts. Executive Engineers will act as the Employer's Representatives for the implementation of the contracts. The role of the Engineer will be either performed by consultants, or supervision units (headed by Executive Engineers) selected from within PWD, but which would operate independently of the existing PWD divisional structure. There will be an Environment and social management unit in the PRBDB with a monitoring and support role. The relevant PWD executing units would also be responsible for environmental management in execution of the works.

**Project Management Continuity**

22. Effective project management and contract supervision require staff continuity. The mission stressed this need to both the Chief Minister and the Principal Secretary, PWD. It was agreed that senior staff would be maintained, in place, for a minimum of three years.

*Financial Management (Annex 4)*

22. Details are discussed in Annex 4.

*Procurement (Annex 5)*

23. Details are discussed in Annex 5. Key next steps are providing the information for completion of the procurement assessment, completing the "prototype" bidding document and formulating the "module" in the e-procurement system for this project.

*Environment and Social Safeguards (Annex 7 and 8)*

24. The mission highlighted to the Government of Punjab the Bank's social safeguards policies (and provided copies) including

- Environmental Assessment OP/BP 4.01
- Natural Habitats OP/BP 4.04
- Cultural Property OPN 11.03 being revised as OP 4.11
- Involuntary Resettlement OP/BP 4.12
- Indigenous Peoples OD 4.20 being revised as OP 4.10
- Forests OP/BP 4.36

25. *Environmental Safeguards and Management:* The mission had discussions with PRBDB/PWD on status and quality of preparation of environment assessments, associated management plans, public consultations and integration of the same in engineering designs and bid documents.

- *Status of environment activities:*

- Feasibility studies. The mission expressed concern on the slow progress and unsatisfactory quality of the Environment and Social Screening Report. The mission and previous meetings with the Bank have provided detailed comments (June 2005, August 2005, and October 2005) to address this aspect. It was agreed that the Environment and Social Screening Report, inclusive of an environment management framework, a generic environment management plan and elements of a corridor specific environment management plan will be submitted by December 15, 2005.
- Rehabilitation works. Discussions regarding the rehabilitation works focused on the utilization of the generic environment management plan (EMP) for corridor works and preparation of a specific EMP for the bridge works. It was agreed that these would be aligned with the outputs of the Feasibility studies and submitted December 15, 2005.
- Upgradation works. Discussions regarding the upgradation works focused on the corridor specific EAs and EMPs for the upgradation works. The scope of the EAs would be coordinated with outputs from the Feasibility studies and drafts would be submitted by end January 2006.
- The mission provided a sample generic EMP and suggested to PRBDB/PWD to review and finalize one which would be part of the "prototype" bidding document, with EMP provisions adequately reflected in the Bills of Quantities. It was agreed that this would be submitted to the Bank by December 15, 2005.

The mission emphasized that PRBDB needs to play a very strong coordination role and ensure that outputs from the consultants are harmonized for effective project design.



- *Team Composition of PRBDB and capacity enhancement:*
  - The mission noted that PRBDB has recruited an environmental specialist who would ensure consistency in outputs from the EAs and public consultations and their integration into engineering analysis and design; co-ordination with technical surveys during preparation of the feasibility studies and timely flow of information. The mechanisms for this were extensively discussed during the mission.
  - It was noted that training on environment management is a part of the overall training plan proposed, also covering the PWD implementing teams. It was agreed that at least one round of training/orientation would be carried out for all teams before appraisal.
- *Regulatory Clearances - GOI and GOP:* The mission re-emphasized the need for assessing and applying for applicable regulatory clearances in a timely manner (before appraisal) from the departments of Forest, Wild Life, Pollution Control Board, Mining, Groundwater (or any other). Documentary evidence of any required clearances would need to be provided prior to the invitation for project negotiations being issued.
- *Public Consultation:* The mission re-emphasized the importance of stakeholder identification and analysis, to ensure coverage of all categories of stakeholders. It was agreed that issues raised, and justification of how these would or would not be addressed by the project would be documented as part of the environment assessments. These findings would also be one of the criteria for scoping the environment assessment and be included in the environment screening report.

26. *Resettlement Policy Framework.* The mission recommended PRBDB to expedite the Resettlement Policy Framework. The Resettlement Policy Framework is required for the development of the Resettlement Plans. The Policy would need to be adopted by the GOP. The document is currently circulating government departments for comment. A revised version will be discussed with the Bank.

27. *Resettlement scope.* The GOP/PRBDB/PWD has confirmed that in Phase I, rehabilitation and periodic maintenance sub-components there is no resettlement or land acquisition. In the upgrading sub-component there will be land acquisition and resettlement and the final agreed Resettlement Plans for each of these road sections will be available prior appraisal. It was stressed to PRBDB that the Bank does not accept the use of the emergency clause for land acquisition. Therefore, an early start to the processing of land acquisition is essential, if future delays in construction are to be avoided.

28. *Public Disclosure:* It was agreed that the Environment and Social Screening Report, with the executive summary (translated in local language) would be disclosed in project districts in places that are accessible to the public such as public libraries, district magistrates' office, public grievance redress cells, local government channels, on the PRBDB website etc. by February 2006. The Bank would also require a written notification from GOP/PRBDB for the EA to be placed in its Public Information Centre at New Delhi and Washington DC. PRBDB was also informed that to abide by the US. Pelosi Amendment, environment and social documents would need to be disclosed 120 days before the proposed Board date.

**List of Annexes**

Annex 1	List of Key People Met
Annex 2	Component 1 Road Upgrading, Rehabilitation and periodic maintenance
Annex 3	Component 3 Institutional Strengthening
Annex 4	Financial Management Arrangements
Annex 5	Procurement Arrangements
Annex 6	Sample Project Implementation Readiness Filters
Annex 7	Environmental Management
Annex 8	Social Safeguards – Resettlement and Land Acquisiitons
Annex 9	Performance Based Maintenance Contracts

## Annex 1

**Proposed Punjab State Roads Sector Project  
List of Key People Met**

Mr. J.S. Gill, Chief Secretary, Government of Punjab  
Mr. Pardap Singh Bajwa, Minister, Public Works Department, Government of Punjab  
Mr. K.R. Lakhnpal, Principal Secretary to the Government of Punjab, Department of Finance  
Mr. Karan Avtar Singh, Secretary, Finance  
Ms Kalpana Mittal Barua, Secretary, Finance  
Mr. R.S Sandhu, Secretary to Government of Punjab, PWD, Chandigarh

**Punjab Roads and Bridges Development Board**

Mr. Kuldip Singh, Chief Engineer, PWD, Chandigarh  
Mr. Amrit Inder Singh, Joint Secretary Punjab Roads and Bridges Development Board (PRBDB), Chandigarh [prbdb@sayam.net.in](mailto:prbdb@sayam.net.in)  
Mr. Kulwinder Rao, Punjab Roads and Bridges Development Board (PRBDB), Chandigarh [kulwinder@glide.net.in](mailto:kulwinder@glide.net.in)

**Public Works Department.**

Mr. T.C Bali, Chief Engineer (CND) PWD, Patiala  
Tel: 0175-2358280 ; 09814041848  
Mr. A.P. Singh, Chief Engineer (South) PWD, Patiala,  
Tel: 0175-2356254; 94173-55735, [Sonail@Sancharnet.in](mailto:Sonail@Sancharnet.in)

**Punjab Traffic Police**

S. K. Sharma, IGP (Traffic)  
Praveen K. Sinha, AIG (Traffic)

**Punjab Health Department/State Aids Control Society**

Mr. Kulbir Singh, Special Secretary Dept of Health and Family Welfare and Project Director State Aids Control Society.

**Consultants**

CES consultants for the Feasibility Study

BCEOM Consultants for the upgrading

ICT Consultants for the rehabilitation

**Proposed Punjab State Roads Sector Project**  
**Component 1: Road Upgrading, Rehabilitation and periodic maintenance**

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- i) upgrading of about 400 km of roads (US\$ 180 million)
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- vii) blackspot improvement (US\$ 2.5 million)

The works will be divided into two Phases. Phase I, which will be ready for bidding at appraisal, comprises about 144 km of upgradation, 254 km of rehabilitation and 400 km of periodic maintenance. Phase II comprises 700 km which will be prioritized on the basis of ongoing feasibility studies. Some contracts may be implemented under performance based contracting mechanism. Options for including a maintenance period in contracts will also be reviewed. The GOP has developed a policy for Public-Private Partnership and prepared model road concession documents. Several of the most heavily trafficked Plan roads might be improved through PPP and the project could support this initiative through funding the viability gap component. The cost of this component includes all civil works, supervision costs, land acquisition and resettlement costs, and contingencies.

2. The mission indicated to PRBDB that problems with tree cutting, utility shifting and land acquisition were responsible for major implementation delays and thus cost increases on other road projects in India. The mission strongly recommended as early a start as possible for the implementation of these activities. In addition, the mission recommended the inclusion of tree cutting and utility shifting within the civil works contracts. Memoranda of Understanding should be agreed with the relevant authorities, permits obtained, and supervision provided by the relevant agencies and paid for by PWD. But, the actual works should be undertaken by the contractor and included with the BOQ.

#### *Construction Supervision*

3. The construction supervision of all upgradation contracts will be undertaken by independent construction supervision consultants. Supervision of RMC contracts will be undertaken by contract supervision units, drawn from the PWD staff, supported by technical advisory consultants. The contract supervision units will be independent of PWD's divisional structure. The staff will be provided with training on contract supervision and the role of the Engineer, prior to the commencement of contract implementation.

#### *Feasibility Study*

4. The mission met the consultants undertaking the feasibility study for the project. The consultants have mobilized the team, the team leader, highway and maintenance expert, transport economist, environmental expert, and social expert from June 10, 2005. Five teams have been mobilized for carrying out the road inventory and condition surveys of the identified roads.

5. The Bank team discussed the initial progress on the review of data available for these roads and other secondary data required for the feasibility study, gaps in the data that may need to

be collected, issues related to the work plan and preliminary observations on the road network. The consultants have started videoing the 400 km of roads identified for Phase I, in addition to field surveys. The social and environmental experts had also made reconnaissance of the project roads to identify the issues that may be of importance while selecting the road design alternatives and to identify the hot spots if any. The traffic surveys have also been initiated by the consultants.

6. The mission suggested that the video film of the project roads should be digitized and labeled to describe its salient features for every kilometer. The mission also informed the consultants and the client about the equipment that is available in the market for this purpose and agreed to provide more details about this equipment. The digitized video could then be attached to the GIS platform to get the information on the roads, as and when required.

7. The consultants were advised to submit a detailed plan of the surveys being carried out and planned so as the client can monitor them on regular basis. The mission discussed the design philosophy for the project roads and stressed that they should give appropriate consideration to the safety features to be incorporated in the design, not only for motorized road users but also non-motorized traffic and pedestrians. The consultants should make use of the design manual on 'safe roads' produced by the MORTH, when designing the roads. Appropriate measures for the crossing of pedestrians and their segregation along with the slow moving traffic in the inhabited areas should be included in the design of the project roads. The mission also suggested that the consultants may review the appropriate specifications for the paved shoulders, based on their purpose.

8. *Economic Analysis:* The Bank has provided its comments on the economic analysis and sensitivity analysis methodology suggested by the Feasibility Consultants. Based on the comments, the Consultants presented the revised approach for the sensitivity analysis through considering different traffic growth rates, based on different economic development scenarios in the region along the project roads, and for the delay in construction. The Consultants were also advised to consider the impact of the new planned investments in a particular area, for example proposed investment of Rs.5000 crores in the agricultural sector in Gurdaspur district by one of the major industrial house.

9. The traffic intensity on the project roads have been found to be much higher when compared to the data collected in the month of July/August which were the rainy season. Besides some of the project roads which had deteriorated extensively due to neglect of maintenance over the years, were improved to allow the movement of traffic and this also resulted in increased traffic intensity of roads. In view of these factors, the Consultants should review and modify the traffic data through sample checks before using it in the economic analysis.

10. The Consultants had proposed declining demand elasticity with respect to GDP for all vehicle types over the years. The reasoning was the changing composition of the GDP structure in favor of tertiary sector. The mission suggested that the demand elasticity for the private vehicles would continue to increase with rising income and therefore should not be reduced in future year, if not increased.

#### ***Technical: Upgradation***

11. The roads selected under Phase-1 works are generally in poor condition; no maintenance has been carried out for the last 3 years due to shortage of funds. Most sections of roads are showing signs of pavement distress and will face problems if the existing pavement is not sealed before the monsoon. On the sections of roads where extensive potholes have formed, repair

works are being carried out with funds recently sanctioned. The pavement specification for repairs entails some raising of the formation and about 220 mm of WBM, sealed with 20mm of SDBM to adequately provide service for about two to three years until funding under the Bank loan is approved. During the field visit, it was observed that the compaction, being carried out may not be to the specified density, and any works thus carried out may have no value to the upgradation works to be undertaken within the next two years. It is suggested that a temporary seal of DBST would perform better than BC or SDBM, which would be more economic and provide a good riding surface during the next 2 to 3 years.

12. *Design Issues:* Keeping in mind the high water table along the roads, where paddy fields are creating such problems of weakening the road pavement, the use of alternate pavement techniques such as rigid pavement and installation of geo-textiles, etc should be considered when designing the upgradation works. The consultants should also review the possibility of using the scarified bituminous pavement in the subgrade, suitably mixed in certain proportion with new materials. The location of existing trees and new trees to be planted along the road embankment and open earth drains should be appropriately placed such that positive drainage is provided for free flow of storm water, including cross drainage in view of the hydrology of the adjoining terrain, and road safety where trees are to be planted at the road edge.

***Periodic and Performance Based Maintenance:***

13. The mission discussed the inclusion of periodic maintenance and performance based maintenance components, under the Project. These will assist GOP to make good the current maintenance backlog and establish the basis for sustained future maintenance. Without early action on periodic maintenance, road conditions will deteriorate and much more costly rehabilitation will then become necessary.

14. It was agreed that PRBDB and the PWD would develop a purely periodic maintenance program, comprising patch repair and nominal 50 mm overlay, totaling US\$ 20 million, approximately 400kms. Bidding documents would be prepared for Bank no objection; tendering would be scheduled for immediate award, following Project Appraisal. The contracts would be eligible for retro-active financing under the proposed loan. It has been agreed in the June 2005 mission that the maintenance plan and draft bidding documents would be submitted to the Bank, for review and no objection, by end of September, 2005. The preparation of such has still not commenced. The new agreed date for submission is end of December 2005. In determining the road sections to be included in the periodic maintenance component, PWD should undertake adequate testing (e.g., Benkleman Beam) to ensure that periodic maintenance, rather than more comprehensive rehabilitation, is the most suitable engineering intervention.

15. All maintenance on the state highways is undertaken by contract, but the contracts are largely limited input based, measured works contracts. It was agreed that the project would support a shift in emphasis to output based, performance maintenance contracting. Under such contracts, the contractor is paid as long as the road consistently reaches specified performance standards (Annex 9).

**Proposed Punjab State Roads Sector Project  
Component 3: Institutional Strengthening**

The component will include the following although this may be revised based on the findings of the institutional assessment study

- i) E-governance and e-procurement (US\$1 million)
- ii) Computerization of PWD, Geographical information system and traffic data collection systems (US\$1 million)
- iii) Training (US\$ 1 million)
- iv) Road Safety (US\$ 2 million) (Annex 3)
- v) HIV/AIDS (US\$0.2 million) (Annex 4)
- vi) Other – to be defined

i) *E-Governance and e-procurement:* The Information Technology (IT) Department of GOP is currently reviewing the introduction of e-procurement and the PWD would be interested in running such a system. The mission indicated that the Bank would be keen to see the proposed Punjab State Roads Project processed using e-procurement. The Multilateral Development Banks (MDBs) have developed common practices to avoid different assessments of the same borrower's system by different banks. The Bank has shared a copy of the harmonized document entitled "*E-Bidding Requirements for MDB Loans, Grants and Credits*" which provides guidance on the requirements for a borrower's system to be acceptable to the Banks. In any case, at a minimum, advertisement and bidding documents should be available online. The mission indicated that the project could support the extension of such a system to the PWD in general.

ii) *Computerization of PWD systems Geographical information system and traffic data collection systems (US\$1 million)* some work has already been undertaken; it needs to be extended in scope and then rolled out to cover all PWD Divisions. Currently the PWD has 29 units implementing the PMGSY and all such units are connected by computer, e-mail and internet and information flows readily between these units and the PRDB. The PRBDB/PWD indicated that they would wish to replicate such a system for the proposed Punjab State Roads Project and further to the general operations of the PWD. The mission confirmed that this could be supported under the project. Geographical Information System (GIS); Traffic data collection systems: road management depends upon both accurate inventory data on the network and accurate data on traffic. It has been proposed that an installation, maintenance and operation contract should be developed and awarded for traffic flow and axle-load data collection. Such a system could be coupled with the development of enforcement for axle-load and vehicle weight regulations.

iii) *Training.* The mission indicated that training can be included within the proposed project and recommended that PRBDB/PWD develop a training plan. Such a plan should certainly might include training for those PWD staff who will be responsible for works supervision, contract management, and quality control. Consideration might also be given to training for contractors on bidding (i.e. to those who purchase bidding documents) and to winning contractors on contract management and quality issues. Other procurement, financial management and environmental training should also be considered.

iv) *Road Safety:* The State Traffic Police has initiated several actions on road safety which has resulted in reduced number of fatalities in the State. These efforts are supported by an active NGO, Society for Accident Aid and Traffic Help (SAATH), which works in close cooperation with the traffic police. Some of these actions are:

- Standard accident data recording form is developed through the Consultants and is used for recording the new accidents.
- Past data, for last five years, is being collected from police stations and transferred in these forms for detailed analysis and identification of black spots.
- Based on the information on major accident sites, 75 accident aid posts have been set up with the help of SAATH which provides necessary aid to the accident victim.
- Curricula for teaching students about the traffic safety has been developed and introduced at the fifth grade in the private schools. CM has instructed the education department to introduce the same in all the government schools.
- Drivers training for the commercial vehicle drivers with active participation from the truck unions at the training school set up by SAATH.

The traffic police have recommended several other actions that need to be actively pursued by the different departments of the government. These include:

- Formation of State Safety Council to review and advise the government on the safety issues. In a meeting held with the CM it has been agreed to set up this council with the CM as its Chairman which would help in bringing the different departments at the same platform.
- Improved and stricter rules for issuing of driving licenses by the transport department.
- Regular funding for implementing traffic safety measures. The Traffic Police has suggested that a percentage of fines collected for traffic violations should be provided for road safety measures.
- Improvement of emergency medical system through development of trauma care centers and provision of ambulances and trained para medical staff.
- Community awareness campaigns.

The traffic police were also interested in introducing an accident analysis system and real time data recording and mapping. They suggested that such a system should be first introduced in one district and then rolled out at the state level. It was agreed that once the accident data is transferred into the standard format and analyzed, expected by end December, 2005, they would provide a list of black spots outside the project roads for engineering improvement to be included as a component of the project. They also suggested that they should be involved in reviewing the design of the project roads and junctions from a safety angle. The traffic police would prepare a list of equipment, systems and traffic aid material for inclusion as a component of the project. The mission recommended the traffic police and PWD to review the Global Road Safety Partnership activities and provided the web-site link and suggested that they may sign up to the newsletter. The mission also suggested that the traffic police review the public consultation outputs (from the EAs) as integrated criteria while carrying out a safety review of the road designs and junctions.

v) *HIV/AIDS*. During the June 2005 mission discussions were held with the State Aids Control Society (SACS) at which time the mission recommended to PRBDB/PWD to develop an appropriate HIV/AIDS intervention for the project in conjunction with the Punjab State Aids Control Society (SACS). Meetings were held again during this mission in which the Health Department/SACS confirmed their interest in supporting this program and agreed to make a proposal by January 2006. Financing would be included in the PSRSP. The HIV/AIDS plan should indicate what will be implemented, who will be responsible, costing etc. The mission highlighted that the May 2005 Standard Bidding document contains standard clause 6.7 in the General conditions for the contractor allowing his workers to be sensitized to the HIV/AIDS issue (copy attached). The mission also shared initiatives being carried out in this regard in the Gujarat State Highways Project. It was agreed that PRBDB would forward a draft proposal to the Bank for discussion by January, 2006.



## Standard clauses in the Works Bidding Document, May 2005

<p><b>6.7 Health and Safety</b></p>	<p>The Contractor shall at all times take all reasonable precautions to maintain the health and safety of the Contractor's Personnel. In collaboration with local health authorities, the Contractor shall ensure that medical staff, first aid facilities, sick bay and ambulance service are available at all times at the Site and at any accommodation for Contractor's and Employer's Personnel, and that suitable arrangements are made for all necessary welfare and hygiene requirements and for the prevention of epidemics.</p> <p>The Contractor shall appoint an accident prevention officer at the Site, responsible for maintaining safety and protection against accidents. This person shall be qualified for this responsibility, and shall have the authority to issue instructions and take protective measures to prevent accidents. Throughout the execution of the Works, the Contractor shall provide whatever is required by this person to exercise this responsibility and authority.</p> <p>The Contractor shall send, to the Engineer, details of any accident as soon as practicable after its occurrence. The Contractor shall maintain records and make reports concerning health, safety and welfare of persons, and damage to property, as the Engineer may reasonably require.</p> <p>HIV-AIDS Prevention. The Contractor shall conduct an HIV-AIDS awareness programme via an approved service provider, and shall undertake such other measures as are specified in this Contract to reduce the risk of the transfer of the HIV virus between and among the Contractor's Personnel and the local community, to promote early diagnosis and to assist affected individuals.</p> <p>The Contractor shall throughout the contract (including the Defects Notification Period): (i) conduct Information, Education and Consultation Communication (IEC) campaigns, at least every other month, addressed to all the Site staff and labor (including all the Contractor's employees, all Sub-Contractors and Consultants' employees, and all truck drivers and crew making deliveries to Site for construction activities) and to the immediate local communities, concerning the risks, dangers and impact, and appropriate avoidance behavior with respect to of Sexually Transmitted Diseases (STD)—or Sexually Transmitted Infections (STI) in general and HIV/AIDS in particular; (ii) provide male or female condoms for all Site staff and labor as appropriate; and (iii) provide for STI and HIV/AIDS screening, diagnosis, counseling and referral to a dedicated national STI and HIV/AIDS program, (unless otherwise agreed) of all Site staff and labor.</p> <p>The Contractor shall include in the program to be submitted for the execution of the Works under Sub-Clause 8.3 an alleviation program for Site staff and labor and their families in respect of Sexually Transmitted Infections (STI) and Sexually Transmitted Diseases (STD) including HIV/AIDS. The STI, STD and HIV/AIDS alleviation program shall indicate when, how and at what cost the Contractor plans to satisfy the requirements of this Sub-Clause and the related specification. For each component, the program shall detail the resources to be provided or utilized and any related sub-contracting proposed. The program shall also include provision of a detailed cost estimate with supporting documentation. Payment to the Contractor for preparation and implementation this program shall not exceed the Provisional Sum dedicated for this purpose.</p>
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### **Infrastructure and HIV/AIDS in South Asia: A multi-sector brief**

Over 5 million people in South Asia are living with HIV/AIDS (UNAIDS 2003). In most countries in the region, the epidemic is concentrated within certain high-risk populations, echoing the pattern earlier seen in many other countries with now more mature epidemics.

Targeting such groups with focused interventions remains one of the key strategies employed globally to tackle the epidemic at this stage. It has also been recognized that because of the complex nature of the HIV/AIDS epidemic and its broad social and economic impact, every sector is affected and is vulnerable to the epidemic. It is in realization of this that the Government of India has committed itself to adopting a multisectoral approach to combating the HIV/AIDS epidemic. This is evidenced by the National level forum of ministers from different sectors all committed to fighting HIV/AIDS from their various departments.

One key sector is the transport sector. The transport sector is not only vulnerable to the HIV/AIDS epidemic, but it has a significant impact on the trend of the epidemic and may serve as a social vector in the transmission of the disease. This bi-directional relationship that transport has with the HIV epidemic makes it a crucial sector in any effective attempt to combat the epidemic and limit its impact.

#### **Different categories of vulnerable groups in transport and infrastructure sector**

- Long-distance truck drivers
- Other operators of buses, trucks, trains, ships and airplanes
- Migrant workers
- Allied workers such as loaders, vulcanizers, mechanics and workers in roadside workshops, workers in dhabas, filling station employees, lodge owners.
- Residents of the surrounding communities around project sites.
- Other employees in the industry (Staff of the respective ministries and departments)
- Regular partners and spouses of these groups.

#### **Rationale for mainstreaming HIV/AIDS in the infrastructure sector in South Asia**

Mainstreaming HIV prevention across sectors is gaining currency in the global fight against HIV, partly due to the multisectoral nature of the problem, and also because it is necessary in order to mount any substantial response to the epidemic. This is important in the transport sector for the reasons outlined below.

- **Increased vulnerability of the transport and infrastructure sector:** The nature of the transport sector makes it increasingly vulnerable to the HIV epidemic. Transport workers are twice as likely to acquire HIV than workers in 'low-risk' occupations<sup>1</sup> especially for the following reasons.
  - **Migration of workers/ prolonged absence from home:** Most transport and infrastructure projects attract migrant and unskilled labor to project sites. These workers, mostly men are separated from their partners and families for prolonged periods at a time and they thus have an increased predisposition to engage in risky behaviors. Migration of people as a result of opening up of access routes also

<sup>1</sup> Research by the International Transport Workers Federation, Report on the global HIV/AIDS epidemic, 2002 UNAIDS.

increase the probability of spreading the infection from one locus to another as increased mixing of people occurs.

- Sex workers (CSWs)/Dhabas along the highway: Most of the major routes are laden with rest stops or dhabas. These dhabas form the bases from which many sex workers operate, hence serve as meeting points between the CSWs and their clients, who are mostly truck drivers and their helpers.
  - High rate of STIs and poor access to care and treatment: Several studies have revealed high rates of STIs among truck drivers, indicating high levels of risky sexual behavior. The presence of these STDs and lack of access to adequate medical care and treatment also increase their vulnerability to HIV infection
  - Ignorance and knowledge deficits: Several migrant workers and long distance truck drivers are not very educated and also lack knowledge about HIV and STDs, hence are ill informed about ways of protecting themselves. This coupled with common acts like alcohol consumption often lead to poor judgment on their part and increased high risk behavior
  - Certain spots like train stations serve as meeting points for high-risk behaviors like injecting drug use and as 'cruising grounds' men who have sex with men.
- **The impact of HIV/AIDS on the transport and infrastructure sector**: The HIV/AIDS epidemic if unchecked, threatens to impede the transport sector from achieving its development objectives, through an increase in morbidity and mortality. The impacts include
    - Reduced productivity due to AIDS-related illness (up to 6-8 percent reduction in profits). Given the high prevalent rates and the poor access to treatment, it is likely that a significant proportion of the workers will experience a drop in productivity due to ill-health as the disease progresses.
    - Increased costs of worker benefits and health expenses. In order to avert losses from reduction in productivity, employers will find themselves faced with increasing health care costs for affected employees, a pattern seen in countries with mature epidemics. With increasing global advocacy for treatment, the need for more expensive health care benefits which provide coverage for treating AIDS-related illnesses and for ARTs will increase.
    - Declines in the sector's overall productivity and earnings. This occurs as a cumulative result of frequent turnover of employees due to increased illness and mortality from AIDS. There is also the risk of attrition in skills and expertise.
    - Increased costs in training and hiring replacements for workers lost to the disease.

#### **Impact of the transport and infrastructure sector on the HIV/AIDS epidemic:**

The transport sector has been shown in other countries to be a vector for transmission of the HIV virus and it is also poised to be one of the very effective routes of channeling interventions to curb the epidemic. The former is as a result of the following:

- Groups with high risk behavior: As highlighted above, many workers associated with this industry constitute high risk populations for the spread of HIV. Their susceptibility is enhanced by
  - High prevalence of STDs
  - Frequent interactions with CSWs
  - Increased alcohol use
- Bridge populations: Due to the nature of their work and their increased mobility, they serve as an important bridge population for spreading the infection from

- High-risk to low-risk groups (thereby changing the epidemic from a concentrated one to a generalized one)
- Rural to urban populations and vice versa
- Spread to the surrounding communities. The communities which provide the environment in which these high risk behaviors occur are also vulnerable to its spread.

On a positive note, the transport industry has a unique opportunity to be a very effective tool for channeling interventions to these groups through

- Disseminating information about HIV prevention. This is possible, given the fact that the passengers are a captive audience, hence irrespective of the mode of transportation, (Rail, Road, etc) messages can be directed to passengers. Interventions which lead to behavior change among such groups with a high turnover of contacts that can be potentially infected, is one of the most successful and cost-effective interventions.

#### **Addressing HIV/AIDS from the transport and infrastructure sector**

Any successful intervention will require adopting a comprehensive approach to addressing this issue. This will involve both Cognitive (individual) and structural interventions. These include

- Peer-led education and training, using champions within the respective groups being targeted. These educators should be trained to deliver appropriate information to their peers, and to direct them to where they can obtain help if needed.
- Behavior Change Communication: This is important to counter a lot of misconceptions about HIV/AIDS and to deal with the issue of ignorance and stigma that persists. Awareness campaigns need to be organized; IEC material should be strategically displayed and maintained.
- Advocacy with the policy makers and stakeholders (including the community, law enforcement agencies and government at all levels)
- Creation of an enabling environment for services to be provided and for fostering behavior change such as
  - Creation of more official rest stops for bus drivers, devoid of the CSWs and other factors that make for high risk behavior.
  - Granting frequent home leave for the migrant workers as well as creating family-friendly environments and residences where their families can stay with the workers when away from home.
  - Condom promotion as well as creating convenient locations for condom purchase.
- Institution of workplace policies on HIV/AIDS, addressing issues like discrimination or stigmatization of affected workers.
- Care and Support
  - General Medical services and facilities for treatment of STDs should be provided for the workers and should be strategically placed at the rest stops
  - Provision of and referral to VCT and counseling centers
  - ARV treatment, care and support for affected individuals

#### **What can a sector agency (such as a PWD or utility company) do?**

- Adopt the ILO code of practice on HIV/AIDS into the workplace.
- Institute a corporate policy on HIV/AIDS.

- Establish work-place interventions, such as education, information sharing, and referral services to Voluntary Counseling and Testing Centers and commit funds to it.
- At the State level, establish a formal relationship between the Public Works Department (PWD) and the State or provincial AIDS Control Society
- Work with the respective State AIDS Control Society (SACS) and the National AIDS Control Organization (NACO) for providing technical support. This may involve coordinating with NGOs and other development partners. Access NACO website <http://www.nacoonline.org/>
- Appoint a focal person within your organization for coordinating HIV/AIDS activities
- Introduce clauses (HIV contract clause) for HIV/AIDS mitigation in civil works contracts as well as signed agreements for HIV interventions.

#### How can the World Bank assist in projects?

- The World Bank supports the National AIDS Control Programs, which have multisector components. Please make enquiries with the National AIDS Program.
- The World Bank can provide technical advice/ assistance on starting an HIV/AIDS intervention in the workplace or as part of a project
- The World Bank can mobilize some funds to assist in starting off such programs with our clients
- The World Bank can provide guidance to other available resources (e.g. Transport and HIV toolkits parts 1 and 2 and examples from Africa)

#### Sources for further information

##### *The World Bank South Asia HIV/AIDS website*

Links to country briefs and general information

<http://www.worldbank.org/saraids>

##### *Transport Sector and HIV/AIDS*

Link to the Transport Sector's social responsibility programs including HIV/AIDS

<http://www.worldbank.org/responsibletransport>

##### *National AIDS Control Program in India*

Link to the website detailing the programs and activities of the National AIDS Control Program in India <http://www.nacoonline.org>

##### *The ILO code of Practice*

This is a framework for action related to the workplace and contains key principles for policy development as well as practical guidelines for programs at company, community and national levels. [www.ilo.org/aids](http://www.ilo.org/aids)

##### *The IFC Good Practice Note on HIV in the workplace*

This is a useful tool that outlines how an organization may intervene and the corporate roadmap to HIV helps the company assess its commitment and level of intervention

[http://ifbq14.ifc.org/ifext/aids.nsf/AttachmentsByTitle/Good+Practice+Note+on+HIV+AIDS+-+E.english/\\$FILE/Good+Practice+Note+on+HIV+AIDS+-+E.english.pdf](http://ifbq14.ifc.org/ifext/aids.nsf/AttachmentsByTitle/Good+Practice+Note+on+HIV+AIDS+-+E.english/$FILE/Good+Practice+Note+on+HIV+AIDS+-+E.english.pdf)

## Proposed Punjab State Roads Sector Project Financial Management Arrangements

### Proposed Institutional Arrangements

Punjab Roads and Bridges Development Board (PRBDB) has been designated as the key implementing agency under the project. It is proposed that specific PWD teams will be established in the field for implementation of the specific project activities. While the activities up to stage of contract signing are proposed to be managed at level of the PRBDB, contract execution is proposed to be managed by the PWD. Broadly two options are available for funds flow and release of payments.

Option A – All Payments are centralized at the PRBDB.

Option B – Payments relating to the up-gradation/ rehabilitation works are made by the PWD teams and funds for the same are transferred to them.

Under both the options, an additional issue/ option relates to mode of transfer of funds i.e. (i) through the state treasury system (as used under the state budget) or (ii) commercial banking channels (as used for schemes like the PMGSY).

The final decision on the implementation arrangements would be taken considering factors as diverse as (a) statutory role of PRBDB vis-à-vis PWD (b) contract terms and conditions (c) capacity at various levels in the department (d) monitoring and evaluation aspects (e) fiduciary aspects including financial management (FM).

From FM perspective; (I) a decentralized system would be preferable to ensure that authorization of payments are closer to the ground and responsibility for payment is broad based (II) regarding the channel of flow of funds; the use of state treasury systems would be preferable since these come with the attached (tried and tested) system of checks and balances. Final decision on this would need to take into account, views of the Finance Department (FD) of the Government of Punjab (GoP).

### Funds Flow (World Bank to GoI to GoP)

Funds from the World Bank would flow to the Government of India (GoI) which would pass the same on to GoP for use under the project. As per recent guidelines issued by the Department of Economic Affairs (DEA), GoI all loans signed by GoI after April '05 would be passed on to state governments on basis of the back to back (B2B) funding arrangements. GoI is still working through the detailed implementation guidelines under these arrangements. A decision on how this would work in the case of this Punjab State Roads Sector Project would need to be available prior to appraisal in April 2006.

### Auditing Arrangements

Audit Policy and the supporting guidelines of the Bank state that usually existing GoI auditing arrangements are acceptable to the Bank. Audit Report is required to be as per Terms of Reference as acceptable to the Bank, these are usually discussed and agreed with the auditors prior to the project commencement. Depending on the finalized project implementing arrangements, in case all payments are made at level of PRBDB then auditors would be the Statutory Auditors of PRBDB i.e. the Local Funds Auditors (ELFA) and in case a part of the payments are made at level of the PWD teams i.e. the Divisions, auditors would be the State Auditor General i.e. AG (Audit). Audit Reports are required to be submitted to the Bank within six months of close of the financial year i.e. by September of each year.

**FM capacity**

It is envisaged that PRBDB would play a key role. FM capacity at PRBDB needs to be augmented in context of its activities under the project/ other activities. There is need to introduce professionally qualified FM staff to ensure that activities as diverse as raising of funds, loan repayments, financial accounting, consolidation of information, audit etc. are effectively managed. Additionally, it is suggested that PRBDB ensure implementation of PMGSY accounting software at the earliest; initiatives on the same have already been taken and request made to GoI to provide necessary training to project implementing staff.

**Financial Management Manual (FMM)**

FMM is a useful tool to ensure uniformity of accounting and effective monitoring of the FM function on any project. PRBDB should commence preparation of a FMM applicable to the proposed project.

**The PRBDB background.**

The Board was set up by an act of Punjab Legislature in 1998. It is an autonomous body, headed by the Member Secretary who is also the Principal Secretary PWD. Other than common top management, the Board has no relationship with PWD. It has, however, been used as the vehicle for raising loans and bonds for PWD. These loans and bonds have been guaranteed by GOP, and the Board has been allowed to charge a 1% fee for administrative expenses. This has been the only source of income for PRBDB, and it has not received any other budgetary support from GOP. PRBDB is also one of the implementing agencies for the Pradhan Mantri Grameen Sadak Yojna (PMGSY) for which it receives funds from the Ministry of Rural Development and disburses them to project implementation units. PRBDB is paid a total administrative fees of 2.25% of the value of the construction packages implemented. These funds are be used for the running expenses for the PMGSY project and is shared between the Board and other implementation units.

*Accounting, Audit and Financial Reporting:* The Act, under which PRBDB was established, mandates the regular preparation of accounts and their annual audit by the Examiner of Local Fund Audit (ELFA). There are two accounts officers, drawn from the state finance service, who are responsible for accounting. The accounts are prepared on a modified accrual basis with assets and liabilities being reported but no provisioning for unpaid liabilities. The last finalized accounts for PRBDB are for the year 2002-2003, but these are not audited. The previous years' audited accounts were not readily available, and it was agreed that these would be forwarded to the Bank. There is no statutory requirement on PRBDB to submit its accounts to the government or the legislature in Punjab.

PRBDB's accounting capacity in need of improvement. The irregular and pending audit is a cause for concern which needs to be addressed in the preparation of this project. The accounts are prepared with assistance from an outside firm of accountants who are also the auditors for the PMGSY program which is being implemented by the Board. This is a conflict of interest and the segregation of the accounting and audit functions should be carried out as soon as possible. PRBDB informed the mission that approval for a separate accounts officer for the World Bank project had been obtained from GOP and it is likely that this person would also assist in the preparation of the Board's accounts.

*Accounting, Funds Flow, Audit and Financial Reporting for PMGSY:* PRBDB is the implementing agency for PMGSY projects, and has the responsibility for maintaining accounts, having them audited in time and performing all other statutory obligations. The Board maintains

separate accounts in a commercial bank to receive and disburse PMGSY funds and also maintains separate books of accounts. The accounts are maintained by PRBDB's accounts staff, with assistance from the auditors of the project. The project's accounts are updated and are subject to annual yearly audits conducted by a firm of private auditors. The Mission found that the accounts and audits for the project are current.

*Cash Flow:* PWD Chief Engineers indicated that they had faced serious constraints with regard to cash flow for maintenance activities. This was an issue related to non-availability of funds rather than to any bureaucratic and approval processes. The situation has significantly improved in this financial year, since funds have become available within the GOP. The PWD indicated that the arrangement for the funds to come through the Board (such as in the PMGSY) has been efficient. Payment to contractors are made within a few days. The mission suggested that the GOP give consideration to using the PRBDB mechanism and to have a project specific special account, if this is possible within GOI's framework.



**Proposed Punjab State Roads Sector Project  
Procurement Arrangements**

1. *Procurement guidelines.* The World Bank's procurement guidelines and procedures should be followed in procurement activities pertaining to the project. These are in many ways similar to what is already being used in Punjab. Copies of the *Procurement Guidelines* were provided for making the same available to all the staff, who will be engaged in the project's procurement activity. In particular, the mission explained the various general principles for bidding process, such as fair and open competition through bids invited through open advertisements, opening of bids in public, single envelope system for bidding, dispensing with several layers of approval process of procurement decisions, doing away with the preferences to any specified section of bidders, expedite decisions within the first validity of bids, rejection of all bids and re-bidding and negotiations with the bidders etc.
2. *Standard Bidding Documents.* The mission emphasized its requirement for both the agencies to familiarize themselves of the Standard Bidding Documents of the Bank, already forwarded to them electronically. The mission explained to the officers of these organizations, the contents of the documents and features introduced in the May, 2005 version of the Major Civil Works documents. The mission suggested that the concerned officials may seek any clarifications on the provisions by way of contacting the Bank's procurement staff/ Task Team Leader at any time after having studied the documents.
3. *Readiness of bidding documents.* The mission advised PRBDB/ PWD of the Bank's requirements for readiness of the GoP to enable the Bank move forward for the Appraisal and Negotiations of the loan.
4. *Procurement Assessment.* The mission observed that details furnished to the Bank in the documents received from Punjab Roads and Bridges Development Board (PRBDB) and of the Punjab Public Works Department (PWD), in response to the Questionnaire on Capacity Assessment of the implementing agencies to be involved in the procurement under the proposed project, were incomplete and at certain places carried contradictory details. The mission, therefore, held discussions with various officials of PRBDB and PWD. The various sections of the format were explained again, at length, also explaining the need for such information and the completeness of the same. PRBDB/ PWD confirmed that they will furnish complete information, along with supporting documents, elaborating the details so furnished and with the supporting documents as were explained to them in the previous mission in June, 2005.
5. *E-procurement.* The mission had the opportunity to have discussions with the official from the IT department of the State. The state's initiative to implement e-procurement in the government procurement, specifically by PWD was presented to the mission. The mission appreciated the efforts of the GoP. The mission advised that since the GoP were following the GoAP model for implementing the system, they may get feedback from GoAP on their experiences, including the costs and control over the system integrity and security aspects. The mission also agreed to provide the harmonized document entitled "*E-Bidding Requirements for MDB Loans, Grants and Credits*" which provides guidance on the requirements for a borrower's system to be acceptable to the Banks, in order for the GoP to be fully aware of the requirements. The PRBDB indicated that the system they had in place would be complemented by an additional "module" to allow for procurement under this project to comply with World Bank procurement

guidelines – specifically but not limited to single envelope submission and bid opening, and the option for manual submission should a contractor wish to use this. In any case all adverts and bid documents would be available electronically. PRBDB would have the system available by February 2005.

6. The GoP made a presentation to the mission in respect of the Implementation Arrangements in the area of procurement, with plans to staff the same and training/ capacity building aspects.

7. *Procurement reforms.* During the course of its discussions on the procurement capacity and risk assessment, it transpired that several practices followed by the government departments in procurement of goods and works were rather unacceptable in the light of Bank's emphasis on fairness, equal opportunity and transparency in public procurement. In the absence of a Procurement Law both at the Center and the state levels, the system was ill placed to remedy these practices. These practices and circumstances were clearly identified as candidates for reforming to enhance the state's esteem in the eyes of stake-holders and offered a platform to embark on a Procurement Reforms process in the state. The mission registers its satisfaction that Joint Secretary (PRBDB), showed keenness to carry this agenda forward in the state. The mission handed over a draft Action Plan for the reforms, which is based on the CPAR recommendations, to him to study and revert with comments on various aspects with a time-table to accomplish the task of reforms.

8. *Training.* The mission stressed the need to train the procurement staff adequately and expressed its willingness to organize requisite workshops and training sessions, for their staff. The mission was informed that PRBDB/ PWD will nominate their staff for training in Bank procurement guidelines and procedures to be conducted in the following months at ASCI, Hyderabad and NIFM, Faridabad. Training for some staff had already commenced.

9. *Procurement Plan.* A possible procurement plan is given below. Costs need to be updated as more information becomes available, the 6 km road will be re-packaged, and the prior review limits will be refined based on the procurement assessment, consultant services and goods need to be added.

## Possible Procurement Plan for works

Ref No	Contract Description	Upgradation Length (in kms)	Estimated cost (US\$)	Procurement Method	P-Q	Domestic preference	Review By Bank (Prior/Post)	Expected Bid opening Date	Comm
1	Sirhind - Patiala	30	13,500,000	ICB	N/A	No	Prior	30-Jun-06	None
2	Kharar - Landran - Banur - Tepla	39	17,550,000	ICB	N/A	No	Prior	30-Jun-06	None
3	Phillaur - Nagar	6	2,700,000	ICB	N/A	No	Prior	30-Jun-06	None
4	Ludhiana - Dehlon - Malerkotla	43	19,350,000	ICB	N/A	No	Prior	30-Jun-06	None
5	Patiala - Nabha	26	11,700,000	ICB	N/A	No	Prior	30-Jun-06	None
	<b>TOTAL</b>	<b>144</b>	<b>64,800,000</b>						

Ref No	Contract Description	Rehabilitation Length (in kms)	Estimated cost (US\$)	Procurement Method	P-Q	Domestic preference	Review By Bank (Prior/Post)	Expected Bid opening Date	Comm
1	Ferozpur Zira - Kot Ise Khan - Dharamkot	59	14,750,000	ICB	N/A	No	Prior	30-Jun-06	None
2	Chandigarh - Sirhind	41	10,250,000	ICB	N/A	No	Prior	30-Jun-06	None
3	Rahon-Aur to Nagar	29	7,250,000	ICB	N/A	No	Prior	30-Jun-06	None
4	Malerkotla Dhuri Sangrur	33	8,250,000	ICB	N/A	No	Prior	30-Jun-06	None
5	Attari - Chahal - Taran Taran - Kapurthala	92	23,000,000	ICB	N/A	No	Prior	30-Jun-06	None
	<b>TOTAL</b>	<b>254</b>	<b>63,500,000</b>						

Ref No	Contract Description	Periodic Maintenance Length (in kms)	Estimated cost (US\$)	Procurement Method	P-Q	Domestic preference	Review By Bank (Prior/Post)	Expected Bid opening Date	Comm
1	Xxx	100	5,000,000	NCB	N/A	No	Prior	01-May-06	No
2	Xxx	100	5,000,000	NCB	N/A	No	Post	01-May-06	No
3	Xxx	100	5,000,000	NCB	N/A	No	Post	01-May-06	No
4	Xxx	100	5,000,000	NCB	N/A	No	Post	01-May-06	No
	<b>TOTAL</b>	<b>400</b>	<b>20,000,000</b>						

**India: Punjab State Roads Sector Project**  
**Project Appraisal Document - Procurement Arrangements - draft**

**A. General**

Procurement for the proposed project would be carried out in accordance with the World Bank's "Guidelines: Procurement Under IBRD Loans and IDA Credits" dated May 2004; and "Guidelines: Selection and Employment of Consultants by World Bank Borrowers" dated May 2004, and the provisions stipulated in the Legal Agreement. The various items under different expenditure categories are described in general below. For each contract to be financed by the Loan/Credit, the different procurement methods or consultant selection methods, the need for pre-qualification, estimated costs, prior review requirements, and time frame are agreed between the Borrower and the Bank in the Procurement Plan. The Procurement Plan will be updated at least annually or as required to reflect the actual project implementation needs and improvements in institutional capacity.

**Procurement of Works:** Works procured under this project would include: upgrading, rehabilitation, periodic maintenance and black-spot improvement of major roads. The procurement will be done using the Bank's Standard Bidding Documents (SBD) for all ICB and updated model NCB document as agreed with GOI/ Task force for use in India.

**Procurement of Goods:** Goods procured under this project would include: computers, Geographical Information Systems, and automatic traffic counting systems. The procurement will be done using the Bank's SBD for all ICB and updated model NCB document as agreed with GOI/ Task force for use in India.

**Procurement of non-consulting services:** *[Provide a general description of non-consulting services to be procured under the project and information on the bidding documents to be used for the procurement.]*

**Selection of Consultants:** Consultant services will be procured for the supervision of road works construction, *[Provide a general description of the consulting services from firms and individuals required for the project.]* Short lists of consultants for services estimated to cost less than \$\_\_\_\_\_ equivalent per contract may be composed entirely of national consultants in accordance with the provisions of paragraph 2.7 of the Consultant Guidelines. *[If applicable, provide any information regarding engaging universities, government research institutions, public training institutions, NGOs, or any special organizations.]*

**Operating Costs:** Operating costs will be financed by the government.

**Others:** *[Describe if any special arrangements for scholarships, grants etc.]*

The procurement procedures and SBDs to be used for each procurement method, as well as model contracts for works and goods procured, are presented in the *Project Implementation Plan of the Punjab State Roads Sector Project, May 2006*

## **B. Assessment of the agency's capacity to implement procurement**

Procurement activities will be carried out by the Punjab Roads and Bridges Development Board of the Government of Punjab – *to be discussed.* The agency is staffed by [*describe the key staff positions*], and the procurement function is staffed by [*describe the staff who will handle procurement*].

An assessment of the capacity of the Implementing Agency to implement procurement actions for the project has been carried out by M. Bajaj on 20 December 2005. The assessment reviewed the organizational structure for implementing the project and the interaction between the project's staff responsible for procurement Officer and the Ministry's relevant central unit for administration and finance.

The key issues and risks concerning procurement for implementation of the project have been identified and include [*describe the risks/issues*]. The corrective measures which have been agreed are [*Describe the corrective measures*].

The overall project risk for procurement is [*give the risk rating*].

## **C. Procurement Plan**

The Borrower, at appraisal, developed a procurement plan for project implementation which provides the basis for the procurement methods. This plan has been agreed between the Borrower and the Project Team on April 30, 2006 and is available at the Punjab Roads and Bridges Development Board office in Chandigarh, Punjab, on their web site <http://prbdb.gov.in/> and in the Public Works Department in Patiala, Punjab. It will also be available in the project's database and in the Bank's external website. The Procurement Plan will be updated in agreement with the Project Team annually or as required to reflect the actual project implementation needs and improvements in institutional capacity.

## **D. Frequency of Procurement Supervision**

In addition to the prior review supervision to be carried out from Bank offices, the capacity assessment of the Implementing Agency has recommended **six monthly** supervision missions to visit the field to carry out post review of procurement actions.

**E. Details of the Procurement Arrangements Involving International Competition****1. Goods, Works, and Non Consulting Services**

(a) List of contract packages to be procured following ICB and direct contracting:

1	2	3	4	5	6	7	8	9
Ref. No.	Contract (Description)	Estimated Cost	Procurement Method	P-Q	Domestic Preference (yes/no)	Review by Bank (Prior / Post)	Expected Bid-Opening Date	Comm

(b) All ICB contracts and all direct contracting will be subject to prior review by the Bank.

**2. Consulting Services**

(a) List of consulting assignments with short-list of international firms.

1	2	3	4	5	6	7
Ref. No.	Description of Assignment	Estimated Cost	Selection Method	Review by Bank (Prior / Post)	Expected Proposals Submission Date	Comments

(b) Consultancy services estimated to cost above US\$ 200,000 equivalent per contract for firm and US \$ 100,000 per contract for individuals and single source selection of consultants for assignments estimated to cost above US\$ 50,000 will be subject to prior review by the Bank.

(c) Short lists composed entirely of national consultants: Short lists of consultants for services estimated to cost less than US\$ 500,000 equivalent per contract, may be composed entirely of national consultants in accordance with the provisions of paragraph 2.7 of the Consultant Guidelines.

**Proposed Punjab State Roads Sector Project**  
**SAMPLE PROJECT IMPLEMENTATION READINESS FILTER**

I	Project concept	<ul style="list-style-type: none"> <li>• Use of SMART objectives: S (Specific), M (Measurable), A (Adaptable to Project Specifics), (Reasonable) and T (Timebound)</li> <li>• Keep It Simple (the KIS rule)</li> </ul>
		<p>By appraisal, agree on:</p> <ul style="list-style-type: none"> <li>o Set of indicators</li> <li>o How indicators will be measured and whether both the quality of measurement and timing of measurement is appropriate and feasible.</li> </ul> <p>By negotiations:</p> <ul style="list-style-type: none"> <li>o agree on values for indicators; and</li> <li>o collect baseline data.</li> <li>o Limit number of project components.</li> <li>o Limit project/loan size; and</li> <li>o Reduce civil works phases to a maximum of two during implementation period.</li> </ul> <p>Aim for no more than 5 years implementation period after Board approval.</p> <p>In the case of follow-on/repeater projects, ICR (at least in draft form) of previous project should be ready by appraisal for lessons to be learned/applied in time (e.g. Reproductive &amp; Child Health).</p>
II	Procurement readiness	<p>Procurement Plan for the first 18 months should be prepared by appraisal and finalized by negotiations, and should cover civil works, goods and key consultancy contracts.</p> <ul style="list-style-type: none"> <li>o bids for contracts worth 25% of the project cost (or the first phase) received prior to negotiations and award finalized for such contracts prior to Board approval</li> <li>o <u>Land acquisition and resettlement (LA&amp;R)</u> <ul style="list-style-type: none"> <li>• LAER plans are ready</li> <li>• Land acquired and people resettled by an agreed timeframe.</li> <li>• Land to be made available for civil works for the first section(s) of the first phase.</li> <li>• Delays in LA to trigger an exit strategy for the Bank (to be agreed with the borrower in advance) by the Bank.</li> <li>• LA / pre-construction activities, including utility shifting and tree cutting, completed by negotiations.</li> </ul> </li> <li>o Request for Proposal (RFP) for major/critical consultancies should be issued before negotiations.</li> <li>o Key project staff (project director, procurement, FM, safeguard) should be identified early in the project cycle and be in position by appraisal. The project director should participate in the negotiations.</li> <li>o Tenure of key staff should be, to the extent possible, for three years or more.</li> <li>o Project management consultant, if critical to the successful implementation of the project, should be in place by negotiations and should ideally join negotiations.</li> </ul>
III	Key policy & institutional reforms	<p>Key policy (legislation, government order) and institutional (structural reorganization, functional changes) reforms, if critical to the successful implementation of the project, should be enacted/implemented prior to negotiations.</p>

V	<b>Institutional arrangements</b>	<ul style="list-style-type: none"> <li>○ Institutional responsibilities for project implementation agreed and clearly specified in the project documents.</li> <li>○ Project Implementation Plan (or Operational Manual) prepared by client and agreed during appraisal.</li> <li>○ Community participation/user groups started before negotiations to the extent feasible; piloting initiated during preparation, possibly using DFID resources.</li> <li>○ Procurement decision making structure should be defined by appraisal.</li> <li>○ Funds flow issues should be resolved, FMS in place, and disbursement/audit arrangements agreed, all by appraisal.</li> <li>○ For <b>high risk projects</b>, communication strategy in place by appraisal.</li> </ul> <p><i>Note: Please also see the specific implementation readiness filters for financial management.</i></p>
/	<b>DEA requirements</b>	<ul style="list-style-type: none"> <li>○ Project Director to participate in negotiations.</li> </ul>
I	<b>Safeguard requirements</b>	<p><b>Environment:</b></p> <ul style="list-style-type: none"> <li>○ RFP, EA and EMP for Category A projects prepared by the client and submitted prior to appraisal.</li> <li>○ Capacity for implementation of EMP assessed by appraisal.</li> <li>○ EA/SA disclosed prior to appraisal<sup>2</sup>.</li> </ul> <p><b>Social:</b></p> <ul style="list-style-type: none"> <li>○ RAP/RPF or IPDP prepared by the client and submitted prior to appraisal</li> <li>○ Capacity for implementation of RAP/RPF/IPDP assessed prior to appraisal</li> <li>○ RAP/RPF/IPDP disclosed prior to appraisal<sup>3</sup></li> </ul> <ul style="list-style-type: none"> <li>○ The Entitlement and Resettlement Framework/Matrix for overall project and specific RAPs to be implemented in the first year should be agreed by appraisal. The LA and R&amp;R for the first milestone stretches should have been completed by the award of the corresponding contracts. There should also be a realistic LA and R&amp;R schedule for the remaining milestone stretches agreed with the Bank before award of contract which should correspond with the physical handing over of the sites to the contractor.</li> <li>○ Introduce a dated covenant for the full implementation of all RAPs for the project within 18 months of Board presentation.</li> <li>○ On environment, an environment management framework based on the preliminary assessment of the roads and screening studies should be prepared and agreed with the Bank before appraisal. The EMPs for the first year components should have been prepared and agreed with the Bank during the appraisal mission. All central and state government clearance pertaining to forests, other sensitive sites and pollution etc. for phase I work should have been obtained before inviting negotiations. All tree cutting and utility shifting activities for the first milestone stretches should have been completed for any contract along with a detailed plan for the remaining milestone stretches before its award is finalized and approved by the Bank. For the first year contracts this will correspond to loan/credit effectiveness.</li> <li>○ Agree on setting up a high level coordination committee on utility relocation and signing of MOUs between PWDs/NHAI and other utility agencies before negotiation.</li> <li>○ For small contracts covering small lengths of roads or areas we should insist upon all the pre-construction activities like LA, R&amp;R, tree cutting, utility shifting for the entire stretch to be completed by award. For first year contracts this would automatically mean that these activities</li> </ul>

<sup>2</sup> Pelosi Amendment – 120 days prior to Board.

<sup>3</sup> Pelosi Amendment – 120 days prior to Board.



		would have been initiated by appraisal or latest before inviting negotiations.
<b>VII</b>	<b>Retroactive Financing</b>	<ul style="list-style-type: none"><li>○ New Country Financing Parameters allow up to 20% of the loan amount. Other aspects to be discussed further.</li><li>○ Make full use of the retroactive financing provision, i.e. this is equivalent to shifting the entry point of the project for Bank financing, well into the implementation period.</li></ul>
<b>VIII</b>	<b>Conditionality</b>	<ul style="list-style-type: none"><li>○ Zero project conditions for effectiveness</li><li>○ EFC clearance to be obtained by negotiations</li><li>○ Number of legal covenants should be limited to 5-6 only; all these should be grounds for threatening suspension.</li></ul>

### Proposed Punjab State Roads Sector Project Environment Management

Note: All discussions outlined below were held along with PRBDB officials

#### Feasibility study

- Issues classified w.r.t. nature, extent and severity of impacts for up-gradation and rehabilitation roads
- Screening results in the form of a ranking matrix - assessing the type, scale and magnitude of impacts - with results shown in a table and on a map
- Project Influence Area/s with regard to sensitive areas along project corridors
- Identification of VECs - Sensitive Natural Habitats (Sanctuaries, Wetlands etc)
- Surface Water Resources (Rivers, Canals etc.)
- Ground Water Conditions
- Critical environmental conditions such as ground water condition, water logging, soil erosion, drainage, congestion and safety issues in settlement areas and availability of material sources; Hydrology/Drainage related (Area/Road-side); Flooding; especially in Settlement Sections
- Pollution – Baseline (Air, Water, Soil, Noise)
- Land-use
- Sensitive Community Properties (Religious/Cultural Property, Water Sources
- Cultural Heritage Sites
- Socio-economic profile
- Decision making matrix to scope EA and matrix documenting Public Participation to improve design - Identification of Stakeholders, locations and type of forums, issues raised, responses / justification of issues, transparency and sharing information with people.
- Opportunities for Environment Enhancements
- Opportunities for piloting innovative schemes such as tree transplantation, use of alternative construction materials, re-use/recycling of debris
- Environment Management Framework – as a roadmap for environment management for the road network )
- EA scoping and outline / guideline of EA methodology
- Decision making matrix on applicability of EA and EMP type
- Institutional mechanism for EMP implementation
- Matrix on applicable regulations and clearances
- Proposals and areas for training

#### Rehabilitation and Upgradation works

- Terms of Reference and Inception Reports
- Deployment of Environment Personnel, deliverables and timing
- Environmental Aspects to be covered in DPR preparation
- Standard drawings to indicate traffic diversions during construction
- Generic EMP for Rehabilitation Comp, aligned with output from Feasibility consultants
- Integration of EMPs into bidding documents
- Monitoring, Supervision, Reporting and Training (Upgradation Cons.) Requirements

#### Discussion with PRBDB – Environment and Social management Unit

- Sample generic EMP
- EA management and review criteria/method for good quality outputs from consultants
- "Prototype" bidding document and integration of EMPs

**Proposed Punjab State Roads Sector Project  
Social Safeguards – Resettlement and Land acquisition**

1. The mission held discussions with PRBDB and the consultants on the status of social safeguard instruments such as preparation of Rehabilitation Policy Framework, census baseline socio-economic surveys, social screening reports, and Resettlement Plans. The following is the summary of discussions and agreed next steps.
2. **Project specific Resettlement Policy Framework.** The mission offered its feedback and comments on the current version of the policy. The mission was informed that this version was circulated among the key government officials including the district collectors for their feedback. It was agreed that a revised version will be submitted to the Bank for formal review and endorsement by December 15, 2005. Following the Bank's comments, the PRBDB will disclose the draft version and also hold a workshop among the key stakeholders to hear their feedback and comments. The PRBDB will obtain the GOP's approval for the final Resettlement Policy Framework.
3. **Social Assessment.** The Feasibility consultants (CES) have carried out the consultations among the stakeholders and are now consolidating the views of the stakeholders. The key findings of these consultations will be reflected in the social assessment report. The findings of social assessment will be incorporated into the project designs as appropriate and relevant. As part of the Social Assessment, the consultants are expected to provide a social screening for all upgradation project roads which will provide inputs for final selection of the roads. The final draft Environment and Social Assessment Report will be available by December 15, 2006. It was clarified that the feasibility consultants should provide broad estimates of likely land acquisition and resettlement impacts in phase –II roads as part of their TOR to prepare the preliminary designs. This will provide basis for cost estimates of likely land acquisition and resettlement impacts in the overall project and also design the appropriate institutional arrangements.
4. **Census social-economic survey and Resettlement Plans for upgradation roads.** A small amount of private land acquisition (up to 20 acres) is likely to be involved depending on the final selection of the alignments for Phase-I roads. The consultants have mobilized the social impact specialist and will soon commence the census socioeconomic surveys and focus group consultations. The mission commented on the draft census questionnaire. The mission was informed that the road boundary markers have been fixed for ROW for the Phase –I roads which will facilitate the consultations the easy identification of likely impacts. The ROW maps were also made available to the consultants. It is expected that the surveys are expected to be completed by December 31, 2005 and the draft Resettlement Plans will be available by January 31, 2006. The mission advised that the outline/table of contents provided in the Bank's OP 4.12 (Annex A) should be followed while preparing Resettlement Plans and the scope covered should be as in the Annex A. Any deviation from this outline should be specifically approved by PRBDB.
5. **Social screening for rehabilitation roads.** It was informed that the land acquisition and resettlement impacts in the proposed rehabilitation roads will be minimal. The consultants will submit a social screening report for the Phase I rehabilitation roads confirming the potential impacts. Based on the finding of the social screening report, the type of resettlement instrument required will be determined. The social screening report is expected to be available by December 31, 2005.

6. **Next Steps.** The following key dates were agreed for submission of various key outputs related to social safeguards.

No	Action	By whom	By when	Remarks
1	Final draft Resettlement Policy Framework for Bank's review	PRBDB/CES	15-Dec-05	Bank will provide its comments/endorsement within 2 -3 weeks
2	Draft Environment and Social Assessment Report for Bank's review	PRBDB/CES	15-Dec-05	Social Screening for all roads will be completed by Dec-15 to facilitate the final selection of phase -II project roads.
3	Upgradation roads - Draft Resettlement Plans for Phase -I for Bank's comments	PRBDB/BCEOM	31-Jan-06	Census surveys will be completed by Dec 31,2005
4	Rehabilitation roads ( phase-I) Social Screening report for	PRBDB/ICT	31-Dec-05	Depending on the impacts, the type of RAP requirement will be determined.

### Performance Based Maintenance Contracts

1. In traditional contracts for maintenance works, the Contractor is responsible for the execution of works which are normally defined by the Road Administration or the Employer, and the Contractor is paid on the basis of unit prices for different work items, i.e. a contract based on "inputs" to the works. While this modality often brings improvement over force-account maintenance practices, the results are in many cases still less-than-optimal. The problem is that the Contractor has the wrong incentive, which is to carry out the maximum amount of works, in order to maximize its turnover and profits. Under this traditional way of "contracting out" maintenance works, it has been observed that even if a lot of work is carried out and much money is spent, the overall service quality for the road user depends on the quality of the design given to the Contractor who is not accountable for it and the results are sometimes not satisfactory.
2. The **Performance-Based Management and Maintenance Contract** tries to address the issue of inadequate incentives. During the bidding process, contractors compete among each other by proposing a fixed monthly lump-sum price per km of road to be paid to them. It is important to understand that contractors are not paid directly for "inputs" or physical works (which they will undoubtedly have to carry out), but for achieving specified Service Levels, i.e., the Rehabilitation of the road to pre-defined standards (if so required by the bidding documents), the maintenance service of ensuring certain Service Levels on the roads under contract and specific improvements (if so required by the bidding documents), all representing outputs or outcomes. The monthly lump-sum remuneration paid to the Contractor will cover all physical and non-physical maintenance services provided by the Contractor, except for unforeseen emergency works which would be remunerated separately. The Rehabilitation Works which have been explicitly specified by the Employer in the contract are quoted on the basis of measurable output quantities and paid as performed. In order to be entitled to the monthly payment for maintenance services, the Contractor must ensure that the roads under contract comply with the Service Levels which have been specified in the bidding document. It is possible that during some months he will have to carry out a rather large amount of physical works in order to comply with the required Service Levels, and very little work during other months. However, his monthly payment remains the same as long as the required Service Levels are complied with.
3. A fundamental feature of the performance-based contract is that the Contractor is responsible for designing and carrying out the actions he believes are necessary in order to comply with the Service Levels stated in the contract. The Service Levels are defined from a road user's perspective and may include factors such as average travel speeds, riding comfort, safety features, etc. If the Service Level is not achieved in any given month, the payment for that month may be reduced or even suspended.
4. Under the performance-based contract, the Contractor has a strong financial incentive to be both efficient and effective whenever he undertakes work. In order to maximize profits, he must reduce his activities to the smallest possible volume of intelligently designed interventions, which nevertheless ensure that pre-defined indicators of Service Level are achieved and maintained over time. This type of contract makes it necessary for the Contractor to have a good management capacity. Here, "management" means the capability to define, optimize and carry out on a timely basis the physical interventions which are needed in the short, medium and long term, in order to guarantee that the roads remain above the agreed Service Levels. In other words, within the contract limitations and those required to comply with local legislation, technical and performance specifications and environmental and social regulations, the Contractor is entitled to independently define: (i) what to do, (ii) where to do it, (iii) how to do it, and (iv) when to do it.

The role of the Road Administration and of the Employer is to enforce the contract by verifying compliance with the agreed Service Levels and with all applicable legislation and regulations.

5. Maintaining a road network includes both **routine** and **periodic** tasks. Routine maintenance consists of many different tasks frequently necessary to maintain the function of the road (such as pothole repairs, cleaning of drainage, sealing of cracks, cutting of vegetation, etc.). Periodic maintenance consists of predictable and more costly measures of a less frequent nature designed to avoid road degradation (such as grading, drainage work, resurfacing, asphaltic concrete overlays, etc.). Intelligent management, the timeliness of interventions and the adequacy of technical solutions are critical. It is expected that the use of private specialized firms under performance-based contracts will unleash significant efficiency gains, and stimulate innovation in comparison with traditional road administration practices.

6. Minimum road conditions and Service Levels are defined through performance measures, and these are used under the performance-based contract to define and measure the desired performance of the Contractor. In the Performance-Based Management and Maintenance Contracts, the defined performance measures are thus the accepted minimum thresholds for the quality levels of the roads for which the Contractor is responsible.

7. The performance criteria should ideally cover all aspects of the contract and take account of the fact that different sub-areas within the contract area might require different Service Levels. Criteria can be defined at three levels (although simpler contracts will not use all of the criteria identified below):

**Road User Service and Comfort** measures, which can be expressed in terms such as:

- Road Roughness
- Rutting
- Skid resistance
- Vegetation control
- Visibility of road signs and markings
- Availability of each lane-km for use by traffic
- Response times to rectify defects that compromise the safety of road users
- Attendance at road accidents
- Drainage off the pavement (standing water is dangerous for road users)

**Road Durability** measures, which can be expressed in terms such as:

- Longitudinal profile
- Pavement strength
- The extent of repairs permissible before a more extensive periodic maintenance treatment is required
- Degree of sedimentation in drainage facilities

**Management Performance** measures, which define the information the Employer requires both to govern the asset during the term of the contract, and to facilitate the next tender round.

Requirements should include:

- Delivery of regular progress reports to the Road Controlling Authority
- Inventory updates and other data sharing requirements
- Maintenance history (so subsequent tenderers can price the work).

To avoid ambiguity, all performance measures must be clearly defined and objectively measurable.

8. Together the performance measures define the minimum acceptable Service Level for the particular road. In setting the measures various criteria (both technical and practical) need to be carefully considered, such as (i) traffic volume and composition, (ii) urban vs. rural roads (iii) flat, hilly or mountainous terrain, (iv) subgrade quality and type, (v) quality of available construction materials, (vi) capacity of available contractors, (vii) any environmental constraints, such as protected areas, parks, forest reserves, etc. **However, probably the most important criterion is the question of what Service Level can be afforded and economically justified for the road in question.** [Guidance on Service Levels for Unpaved Roads can be found in the World Bank's "*Draft Infrastructure Note: Economically Justified Level of Service of Unpaved Roads*", Rodrigo Archondo-Callao, January 2004]
9. Under the terms of the contract, the Contractor will also be responsible for the continuous monitoring and control of road conditions and Service Levels for all roads or road sections included in the contract. This will not only be necessary to fulfill the contract requirements, but it is an activity which will provide him with the information needed in order to be able (i) to know the degree of his own compliance with Service Level requirements, and (ii) to define and plan, in a timely fashion, all physical interventions required to ensure that service quality indicators never fall below the indicated thresholds. Under the performance-based contract modality, the Contractor will not receive instructions from the Employer concerning the type and volume of works to be carried out. Instead, all initiative rests with the Contractor who should do whatever is necessary and efficient to achieve the quality levels required. This concept is expected to lead not only to significant efficiency gains, as mentioned earlier, but also to technological innovation.
10. The beneficiaries of the new concept are expected to be the road users, the Road Administration, and the contractors or other private sector enterprises. In a wider sense, future generations will be able to benefit from a better preservation of past investments in roads. Road users will be able to know the Service Level they can expect in return for the payments they make for the use of the infrastructure (tolls, tariffs, user fees, taxes, etc.). The Road Administrations should benefit by obtaining better overall road conditions at the same levels of expenditure. For contractors and other private sector enterprises, the new type of contracts should open up new business opportunities, in which longer contract periods provide a more stable business environment. However, it may be the future generations who will perhaps benefit most, since they will not have to pay for the reconstruction of roads destroyed because of a lack of maintenance today.
11. Although the design of the works to be carried out is under the responsibility of the Contractor, this type of procurement requires good preparatory engineering work. It is necessary to prepare comprehensive information on the actual condition of the roads covered by the contract. If rehabilitation works are required, the Employer should define the level of quality (or standard) to be achieved by the Contractor for delivery and completion during the contract. If improvement works are sought, a well-designed bill of quantities defining specific outputs for bidders to price and, later on, allow measurement and payment of the Contractor, is of paramount importance. Emergency works, although impossible to quantify in advance, will certainly be necessary. To allow bidders to offer prices a unit price bill of quantities (similar for civil works under unit prices) with quantity estimates should be prepared for bidders to price for bid evaluation purposes. Later on, these unit prices and real measured volumes of works executed will be used for payments. Another important area requiring sound engineering advice is to define if the Rehabilitation Works should be included in the contract or be carried out in advance under a separate "standard" civil works contract. This decision depends in each case on the risks that the Borrower (and his advisor) understands as possible to be administered cost-effectively by the Contractor. In general, if those initial works represent more than 40% of the contract value, the risks may be too high and an initial separate contract may be warranted. However, if the

