

## INDIA

### **Punjab State Road Sector Project (Loan 4843-IN) 14<sup>th</sup> Implementation Support Mission (November 17 to 22, 2014)**

#### **Aide-Memoire**

#### **I. INTRODUCTION**

1. A World Bank team<sup>1</sup> visited the State of Punjab from November 17 to 22, 2014, to review the implementation progress of the Punjab State Road Sector Project (PSRSP). The team conducted site visits of the upgrading package (UG1); the Output and Performance Based Road Contract (OPRC) and held discussions with the officials of Punjab Roads & Bridges Development Board (PRBDB) and Public Works Departments (PWD), Government of Punjab (GOP). The mission also held discussions with contractors and various consultants, engaged under the project.

2. A wrap-up meeting was held and chaired by the Project Director, Punjab State Road Sector Project, on November 21, 2014. This aide-memoire summarizes the findings, recommendations and agreements reached during the mission. The mission thanks GOP for their support and cooperation extended during the mission. The status of action agreed during the last mission and key actions agreed during this mission to address current implementation issues identified by the mission are shown in **Annex 1** and **2** respectively

#### **II. KEY PROJECT DATA & PERFORMANCE RATING**

3. This project was approved by the World Bank Board of Directors on December 5, 2006. The Loan and Project Agreements were signed on February 26, 2007 and the loan was made effective on April 2, 2007. The project also underwent restructuring during which the loan closing date was extended for a period of 5 years upto June 5, 2017. A subsequent restructuring has been undertaken for the project in November 2014, for incorporation of the revised project cost as well as formalize the changes to the disbursement percentage. The following table summarizes the key project data and updated project performances at this mission.

<b>Key Project Data</b>		<b>Current Ratings and Flags</b>	
Board Date	Dec. 05, 2006	Development Objectives	<b>Satisfactory</b>
Original Closing Date	June.05, 2012	Implementation Progress	<b>Moderately Satisfactory</b>
Revised Closing Date	June 5, 2017	Problem Flags	<b>Safeguard (Environment)</b>
Project Age	95 months		
% Disbursed	US\$ 167.06m (67%)		

#### **III. SUMMARY OFFINDINGS, DISCUSSIONS AND AGREEMENTS**

4. **Achievement of Project Development Objective (PDO):** The project's overall development objective is to improve operating conditions of State roads for road users, in a sustainable way, thus

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helping to provide the business enabling environment necessary to support Punjab’s economic development strategy. The result monitoring (refer to Annex 4) indicates that most of the outcome indicators are likely to achieve target values. The achievement of PDO is therefore rated as Satisfactory.

**Road Upgrading, Rehabilitation and Maintenance Component**

5. **Phase-I Civil Works Progress:** All works, envisaged under the Phase I of the project have been completed.

6. **Phase II Civil Works - Output and Performance Based Road Contract for Improvement, Rehabilitation, Resurfacing & Routine Maintenance Works of Sangrur - Mansa -Bathinda Area.**

6.1 The contract was awarded in December 2012 and the scope of works includes maintaining a network of about 203 km at agreed service levels and performance criteria including improvement and rehabilitation works. The 10 year contract will commence the third year of implementation in January 2015. The contractor has been fully mobilized. The status of the services included in the OPRC contract is provided in the table below:

SN	Section	Name	Length (Km)	Type	Proposed Treatment
1	S1	Sangrur to sunam	11.30	MDR 21	Rehabilitation
2	S2	Bhavanigarh to Kota Shamir	106.13	SH 12 A	Improvement (Widening)
3	S3	Harsingwah chowk to Mansa	7.40	SH 13	Rehabilitation
4	S4	Mansa to Talwandi Sabo	25.00	ODR 9	Improvement (Widening)
5	S5	Dhanaula to Bhikhi	25.40	MDR 14	Rehabilitation
6	B8	Bhatinda to Talwadi sabo	29.00	SH 17	Rehabilitation
<b>Total</b>			<b>203.86</b>		

6.2 The OPRC work will be entering into its third year of implementation in January 2015 and the status of implementation of the first two years of implementation is as given in the table below. As can be seen from the table, first year works have been completed, however second year works are running at least 6 months behind the schedule, primarily due to pending forest clearance, which has been now received as informed to the mission:

**Status of work during the first two years of implementation**

Section	Section Details	Year	Financial Progress Target (INR Cr.)	Financial Progress Achieved (INR Cr.)	Financial Progress (%)
S2	Bhavanigarh to Kota Shamir (Widening)	Year 1	106.77	106.77	100%
S5	Dhanaula to Bhikhi (Rehabilitation)				
S2	Bhavanigarh to Kota Shamir (Widening)	Year 2	159.77	71.30	44.63%
S4	Mansa to Talwandi Sabo (Rehabilitation)				
B8*	Bhatinda to Talwandi Sabo (Resurfacing)				

\*Was part of the 3<sup>rd</sup> year scope of work, moved to 2<sup>nd</sup> year

**6.3 Work Program, Designs and current status of improvement/rehabilitation works**– The work program and designs for year 1 and 2 have been approved by the employer and improvement/rehabilitation works are in progress. The three year rolling work program has also been approved by the Project Manager. The employer engaged Thapar Institute of Engineering and Technology, Patiala, for design reviews. The first year work which comprised of improvement of 27.2 km of S2 Road and rehabilitation of 25.34 km of S5 road has been completed.

**6.4** The second year works are currently under progress which, as per the original work plan, included improvement of 47.59 km (S2 and S4) and rehabilitation of 11.3 km (S1). The overall progress of the second year works has been delayed by at least 6 months. This delay could be attributed to seeking forest approvals, contractor’s cash flow issues and lack of regular bitumen supply. The mission was informed that stage 1 forest clearance has since been obtained and PRBDB is in the process of depositing the required funds with the state forest department for the Stage II clearance. The mission noted with concern that in view of the long pending forest clearance resulting in non-availability of adequate work front on the second year work on S2 section, the contractor is currently going through severe cash flow crisis. The mission was informed that in an attempt to address this particular concern of the contractor, PRBDB has moved the resurfacing work of B8 from the third year to the second year. The mission noted with concern that the patch work carried out by the contractor is not of good quality and needs to be substantially improved. Also, it was noted that no attention has been paid to the shoulder compaction work on most of the completed improvement or rehabilitation work. Also cracks were found on some of the completed sections of S2.

**6.5** The Bank and PRBDB had received complaints in early 2014 on OPRC contract for quality and environment safeguard issues. The responses have been prepared and sent to the complainants.

**6.6 Procurement of Monitoring Consultants (MC) for OPRC contract.** The procurement process for the selection of the monitoring consultant has been concluded with the award of contract. The contract has been awarded to M/s. Technology & Management Limited, Israel, in association with ICRA Management Consulting Services Limited on October 6, 2014 for a period of 5 years at USD 1,088,207 and INR 145,955,833.00. The mission noted with concern that despite one month having elapsed since the award of contract, the consultants are yet to fully mobilize. The MC has 11 key staff positions that include the Team Leader, OPRC specialist and the principal auditor as full time positions. Although the Team Leader has been mobilized, some of the key personnel viz; Principal Auditor and OPRC Specialist etc. are still to be mobilized. The mission noted that English is not the first language of the Team Leader, which could pose communication challenges. As such it was agreed that the MC would provide immediate services of a translator/interpreter to assist the Team Leader for ease of operation and management. In addition, TNM has agreed to provide Hydraulic/drainage expert, OPRC contract specialist, HDM-4 Specialist, Pavement management specialist and a senior engineer within the category of “non-key” staff. These staff are expected to be mobilized over the period of the contract. The mission was concerned that in the use of the OPRC contract format being piloted in India for the first time, where an international firm has been selected to provide this expertise, majority of such expertise was being provided by the local JV partner. Furthermore, the mission recommended that the OPRC specialist be mobilized from TNM to facilitate knowledge transfer and provide the full benefit of engaging a MC with international experience. The mission urged that all the key personnel of the monitoring consultant should be mobilized on an urgent basis and should be based at the project site full time for the period stipulated in the contract agreement and the terms of reference. It was agreed that the consultants would submit their inception report and first progress report by end November 2014 and all the key personnel of the monitoring consultants will be mobilized by mid-December 2014. As the contract has been implemented over a period of two years without the presence of an independent MC, the mission suggested that the MC update itself immediately on the status of the project to provide employer the benefit of his expertise on the ongoing issues that require urgent intervention. .

**6.7 Asset Management System** – The mission was informed that an Asset Management System has been developed by the contractor. The mission suggested that given that the monitoring consultants are on board, the contractor needs to provide access to the consultants for their review and inputs.

6.8 **FWD Data Collection** – the mission was informed that the contractor has purchased the FWD equipment.

6.9 **Road Safety measures** – The mission was pleased to note that the engineering measures like lane marking and signs along the entire network has been installed by the contractor. The roadside hazards including trees have also been painted with white paints and retro reflective stickers. As a result, the accident reporting by the contractor indicates a reduction in overall accidents including fatal accidents. The mission was informed that during the first year of the contract 17 fatal accidents and 36 injuries were reported on the entire network and during the 11 months of the second year, so far 5 fatal accidents and 35 injuries have been reported. However, A number of road safety issues were identified along the road sections to which the projects applies.

#### *Rural sections*

- Trees too close to the road for reasonable safety
- Old style road marker posts of concrete construction which are themselves a serious road hazard in the event of impact with the posts by cars or motorcycles
- Unprotected end walls which present a serious road safety risk close to the road
- Barriers are rare and could be used much more to good effect
- Barriers are in need of repair after crashes in a number of locations
- Barriers have unsafe end treatments including fishtails, sloping into the ground, or no end treatment at all
- The safety of vulnerable road users (pedestrians common seen walking along the road shoulders and along the roads, bicycles, and motorcycles) is not catered for, yet pedestrian crossings are marked in rural locations providing apparent security in circumstances where it is most unlikely that vehicles will stop for pedestrians
- Rural intersections are risky and not designed for safety
- Absent or quite narrow shoulder which force vulnerable road users and high speed vehicles to mix
- Sealed shoulders which are many centimeters above the level of the unsealed should present a hazard especially for two-wheeled vehicles
- Overtaking behavior is absurdly risky and arises from the common speeding of many vehicles
- Unprotected drains and ditches
- Many behavioral issues contribute to risk: speeding, lack of helmets, lack of seatbelt use, use of road shoulders as normal driving surfaces, overloading of motorcycles and trucks.
- At night the situation is made worse by a number of factors:
  - absurdly risky overtaking continues despite the reduced visibility and ability to detect distance and speed of oncoming vehicles
  - Many road users continuing to use the road have no rear lighting or reflectors (including many bicycles, motorcycles, animal drawn carts, pushcarts, pedestrians, and tractor-trailer combinations).

#### *Urban sections*

- Many of the above issues occur in urban areas, and in addition:
- No formed footpaths or safe amenity for pedestrians forcing pedestrians to walk on the road
- Infrangible poles close to the road and in medians (some already damaged by crashes)
- Unsafe intersections with little traffic control
- Dramatic encroachment of all types of activity onto the road, mixing commerce, pedestrians and traffic

#### *At Roadworks*

- Inadequate advance working signs and tapers to protect workers and protect motorists (especially at night) from serious crashes into road works sites
- Workers standing on the road painting bridge walls with no protection or warning sign at all.

6.10 Overall the implementation progress of the OPRC work is satisfactory. Until November 2014, the contractor has achieved 67% (INR 175 crore) of the financial progress as against planned progress of about INR 265 Crore in first two years.

7. **Intervention to provide Structural Adequacy to Kharar-Banur-Tepla (UG1) Corridor:** The contract for this work was signed on March 14, 2014. However, the actual work was started from May 2014, onwards. The mission was informed that the contract has already expired in September 2014 and a subsequent extension till December 2014 has been accorded to the contractor by PRBDB. The contractor has so far undertaken overlaying work in some stretches but the pavement failures are again appearing. After further investigation it has been concluded by PRBDB that wherever major deficiencies or failures have been observed the rectification measures need to be taken up from the sub-grade level. The mission suggested PRBDB to further investigate the matter and advised that the Bank would also mobilize pavement expert to review the failures. The mission requested that a number of tests and surveys are done prior to the visit by the expert, including tests by the Falling Weight Deflectometer, Dynamic Cone Penetrometer, trial pits and traffic and axle load survey. The mission noted lack of construction safety measures and poor quality of sub-base material being used by the contractor. It was also agreed that a road safety audit would be undertaken to enhance safety features of the road.

## Environment Management

8. The mission reviewed the efficacy and diligence in the application and implementation of the ESMF in the Output and Performance-based Roads Contract (OPRC), which are a part of Phase II works under the project. The mission visited road links S2, S3, S4, B08, old camp & plant site (km 64.100 at Village Khiyala), new Camp & Plant site (km 62.100 at Village Khiyala) under the OPRC network. The mission also visited Kharar to Banur section of UG/1. The mission had detailed discussions with PRBDB, Contractor's team, Monitoring Consultant's team; reviewed the status on obtaining regulatory clearances for the works under OPRC and institutional mechanisms, including those related to approval, reporting and documentation on aspects pertaining to environment management in line with the requirements set forth under the OPRC contract. Further, the mission specifically focused and reviewed the activities/actions identified as outstanding during the previous mission/s. These included: (i) the status on obtaining regulatory clearances for the works under OPRC; (ii) proper enforcement of ESMF/EMP requirements, including those pertaining to health and worksite safety; (iii) camp and plant site management measures; (iv) drainage/water way clearance activities, and; (v) sharing of closure report (on EMP compliance for UG1/UG/2) and EA/EMP Reports with Bank.

9. Overall, the mission noted that systemic efforts have been undertaken, towards improving compliance to environment and safety requirements set forth under the contract. Some of these efforts/actions include: (a) obtaining of forestry clearances prior to initiation of works; (b) sharing of closure report on EMP compliance for UG/1 and UG/2 with Bank (c) improved camp site and plant site management measures; and (d) re-use of scarified asphalt at camp site. However, there is a further scope of improvement on construction site safety and drainage/water way clearance activities. The mission continues to reiterate the need for constant involvement of PRBDB, including improvement of the co-ordination mechanism with the Field Division, Sangrur (Project Manager) on environment, health and safety issues.

10. **OPRC Works:** The mission visited links S2, S3, S4, B8, old camp & plant site (km 64.100 at Village Khiyala), new Camp & Plant site (km 62.100 at Village Khiyala) under the OPRC network. The specific observations are below:

9.1. **Camp and Plant Site Management:** The mission visited both old and new camp/plant sites. The new Camp and Plant site (km 62.100 at Village Khiyala) has incorporated number of suggestions flagged off in the last mission such as (i) design of lay-out keeping office and accommodation away from inflammable/hazardous material storage areas and plant/s (ii) proper ventilation, lighting and sanitation arrangements in the worker quarters (iii) proper storage of drums; (iv) electrical safety practices. However, specific attention needs to be given for (i) plantation; (ii) fire safety practices (iii) key signage ; it was

noticed that though there is a fire escape gate/route at the site, there were no signage and emergency exit flowchart/layout plan displayed for the staff/workers. At the old camp and plant site (km 64.100 at Village Khiyala), it was observed that some improvements have been made, such as (i) provision of dedicated parking and vehicle maintenance area (ii) fire safety practices. However, immediate attention is to be given to dust suppression to avoid impact on crops in the surrounding farmlands and workers.

9.2. **Drainage/water way clearance activities:** It was observed that at some sections of S2 link, the cross drainage structures/culverts have not been cleared of vegetation.

9.3. **Road Safety on B8 link:** It has been observed that retro-reflective hazard markers have not been installed on a number of road side trees/ culverts. The absence of reflective markers poses a serious safety issue for road users.

9.4. **Stage 1 Clearance for diversion of forest land:** PRBDB conveyed that stage 1 clearance has been obtained for diversion of 45.0032 hectares of forest land on 13th November, 2014. However, NPV money has not yet been deposited by PRBDB. During site inspection on S2 link and subsequent meeting with PRBDB, it was conveyed to the bank that work on this link has been delayed due to not obtaining forest clearance.

9.5. **Wildlife Clearance from National Board for Wildlife:** In the last mission, PRBDB had informed the Bank, that, post obtaining NOC from the State Wildlife Board for Bir Aishwan Wildlife Sanctuary NOC has been submitted to National Board for wildlife. The Project Manager informed that there has been no update in the status with regards to the wildlife clearance since last mission.

9.6. **Share revised reports (EA/EMP) for S-2 with Bank:** In the last mission Aide Memoire (July 2014), PRBDB committed to share the revised reports for OPRC works (specifically for S-2) by August 09, 2014. However, till date the revised reports have not been shared with the bank. The Project Manager informed that the same will be captured as non-compliance by Contracting entity (in the next monthly progress report/quarterly progress report) and the report shall be shared with the bank by 10th December 2014.

9.7. **Closure report on EMP compliance for UG/2 with Bank:** PRBDB has shared the Closure Report on EMP compliance with the bank.

9.8. **SEA/EMP for Dehlon Bypass:** In the last mission Aide Memoire, PRBDB committed to share the EA/EMP reports for Dehlon Bypass by August 09, 2014. However, the revised reports have not been shared with the bank till date. The Project Manager informed that due to delay in Land Acquisition issues for Dehlon Bypass, the said report has not yet been finalized. The report has since been received and is being reviewed by the Bank.

9.9. **Discussion with Monitoring Consultant:** The Monitoring Consultant for the project has been employed by PRBDB in October 2014. The MC has committed to submit the Inception Report by November end. It was conveyed by MC that the Environmental Expert/Specialist (of MC) will be deployed from mid-December on the project, however, the approach & methodology for ESMF compliance monitoring shall be detailed out in the Inception Report.

11. **Worksite safety management on Kharar Bhanur section of UG/1:** It has been observed that there are lapses with regards to worksite safety on Kharar-Banur section and immediate attention is required on: (i) provision of advance warning retro reflective signage, barricading and safety devices; (ii) worker's safety (including accident prevention arrangements while working in high risk areas; (iii) regular clearing of dust from the road surface during work execution on/along shoulders and; (iv) removal of pebble dumps along shoulders/drains.

12. The overall implementation progress of Environment safeguards has been maintained at *Moderately Unsatisfactory*.

## Social Safeguard Management

13. **Social Safeguards:** The Social safeguard aspects relating to OPRC Project and pending activities of projects were reviewed during the current mission. The team has visited OPRC roads, S1,S2, S3,S4 and Dehlon bypass

14. **OPRC Project:** The RAP has been finalized and disclosed on the PRBDB website. The PRBDB informed the mission that the RAP will be implemented by the contractor and the cost of implementation will be funded by the PRBDB.

13.1 **Submission of draft micro plans and their implementation:** The OPRC contractor has submitted the draft micro plans to the PRBDB. These draft plans needs to be verified at the ground level and initiate implementation close to the commencement of the civil works. Implementation should be synchronized with the schedules of actual civil works schedules, primarily to avoid RoWs from further re-encroachments following the implementation of R&R plans for NTHs. Roads scheduled for year two will have to obtain forest clearances for initiating civil works.

13.2 **Geometric improvement in S2 road and land requirement:** Stalemate is continuing on the availability of the land under land exchange method for improvising the ‘S’ curve alignment between chainages 35.8 kms and 37.9 kms. One of the land owners has approached the court against providing his land for the said work. The mission discussed the need to finalize PRBDB decision on the land acquisition – whether to acquire through land exchange or through new LA and R&R Act. If so, it should initiate measures without any further delay. It has been agreed that PRBDB will finalise its plans and accordingly complete award declaration before January 2015 and disbursement of compensation before end March 2015. Based on the decision and approach, social assessment of the land owners should be completed and submit RAP to the Bank for its review before end February 2015.

13.3 **HIV/AIDS Awareness Plans:** After last mission, the OPRC contractor has conducted one awareness programme and the second one is planned to be conducted in the month of November. PRBDB will review the adequacy of the programme and suggest necessary improvements in conducting the programme as per the contractual agreement with the OPRC contractor.

15. **Dehlon bypass UG 2:** The negotiations for land acquisition for Dehlon bypass were complete following the provisions of the Standard Order 28, GoP and submitted negotiated draft award to the DC for the approval. However, the mission was informed that the DC is not in favour of the negotiated award due to rate variations in the land value and advised the PRBDB to acquire the land as per the provisions of the new LA and R&R Act, 2013. Given the stalemate, the PRBDB has not been able to progress on land acquisition. It has been agreed that the PRBDB will discuss with Principal Secretary Revenue and finalize its options. The PRBDB will inform the Bank before end December 2014 its options on land acquisition approach – either through new LA Act or Standard Order 28. Either way, the PRBDB will need to expedite and conclude the land acquisition before end March 2015. Following the decision on land acquisition approach, the PRBDB will revise and submit the draft RAP to the Bank before end January 2015 and disclose the same before end February 2015 properly incorporating the comments from the World Bank.

16. **Others - Handing over Kiosks:** The PRBDB is progressing slowly in finalizing lease agreements for maintaining bus shelter kiosks built under Phase I.

17. *The overall implementation progress of social safeguards is moderately satisfactory.*

### **Institutional Strengthening Component**

18. **Consultancy Services for Monitoring and Evaluation of Project Indicators:** A presentation was made by the consultants on the results of end term data collected in the year 2013. The consultants have been collecting speed and vehicle operating cost (VOC) data for the entire network and roughness and road condition data for the improved roads. The data was collected in the year 2011 and 2013 and the data comparison with baseline (2005) indicates that there has been an increase in the average journey speed on the core road network. The mission observed that the weighted average unit VOC for all modes combined also showed consistent declining trend. Given that the project has another 4 years for closing it was agreed that the monitoring indicators under the same categories for the entire network including OPRC network

will be collected in 2015 and 2017 through one consultancy to be procured by PRBDB. The draft EOI, TOR and RFP in this regard to be prepared by PRBDB and send to the Bank by January 15, 2015.

19. **Road User Satisfaction Survey (RUSS):** Following the completion of the consultancy contract for the second round of Road User Satisfaction Survey, the next step is for PRBDB to initiate the process of engaging another consultant to carry out the next round of Road User Satisfaction Survey for the period from 2015 and 2017. PRBDB informed the mission that the draft EOI for the procurement of the consultants for the next round of RUSS will be issued by December 15, 2014, and the draft TOR for the survey will be shared by January 15, 2015.

20. **Consultancy for Road Safety Awareness Generation:** The Consultant has carried out a road safety audit on phase 1 and the second round of awareness campaign has also been concluded. The mission was informed that the consultancy contract is expiring on January 15, 2015. However, PRBDB proposed to extend the contract up to March 31, 2015. The mission advised PRBDB to submit the request for EOT for Bank review and no objection ahead of the closing date of the contract.

21. **Integrated Transport Policy and Strategy and Strategic Investment Plan (Transport Sector Master Plan):** The mission was informed that the final report has still not been approved by the Government, which needs to be expedited.

22. **Integrated Data Evaluation System for Road Accident (IDEAS – Punjab):** A web based accident reporting and analysis system has been prepared under the project, which is a useful tool for PRBDB, Punjab Police, local authorities, pressure groups, academic and research organizations. PRBDB has provided training to all police stations. Police need to take over the database and its operations. The mission had interactions with the police but observed lack of ownership from them in mainstreaming the database in police operations.

### **Road Safety**

23. The Bank mobilized a Road Safety Expert as agreed during the last mission to provide advice on :

- Development of a speed camera pilot project
- Assistance with the development of a Black spots Program
- Further consideration of road safety for the World bank funded roads projects
- Assistance with the development of a sound crash database
- Assistance with improvement of road safety communication approaches

23.1 **Development of a speed camera pilot project:** Discussions were held with Punjab Police and the PRBDB regarding development of a speed camera pilot program. Key risks particular to Punjab and India were identified for management in the development of the program. These risks render impractical the adoption of the usual approach to speed cameras from highly developed countries: First, addresses of car owners are not reliably recorded with many people claiming false addresses in order to reduce the total costs of registration (which are in part sensitive to garaging address); second, vehicles are registered when newly purchased but the records are not subsequently updates; third, it is not clear that a penalty applied to a vehicle and sent in the mail can be reliably and legally connected to a driver, which may cause disputes if penalties applicable to the driver's license are to be applied. There are additional risks with cameras being well maintained and regularly calibrated. Finally, in order to be effective the cameras must have a degree of unpredictability of time and location of enforcement. In order to address these issues, the World Bank team suggested the following methods of operation:

- Use of mobile speed cameras on selected pilot highway(s)
- Cameras to be rented on a multi-year contract including operation, maintenance and calibration
- Multiple camera locations to be identified along the target highway(s)
- Cameras to present images to be sent real time to Police waiting further along the road, for Police to stop each vehicle detected speeding, and issue the ticket to the driver (or rider).



23.2 An array of other issues arises with this possible solution which will necessitate management of a number of possible driver avoidance techniques, Police ownership and input, as well as enforcement site selection. A subsequent report is recommended to examine how these may be managed.

23.3 Three candidate highways for the pilot project were identified by the PRBDB based on serious crash rates. Site visits were carried out on these proposed highways. Additional information on serious crash records is required before a final choice of highway can be made (including number and types of crash, vehicles involved, and the contributions of rural versus urban crashes - because on the relevant roads, rural crashes are more likely to involve speeding, and cameras will need to be placed on rural sections for the proposed *modus operandi* to be effective). These considerations and final highway selection will also form part of the subsequent report on the speed camera pilot project. Finally, the report will also advise on steps to ensure sound monitoring, process assessment and outcome evaluation of the pilot speed camera program.

23.4 **Development of a Blackspots Program:** PRBDB engaged consultants to develop a blackspots program process, and to develop road safety communications (the project discussed below). The mission met with the consultants and PRBDB, to review progress on the project.

23.5 The blackspots program process was developed, but was far from optimal in identifying either the appropriate locations for treatment or the treatments to be applied. In earlier discussions the World Bank team had identified concerns with the program relating especially to how the works to be applied were selected. These concerns appear to have been only partially addressed at best. If the program proceeded in the form recommended by the consultants, it is unlikely that it would have delivered reasonable cost-benefit ratios, and it is certain that the road safety benefits would have been significantly sub-optimal. These concerns exist independent of concerns with the incomplete crash data available, and the imprecision of crash location data. Five substantial changes to the current blackspots approach were recommended by the Bank and were unilaterally agreed for adoption by the Consultants undertaking the project, the PRBDB, and the Bank. The table below presents the identified problems and agreed solutions.

Identified Issues	Proposed Suggestions
Initial selection processes for possible blackspot locations were too focused on total numbers of crashes.	All locations with a fatal crash should be included in the initial list of candidate locations.
The ASI employed by the consultants (based on quite different circumstances and uses in Australia) is not suitable for prioritization of locations for treatment. ASI is NOT used for selection of blackspot treatment locations in Australia.	The following weightings of crash severity were agreed, in selecting the more important locations for treatment: Fatal crash: 70 Serious injury crash: 17 Minor crash: 1
Treatments were identified through a process of apparent audit of crash locations without any consideration of the types of crashes occurring or the mechanism of injury involved. Thus, as a hypothetical example a location with purely head-on crashes may have received treatment for roadside obstacles.	Examination of the crash data available to the consultants showed that there were sufficient details available of basic crash types (head on, pedestrian hit, off-road, etc.) to allow the crash types to inform the types of treatment selected. This information should be used, along with known engineering treatments for each crash type, to ensure the most cost-effective treatments are selected
Approach to selection of engineering works is not systematic and does not appear to be based on highly successful safe system principles <sup>2</sup>	Prioritise treatments based on the following systematic approach: <u>First Priority:</u> treatments which avoid the impact which

<sup>2</sup> Mooren, L, Grzebieta, R., Job, R.F.S. Williamson, A. (2011). Safe System – International Comparisons of this Approach. *A Safe System- making it happen: Proceedings of the Australasian College of road Safety Conference, Melbourne, September, 2011.* <http://acrs.org.au/wp-content/uploads/Mooren-et-al-Safe-System-%E2%80%93-Comparisons-of-this-Approach-in-Australia.pdf>.

	<p>caused the deaths or injuries in relevant crashes  <u>Second Priority</u>: force lower travel speeds to reduce the impact forces as well as allow road users more time to react and avoid the crash (forced through engineering such as speed humps, roundabouts, etc.)  <u>Third Priority</u>: solutions which assist the road user not to make an error. These are the weakest solutions for road safety because humans will always make mistakes and so these solutions are incomplete, and because they are based on often poorly founded estimates of the cause of the crash (e.g. night time off-road fatal crashes may be due to fatigue versus distraction versus alcohol versus drugs versus failing to see where the road goes versus speeding versus being forced off the road by another vehicle).</p>
<p>There is a need for the PRBDB and the World Bank to check the black spots program selections</p>	<p>The recommended blackspot treatments and locations should be explained, including information on serious crash types, and treatments selected categorized as first, second or third priority treatments, and if third priority an account of why no first or second priority treatments were identified.</p>

24. **Computerization of PWD:** Detailed remarks on the latest version of the bidding document had already been shared with the client (PRBDB). These remarks had been factored in by the Program Management consultants and the bid document modified accordingly. From a technical perspective, it had been suggested that the wording that tends to suggest that bespoke developed solution will be acceptable should be changed. Also the licenses for the ERP solution should only be procured and paid for after successful completion of the User Acceptance Testing (UAT). Both these issues have been suitably incorporated in the bid document. Certain issues pertaining to the evaluation criterion etc, brought to the notice of the consultants from the procurement perspective, were also incorporated in the modified bid document. The revised bid document is likely to be presented to the World Bank with in the coming weeks. Upon receiving bank’s NoL, the new version of the bid document shall be floated for necessary procurement.

25. **Financial Management and Disbursement** The mission reviewed the existing financial management arrangements at the project. The recent developments and key issues are highlighted below:

25.1 **Budgeting and Disbursement:** Against the budgetary provision of Rs 1420 million for financial year 2014-15 an expenditure of Rs 566 million has been incurred till September 2014. Presently, there are no funds held back at the state.

25.2 Disbursement from the Bank as on November 26, 2014 is USD 167.06 million (including designated advance of USD 7.64 million) which represents 66.82% of the loan of USD 250.00 Million. This reflects expenditure reported till June 30, 2014. IUFR for the quarter ending September 2014, reports an expenditure of Rs.170 million (USD 2.8 million) which will result in documentation of approximately USD 2.1 million. The estimated expenditure from October 2014- November 15, 2014 is approx. Rs 200 million (USD 3.3 million) which would translate to another claim of approx. USD 2.50 million Three recertification claims, having recertified expenditure of Rs 199 million (USD 3.3 million) which would translate to further claim of USD 2.5 million, are yet to be filed with CAAA. Put together these claims will lead to an additional documentation of USD 7.1 million.

25.3 **Staffing:** It was again shared with the project that the finance manager should regularly be making field visit to the various sites under this project. During such visits he may perform various controls such

as physical verification, review of accounts of the division, IT back up taken and any other financial management aspect relating to the divisions.

25.4 **External Audit:** The audit report for FY 2013-14 was submitted to the Bank by letter dated October 1, 2014. In this report AG has held under objection Rs 6.50 million. A response on these observations has been sought by February 28, 2015. Regarding audit objections for financial year 2012-13, out of Rs 30.67 million, Rs 8.26 million have been settled by AG (via letter dated August 11, 2014 and November 13, 2014) and for balance Rs 22.41 million a response has been sought by December 31, 2014. As of today, excluding financial year 2012-13 and 2013-14, audit observations of Rs 316.66 million are yet to be settled by AG.

26. Based on the above the financial management performance rating is retained at Moderately Satisfactory.

27. **Compliance with Legal Covenants:** PRBDB informed the mission that the long pending non-compliance of the legal covenant related to transferring the proceeds of the loan by Government of Punjab to PRBDB within 14 days of receipt of the said proceeds has been resolved. As such Government of Punjab is in compliance with all the legal covenants.

28. **The Next Mission:** The next full implementation support mission will be planned in April/May 2015.

#### IV PROJECT RATINGS

Field	Rating	
	Last Mission	Current Rating
Road Upgrading, Rehabilitation and Maintenance Component	MS	MS
Institutional Strengthening Component	S	S
Environmental Safeguard Management	MU	MU
Social Safeguard Management	MS	MS
Project Management	MS	MS
Financial Management	MS	MS
Procurement quality/timeliness	S	S

HS highly satisfactory, S satisfactory, MS Moderately Satisfactory, MU Moderately Unsatisfactory, U unsatisfactory, NA not applicable.

**Annex-1**

**Status of Action Agreed During the Last Mission**

<b>No.</b>	<b><u>Key Actions</u></b>	<b><u>By whom</u></b>	<b><u>Target Date</u></b>	<b><u>Status</u></b>
<b>Civil Works</b>				
1	OPRC - Install additional safety signages and retro-reflective rumble strips on both sides of the 8 narrow bridges	Contractor	Immediate	Complied
2	OPRC - Install additional helpline number sign boards for more dissemination and awareness	Contractor	Immediate.	Complied
3	OPRC - Rectify B8 defects	Contractor	Immediate	Complied
4	Dehlon Bypass - Submission of Detailed Project Report, Cost Estimates, Drawings, RAP, limited EA report including EMP and Draft Bidding Document	PRBDB	April 30, 2014	LA under progress. Other documents, including DPR etc. are being compiled.
5	Accident Black Spot Improvement – Submit designs, cost estimates and draft bidding documents	PRBDB	June 15, 2014	Revised report on Black Spot submitted by consultants, which need to be further revised
6	Finalize payments to M/s OPUS	PRBDB	June 30, 2014	Long pending
7	Finalize payments to BCEOM	PRBDB	May 30, 2014	Long pending
<b>Institutional Strengthening Component</b>				
1	Monitoring and Evaluation of Project Indicators and RUSS – Submit draft EOI, TOR and RFP	PRBDB	July 31, 2014	Under process. To be received soon.
2	Integrated Data Evaluation System for Road Accident (IDEAS – Punjab)- complete training of balance districts and hand over the system to police	PRBDB	June 30, 2014	Training to only one Police Distt. i.e Ludhiana (Rural)is pending. After the completion of trainings the website will be handed over to the Police Department
3	Appoint IT Director in PWD	PRBDB	July 31, 2014	No suitable candidate could be identified.
4	Preparation of GIS Maps for the remaining PWD circles (6)	PRBDB	August 31, 2014	Expected to be completed by Oct. 31, 2014
5	GOP to identify pilot roads for speed camera interventions	PRBDB	June 30, 2014	Potential roads identified.
6	Bank to engage specialist / expert for technical support	Bank	July 15, 2014	Completed
<b>Environment Safeguards</b>				
1	Undertake and complete site clean-up/rehabilitation work (including drains related) on UG/02	PRBDB	By April 30, 2014	Completed
2	Share the closure report on EMP compliance for UG/2 with the Bank	PRBDB	By May 31, 2014	Completed

3	Ensure proper enforcement of ESMF requirements, including those pertaining to health and work site safety	PRBDB/PWD	Continuous	On-going
4	Submission of reports (Screening/EA/EMP) in line with design proposition/s	Contracting Entity	As per Work Schedule	Pending
5	Streamline monitoring, documentation/record keeping on EHS aspects in the OPRC works	PRBDB/PWD	By May 15, 2014	Partially Complied – In Progress
6	Obtain all required regulatory clearances (forestry/wildlife) for works under OPRC	PRBDB/ Contractor	As per Work Schedule	Partially Complied – Stage 1 clearance for diversion of forest land obtained.
<b>Social Safeguards</b>				
1	Land acquisition for Dehlon bypass - complete declaration of award	PRBDB	June 30, 2014	Pending – owing to lack of approval by DC for the negotiated rates.
2	Land acquisition for Dehlon bypass - complete disbursement of compensation for land	PRBDB	August 31, 2014	Same as above.
3	Revise and finalize RAPs for OPRC roads	PRBDB/Contractor	May 15, 2014	Revised and disclosed on PRBDB website.
4	Submit abbreviated/limited RAP for S2 OPRC road for proposed realignment section	PRBDB/Contractor	June 30, 2014	Case filed by one of the land owners. Pending court judgement.
5	Handing over Kiosks to either Panchayat / private company	PRBDB	July 30, 2014	Partially completed.
<b>Financial Management</b>				
1	Compliance to legal covenant of fund transfer within 14 days	GoP	Immediate	Completed
2	Strengthen internal controls relating to Bank reconciliation	PRBDB	April 30, 2014	Completed as per Sep 2014 QPR
3	Engage divisional accountant or a competent person to perform internal audit function	PRBDB	June 30, 2015	Incomplete
4	Finance manager to make field visit at minimum monthly frequency	PRBDB	Continuous	Continuous
5	Audited financial statements for financial year 2012-13 to be uploaded on PRBDB website.	PRBDB	Immediate	Complete
6	Submit IUFRR for the quarter ending March 2014	PRBDB	April 15, 2014	Completed
<b>Procurement</b>				
	Update and submit the revised procurement plan	PRBDB	April 30, 2014	Completed
	Complete negotiation and submit draft negotiated contract of OPRC Monitoring Consultants for Bank review	PRBDB	May 15, 2014	Completed
	Submit pre-bid clarification and revised bidding document of the PWD computerization to the Bank	PRBDB	May 30, 2014	Completed

**Annex-2**

**Action Agreed During the Mission**

<b><u>No.</u></b>	<b><u>Key Actions</u></b>	<b><u>By whom</u></b>	<b><u>Target Date</u></b>
<b>Civil Works</b>			
1	OPRC – Obtain all regulatory Clearance (Forest/Wild Life) for Year 2 and Year 3 works	PRBDB	Immediate
2	OPRC Monitoring Consultants – Mobilization of Key Professionals	Consultants	Dec 15, 2014
3	OPRC Monitoring Consultants – Submission of Inception Report	Consultants	Nov 30, 2014
4	OPRC - Enhance Road Safety Issues as discussed and mentioned in the AM	Contractor	Immediate
5	Accident Black Spot Improvement – Submit revise reports, designs, cost estimates and draft bidding documents	PRBDB	Immediate
6	Structural Adequacy Work – PRBDB to further investigate failures and World Bank to mobilize Pavement Expert.	PRBDB/WB	January 2015
7	Structural Adequacy Work – Improve Construction Safety and Carry out Road Safety Audit	PRBDB	Immediate
<b>Institutional Strengthening Component</b>			
1	Monitoring and Evaluation of Project Indicators and RUSS – Submit TOR and RFP	PRBDB	January 15, 2015
2	Review and approve accordingly the final report on Integrated Transport Policy	GoP	Immediate
<b>Environment Safeguards</b>			
1	Ensure proper enforcement of ESMF requirements, including those pertaining to health and work site safety on OPRC and UG1 (Structural Adequacy work)	PRBDB/PWD	Continuous
2	Share revised reports (Screening/EA/EMP) for OPRC Works with Bank (after PRBDB's review along with comments)	PRBDB	Dec 10, 2014
3	Share Design Report and EA/EMP for Dehlon Bypass	PRBDB	Nov 30, 2014
<b>Social Safeguards</b>			
1	Land acquisition for Dehlon bypass - complete declaration of award	PRBDB	Jan 31, 2015
2	Land acquisition for Dehlon bypass - complete disbursement of compensation for land	PRBDB	March 31, 2015
3	Submit RAP for Dehlon Bypass	PRBDB	January 31, 2015
4	Revise and finalize RAPs for OPRC roads	PRBDB/Contractor	May 15, 2014
5	Submit abbreviated/limited RAP for S2 OPRC road for proposed realignment section	PRBDB/Contractor	February 28, 2015
6	Disburse compensation for S2 road PAPs	PRBDB	March 31, 2015
7	Handing over Kiosks to either Panchayat / private company	PRBDB	March 31 2015
<b>Financial Management</b>			
1	Send explanation for audit disallowance of Rs 224.10 lakhs for FY 2012-13	PRBDB	Dec 31,2014
2	Response to audit review letter for FY 2013-14	PRBDB	February 28,2015
3	Engage divisional accountant or a competent person to perform internal audit function	PRBDB	June 30, 2015
4	Finance manager to make field visit at minimum monthly frequency	PRBDB	Continuous

## Results Monitoring Indicators

	Target Values				Data Collection and Reporting		
Project Outcome Indicators	Baseline	YR8 (2015)	YR10 (2017)	Current Value (YR6 – 2013)	Frequency and Reports	Data Collection Instruments	Responsibility for Data Collection
Average Network Speed (kmph)	34.2	46	48	42.66	MTR and end-of-implementation PRBDB Report	Surveys	PRBDB
Maintain VOC (%)	9.5%	20%	20%	21%	MTR and end-of-implementation PRBDB Report	Surveys	PRBDB
Reduction in number of fatal accidents	2655	2522	2390	2380, upto (Sept.,2014)	Aide memoire, every six months	First Information Reports (FIRs)	Police/ PRBDB/ Bank
Increase in User Satisfaction	61.11%	64%	67%	66.02%	User satisfaction Survey Report, every two year	Survey	PWD/ PRBDB
Improvement in efficiency of Road Agency (PWD, PRBDB)	60.27%	63%	65%	63.60%	User Satisfaction Survey Report, every two year	Survey	PWD/ PRBDB
<b>Results Indicators for Each Component</b>							
<b>Component 1:</b> Total km of roads improved and rehabilitated under the project w.e.f. YR 6	0 km	136km	166km	77.51Km	Monthly Construction Supervision Reports; Quarterly FRMs, Aide Memoire (every 6 months)	Certification of Quantities by the Engineer	Construction Supervision Consultant; PRBDB
Maintain IRI (m/ km)	9.2/km	2.6/ km	2.6/km	2.95/km	PRBDB's Annual Report, Yearly	Roughness and Condition Surveys	PRBDB
Maintain poor and bad network condition @ 4%	67%	4%	4%	7%	PRBDB's Annual Report, yearly	Roughness and Condition Surveys	PRBDB
<b>Component 2:</b> Department wide computerization and use of integrated systems for planning, management, financial accounting, monitoring	-		Final Roll-out to the entire department	Bidding Documents to be issued	As per implementation schedule	-	PWD/ PRBDB

## Governance and Anti-corruption Action Plan: Implementation Status

### Disclosure of information

Topics	Documents to be disclosed	Status
<b>Procurement</b>	The overall project Procurement Plan	Uploaded on PRBDB website and updated regularly
	All bid invitations and related documents (SPN, Expression of Interest, Letter of Interest)	Uploaded on PRBDB website as well as on UNDB online / dg market
	All Contracts awarded for consultancy services and for Rehabilitation, Up-gradation and Maintenance of Roads awarded on ICB/NCB or any other method of procurement.	The phase-1 works stand completed. The Contract Agreements for ongoing phase-2 works/consultancies have not been uploaded on PRBDB website owing to their large size. Fact Sheets for all contracts stands uploaded on PRBDB website. The copies of the Agreements can be made available upon request.
<b>Financial Management</b>	Project Financing Plans	Uploaded on PRBDB website
	Budgetary allocation for the project.	Uploaded on PRBDB website.
	Expenditure Statement	Uploaded on PRBDB website by the way of QPR & the Audited Financial Statements of PSRSP for 2013-14.
<b>Safeguards</b>	R & R Policy translated in Punjabi and Hindi	Uploaded on PRBDB website and World Bank's infoshop, kept in DC's Office, Gram Panchayat Offices, PWD field divisions and distributed among PAPs.
	Corridor specific RAPs.	Uploaded on PRBDB website and World Bank's infoshop, kept in DC's Office, State & District Libraries, Block Development Office, Tehsil & Panchayat office and PWD field divisions.
	Information regarding impacts and entitlements	Uploaded on PRBDB website. List of PAPs with impacts and entitlements pasted in the village panchayat offices and also at public info kiosks at sites.
	NGO's monthly progress report. This report should contain. Extent of land and other immovable properties acquired. ID cards distributed to number of PAPs. ID cards distributed to number of PAPs. Number of joint accounts opened. Compensation disbursed to number of title holder PAPs. Assistance disbursed to number of titleholder and non-titleholder PAPs. Training imparted to number of PAPs for income restoration. Number of cases registered with Grievance Redressal Committee and cases redressed. Number of awareness generation camps held for HIV/AIDS and road safety.	All reports uploaded on PRBDB website pertaining to Implementation and Evaluation of RAP and awareness generation on HIV/AIDS
	Disclosures of grievance redress process	Grievance Redressal Process forms a part of the R&R Policy and thus stands disclosed.
	Advance intimation of planned consultation	Is being intimated to the PAPs before consultation.
	Details of consultation carried out (listing of date/venue/participants in generic name e.g. panchayat representatives, photographs, and brief summary of	Disclosed in Public Information Kiosks, Field PWD divisions, to individuals and Panchayats and disclosed in PRBDB website also.



	suggestions accepted/adopted.)	
<b>Environment Management</b>	EA Summary	For Phase-1 works, the disclosures of the documents stand completed. The Final EMPs for Phase-2 works have been uploaded on PRBDB website. Further action for disclosures under progress.
	Environment Screening & Scoping Report.	
	Corridor specific EMPs	
	Quarterly Status Report	Through Quarterly Progress Report, uploaded on PRBDB website.
<b>Engineering</b>	List of roads proposed to be undertaken clearly indicating start and end points of the contract.	Uploaded on PRBDB website and available with PWD field divisions.
	Proposed works/treatment giving details of widening, bypasses, junction improvement, drainage, traffic safety feature including proposed cross section and strip plan depicting major features etc.	Available in Public Information Kiosks
	Physical and Financial progress of each contract to be updated quarterly.	Uploaded on PRBDB website by the way of QPRs. However this is not being printed in any print media.
	Contract details of the concerned division, PRBDB, contractors and consultants.	Uploaded on PRBDB website and displayed on the display boards at the sites.
	Construction program with milestones and completion dates	Being submitted by the Contractor and relevant information being put in the information kiosks at work sites.
<b>Institutional Development Strategy</b>	Long Term Strategy for Road Sector by MTR	Final Report uploaded on the website.
	RMF Report	Proposal for creation of Road Maintenance Fund (RMF) stands dropped in the restructured project agreement.
	State of the network report	Final Report uploaded on the PRBDB website.
	User satisfaction surveys	The Final Survey report stands uploaded on the PRBDB website.
	Project outcome & output indicators.	The Final Report pertaining to End Term surveys stand uploaded on the PRBDB website.

#### Action Plan to Increase Oversight

<b>Transparency/ Disclosure Aspect</b>	<b>Action to be taken</b>	<b>Status</b>
To facilitate CSO	Oversight, of procurement process and the implementation, shall be encouraged and facilitated, by inviting independent observers from local universities or other independent institutions.	Attempted but not succeeded fully due to poor response from educational institutes.
	The project will pilot use of CSO during the construction of roads.	The Civil Society participation is achieved through feedback on Toll Free number on OPRC road network for Road User Service & Comfort Performance Measures.