

INDIA: GEF-World Bank-UNDP: Sustainable Urban Transport Program (SUTP)

Fourteenth Implementation Support Mission (April 1 to April 22, 2015)

Aide Memoire

I. Introduction

1. A World Bank mission¹ visited demo projects and held discussions on the Project to review overall project progress and performance. The Mission met with the Project Management Unit (PMU) within the MoUD, visited Naya Raipur, Pimpri-Chinchwad, Hubli-Dharwad and held discussions with officials from Indore in Delhi and Mysore KSRTC officials through videoconferencing. During the meetings, the mission had an opportunity to interact with the city Project Implementing Units (PIU) as well as various consultants, contractors and NGO's assisting the PIUs with project preparation and implementation. The mission would like to express its appreciation for the hospitality extended, the useful discussions arranged and for the excellent arrangements made for the field visits.

2. The main mission objectives included the following:

- Review Technical Assistance activities under Capacity Building Component;
- Review progress on City Demonstration Projects in Pimpri Chinchwad, Naya Raipur, Hubli Dharwad, Indore, Mysore ITS and Mysore PBS:
 - Review progress with completion of procurement activities in Naya Raipur, Indore and Hubli Dharwad
 - Review performance of awarded works/ ITS contracts;
 - Review progress with land acquisition and resettlement issues in Pimpri-Chinchwad and Hubli Dharwad; and environment aspects;
 - Review BRT/ project implementation schedules and likely timelines for service launch;
 - Review progress with technical assistance activities;
 - Review disbursements and disbursement projections - component wise and demo city wise;
- Discuss main contours of possible Restructuring i.e. project timelines, fund utilization and cancellations etc.
- Review overall FM and Procurement aspects.

3. Key findings of the Mission were shared with the National Project Director Mr. M.K. Sinha, OSD (UT & MRTS), MoUD and National Project Manager, Mr. I.C. Sharma and his team on April 27, 2015. The Mission also debriefed Mr. Bhaskar Dasgupta, Director, DEA, on April 30, 2014. The summary of Mission highlights includes the following:

- **Overall Project** - Project disbursements are at 35% in almost 90% of the Project life. Roughly 25 percent of funds remain to be committed. The procurement of these needs to be expedited. In addition, there is need for priority attention to land acquisition & resettlement and improving the implementation progress of awarded contracts which continues to be tardy. By the current closing date of November 30, 2015, in all

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probability at least four of the six demo projects will not be complete. The implementation progress rating is accordingly maintained at *Moderately Unsatisfactory*. The achievement of PDO rating is also downgraded to *Moderately Unsatisfactory* as with the delays in completion of project activities there is growing uncertainty that the impacts would be evident within these timelines.

- **Pimpri-Chinchwad** – While there have been slippages, PCMC is gearing up for the launch of Corridor 3 in the next few months. PCMC and PMPML will need to adhere to a timebound action plan for completing pending works and actions upto launch. PCMC has issued a legal notice to the contractor of Empire estate flyover on Corridor 4 and their response will determine the way forward. Meanwhile, land acquisition and resettlement though ongoing needs to be completed as per agreed timelines.
- **Naya Raipur** – Progress with civil works contracts has improved marginally though completion within indicated timelines will require a higher level of mobilisation. NRDA needs to strengthen project management and complete remaining critical actions such as BRT Service Plan development and hiring of private operators in order to ensure a timebound launch of its BRT Lite project by year end;
- **Hubli-Dharwad** – HDBRTS has completed procurement of 7 of 9 packages. Tendering for remaining packages needs to be expedited. A final decision in regard to the design option within Dharwad city has been taken and designs are being finalized. There is steady progress in land acquisition and disbursement of R&R assistance. The delays in availability of design drawings and sites have more or less been resolved and it is now imperative that civil works contract progress increases.
- **Indore** - In Indore evaluation of the ITS bids is yet to commence owing to issues of PMC contract expiry which remain unresolved.
- **Mysore ITS** – Majority of the ITS related issues have been resolved and the full system operational acceptance is expected soon.
- **Mysore PBS** – The bid documents for the PBS procurement were cleared by the Bank in January 2015, however, the bid issuance is delayed owing to the pending cabinet clearance. This has recently been obtained.

II. Key Project Data

Key Project Data		Current Ratings and Flags		
			Previous	Current
Board Date	Dec 08, 2009			
Effectiveness Date	May 5, 2010	Development Objectives	MS	MU
Closing Date	November 30, 2015	Implementation Progress	MU	MU
GEF Grant	US\$ 18.45 mn	Project Management	MS	MU
IBRD	US\$ 105.23 mn	Safeguards	MU	MU
		Procurement	MS	MS
		Financial Management	MS	MS
Disbursed Amount		Problem Flags	Four	
GEF	US\$ 7.69 mn			
IBRD	US\$ 36.85 mn			

HS=Highly Satisfactory; **S**=Satisfactory; **MS**=Moderately Satisfactory; **MU**=Moderately Unsatisfactory; **U**=Unsatisfactory; **HU**=Highly Unsatisfactory; **NA**=Not Applicable; **NR**=Not Rated

III. Key Agreed Actions

4. The following actions have been discussed and agreed:

Actions to be Completed	By when	By whom	Status
Submit Monthly Review Reports; Contractwise physical & financial progress	May 7/ June 7/ July 7	PMU & PIUs	

Actions to be Completed	By when	By whom	Status
Internal Audit			
a) Appointment of internal auditors	May 15 2015	MoUD	
b) Internal audit report submission	June 30 2015	PMU	
Submit countersigned legal amendments	May 15, 2015	PMU/ PIUs	
Component 1B activities:			
a) Submit Draft Final Guidance Documents and City Specific Reports for PCIB 1, 2 and 3	July 31	MoUD/ PMU	
b) Finalise arrangements for Research Facility funding and operationalization	Sept 30		
c) Finalize TOR for other activities	May 31		
Close monitoring of Empire Estate contract	Continuous		
Finalize strategy for the Empire Estate package	May 31, 2015		
Finalise tender for passenger connections at Nashik Phata interchange	May 31, 2015		
Submit jointly agreed BRT Implementation Schedule for Corridors 2 & 3	June 5, 2015		
Preparation of a communications plan for BRT launch	May 31, 2015	PCMC	
Traffic signal plans for intersections on Corridor 2 & 3; traffic engineering & capacity analysis for intersection of corridor 2 and 3	April 30, 2015		
Complete pending road infrastructure finishing works along Corridor 2 and 3	May 31, 2015		
Issue contract for ETMs/ITS by PMPML	April 30, 2015		
Submit M&E Annual Report	Aug 1, 2015		
External audit clarification	Sep 20, 2015		
Substantial implementation of safeguards Commitment plan	May 31, 2015		
Substantial completion of pending Land acquisition cases	June 30, 2015		
Removal of material from River Pawana	May 31, 2015		
System integrator on board	May 31, 2015		
Works contracts – close monitoring	Continuous		
Finalise designs for smooth access/egress at Old Secretariat	May 31, 2015		
Submit BRT Implementation Schedule	May 25, 2015	Naya Raipur	
Submit fund utilisation plan for GEF	May 31, 2015		
Submit draft Service Plan	May 31, 2015		
Submit monthly progress report contract wise	Continuous		
Submit ITS BER	June 30, 2015		
Finalize strategy for bid evaluation & engagement of PMC for additional services	May 31, 2015	Indore	
Hire ITS expert/ Transport Planner	May 31, 2015		
Submission of Draft Final M&E Report	April 15, 2015		
Extend M&E contract	May 31, 2015		
Submission of update on compliance	Weekly		
Complete Operational Acceptance	Jun 15, 2015	Mysore	
Initiate procurement for new activities	May 31, 2015		
Submit revised CSOA Report	May 25, 2015		
Submission of concept design options for	May 31, 2015	DULT/	

Actions to be Completed	By when	By whom	Status
Dharwad terminal/turn around near Jubilee Circle		HDBRTS	
Proposal on fund utilization by HDBRTS	May 25, 2015		
Finalize and initiate remainder procurement activities	June 15, 2015		
Submission of Revised EIA/EMP	April 30, 2015		
Submission of RAP addendum	April 25, 2015		
Complete LA R&R	June 30, 2015		
Submission of revised BRT implementation schedule	May 31, 2015		
Submit BER for ITS	July 31, 2015		
Complete all procurements	August 31, 2015		
Initiate procurement of PBS/ Submit BER	May 20/ July 31		
Appropriate opening/ designation of budget head with provisioning	June 30, 2015		
Appointment of auditor/Entrustment of audit to AG	Within three months from restructuring	DULT/MCC	

IV. Project Development Objectives

5. The project's development objective (PDO) is to promote environmentally sustainable urban transport in India and to improve the usage of environment-friendly transport modes through demonstration projects in selected cities. The key overall indicators to measure performance in achieving the project development objective are:

- The number of cities that develop an identifiable urban transport planning process (i.e., managed by professional units of government, following certain procedures and guidance, and involving various level of analytical work) increases.
- Mode shares in Pimpri-Chinchwad, Hubli-Dharwad and Naya Raipur become more sustainable by project end.
- A significant amount of co-benefits are achieved as forecast transport CO2 emissions in the demonstration cities are lower than their "business-as-usual" or "without-project" forecasts.

6. The activities under Component IB are well advanced. The Leaders in Urban Transport Planning training, introduced in CEPT University as well as those taking place in Singapore, Seoul and Dubai have been well received and are ensuring exposure to urban transport officials and decision makers to the complexities and multi-faceted nature of the issues. A total of 200 officials have been trained as on April 2015. The technical assistance activities in regard to assistance with implementation of reforms, and development of a Research Facility within MoUD, are ongoing and are expected to contribute towards capacity building efforts for Indian cities and promote sustainable urban transport practices. Under the TA activities, Indian cities are receiving hands on technical assistance in areas such as creation of UMTA and UTF (8 cities), Transit-oriented development, NMT Masterplanning and Public Bike Sharing (6 cities), Traffic Management and Information Centers and National Urban Transport Helplines (5 cities), contracting of private operators in city bus services (3 cities) etc. All these activities are expected to result in an improved planning process for urban transport in Indian cities.

7. Among the city demonstration projects, the Mysore ITS project implementation has been completed and its performance is now stabilized. The other city demonstration projects, Pimpri-Chinchwad, Naya Raipur, Hubli-Dharwad and Indore are in various stages of implementation and if properly implemented would ensure project sustainability and demonstration impact. As per current projections, BRT Corridor 3 and 2 in Pimpri-Chinchwad would be launched by the third

quarter of 2015, however, Corridor 4 is likely to be delayed to 2016; In Naya Raipur, the BRT Lite could be launched by year end or early next year; In Indore, procurement of ITS is ongoing and will require roughly a year to implement; HDBRTS will require additional time for completion and service launch until early 2017. However, the PDO is expected to be achieved, albeit, after the current closing date. As there is growing uncertainty around completion of all project activities by Project Closing the PDO risk rating is downgraded to ‘*Moderately Unsatisfactory*’.

8. The results framework and indicators are being reviewed and will need to be modified to better reflect the project outcomes and outputs at the time of restructuring for project extension.

V. Current Implementation Progress

9. **Overall Status:** The Mission rates the overall project progress as *Moderately Unsatisfactory*. While the capacity building component is progressing, the procurements and land acquisition & resettlement activities are still not complete and progress on awarded construction contracts remains worrisome. The likelihood of completion of Corridor 4 in Pimpri-Chinchwad, the BRT Corridor in Hubli-Dharwad, ITS in Indore seems increasingly remote. This is also corroborated by the poor disbursement progress of only 35 percent in roughly 90 percent of the Project life.

Status of Contract Award and Procurement in Numbers and Value in US\$m for IBRD

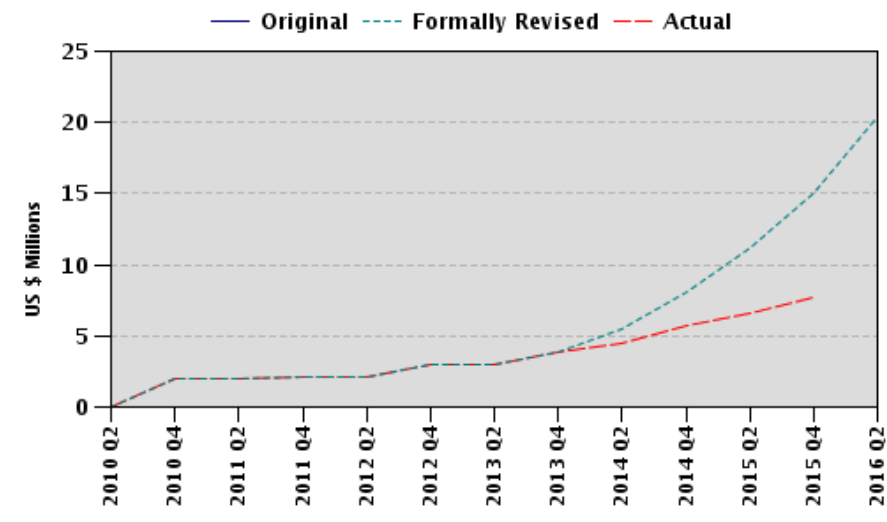
	Awarded		Under Procurement		To be Initiated		Total	
PCMC	2	36	0	0	0	0	2	36
NRDA	3	14	0	0	0	0	3	14
HDBRTS	7	30	2	14	1	11	10	55
Total	12	80	2	14	1	11	15	105
		76%		14%		10%		100%

10. The city-wise status of disbursement under the loan and grant is provided below. The table below provides the GEF grant estimates updated for the recent restructuring for which the modalities are substantially complete.

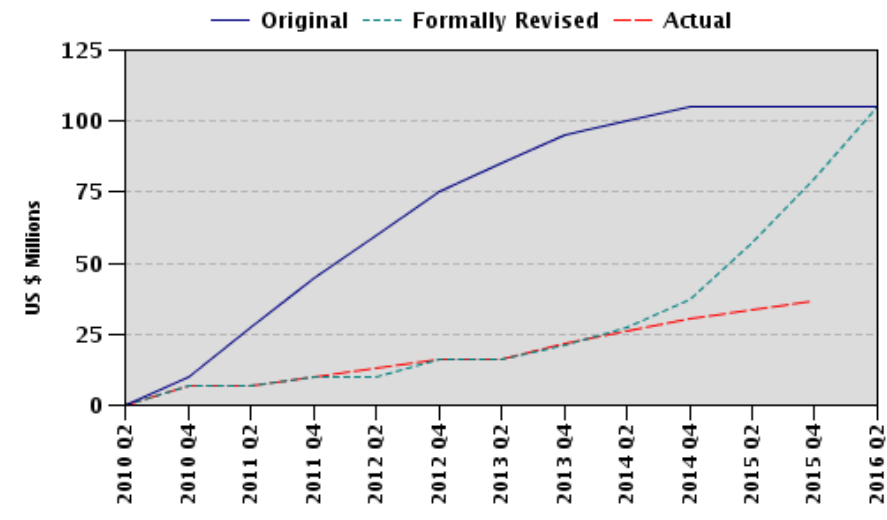
Disbursement Status (US\$ million)

City	Amount Disbursed (Loan)	% disbursed	Amount Disbursed (GEF)	% disbursed
Component 1B	-	-	2.76	44.90%
Pimpri-Chinchwad	28.00	78.71%	0.56	29.31%
Naya Raipur	3.75	26.89%	0.91	47.87%
Indore	-	-	0.67	35.19%
Mysore KSRTC	-	-	2.06	82.85%
Hubli-Dharwad	4.82	8.69%	0.73	29.26%
Mysore MCC	-	-	0.00	0.00%
TOTAL	36.83	35.0%	7.69	41.70%

GEF



IBRD



Component 1B

Implementation Progress: **Moderately Satisfactory**

11. Component 1B is progressing well. The various technical assistance activities are in various stages of execution i.e. the draft generic documents have been prepared and city specific reports are under preparation. The third round of training program “Leaders in Urban Transport Planning” at CEPT University of Ahmedabad has concluded in March and another 15 officials have now been selected for the Dubai version of LUTP due in April 2015. The mission reviewed the progress on the capacity building component and the updated status is tabulated below:

Status of Activities under Component 1B

Sl No.	Activity	Committed Amount (Rs. Million.)	Status Update
1	Development of a structure and	24,150,000	Draft guidelines are to be resubmitted.

	an operations manual for UMTA; Business Plan for Urban Transport Fund		City specific reports will be submitted over the next 3 months.
2	Development of a standard architecture and plan for ITS and Traffic Management Center	20,070,000	Draft generic documents are ready. City specific reports are being finalized.
3	Development of a model NMT action plan, bike sharing plan and TOD Guidelines	27,830,000	Draft guidance documents are being finalised. All city reports will be submitted by May 15, 2015. Workshops are being planned in May/June.
4	Development of a Research Program	5,530,000	Research Program activity was reviewed by MoUD as per meeting held on April 17, 2015, and further decision to be taken
5	GHG Emissions reduction assessment	28,650,000	Revised emission reduction report to be submitted
6	Leaders Program	55,000,000+ 40,000,000	200 officials trained so far; 15 participants being sent for the Dubai LUTP program in April 2015; Fourth round to be held in CEPT in August 2015
7	Impact Evaluation Study for the Bus Procurement under JnNURM	33,300,000	Activity very delayed
8	Model Contract Agreements with Private Bus Operators & Guidelines for City Bus Services	5,400,000	Draft guidelines have been prepared and submitted for Bank review; City selection under finalisation
9	Preparation of GEF5 Project	11,230,000	Activity in final stages - Project has been approved by Bank Board dated December 9, 2014. Activity extension under process.
10	National Communications Campaign on Sustainable Urban Transport		Activity to be initiated.
12	Workshops	30,000,000	Ongoing

Component IA

12. Activities under this component are supported / funded by UNDP. These mainly include:

- Business Plan for IUT
- 10 Urban Transport Planning Manuals
- 10 Training Toolkits
- Dissemination Activity
- Development of the National Urban Transport Knowledge Management Centre

13. The Toolkits and Training Modules have been prepared and training is ongoing. The development of the urban transport Knowledge Management Centre is ongoing and proposed to be completed by December 2015. UMTC was hired on 18 November 2014 to develop the KMC. The Bank reviewed the activity and was informed that the License Agreement with MoUD would be concluded shortly following which the web portal set up would be completed along with data population for 3 selected cities (Delhi, Jaipur and Amritsar) on pilot basis. This would be available for testing by July 2015, and the data population for the remaining 46 cities would subsequently be completed. The Mission made the following observations which will be critical to sustaining the KMC:

- Revenue or Business Model in place for operating the KMC i.e. what will it cost on an annual basis to sustain the KMC operation including for data updation. The Bank understands that this exercise has still not been undertaken.
- Data updation. The model for regular data updation has not been discussed or finalized. Without this critical activity the KMC could well loose its utility.
- Citywise data. It was noted that the current format and data fields were unnecessarily detailed and would benefit from collection of a simpler and focused data set. This would not only ensure ease of collection but also willingness to share on the part of cities. The vendor was also advised to pay careful attention to the definitions for each of the data entries.

Component 2: City Demonstration Projects

Implementation Progress: **Moderately Unsatisfactory**

Project Rating: Implementation Progress	
Pimpri	MU
Naya Raipur	MU
Hubli-Dharwad	MU
Mysore	MS
Indore	MU
Overall Project	MU

(i) **Pimpri-Chinchwad:** Physical progress of six contracts combined together in **BRT Corridor 3** is about 82%. The BRT Corridor is expected to be complete for plying of Buses by April 2015. Besides the Passenger Access at the interchange (contract not awarded yet), the balance activities of Bus Stops and the Dedication (Railing for physically separating BRT Corridor from all other traffic) works are likely to be completed in mid 2015. With installation of ITS, and operator and duly trained drivers being in place, the corridor could be ready for launch. Progress in the Bank-financed Contract I (Interchange at Nashik Phata) is satisfactory, and the remaining Ramp 2 might get completed by end-2015. Physical progress of all eight contracts combined together in **BRT Corridor 4** is about 54%. Land is yet to be available for 1.46 km of length. There is no likelihood of the full length of the BRT Corridor being available for plying of Buses before mid-2016. Progress in the Bank-financed Contract III (Empire Estate Grade Separator) is highly unsatisfactory. The Contractor presented during the Mission its plan to complete the contract in all respects by end of December 2015, however, optimistically, one may expect the Contract to be completed by around August 2016 or so. Timely completion of land acquisition and resettlement activity and management of the Empire Estate contract are the two critical items holding up this corridor.

(ii) **Naya Raipur :** Works progress in the contract for Construction of BRT Bus Shelters, Pick-up Points, BRT Workshop Depot and Control Centre, started in December 2013 with 15 months completion period, is about 36% of likely Completion Cost. The Contractor's mobilization as well as progress has been slow. Although the Contractor expressed its intention to complete all works by July 2015, this maynot be feasible. The ITS tender evaluation has also been cleared by the Bank and it should be possible for the ITS vendor to complete the installation in a 6 month timeframe provided bus shelters and pick-up points are available for installation by July-August. Works progress in the contract for Non-Motorized Transport Infrastructure (Construction of Cycle Tracks, Walkways, etc), started in March 2014 with 15 months

completion period, is about 20% of the likely Completion Cost. It should be possible for NRDA to launch the BRT Lite by November 1, 2015, provided they ensure timely completion of civil works, ITS installation, finalization of service plan and hiring of private operator.

(iii) **Mysore:** The system performance has improved since the last review carried out in December. Most of the problems encountered by the ITS system for Mysore city bus have been addressed. The system is being closely monitored and once the performance stabilizes operational acceptance would be declared. Comprehensive Services and Operations Analysis (CSOA) study to improve bus operations is ongoing.

(iv) **Indore:** After re-launching the ITS bid for the third time last year, two bids have been received in Feb 2015. However, evaluation is yet to be initiated by AICTSL.

(v) **Hubli-Dharwad:** INR 1650 million worth of works out of total about INR 2450 million of works (being financed by the Bank) has been carried out in 7 contracts of Depots, Workshops, Terminals, Bus Stations, Footpaths etc. being implemented by HDBRTSCL. Their progress varies between Nil and 16%. Bids have been invited for one and are expected to be invited shortly for another contract. The main Corridor / Road works are being implemented through Karnataka Road Development Corporation Limited (KRDCCL). These roadworks as well as 3 Flyovers and 2 Road over Rail Bridges (RoBs) of total worth about INR 2300 million (not financed by the Bank) will be implemented by KRDCCL under 3 contracts. 2 of the 3 contracts have started recently as a result of delays in land acquisition and availability of encumbrance free lands and diversions, and only preparatory works are ongoing. The 3rd contract of 2 RoBs is still to be awarded owing to delays in securing Railway approval. It's assessed that all Works under the BRTS Project can be completed most optimistically not earlier than end-2016. Land acquisition and resettlement though progressing need to be expedited.

Details of the discussions with each of these cities are provided in Annex 2-6.

VI. Key Implementation Issues, Risks and Priority Actions

The key issues that need careful attention and close monitoring are:

14. *Land Acquisition and resettlement impacts in Pimpri-Chinchwad:* There is some momentum in completing the remaining land acquisition and resettlement actions, i.e., resettlement of those living in transit housing, allotment of EWS housing and remaining land acquisition. In case of EWS housing, 46 out of 198 targeted household have been allotted houses and the remaining are at various stages of processing. The key issue in this context is that in Corridor 4, about 1.4 Kms stretch is encumbered where about 70 families are residing and out of these only half of them will be eligible and the remaining are not eligible since they own another house as per PCMC records and this could pose a challenge in getting vacating them. When inquired with these people during the field visits, it is revealed that though most of them have sold their earlier allotted houses and currently do not have an alternative houses to move in. The mission suggested that this aspect needs to be looked into and consider the possibility of relaxing this eligibility condition, so that they can also become eligible for alternative houses and thus facilitate vacating of land and complete land acquisition process and hand over the site to the contractor. As regards, resettlement of those residing in transit housing, 90 out of 144 (63%) are found to be eligible and the process is ongoing for their shifting and the verification of the remaining PAPs eligibility is also in progress. As regards land acquisition, two stretches are found to be critical in Corridor 4. One is 1.4 Km where the people need to be shifted to EWS housing and another stretch is of 60 meters MIDC land which is now becoming as a serious concern as there is no agreement on the alternative compensation and rehabilitation assistance to the affected individual units.

15. *Pimpri-Chinchwad - Flyover contract on Corridor 4 (Kalewadi Phata-Dehu Alandi Road)*: Progress of this contract continues to be highly unsatisfactory. Until March 2015, only 38% progress (in financial terms) has been made in elapsed roughly four year period. Non-availability of required Machinery, Labor and Materials was slowing down the progress. Reportedly, the Contractor was suffering from financial problems since the start of the contract. PCMC has taken some steps to improve the cash flow of the Contractor, however, because of the shortage of fund, the Contractor is unable to utilize its resources to its potential. PCMC has held several rounds of high level discussions with the Contractor but the performance remains consistently poor. This has become one of the biggest constraints to launching Corridor 4. PCMC has issued legal notice to the contractor on March 27, 2015. During the mission meetings the contractor shared with PCMC their commitment to complete the works and revised work plans to complete the remaining works by December 2015. They propose to increase the pace of casting segments to 40 per month. The mission disagreed with the realism of such a plan. Completion of the works by August 2016 maybe a more realistic timeline. PCMC will need to make a final decision on how to move forward with the package at the earliest.

16. *Pimpri-Chinchwad – BRT Launch and Coordination among key stakeholders*: The launch of the BRT corridors 2 and 3 are proposed by third quarter 2015. The ITS procurement has been completed by PMPML and a pilot test was conducted by the vendor. If the work order is issued in April 2015, the installations could still be completed by August 2015. The Mission again reiterated and PMPML agreed that off board fare collection would be followed on the BRT corridors. These would start with being manual but could be easily upgraded to automatic in the future. However, if the right features and practices are not embedded from the beginning it would not only detract from the BRT but also be more difficult to implement later on. Besides, ITS, there are several other aspects which will require close attention of all agencies concerned i.e. PCMC, PMC, PMPML, Traffic Police etc. These include, timely completion of BRT station, installation of station doors, Control Room for ITS, availability of ETMs (work order to be issued), traffic signage, road markings and landscaping, passenger access and speed tables, driver training, hiring of station security and housekeeping, bus lane notification and coordination of communication activities. The mission also expressed concern over the lack of progress on traffic management actions (traffic engineering and signal control) at intersections and advised PCMC to have their consultants to develop signal plans for all intersections on Corridor 2 and 3 and in particular ensure detailed analysis of the intersection between corridors 2 and 3 which is already overloaded. Without this timely input the performance of the BRT may suffer especially on Corridor 2 where traffic volumes are high. The Mission noted that there had already been slippages in timelines and a timebound implementation schedule was not being followed. It strongly advised both PCMC and PMPML to jointly develop a timebound implementation schedule capturing all the actions required and closely monitor its implementation with the key stakeholders involved. This would enable a realistic timetable for launch. It was agreed to develop and share such a plan with the PMU and the Bank by April 30, 2015. It is expected that with the recently hired BRT Advisor the coordination of these multiple activities between multiple agencies will be better streamlined.

17. *Naya Raipur – Works Contracts Progress*: The progress on the BRT Infrastructure contract, signed in December 2013 was about 36% in 100% of the contract life, and of the NMT Infrastructure package signed in March 2014 was just 20%. While majority of the issues have been resolved and contractors confirmed their intent to complete the packages by July and September 2015 respectively, the Mission found that the mobilization levels and resource planning were inadequate and advised NRDA to closely monitor the packages. It will be important for critical roofing works and kerb casting and tile laying to be completed ahead of the monsoons for timely completion of works and launch of BRT Lite.

18. *Indore BRT ITS Delays:* The procurement of ITS for the Indore BRT has been launched in September 2014 for the third time. The bids were received in February 2015 and evaluation is yet to begin as the PMC contract has expired and the final dues have still not been paid. The mission expressed strong concern at the continuing delays in resolving the matter. As AICTSL does not have the requisite expertise to evaluate the bids or ensure proper implementation, it will need to take an early decision if it plans to proceed with the tender. The other issue confronting AICTSL is the high bid prices received. However, without evaluation of bids it will be difficult for AICTSL to arrive at any decision in regard with proceeding with the tender and financing of it. The mission informed AICTSL that it might be preferable to reallocate the funds to alternate activities if further delays were expected.

19. *Mysore ITS Project operational acceptance.* The ITS system for Mysore city bus, rolled out gradually since November 2012 had encountered initial system troubles viz. including VMU performance and ETA performance. Now that the system appears to be stabilizing KSRTC needs to issue operational acceptance at the earliest through close monitoring and resolution of remaining technical issues. The mission was happy to note that the ITS Cell created by KSRTC has been staffed with officials that have developed capacity in this area.

20. *Hubli-Dharwad – Works Contract implementation progress:* The progress on the awarded works packages is slow and a matter of concern. The progress was at 0-16% of the awarded contracts. However, the mission was informed about the following positive developments which would ensure improved pace of progress i.e. (i) that issues in regard to design drawings have now been substantially resolved, (ii) a new Team Leader of the PMC is now on board who appears more experienced with handling site issues, (iii) and finally, the critical decision in regard to design option in the Dharwad city limits has now been taken and plans being developed to implement the same.

21. *Hubli-Dharwad – Land Acquisition:* The land acquisition is progressing steadily and expected to be completed by June, 2015, with two year delay as planned at the time of finalization of RAP. As of now, 97% of 42 acres of Government land and 25% of 27 acres of private land acquisition is completed. As regards R&R assistance, 41% of 188 non-title holders and 25% of 323 tenants have received assistance and the remaining are expecting by June, 2015, again with two year delay as planned at the time of finalization of RAP. The mission noted that the issue of ownership of houses among those affected families in Hubli due to lack of ownership documents has been resolved and they will now receive compensation and assistance as per the provision available for title holders. Though, the first milestone of 5 kms of road for mixed land construction has been handed over, there are encumbrances in 2 stretches of about 100 meters each as the compensation payment for land acquisition in one stretch and R&R assistance payment in another is pending and the mission suggested that this should be completed immediately since the land has been already been handed over to the contractor. The mission noted that the majority of the land remaining to be acquired was private land and mainly in the Dharwad and Hubli city areas and advised HDBRTS to expedite the award process.

VII. Safeguards – Environment and Social Management

Safeguards Rating: **Moderately Unsatisfactory**

Project Rating: Safeguards	Social	Env
Pimpri	MU	MU
Naya Raipur	S	S
Hubli-Dharwad	MS	MS

Mysore	-	
Indore	-	
Overall Project	MU	

Environment Management

22. The mission noted that there continues to be patchy performance in the implementation of the EMP provisions across cities as among contracts within the individual cities. While there have been some improvement in provision for safe passage of other road users, especially for the bus-station construction in Hubli-Dharwad and Naya Raipur, there continue to be lapses on the workers' safety in other contracts. City specific observations and agreements are summarized in the following paragraphs while the details are provided in Annex 2-6.

23. **Hubli-Dharwad:** The mission noted that the strategy of sapling plantation in secured areas is currently showing better results as expected. The survival rate has improved to about 81% for the plantation undertaken in 2014 monsoon. In light of the finalization of alignments in Navalur and Dharwad, and freezing of other modifications, the project impacts can now be predicted with much higher certainty and their mitigation finalized in line with the ESMF for the project. The addendum of the EA documents under discussion for a long period should now be finalized as a priority. It was agreed that the draft addendum will be available for review by the Bank by April 30, 2015. This must include the anticipated impacts due to the design modifications, NMT improvements in Navanagar and Dharwad, inclusion of Navalur tank as compensation for the Rayapur tank, and changes like new provision of noise barriers in Dharwad Depot, to shield the residents of the Police colony. The mission also noted that the survival rate for saplings planted in the 2014 monsoon has increased to 81%. It suggested to the NPMU that its PMC be used to develop a case study around the plantation strategy for wider dissemination to other cities. It urged the HDBRTSCo team to ensure that this momentum on the plantation is maintained.

24. The preliminary discussion with the auditor responsible for environmental audit indicated the need to have easy-to-use formats for contractors' teams at site for ease of implementation of the EMP provisions. The mission agreed with the HDBRTSCo suggestion that the report should propose any modifications, which in the auditors' view may help improve implementation effectiveness. Provision of safe working conditions, especially in the area of proposed diversion of traffic from Dharwad to Hubli through Sainagar will require careful consideration and additional safety measures since the road inside that residential area appears to be quite congested and is currently not catering to heavy traffic that moves between Hubli and Dharwad. It requested an update to the Bank as part of the June QPR, or even earlier if the decision is made about the strategy for diversion of traffic. The mission also advised HDBRTSCo to ensure that the clearance of debris from the work sites needs to be undertaken in advance of monsoon to prevent unsafe and/or unhealthy situations due to flooding/erosion.

25. **Pimpri-Chinchwad:** The mission noted that the construction across the river Pavana has required the contractor to constrict the river flow again. It strongly advised PCMC to ensure the removal of the debris from the river bed before May 25, 2015 so that full river width is available for the duration of the monsoon and confirm the same to the Bank. The mission also requested PCMC to provide an update on the plantation undertaken in line with the EMP for the project, after the last update of 2012, 2 planting seasons have since passed and likely target has been achieved. It was agreed that this information will also be updated on the PCMC website. The mission also noted that with the completion of the road below the flyover across the Empire Estate it has been opened allowing smooth movement from within the colony along Corridor 4 on to Corridor 1. It suggested that the safety of the workers and residents in the area should remain a

focus of the project partners – contractors for the road and flyover, PCMC and their consultants until all works, including the implications of the final decision on the landing ramps, through the area are completed.

26. **Naya Raipur:** The mission visited the Depot-cum-Workshop site and noted that the contractor had improved the provision of health and safety measures for the workers deployed on the site to comply with the EMP. In case of the NMT contract, there is still scope for improvement, especially with reference to safe movement of construction vehicles, availability of regulatory clearances for the plants (with pollution potential) in or to be put in use, management of borrow areas from where the material for widening of the embankments is being procured, as well as the clearance of culverts and other work areas in advance of the 2015 monsoon. It was agreed that the QPR for June 2015 will include update on these items. The mission also advised that in case the road in front of the interchange at Raipur station needs to be dismantled, the material should be used to fill up the area in the Old Secretariat pick-up point.

27. One item that the mission was informed about at the Old Secretariat site was the possibility of removal of some temporary shops in the approach road for the entry to the pick-up point. NRDA officials informed that the Raipur Municipal Corporation is already in the process of providing alternative arrangements for these vendors. The mission advised NRDA to confirm this and ensure that all such persons get the compensation and assistance in line with the ESMF. This should be confirmed to the Bank as soon as the finalized designs are tallied with the ground situation.

Social Management

28. **Pimpri-Chinchwad:** The mission noted that two individual consultants have been appointed to assist PCMC in advancing the implementation of resettlement. The remaining key RAP implementation issues in Pimpri-Chinchwad includes: (i) satisfactory resettlement of those 144 families residing in the transit for more than 3 years; (ii) successful shifting of those affected people living on corridor 4 by allotting EWS houses; and (iii) completing the remaining land acquisition for 1.4 kms in Corridor 4 and resolving the compensation and rehabilitation assistance for affected individual units on MIDC land. PCMC needs to initiate the work immediately to make the alternative housing at Vital Nagar ready for occupation since the people from Transit are expected to be shifted by middle of May, 2015. In view of inordinate delay in shifting of people from Transit and also allotment EWS and the corresponding delays in handing over of land to the contractors, the Safeguard management for Involuntary resettlement is retained as “*Moderately Unsatisfactory*” for this city and will be reviewed during the next mission based on the progress in implementation of the commitment plan. More details are provided in **Annex 3-B**.

29. **Hubli-Dharwad:** The HDBRTS, the implementation agency has safeguards capacity with one Manager, one Social Development Officer and two individual consultants to support the RAP implementation. In addition, there is a full time Land Acquisition officer with adequate support staff to advance the land acquisition. Further, concurrent monitoring consultants are providing feedback on the implementation outcomes. The key issues in this sub-project are: (i) completing the remaining land acquisition, payment of R&R assistance and resolution of shifting of Dargah. Some Temple trusts have taken a position that the principal to be followed for shifting of Dargah, i.e. either shifting or avoiding should also be followed in case of those temple also. Since the issue of continuing the BRT route in Dharwad city has been taken, i.e., at grade, the impacts to shops independently at the time of RAP preparation will be applicable. In this context some of the shopping complex owners under the name of “Dharwad Land Losers Association” have organised to take up their concerns. The satisfactory negotiations with this group on their compensation and resettlement could pose a challenge. The mission observed that

the land acquisition and resettlement implementation is progressing steadily and noted few minor shortcomings in the implementation in the 5 Kms of road stretch already handed over to for mixed lanes construction and the resolution is on the way. In view of this, the safeguards management for involuntary resettlement is rated as moderately satisfactory” for this city. More details are provided in **Annex 6**.

VIII. Procurement, Expenditures and Disbursement Plans

Procurement

30. *Mission* noted that revised procurement plans from all units are received, which are being reviewed and discussed with each PIA.

31. MoUD as implementing agency has already finalized all consultancy contracts at their level. They need to monitor these contracts for timely completion.

32. For PCMC, all the contracts are already awarded. However the contract execution is slow. The project officials have to monitor the contracts closely for expeditious completion of work and time extension where required.

33. KSRTC has processed for up gradation of ITS system in Mysore by processing variation to contract with CMC. CMC has completed the up gradation. System is now stabilized. KSRTC has to process for payment of CMC’s final bill. Further for Mysore city, the DULT has proposed for public Bike Sharing Project(PBS) at a total estimated cost of INR 20.5 cr(capital cost INR 9.82 cr and O&M cost INR 10.62 cr for 6 years). Bank has cleared the bidding document for this activity. While discussing this activity with project officials, it is understood that the project is in the process of getting state govt cabinet clearance for this activity. The project has to expedite clearance and further procurement process.

34. For Naya Raipur, the project is in the process of finalizing the procurement of ITS component. Two civil contracts are under execution and at various stages of completion. Close monitoring from project side is required for their timely completion. Both the contracts will require extension of time.

35. HDBRTS has initiated procurement process for ITS for Hubli Dhariwad. Civil contracts, which are already awarded, are at various stages of completion. Besides one works contract and a consultancy contract needs to be finalized on priority by HDBRTS.

36. AICTSL has processed for procurement of ITS for Indore city and the bid is already opened and the project is in the process of finalising the same.

37. PPR 15 for the project was conducted on 13th April 15 and report with comments will be shared with the client for compliance.

38. Though there is some progress made in procurement activities as compared with that in last mission, the overall progress is slow, hence the procurement rating is retained as MS with details as follows:

Project Rating: Procurement	
Pimpri Chinchwad	S
Naya Raipur	MS
Hubli-Dharwad	MS

Mysore	MS
Indore	MS
PMU-MoUD	S
Overall Project	MS

Financial Management

39. The disbursement (excluding advances) stands at 25.51% and 30.86% against IBRD and GEF respectively. The IUFRR submission (latest till Feb 2015) is timely. A standalone IUFRR for the month March 2015 will be submitted by the project by May 15 2015. The audit report for financial year 2013-14 for all PIU's ie MoUD, AICTSL and KSRTC (GEF component) and PCMC, NRDA and HDBRTS (IBRD and GEF component) has been shared and stands reviewed. PMU has shared its replies to the review comments in particular on PCMC wherein the PIA has requested AG to drop the para. The timeline for resolution on this has been agreed as September 30 2015. The internal audit committee has not been convened since November 2013. The process of hiring of internal auditors has been initiated and they are expected to be on board by May 15 2015 and cover the audit for entire year 2014-15. With regard to Mysore City Corporation, the agreed FM arrangements are on track of implementation. Instructions stands issued for opening of a separate bank account for the project. The request for budget creation is being made. In the interim DULT will provide necessary financial support to the project. On project audit, necessary actions will be initiated by MCC to ensure entrustment of project financial statement audit within 3 months of restructuring. It is also noted that MCC has an audit backlog of nearly 4 + years (since 2009-10). As a good practice, MCC should pursue this with KSAD and provide updates on resolution of audit backlog.

40. The overall rating of the project is retained at MS

41. Key Actions

S.No.	Actions	By Whom	By When
<u>1</u>	Entrustment of statutory audit of PIU of MCC to the state AG	MCC	Within 3 months of restructuring
<u>2</u>	Appropriate opening/ designation of budget head with provisioning (BE 2015-16).	DULT	June 30 2015
<u>3</u>	External audit clarification	PMU and PCMC	Sep 30 2015
<u>4</u>	<u>Internal Audit</u> a) Appointment of internal auditors b) Internal audit report submission	MoUD PMU	May 15 2015 June 30 2015

X. Project Management

The overall slow progress of the city demonstration projects is symptomatic of weak project management and staffing of PIUs. The rating for Project Management is accordingly pegged at MU.

The legal amendments to the recently concluded restructuring have to be counter signed and sent back to the Bank. PMU, who is coordinating this, shall ensure early submission so the process can be completed.

XII. Next Mission for Bank's Implementation support

42. The next mission is proposed to take place between **July 27 – August 14, 2015**

INDIA: GEF-World Bank-UNDP: Sustainable Urban Transport Program (SUTP)

List of Officials Met

1. Mr. M.K. Sinha, OSD (UT & MRTS), MoUD
2. Mr. I. C. Sharma, National Project Manager, SUTP Project Management Unit, MoUD
3. Ms. Rana Amani, Deputy Project Manager, SUTP PMU, MoUD

4. Mr. Bhaskar Dasgupta, Director (MI), Department of Economic Affairs (DEA), MoF

5. Mr. Rajeev Jadhav, Commissioner, Pimpri Chinchwad Municipal Corporation
6. Mr. Rajan Patil, Joint City Engineer, Pimpri Chinchwad Municipal Corporation
7. Mr. Shrikant Savane, Executive Engineer, Pimpri Chinchwad Municipal Corporation

8. Mr N. Baijendra Kumar, PS to CM and Chairman NRDA
9. Mr. S. S. Bajaj, Vice-Chairman, NRDA
10. Mr. Rajat Kumar, CEO, NRDA
11. Mr. L.K. Panigrahi, Chief Project Manager, NRDA
12. Mr. Salil Srivastava, Chief Engineer, NRDA

13. Mr. Sandeep Soni, CEO, AICTSL

14. Ms. V. Manjula, Commissioner, Directorate of Urban Land Transport, Govt. of Karnataka
15. Mr. C. M. Noormansoor, Managing Director HDBRTS

16. Mr. C. Mallikarjuna, CME, KSRTC
17. Mr. Gururaj, KSRTC

INDIA: GEF-World Bank-UNDP: Sustainable Urban Transport Program (SUTP)
Hubli-Dharwad

1. A World Bank mission visited Hubli-Dharwad on April 6 and 7, 2015, to discuss the implementation of the Hubli-Dharwad BRT project. The meetings were attended by Ms. V. Manjula, Commissioner, DULT, Mr. C.M. Noormansoor, Managing Director, HDBRTS Company, and their team and consultants; PMU and PMC Teams.
2. **BRT Project:** The HDBRTS Project aims at improving bus services in the Hubli and Dharwad twin cities including the implementation of a 22.3 km BRT line, consisting of the 11.8 km long corridor between the two cities and extensions into their central districts. BRT operations are expected to commence late 2016. Proposed project components include:
 - Segregated central bus lanes with median bus stops.
 - Trunk and feeder services; off-board fare collection system, with integrated ticketing of trunk and feeder services.
 - The trunk fleet will initially consist of 110 standard (12m) and 30 articulated buses, with a floor height of 900 mm above ground level.
 - Level boarding and alighting.
 - ITS for BRTS and ATCS for traffic management along the corridor.
 - Comprehensive development of the city transport infrastructure including depots, workshops, terminals both for BRT and feeder buses; ITS for BRT and traffic management; and last-mile connectivity.
 - Interchange facilities between the BRT and suburban & city services.

Technical Discussions

3. **At-grade BRT Alignment in Dharwad:** In the original concept, the BRT busway was to be completely at-grade. Following objections from some Dharwad residents, an alternative was defined, according to which the busway was to be built on elevated structure between NTTF and Jubilee Circle. The proposed alignment of the elevated busway was then further extended to the Dharwad CBT; this was the preferred solution presented to the August 2014 mission. In the meantime, other residents objected to the proposal of building an obtrusive structure through central Dharwad. In December 2014, it was finally decided to revert to the original at-grade concept. The mission feels that an at-grade alignment will be appropriate from a functional viewpoint, except at the congested Jubilee Circle where a BRT flyover solution should be a long-term objective for future years.
4. **BRT Terminal in Dharwad:** Various options had been conceived to build an elevated transfer terminal at the northern end of the BRT. Again, objections were voiced against a solution on viaduct, as it was considered to be visually obtrusive, and it was ultimately decided to build the Dharwad terminal at-grade. Being at-grade, it would merely provide an operational turnaround for BRT buses and a final BRT station, but no spaces for feeder buses which would presumably terminate at the CBT or the OCBS terminals. Some (20% or less) of the BRT buses might continue toward the NWKRSTC Regional Bus Terminal and provide a link with non-urban bus services.
5. Following an extensive field visit, it was agreed that two options should be considered for the Dharwad end of the BRT (which must be completed when BRT operations start in late 2016):

- a) The BRT end-station, with three berths in each direction, would be placed south of Jubilee Circle, with an operational loop passing through existing streets. BRT buses would let off the passengers at the end-station and then proceed empty to a layover area on a nearby street which is currently used as endpoint for some bus routes displaced during the OCBS construction. After the layover, the BRT buses would return to the BRT end-station to pick up passengers. The main drawback of this option is the relatively long distance of the BRT end-point from the Dharwad central district, which would oblige most passengers to first cross the traffic on Jubilee Circle and then walk about 500 meters to their destinations.
- b) The BRT buses would continue across Jubilee Circle and terminate at a curb-side end-station located along the existing one-way avenues near the public library, fairly close to the CBT. The drawback of this solution is that it requires land acquisition near the library; also, there would be less curb space available for bus layovers than with the first option.

6. The above issue was discussed at length, and it was agreed that CEPT will evaluate the two options, and subsequently prepare the design plans for the chosen solution. The mission recommends that a note summarizing the evaluation of the two options be sent to the PMU and the Bank as soon as possible, but not later than **May 31, 2015**. It was also agreed that while the second option may be preferable owing to proximity to CBT, it might take longer to implement owing to the land acquisition involved. As such, HDBRTS maybe better off proceeding with the development of Option a) as an interim solution so as not to hold up the BRT launch and meanwhile work on Option b) as the longer term solution.

7. **Traffic Signal Designs:** The BRT corridor will include 38 signalized intersections, i.e. on the average there will be traffic signals every 590 meters. The placement of signals and the timing of the signal phases will affect both traffic safety and the efficiency of mixed-traffic flow and BRT operations. If done well, it will contribute substantially to the success of the entire scheme; if not, it may detract from the perception that the BRT project has been a useful investment.

8. Apart from general design standards – no specific traffic signal designs could be made available during the mission’s visit to Hubli-Dharwad. It is understood that the traffic signal supplier (C-DAC) will prepare both the physical layout and the phasing/timing of the signals. As they have not been involved with BRT systems in the past, this carries the risk that their design will follow general signal control practices which basically deal with mixed traffic flow, but not BRT. There are two major issues specific to BRT:

- How best to control right-turns by mixed traffic across the segregated busway; and
- How to minimize signal delays to BRT buses and avoid bus bunching at intersections, as this could severely undercut the objective of achieving reliable bus services and high commercial bus speeds.

9. It was agreed that signal design plans, including the proposed signal phasing and timing, should be prepared as a matter of urgency for the 38 intersections (each intersection poses its own specific issues, therefore generalized standards do not suffice for signal installation). These plans should be developed at an appropriate scale, probably 1:500, and should include all elements of traffic engineering for each intersection, such as the locations of mixed-traffic, BRT and pedestrian signals, lane markings, zebra crossings, bollards, traffic signs, and the phasing and timing of the traffic signals, and – where required – proposed modifications of the geometric design of the intersection. To carry out the designs, some knowledge is also required of projected traffic flows, especially the number and type of vehicles crossing the busway. It was agreed with the technicians present at the mission meetings that the signal cycle (probably uniform for all

signals) should not exceed 90 seconds and that bus-actuated skip phases would be considered to minimize BRT delays and bunching. The mission recommends that the signal design plans be sent to the PMU and the Word Bank as soon as possible, but not later than **May 31, 2015**.

10. **Traffic Safety Audit:** Upon the recommendation of previous missions, DULT arranged with EMBARQ to carry out a traffic safety audit for the entire BRT corridor. Their report was recently submitted, and the mission received a copy just after its visit to Hubli-Dharwad. It is understood that the CEPT team is currently reviewing that document. The mission recommends that CEPT's review be sent to the PMU and World Bank **by April 30, 2015**.

11. **ITMS:** The Bank mission understood that a total of 22 vendors/firms attended a pre-bid conference organized to address to issues related to the procurement of ITS Package. Of the 22 vendors that attended, 15 firms submitted queries.

12. The mission discussed the following issues related to the pre-bid process associated with Package 1 (i.e. ITS):

- Concern on OBITS Coming With JNNURM Buses
 - The concern is that the on-board ITS equipment supplied is not reliable in terms of its ability to handle ITS interfaces with the Central Control Center. Some pre-bid vendors seem to have expressed a desire to uninstall the OBITS and replace it with their own in order to ensure seamless integration.
 - It is felt that since BRT buses with OBITS have already been purchased from Volvo and Tata, the on-board ITS that comes built-in should be utilized for integration with centralized ITS equipment. The World Bank urged the HDBRTS company to ensure, via an MoU, both Bus manufacturers will provide required support, including sharing of OBITS specification and making OBITS OEM (Original Equipment Manufacturers) resources available, to the ITS Systems Integrator to facilitate seamless integration. The HDBRTS co. agreed that the onus of ensuring compatibility of OBITS with the rest of the ITS sub-systems should be with the ITS Systems Integrator.
- System Acceptance Payment to be Separated for Key Components
 - A few pre-bid vendors have expressed the need to not link payments to completion of various clusters of ITS implementation. But the Bank mission indicated that, given the complexity of the ITS investment, there will be a need to ensure the various ITS sub-systems need to be integrated for a successful BRTS operation and this responsibility should rest with the ITS Systems Integrator. It was agreed that the PMC would combine logical ITS elements into clusters and certain payments would be disbursed upon completion of major clusters while up to 15% of the total payment would be held until all clusters are integrated,
- Scheduling Vs Rostering
 - The Bank mission understood that a few pre-bid vendors have expressed a need for clarification in the use of "Scheduling" and "Rostering". The Bank mission and HDBRTS team advised that the HD BRT network requires functionalities of both scheduling and roster management. The Bank mission recognized that the bidder may not have readily available solutions for both scheduling and crew roster management. However, since the procurement is for an integrated solution, the successful bidder should be able to provide a scheduling and roster workflow management software that is well integrated with the rest of the ITS elements.
- Fare Settlement/Policy – HDBRTS & NWKRTC fare sharing
 - The Bank mission understood that a few pre-bid vendors were interested in knowing the complexity in structuring of fare between HDBRTS & NWKRTC and the associated revenue sharing model. Based on extensive discussion, it was concluded that the fare matrix and associated business policies will not be static and will likely

evolve as the BRT network starts operating and that the proposed ITS application software should be able to support dynamic fare matrix and business policies. Furthermore, the HDBRTS operational staff should be able to easily program new fare structures and models into the system. However, the Bank mission suggested that the PMC could share with the pre-bid vendors sample fare matrix, policies, revenue share model that currently exist so as to give them an idea of level of effort required to customize the software,

- CCTV Video Storage
 - The current specification for on-board video storage is 2 days of storage. The bank mission was informed, based on pre-bid vendor inputs, that the OEM equipment installed on the bus is not capable of handling large volumes of video transmission via Wi-Fi communications. As a result, the pre-vendors were wondering if they could replace the installed network video device with their own. Given that the existing video transmission device has a known problem, the Bank and HDBRTS teams urged the PMC to change the video storage specification to either 14 days or even 30 days if the cost differential is not high. The Bank mission also enquired if there is a minimum standard requirement in terms of preserving or archiving the CCTV video for production in court cases. Depending on what that requirement is the video footage from the on-bus storage device could be transferred to a video archival system at the Control Center for preservation. In order to optimize the Bandwidth usage on the Wi-Fi network at the Bus depots, the Bank mission urged the PMC to consider transmission of only critical on-board operational parameters. Furthermore, the Bank mission identified the need for defining standard operating procedures, in collaboration with the ITS vendor, for end-of-day tasks to be performed at the depot.
- Demo instead of Pilot
 - The Bank mission reiterated that a pilot is desirable in terms of meeting the launch deadline and also ensuring ITS system deficiencies are adequately addressed before a large scale deployment is planned. The pilot should consist, among other elements, of selecting sample buses from both manufacturers, outfitting the buses with on-board ITS, testing the AVL, VMU, and PIS units together with ITS at the Centralized Control Center, running the buses on select routes to ensure all ITS functions, including GPRS/3G coverage, are performing satisfactorily, etc. The Bank mission would like to point out that a similar pilot phase is being rolled out in Pune BRT network.
- Project Period, Bid Submission Date Extension, Second Pre-Bid in Bangalore
 - Keeping in view the tight deadline for launch, the Bank mission and HDBRTS team concurred that the final proposals would be due by June 10th followed by an award to be made by August 15th.

13. The Bank mission also discussed the ATMS solution being considered for deployment along the BRT network and procurement on a sole-source basis. Given that the Traffic Signals (even at BRT intersections) and Red Light enforcement systems are typically controlled and managed by Traffic Police, the Bank mission encouraged the PMC to reconsider the need for a separate ITS package to implement Traffic Signals and Red Light enforcement system, and instead consider absorbing the essential traffic signal/red light enforcement system into the primary ITS package, and if indeed there is a need to implement traffic signals via a separate package, to ensure the Traffic Police team is consulted with and brought on-board at the earliest. The Bank mission pointed out that it is absolutely critical for the BRT Network operators and the Traffic Police to collaborate and work closely in order to ensure smooth and prioritized operations of the BRT system. DULT and HDBRTS agreed to organize a workshop with the Traffic Police at the earliest and also have an identified core team from Traffic Police working alongside on the design, procurement, and implementation.

14. Works being implemented by HDBRTSCo

- a) **Package 1:** As pavement works have already been done by the PWD, scope of this contract was reduced to Construction of Bus Stations and Development of Pedestrian Infrastructure. The financial progress on this package is 5%. This contract for construction of four numbers of BRTS Bus Stations and Pedestrian Infrastructure between Hosur Cross and Hubli Railway Station started on 4th April 2015 with 12 months completion period. The Contractor is yet to start the works on ground.
- b) **Package 3A & 3B:** The number of Foot Over-bridges has been further reduced to 8, and it has been decided to implement the works through two contracts of 4 over-bridges each. Designs have been finalized. HDBRTSCL is presently preparing the Bid Documents. It expects to invite the bids around 20th April 2015 and award of contract should be complete by June 2015.
- c) **Package 4:** This package comprising NMT (Drains, Walkways, Street Lights, Bollards, Sitting Benches, etc) for a total length of 3.2 km in Dharwad and at Navanagar started on 10th November 2014 with 9 months completion period. Work is behind schedule due to delay in land acquisition. Its physical progress is about 7% of the contract amount and financial progress achieved until date is 11.6%. The Contractor mentioned of some difficulty in working in about 500 m length in Dharwad; HDBRTSCL needs to look into this. Drawings for footpath Tiles immediately required from the Design Consultant. The Contractor is working on Drain works presently with reasonable mobilization. All land has now been handed over to HDBRTS. The work is likely to extend beyond the contract expiry in August and the revised timeline will be December 2015.
- d) **Package 5.** comprising Construction of 13 Bus Stations in the middle of the BRT Corridor width, started on 15th October 2014 with 12 months completion period. Physical progress of this contract has been only about 2.5% of contract amount. The financial progress achieved so far is 7.27%. DULT and HDBRTSCL want the Contractor to build One Bus Station completely first when others can be built up to the Platform level so they can see how the Bus Station looks and make changes if required. Thereafter, the Contractor can proceed on completing the others. The Contractor informed that it has planned to complete BS-14 at APMC in 2 months time. 10 of the 13 sites handed to the Contractor. HDBRTSCL is yet to hand over the remaining three sites for BS-10 (Unkal Village), BS-11 (Unkal Lake) and BS-12 (Bhairidevikoppa) because of some land issues. Works are ongoing for foundation and platform walls at three Stations BS-14 (APMC), BS-16 (RTO Office) and at BS-17 (Rayapura). Diversion works are in progress at six locations BS-05(1) (Hosur Interchange), BS-06 (KIMS), BS-07 (Vidyanagar), BS-08 (BVB College), BS-09 (Prerana Science College), and BS-15 (Navanagar). The Contractor could not start works at BS-13 at Shantiniketan Layout, because the layout for the Station is being modified. The Contractor needs to be pushed for accelerated progress and early completion of all works. Layout for the ITS cables is required to be provided to the Contractor in a timely fashion prior to the flooring works to be carried out by the Contractor.
- e) **Package 6** comprising Construction of 11 Bus Stations in the middle of the BRT Corridor width, started on 15th September 2014 with 12 months completion period. Physical progress of this contract has been about 7.5% of contract amount. In this contract also, HDBRTSCL has asked the Contractor to build One Bus Station completely first when others can be built up to Platform level. The Contractor informed that it has planned to complete BS-18 at IOCL first. Nine of the 11 sites handed to the Contractor. HDBRTSCL is yet to hand over the site

for BS-29 at Toll Naka, which involves land acquisition as well as demolition of existing structure. BS-24 at Navlur Lake near proposed RoB has been deleted from scope of this contract and will be part of the Road over Rail Bridge (RoB) contract to be implemented by KRDCPL. Works are presently at Grade Slab at platform level and below at BS-18 (IOCL), BS-19 (NGEF), BS-21 (Navlur Station), BS-22 (SDM Hospital) and at BS-26 (Lakhman Halli). Diversion works are in progress at BS-27 at Gandhinagar Cross, and diversion works yet to start at BS-28 at Vidyagiri. The Contractor cannot start the works at BS-23 (Sattur) because of local people's opposition and at BS-30 (Bagalkot) because change in location is being worked out. Layout for the ITS cables is required to be provided to the Contractor in a timely fashion prior to the flooring works to be carried out by the Contractor.

Proceeding ahead with **Package 7** for Construction of Jubilee Terminal in Dharwad was on hold. Because of the difficulties in land acquisition, HDBRTSCL had prepared a proposal of 1.2 km long elevated section for BRT from Toll Naka to Jubilee Circle/Terminal. On further deliberations and consultations with the stakeholders, HDBRTSCL has finally decided to go ahead with its original proposal of having BRTS Corridor 'at grade' in this stretch. Exact location for the proposed Jubilee Terminal is presently being finalized, following which the designs and preparation of bid documents will be taken up.

- f) **Package 8** comprising Depot and Divisional Workshop in Hubli and the Depot in Dharwad, started on 20th December 2013 with 15 months completion period, is progressing very slowly. There were delays in Site Handing Over and providing Drawings as well as in Forestry Clearance for Tree Cutting. Physical progress has been about 16% of the contract amount. The financial progress until date is 25%. The Contractor had also cited additional earthworks necessitated by encountering expansive soil in Hubli sites not envisaged in the contract as a reason for its slow progress. The Contractor's mobilization has been slow as well as progress of works by it has been lethargic. The Contractor has established Concrete Batching Plant (CBP) at Hubli. It could not get permission to establish CBP at Dharwad. It's bringing ready-mix concrete (RMC) from other sources whenever higher quantities are required. The Contractor is having difficulty in procuring Natural Sand because of local regulations, on which HDBRTSCL would coordinate with the concerned authority to facilitate procurement.

The Contractor's latest Program shows completion of all works under this contract by October 2015. The Mission did not find the Sites adequately resourced and energized to complete all works by October 2015. The oncoming monsoon from mid-June to mid-September is likely to affect specifically the progress of pavement works comprising Granular Sub Base (GSB), Dry Lean Concrete (DLC) and Pavement Quality Concrete (PQC). The Contractor needs to submit appropriate methodology and accordingly mobilize resources for PQC works as per the requirements of the contract. The Project Management Consultant (PMC) suggested that the Contractor is required to increase the Shuttering and Bar Bending teams. The Contractor is required to carry out efficient planning, increase its resources including skilled staff, and manage its resources efficiently for higher productivity. It requires to progress the works vigorously simultaneously in all 3 sites. The Contractor has submitted Compensation Event details, and the PMC has made its recommendation to HDBRTS in respect of the impact of such events.

The Contractor's latest Program shows completion of all works for Depot in Hubli by September 2015. For the Depot in Dharwad, the Contractor's Site Team has requested its management to increase the number of Masons. Steel materials for fabrication are yet to come. The Site-in-charge of the Contractor appeared to be unaware of planning for the works to be carried out. Latest Program of the Contractor shows completion of all works in this site by July 2015. The site requires strengthening of manpower, materials as well as efficient planning for speeding up the progress. HDBRTSCL is required to obtain concurrence of

Indian Oil Corporation Limited (IOCL) for establishment of Fuel Filling Station at this site. The Mission was informed that the site for Divisional Workshop in Hubli was handed to the Contractor on 16th April 2014 on removal of old scrapped buses.

- g) **Package 9** for Re-construction of OCBS (Old Central Bus Station) at Dharwad, started on 5th September 2014 with 12 months completion period. Its physical progress has been about 8.5% of contract amount. On excavation down to the required level, there has been large inflow of ground water into the excavated areas. The December 2014 Bank Mission was informed that the matter was reviewed and it would not have any adverse impact on the proposed structures. HDBRTSCL is looking into whether and how further inflow of ground water can be stopped. The Contractor (same as for Package 8) is having difficulty in procuring Natural Sand because of local regulations, on which HDBRTSCL would coordinate with the concerned authority to facilitate procurement. The Contractor assured to mobilize another Shuttering and Bar Bending Team to accelerate the concreting works. The PMC suggested that the Contractor is required to also increase its unskilled labor strength. The Mission did not find the Contractor adequately energized to progress vigorously. Like for Package 8 contract, the Contractor is required to carry out efficient planning, increase its resources as required, and progress vigorously in order to complete all works early.
- h) **Package 10** for Construction of Hosur Interchange started on 15th May 2014 with 18 months completion period. Its physical progress has been only 10% of contract amount. There were delays in providing 'Good for Construction' drawings to the Contractor. The progress of works was also affected due to delay in completion of dismantling of existing structure by North West Karnataka Road Transport Corporation (NWKRTC). The Contractor presented a list of Nine items for which drawings are yet to be received by it. The Contractor has mobilized a Concrete Batching Plant (CBP) of 18 cum/hr capacity, which is reportedly inadequate for the requirements for this contract. The Contractor is gradually increasing its manpower. It needs to increase its skilled labor. The PMC opined that the Contractor needs to suitably mobilize or re-deploy its Engineer(s) and Supervisor(s) for efficient progress of works. The Contractor needs to submit appropriate methodology and accordingly mobilize resources for Pavement Quality Concrete (PQC) works as per the requirements of the contract. The Contractor presented a Work Program showing completion of all works in June 2016.

15. **Works implemented through KRDCCL**

Complete length of about 19 km long BRT corridor along Hubli-Dharwad Highway is being implemented through KRDCCL, except the Bus Stations therein.

16. The ongoing **4-laning works of Hubli-Dharwad Highway** (the BRT Corridor) started in September 2012 after making necessary design changes to fit the BRTS. Effectively, the 4-laned Highway will become the exclusive BRT corridor after completion of the full width of the Highway comprising both exclusive BRT corridor and the mixed vehicular ways. Progress of this contract has been unsatisfactory, besides the Contractor's slow progress, due to difficulties encountered in relocation of utilities and delays in supply of drawings and Finished Road Levels (FRLs) by HDBRTSCL / Design Consultant. Approximately about INR 340 million worth of works (in a contract of INR 1190 million) have been carried out. 2 x 7.5 km of Concrete Pavement has been constructed, out of 2 x 11.75 km of Concrete Pavement proposed. Concrete Pavement could not be done in length of about 1.9 km due to proposed Road over Rail Bridges (RoBs), in about 1 km for Flyovers at Navlur and in about 1.6 km (Gateway Hotel to Sena College) due to land and utilities issues. Widening of pavements to 4-lanes in Hubli and Dharwad city areas could not be completed because of non-availability of encumbrance-free land

due to difficulties in relocating existing utilities pending acquisition of land required for construction of full-width of proposed BRT Corridor. KRDCCL has planned to fore-close this contract with completion of about INR 360 million worth of works by April 2015. The remaining works of this contract are planned to be implemented through the following three contracts.

17. The Contract for **Widening of Hubli-Dharwad Highway to 44 m** (about 11.75 km long) **and 35 m width** (7.09 kms within Hubli and Dharwad cities) of INR 1474 million, with 18 months completion period, has started on 12 March 2015. KRDCCL has planned to include most of the incomplete works of the ongoing 4-laning contract (as discussed in the foregoing paragraph) in this widening contract. KRDCCL has handed 1st Milestone km 6.145 to km 12.71 (except two small lengths) to the Contractor on 23rd March 2015. Relocation of Utilities is required to be carried out now that the full-width land is available. The Mission was informed that all necessary drawings for 11.75 km long stretch of 44 m width have been issued to the Contractor. The Contractor has started Clearing and Grubbing works. Site for subsequent milestones are required to be handed to the Contractor in 3 months from Start Date. It's understood that the Design Consultant is preparing the drawings for 7.09 km long city portions. HDBRTSCL's PMC is responsible for supervision of this contract.

18. Contract for **Construction of Three Flyovers** of INR 359 million started on 5th November 2014 with 14 months completion period. Encumbrance-free site for 1st milestone Flyover at Navanagar was handed to the Contractor on 2nd February 2015. The Contractor has started the diversion works. However, no 'Good for Construction' drawing has been issued to the Contractor as yet. The Mission understands that these are being finalized between the Design Consultant and the Project Management Consultant. KRDCCL was required to hand over the sites for other 2 Flyovers to the Contractor in 3 months from the Start Date. There are issues related to availability of land as well as relocation of utilities at those 2 sites, which are presently expected to be resolved by mid-May 2015. Drawings for those 2 Flyovers are presently under preparation by the Design Consultant. Services of the PMC for the 4-laning contract have been extended to provide services for this contract.

19. 2-lane wide **Road over Rail Bridge (RoB)** is proposed to be constructed on both sides of the existing 2-lane RoB near Navalur. The General Arrangement Drawings (GADs) for the Railway portions have been submitted to the Railways for their review and clearance. Detailed designs for remaining parts are being prepared by the Design Consultant. KRDCCL informed that about 90% of the land required for construction of the RoBs is with the Government, and remaining land is to be acquired.

20. **Project Management Consultant (PMC)'s Services:** The Team Leader (TL) of the PMC appointed by HDBRTSCL has been replaced in March 2015. The new TL appears to have extensive experience on similar works. His guidance should help the Contractors to plan and implement the works more efficiently.

21. **Services by the Design Consultant:** DULT has appointed Centre for Environmental Planning and Technology, Ahmedabad (CEPT) as the Planning and Design Consultant. CEPT being principally a planning organization, it is availing support from six other agencies for Architectural, Structural, Electrical, Heating Ventilation Air-Conditioning (HVAC), Plumbing Fire Fighting, and Landscaping. The issue of delays in submission of designs was highlighted in December. The Mission was pleased to learn most of the designs have now been submitted to HDBRTs and only a few small designs remain to be finalized and submitted.

Environment

22. The mission visited BRT Infrastructure sites including depots and locations along the trunk corridor where bus stations are being constructed. It also visited the plantation carried out in

one government school as well as the locations where NMT improvements are underway. During the visit, a session was organized by HDBRTSCo where preliminary findings of the environmental audit undertaken were discussed.

23. *BRT Infrastructure sites:* The mission noted that the bus-station sites, where construction has started, have barricading and advance warning to direct traffic away from the construction. In some of the locations, delineators are not clearly visible due to the deposition of dust. It also noted that in case of the urbanized stretches, such as within Hubli, it will be difficult since median width is reduced. This will require more effective traffic management, and needs to be factored into the planning of the works. Performance of the contractor on Package 9 has not improved despite repeated instructions from HDBRTSCo. The mission reiterated its advice that the disposal of the asbestos containing material should be undertaken in close coordination with the KSPCB as it needs to be disposed of in a properly engineered waste disposal facility and must not be dumped with other construction waste. This is a cause of concern and the mission suggested that a time-bound program for improvements be tracked with regular interaction between the Environmental Officer of the PMC for HDBRTSCo and the contractor team, especially because this package is where other sensitive issues like management of hazardous waste will need to be managed.

24. *Diversion of Traffic for construction of Unkal cross fly-over:* The mission was informed that the construction of the flyover at Unkal cross will require diversion of traffic. The options were either to construct the Mixed Traffic Lane and then allow traffic there while construction is underway, or to allow traffic from Dharwad to Hubli to go through Sainagar before rejoining the old Pune-Bombay (PB) road alignment, where the BRT will operate. The mission visited the proposed road in Sainagar and found it to be very congested. It suggested that given the high volume of traffic, including heavy vehicles like buses are likely to move if the diversion is effected, it would be better to construct MTL and allow traffic on these. However, if Sainagar road needs to be used, high level of traffic safety will be required to be maintained for the duration of the diversion. It was agreed that the final decision on this will be included in the QPR for June 2015.

25. *Plantation Progress:* The mission was pleased to note that with the changed strategy of using secure sites for plantation, survival rate has gone up to 81% from 53%. It visited the plantation in one government school in Dharwad, where 100% survival has been achieved for both years' plantation. The school had used the incentive under the Green BRTS plan to engage a person to water and take care of plants during vacation periods to ensure the survival rate. The mission suggested that NPMU should use their consultants to document such best practices for wider dissemination. The mission also discussed the possibility of arranging a competition on World Environment Day, June 5th, for local young people to develop a software program for smart phones that could help track plantation survival with widely available smart phones. It also agreed that the next Green BRTS committee meeting should deliberate on this aspect and confirm the plantation for rainy season of 2015.

26. *Environmental Audit and Landscaping Consultancies:* E&Y has been recently appointed as consultants for carrying out the environmental safety audit for Hubli Dharwad BRTs project. The consultants have submitted the Inception Report and the audit report is currently being prepared. The mission participated in a meeting with the Environmental Audit consultants where their preliminary findings were presented. The mission noted that the audit also revealed information similar to the PMC working for HDBRTSCo. It agreed with the HDBRTSCo suggestion that the consultant should try to develop formats that will help contractors implement the EMP provisions more effectively. It suggested that in addition to the EA documentation, the

audit consultant may consider using observations from previous Aide Memoires for checking the levels of improvement in the performance on environmental aspects. This should be covered as part of the next deliverable of the audit consultant. The current year's audit report which will contain key observations and suggestions for improvement will be submitted by April 20, 2015

27. The mission was informed that the landscaping consultant team has also mobilized and is working on the design for the Sanjivani Park where Forest Department and HDBRTSCo are working together. In addition, planning for developing the Rayapur lake along the BRT corridor as an urban recreation area is also started.

28. *EA Update and Documentation:* With the final designs now in place, the Joint Measurement Survey has been completed. After careful consideration, HDBRTSCo has saved over 50 trees. The number of trees now affected by the project, including 1750 trees felled for widening of the original 2 to 4 lane, is 4037. The mission advised the HDBRTSCo to draft the addendum to the EIA/EMP and include in it the revised Green BRTS plan, with additional plantation in ratio of 1:2 for the trees identified for cutting along the PB road. In addition, the Addendum should include the final proposals for management of each of the impacts identified, as well as analysis of alternatives. It also must include the anticipated impacts due to the design modifications, NMT improvements in Navanagar and Dharwad, inclusion of Navalur tank as compensation for the Rayapur tank, and changes like new provision of noise barriers in Dharwad Depot, to shield the residents of the Police colony. It has been agreed that the draft EA documents, in line with comments provided during the discussions with HDBRTSCo team and previous missions, will be shared with the NPMU by 30th April and following their concurrence, with the Bank by 15th May 2015.

Social

29. The mission held discussions with HDBRTS Company, and Monitoring consultants on the RAP implementation and the outcome is summarized below.

30. *Land Acquisition.* There is some good progress since last supervision mission, though the overall progress is behind by two years from the original schedule. The overall progress is 68% out of total requirement of 69 acres of both Government and private land. The consent process for compensation is still being followed in the backdrop of a new LARR act and in some cases where the land owners have not agreed to the General award has been followed using the new land acquisition rates. In order to ensure that the compensation is offered under consent award process is higher than the compensation paid under new act, the mission suggested and provided guidance for preparing a comparative statement to demonstrate that compensation paid under consent award is higher than new Act provisions. A suggested format is provided and using this, HDBRTS should prepare the statement (**attachment**). Though the first milestone stretch has been handed over to the contractor for mixed lane construction, the certification on payment of compensation and assistance in the handed over stretch has not been prepared as required under the MOU. This is because there are some encumbrances in two stretches and these need to be attended immediately and a certification be prepared and shared with the Bank.

31. *R&R Impacts.* The assistance to non- title holders and tenants is being provided in accordance with the entitlement matrix. The cash allowances are due for upward revision from April, 2015 and this has not been done so far. The mission reminded this and the R&R should be paid according to the applicable rates from April 01, 2015. During the field visits, it was observed that some of squatters are classified as encroachers and this need to be revisited and make necessary corrections since the quantum of assistance to squatters is higher than those

classified as encroacher. The implementation progress in land acquisition and R&R assistance is summarized below.

Progress in Land acquisition and Resettlement Implementation

(as of March 31, 2015)

No	Details	Original Target	Revised Target	Progress (In %)	Remarks
1	Private land acquisition (in acres)	59.51	27.15	7.04 (25.93%)	
2	Transfer of Government land (in acres)	13.55	41.87	40.67 (97.13%)	
3	Compensation paid (in INR/Millions)	1,683.62	4,690	442.40 (9.43%)	
4	No. of non-title holders received all R&R assistance	49	188	77 (40.95%)	
5	No. of Tenants received assistance	87	323	82 (25.39%)	
6	No. of title holder received compensation	101	446	88 (19.73%)	
7	No. of Religious structures first Installment payment	8	16	09 (56.25%)	
8	No. of Religious structures where all assistance provided and affixed structures removed	8	16	04 (25.00%)	
9	LA and R&R Expenditure	1,965.32	5,177.51	451.20 (8.71%)	

32. *Impact on Religious Structures* As many as 17 religious structures will be affected either fully or partially. As of now, 4 are shifted and in case of 9 other temples, first installment of construction grant has been released and work is in progress. In case of remaining 4 there is some resistance, as these Temple Trusts have indicated that the same process to be followed for Dargah should be adopted for shifting of these temple. Thus, the progress in resolution on the issue of shifting Dargah is critical for successful relocation of all affected temples in this project.

33. *Meeting with Dharwad Land Losers Association.* This group has been writing to the Bank on their concerns. The Bank Team met with this group during the field visits and also a separate meeting along with the HDBRTS. This group's main demand is the design choice finalized in Dharwad, construction of road at grade instead of elevated. They are of the view that alternatives were not looked into as per the new LARR act provisions and the compensation payment as per new act provisions and certain concessions in FSI and setback rules to those affected land owners for reconstruction of their affected properties. They are also demanding that alternative land can be allotted in lieu of compensation, so that they can reconstruct their affected properties. The Bank Team and HDBRTS clarified on the application of new Act for compensation and available setback regulations and that the FSI/TDR is being looked into by the Government for the city as whole. As regard alternative land, HDBTRS clarified that those Government land available are owned by other departments and may not be available for rehabilitation purposes. HDBRTS has offered them to discuss their demands and suggestions during the price negotiations meetings which are shortly for Dharwad city.

34. *Addendum to RAP.* Since the issue of alignment and design is now finalized for both Dharwad and Navlur, the overall impacts in land acquisition and resettlement is known. Therefore, the addendum reflecting the final impacts on land acquisition and resettlement with revised budget need to be prepared. This addendum should also reflect how the new land acquisition act provisions are being applied. HDBRTS should take help of PMC to finalize this report. This report will now be submitted for the Bank's concurrence on the above additional impacts and budget requirements. On receipt of Bank's no objection, the documents should be approved by the Government since substantial additional budget is required due to provisions in the new act.

35. *Concurrent Monitoring of RAP implementation.* The mission interacted with concurrent monitoring consultants and they now submitted 6 progress reports summarizing their field visit observations and initial assessment of living standards among those who have shifted to the new places and described the process of negotiations, time taken for land acquisition. The mission advised them to assist the HDBRTS to document how the negotiated amounts compares with new act compensation rates.

36. **Dated Action Plan** HDBRTS proposed the following dated action plan for the implementation of remaining key actions which are already behind the original schedule proposed in the RAP.

No	Actions	Responsibility	Revised Target Date	Remarks
1	Mitigate residual LA and R&R impacts in already handed over first section in Mixed lanes.	HDBRTS	Immediate	
2	Update R&R cash allowance for 2015-16 and implement them W.e.f from April 01, 2015	HDBRTS	Immediate	
3	Addendum to RAP to record additional LA and R&R Impacts and Final list of PAPs	HDBRTSCO	30-Apr-15	Pending since 31-Jan-14
4	Completion of remaining Structure valuation for Navlur and Dharwad	HDBRTSCO	30-Apr-15	
5	Compensation Award and payment of compensation to all villages/Towns	KRDCL /HDBRTSCO	30-Jun- 15	Original Target date April, 2013 (28- Feb-15 for Navalur and 31-Mar-15 for Dharwad)
6	Handover of encumbrance free Second and third sections for construction of mixed lanes	HDBRTS	30-Jun-15	May 31 for second mile stone
7	Completion of payment of R&R assistance to Tenants and non-titleholders	HDBRTS	30-Jun-15	Original Target date 31-Aug-13
8	Assistance to reconstruction of affected religious structures and affected portion is removed	HDBRTS	30-Jun-15	Original Target date: 31-Jul-14
9	Completion of transfer of HDMC land	HDMC	30-Jun-15	Pending since 31-Oct-14

include workshops for HDUDA and HDMC officials, orientation program for Indian Medical Association members, NGOs, DC office staff and participation in the NWKRTC sports event.

41. **Funds Utilization and Disbursement Projections:** According to the information shared by DULT/ HDBRTS Company, they have spent about Rs 25 Crores upto March 2015 and have projected an expenditure of Rs. 165 Crores for 2015-16, of which roughly Rs. 30 crore is expected to be spent April-June 2015.

42. Based on their current procurement plan HDBRTS expects to procure Rs. 270 crores of works and goods (Rs. 245 cr plus 10% contingency) leaving a balance of Rs. 60-70 crores unutilized. DULT/ HDBRTS confirmed that they intended to use the balance towards construction of the Control Centre and to improve access facilities for pedestrians and NMT modes at the Jubilee Circle terminal. It was agreed that they would revert with their revised fund utilization plan by April 28, 2015, and ensure procurement of all additional activities by June 2015.

43. **BRT Implementation Schedule:** The Mission reviewed the sub activities and their likely completion dates ie. BRT implementation schedule.

- All land acquisition to be complete by June 30, 2015
- Shifting of all utilities to be over by September 30, 2015
- Hubli trunk corridor to be completed by December 31, 2015
- Construction of BRT bus stations to be over by March 31, 2016
- Construction of mixed traffic lanes – September 2016
- Construction of Depots and Workshop to be over by March 31, 2016
- Construction of all three flyovers- June 30, 2016
- Construction of ROB – March 31, 2017
- Installation of ITS by September 30, 2016
- Delivery of standard buses – May 31, 2016
- Delivery of articulated buses – August 30, 2016

Key Agreed Actions

- Submission of CEPT's review of Traffic Safety Audit report – April 30, 2015
- Submission of concept design options for Dharwad terminal/turn around near Jubilee Circle – May 31, 2015
- Conceptual plan for Pedestrian accessibility under Option 1B at Jubilee Circle Terminal – May 31, 2015
- Initiate FoB procurement/ receipt of bids – April 30, 2015/ June 30, 2015
- Finalize and initiate remainder procurement activities – June 15, 2015
- Last date of receiving ITMS bids – June 10, 2015
- Submit BER for ITS - July 31, 2015
- Proposal on fund utilization by HDBRTS – May 25, 2015
- Finalise ATMS Tender – June 15, 2015
- Submission of phasing and signal plans submitted by CDAC and duly reviewed by IBI & CEPT – April 30, 2015
- Submission of TER for City Plan – April 30, 2015
- Finalize variation on additional bus stations – May 15, 2015
- Submission of Revised EIA/EMP – April 30, 2015
- Submission of RAP addendum – April 25, 2015
- Submission of Environmental Audit Report - April 20, 2015

- Finalization of plantation plan – April 20, 2015
- Finalization of SOP TOR and initiation of procurement – May 5, 2015
- Submission of revised BRT implementation schedule – May 31, 2015
- Complete structural valuation for Dharwad – April 30, 2015
- Handover second and third sections encumbrance free for Mixed Traffic Lane contractor – June 30, 2015
- Complete all LA awards and Payment compensation and R&R assistance - June 30, 2015
- Complete all procurements – August 31, 2015

Annex 2A

SUTP : Hubli-Dharwad : Status of Civil Works Contracts under the World Bank Funding

Package	Name of Works	Contractor	Contract Amount / Estimated Amount (INR Millions)	Contract Start Date	Completion Period (months)	Scheduled Completion Date	Value of Works Done (INR Millions)	Physical Progress % of Contract Amount	Remarks
Pckg-1	Bus Stations (4 numbers) and Pedestrian Infrastructure (Hosur Cross to Hubli Rly Stn)	Suprada Construction Company, Dharwad	86.5	04Apr15	12	03Apr16	Nil	Nil	
Pckg-3A	Foot Over Bridges (4 numbers)		200.0 (estimated)		09	Bids expected to be invited by 20Apr15			
Pckg-3B	Foot Over Bridges (4 numbers)				09	Bids expected to be invited by 20Apr15			
Pckg-4	Non Motorized Transport (3.2 km long in Dharwad and at Navanagar)	Suprada Construction Company, Dharwad	124.2	10Nov14	09	09Aug15	8.2	6.6	
Pckg-5	Bus Stations (13 numbers)	Rajdeep Buildcon Private Limited, Ahmednagar, Maharashtra	140.7	15Oct14	12	14Oct15	3.2	2.3	
Pckg-6	Bus Stations (11 numbers)	Suprada Construction Company, Dharwad	115.8	15Sep14	12	14Sep15	8.5	7.3	

Package	Name of Works	Contractor	Contract Amount / Estimated Amount (INR Millions)	Contract Start Date	Completion Period (months)	Scheduled Completion Date	Value of Works Done (INR Millions)	Physical Progress % of Contract Amount	Remarks
Pckg-7	Jubilee Terminal		78.3 (old estimate)		10 (likely)	Exact location is being finalized, following which the designs will be prepared			
Pckg-8	(i) Hubli Depot, (ii) Dharwad Depot, and (iii) Divisional Workshop in Hubli	Shreehari Associates Private Limited, Aurangabad, Maharashtra	564.5	20Dec13	15	19Mar15	90	15.9	
Pckg-9	OCBS (Old Central Bus Station) at Dharwad	Shreehari Associates Private Limited, Aurangabad, Maharashtra	148.7	05Sep14	12	04Sep15	12.4	8.3	
Pckg-10	Hosur Interchange	Rajdeep Buildcon Private Limited, Ahmednagar, Maharashtra	416.5	15May14	18	14Nov15	41.5	10.0	

Status of Works being / to be implemented through KRDCCL and not financed by the Bank

Name of Works	Contractor	Contract Amount / Estimated Amount (INR Millions)	Start Date / Expected Start	Completion Period (months)	Completion Date	Value of Works Done (INR Millions)	Physical Progress % of Contract Amount	Remarks
4-laning of Hubli-Dharwad Highway (about 19 km long)	GVR Infrastructure, Hyderabad	1191	Apr11 (actual start in Sep12 to accommodate BRTS)	24		340	28.5	Fore-close planned by Apr15. Remaining works cannot be done now due to encumbrances and Structures to be constructed. Remaining works to be done as part of 3 contracts below.
Widening of Hubli-Dharwad Highway to 44m (11.75 kms) / 35m (7.09 kms)	RNS Infrastructure, Hubli	1474	12Mar15	18	11Sep16	Nil	Nil	1 st Milestone stretch handed to the Contractor, wherein relocation of utilities to be done. Remaining site involving Land Acquisition, R&R and Relocation of Utilities to be handed to the Contractor in 3 months from Start Date.
Flyovers at Unkal Cross, Unkal Lake and Navanagar	Rajdeep Buildcon Private Limited, Ahmednagar, Maharashtra	359	05Nov14	14	04Jan16	Nil	Nil	'Good for Construction' drawings are yet to be issued for 1 st Milestone Flyover. There are Land and Utility issues at other 2 flyover sites.
Road over Rail Bridges (RoBs)		450 (approx)	General Arrangement Drawing (GAD) for Railway portion submitted to the Railways for Clearance. Detailed designs for remaining parts being prepared by Design Consultant. About 90% of Land available with the Government.					

INDIA: GEF-World Bank-UNDP: Sustainable Urban Transport Program (SUTP)

Pimpri-Chinchwad

1. A World Bank Mission visited Pimpri-Chinchwad Municipal Corporation (PCMC) on April 8 and 9, 2015 to discuss the implementation of the Pimpri-Chinchwad component of SUTP. It met the Commissioner of PCMC, Mr. Rajeev Jadhav; Joint City Engineer, Mr. Rajan Patil; and their staff and consultants; also present were Mr. I.C. Sharma, National Project Director of SUTP and his Project Management Consultants, and ITDP which is providing assistance with the BRT Project. On April 9, a meeting was held at PMPML, chaired by Ms. Mayura Shindekar, CEO of the BRT Cell, to discuss several aspects of the proposed BRT, in particular the ITS component. The mission also had the opportunity to observe bus docking at some BRT stations in Pune.

2. The Mission met with the Commissioner on April 9 and apprised him of its observations and concerns regarding the project preparation ahead of the launch and LA, R&R issues. The Commissioner assured the Mission that all infrastructure related works will be completed before the launch. The launch date will be finalized thereafter. The Commissioner assured the Mission that he will carry out internal discussions with the PCMC team to work out an activity timeline upto the launch. The Communications team will assist with planning the launch and also provide inputs post launch. All other issues such as passenger facility for Corridor 1 and 3 interchange, Gammon contract, EWS housing will be addressed on priority.

Proposed BRT Program in Pimpri-Chinchwad:

3. The following four BRT corridors are being implemented:

- (1) Old NH-4 (Mumbai-Pune road),
- (2) Aundh-Rawet road,
- (3) Nashik Phata to Wakad road,
- (4) Kalewadi to Dehu-Alandi road,

4. The first two corridors were sanctioned initially by JnNURM, and road construction has been completed since some time. Corridors 3 and 4 are implemented under the World-Bank supported SUTP.

World Bank Supported Project

Corridor 3 (Nashik Phata - Wakad):

5. This BRT Corridor of about 8 km length is being constructed under 7 works contracts, out of which only Contract I (costing about 44% of the total cost of 7 contracts) is being financed by the Bank. The Table hereafter presents the overall status of the 7 contracts in this corridor. Overall progress is about 82% of likely total amount of seven contracts. The BRT Corridor is expected to be complete for plying of Buses by April 2015, except for a length of 260 m where no exclusive BRT Corridor will be available because of non-availability of land on one side. Besides the Passenger Access Facilities (contract not awarded yet) and the remaining ramp on Nashik Phata interchange, Bus Stops and the Dedication (Railing for physically separating BRT Corridor from all other traffic) are likely to be completed by April/May 2015.

6. *Contract I: Interchange at Nashik Phata* (Bank-financed): Progress of this contract was satisfactory. All works except Ramp 2 were complete. In view of non-availability of additional land, an alternative layout was prepared for Ramp 2. The revised General Arrangement Drawing (GAD) was issued to the Contractor on 13 November 2014. Detailed drawings are being prepared by the Contractor and being proof-checked by the Project Management Consultant (PMC). The Contractor had planned to start works on ground from mid-December 2014. However, because of objections raised by the abutting locality regarding the land, the works could not be started. Presently, the matter has been resolved for the part of the Ramp on Left Side (Mumbai side), and the Contractor has started the storm water drain relocation works on that side. The local people on the Right side (Pune side) are still objecting to the contract works.

7. Earlier Missions were informed that the Contractor had made Claims towards Compensation for Delays beyond its control (such as, delay in getting encumbrance-free land), Variations and Additional Works. The Mission was informed that the PCMC has paid for the Variations and Additional Items. However, the Dispute Review Board (DRB) required to be established from start of the contract, was not established. The Contractor then notified, in June 2014, for resolution of the disputes through Arbitration. The Mission was informed that the Arbitration Board has been formed in February 2015 and that the Contractor's total Claim is for an amount of INR 713.6 million of which INR 499.1 million is towards 'Idling of Resources'.

8. *Contract II:* All works are likely to be completed by 30 April 2015.

Contract III: All works have been completed except for 260 m length where required land on one side is not available. Thus, there will be no exclusive BRT Corridor in that length.

9. *Pedestrian Facilities for crossing of BRT Corridor 1 on Mumbai-Pune National Highway 4 (NH4) as well as for travel between ground level on NH4 and Corridor 3 at higher level:* Unless these are constructed, both Corridor 1 and Corridor 3 BRT cannot be satisfactorily utilized by the public. Single bid of 14.4% higher than the estimated cost for these works (estimated cost INR 104.3 million, with 6 months time for completion) was received on 15 March 2014, which could not be awarded by PCMC. PCMC has now prepared a revised estimate with improved specifications for about INR 170 million and intends to invite fresh bids. The Mission expressed concern over the long delays in finalizing the procurement of this critical access infrastructure. PCMC confirmed that they would initiate the tender by April 30, 2015, and finalize the award no later than June 2015.

10. *Construction of Bus Stops:* Both the contracts are ongoing.

11. *Dedication of Corridor:* The works for erecting Railing-type Separator to create completely physically separated exclusive BRT Corridor are ongoing.

12. **Design and Construction of NMT-ways:** The previous mission and executive staff of PCMC visited the entire length of Corridor 3 to review the progress and quality of the works. It observed that the bikeway-cum-footpath along the two sides was interrupted at numerous places where driveways or minor side streets join the corridor. Modern design practices would call for table-top treatment at such locations, ensuring continuity of the NMT-way and obliging the few vehicles crossing to slow down when ascending and descending the NMT-way (see pictures in previous aide-memoire).

13. The table-top treatment is specified in the Guidelines for Pedestrian Facilities, published in 2012 by the Indian Roads Congress (IRC). Section 6.3 of the guidelines states that "*footpath*

*interruptions must be avoided by minimizing cuts in kerbs. These act as traffic calming measures and make such conflict points safer. Entrances/exits, side properties, gates and service lanes shall be accommodated by following provisions: Raised crossings, where the car lanes are raised by ramps of slope (1:10) and brought to the level of the footpath etc". Nevertheless, the Mission noted with concern that PCMC staff had not taken on board any of the suggested modifications. The mission thus repeats its previous recommendation that PCMC take the necessary steps to ensure continuity along the NMT-way in accordance with the IRC standards and have the necessary works executed **by May 31, 2015**, i.e. before the corridor is inaugurated.*

14. ***Passenger Access to BRT Stations:*** The mission visited a stretch (about 25%) of Corridor 3 and noted that most BRT stations are accessible from nearby signalized intersections. At several locations, however, this is not the case, and table-top crossings were added at those locations. These table-tops also traverse the busway itself, a design which was extensively discussed and recommended against in the past. The mission recommends that PCMC cease building such table-tops across the busway. In general, much traffic signal and traffic engineering work is still incomplete, and no design plans appear to exist nor are planned. The mission recommends that PCMC advise the PMU /World Bank **by May 31, 2015** of the signaling, signing, roadway marking, and additional civil works that have been carried out. If no design plans exist, it would be useful to receive photographs of the completed junctions and station accesses.

15. ***Link between Nashik Phata and Bhosari:*** Most BRT bus routes serving Corridor 3 will pass straight through the Nashik Phata flyover and terminate at Bhosari. In the future, some BRT buses coming from Corridor 1 will also terminate at Bhosari. As noted in previous aide-memoires, BRT buses will operate in mixed traffic between Nashik Phata and Bhosari, and have low entry stops at the curb, compatible with the left-hand doors of BRT buses. While this section would not be a BRT as such, it would be desirable from the operational and image viewpoints, if these stops have at least a modern shelter and a paved platform; this principle had been agreed with PCMC in the past. It is thought that there will be eight such stops (four on each side of the road) in this section. PCMC now advised that *“bus stop improvements along Nashik Phata to Bhosari link will be executed through existing bus station contracts”*. The mission recommends that PCMC coordinate this issue with PMPML and advise, **when** these eight bus stops will be built through the existing bus station contracts, or otherwise. This work should be completed no later than the initiation of BRT services along Corridor 3. The mission recommends that PCMC advise the MOU and the World Bank **by April 30, 2015** on the actions taken in this regard.

16. ***Traffic Engineering and Signal Control:*** The previous aide-memoire addressed this aspect under the heading of Corridor 1, but it applies also to the other BRT corridors, especially Corridor 2 which accommodates relatively heavy bus and mixed-traffic volumes. As far back as March 2014, it was noted that the signal phasing approach currently used in Pimpri-Chinchwad for mixed traffic would not be appropriate for avenues that include segregated busways. There are two major issues specific to BRT:

- How best to control right-turns by mixed traffic across the segregated busway; and
- How to minimize signal delays to BRT buses and avoid bus bunching at intersections, as these could severely undercut the objective to achieve reliable bus services and high commercial bus speeds.

17. Therefore, previous missions recommended that experts be engaged to develop traffic engineering designs for the intersections affected by the BRT busway. Representatives of the PCMC Electrical Department and their consultants gave the current mission a brief presentation of the planned traffic signal installation but could not produce any at-scale drawings for the proposed work. The mission gained the impression, again, that PCMC does not consider this aspect as important, and that no serious traffic engineering studies have been carried since the last visit – or before. It expressed to the Commissioner and his staff that the neglect of this important

aspect could generate severe criticism in the future when severe traffic accidents happen or the BRT service end up be unexpectedly slow and inefficient.

18. In all, there are about 25 signalized intersections on Corridors 2 and 3. PCMC's traffic signal consultants said that signal plans could be prepared for each of those intersections within two weeks. The mission recommends that these designs be sent to the PMU and the World Bank by **April 30, 2015**. These plans should be developed at an appropriate scale (probably 1:500) and should include all elements of traffic engineering for each intersection, such as the locations of mixed-traffic, BRT and pedestrian signals, lane markings, zebra crossings, bollards, traffic signs, and the phasing and timing of the traffic signals, and – where required – proposed modifications of the geometric design of the intersection. To carry out the designs, some knowledge is also required of projected traffic flows, especially the number and type of vehicles crossing the busway. It was agreed with the technicians present at the mission meetings that the signal cycle (probably uniform for all signals) should not exceed 90 seconds.

19. Intersection of Corridors 2 and 3: An especially detailed analysis is required for this key intersection. The BRT service plan envisages turns of bus routes from Corridor 2 into both directions of Corridor 3 (toward Nashik Phata and Wakad-Hinjewadi); these are certain to complicate the already overloaded intersection. The mission was told that a flyover is planned at this location. However, the BRT would start operating well before that flyover is built. The mission repeats its previous recommendation that a traffic engineering and capacity analysis be carried out for that intersection, if possible **by April 30, 2015** so that any remedial measures can be taken before the BRT inauguration. This would be in addition to the traffic signal plans mentioned in the preceding paragraph.

Corridor 4 (Kalewadi to Dehu-Alandi road)

20. This BRT Corridor of about 8 km length is being constructed in 8 works contracts, out of which only Contract III (costing about 43% of total cost of 8 contracts) is being financed by the Bank. The Table hereafter presents the overall status of the 8 contracts in this corridor. Overall progress is about 54% of total cost of eight contracts. There is no likelihood of the full length of the BRT Corridor being available for plying of Buses prior to mid-2016.

21. *Contract I*: All works are fully complete.

22. *Contract II*: Land is not available for this contract, and therefore no work has been carried out. The Mission was informed that the works can be completed by the selected Contractor in about 12 months after the land is available.

23. *Contract III: Empire Estate Grade Separator (Bank-financed)*: Progress of this contract is highly unsatisfactory. Since start in April 2011, the progress is only 38.4% of revised contract amount until March 2015. On Components V, VI and VII (costing INR 120.2 million) no substantial works have been carried out by the Contractor in these Components as yet (Components V and VI, ascending and descending Ramps in Empire Estate stretch, are presently on hold because of objection by the Empire Estate community). Thus, the **progress works out to 43.7% of the BRTS Corridor under this contract**. It's understood that the Payment Schedule is little back-loaded, and thus, the actual progress may be assumed somewhat higher. Even considering the delays caused due to changes in general arrangement made by PCMC and in handing over encumbrance-free lands to the Contractor, the progress by the Contractor has been very slow. Reportedly, the slow progress was mainly due to inadequate financial inflow for execution of works. The Contractor was suffering from financial problems since start of the

contract. PCMC has taken a couple of steps to improve the cash flow of the Contractor, such as, reducing the minimum billing amount and allowing secured advance against the materials brought to site. Because of the shortage of fund, the Contractor is unable to utilize its resources to its potential. Non-availability of required Machinery, Labourers and Materials was slowing down the progress. The Contractor has time-to-time attempted to improve its mobilization of machinery and manpower, but never could make a progress higher than 1.5% in any month until now. The progress in last four months (since the Bank Mission's visit in early December 2014) has been only 2.95%.

24. Following a meeting between the PCMC and the Contractor's Senior Management on 15 December 2014, the Contractor submitted on 23 December 2014 a revised Work Program showing 30 September 2015 as the contract completion date. PCMC thereafter was monitoring the progress of works on daily basis. On completion of 3 months since receipt of the latest program dated 23 December 2014, the progress was substantially lagging behind. PCMC then issued to the Contractor on 24 March 2015, a Notice to Correct under Clause 15.1 of the Contract asking the Contractor to show desired planned improvement in progress by 28 April 2015. Erection of precast superstructure was at a standstill in the month of December 2014 when the Mission visited last. Since withdrawal of 300 MT Crane on 05 November 2014 because of irregular payment by the Contractor to the owner of the Crane, the Contractor has re-mobilized one 350 MT Crane on 29 December 2014 and one 30 MT Crane in January 2015. Since January 2015, the Contractor has re-started erection of precast Superstructure segments thus creating space in the stacking yard and correspondingly casting the superstructure segments.

25. Progress of cast-in-situ superstructure works for the Bridge across River Pawana is very slow. Only one superstructure of 2 x 4 spans was completed in May 2014, and the Contractor expects to pour concrete in the second one towards the end of April 2015. Reportedly, the progress is slow mainly due to shortage of labourers. In addition, the Contractor has not mobilized 2nd set of Staging and Shuttering until now. The Contractor has not been able to utilize the ongoing working season for casting of the river spans, although it was allowed to close part of the water channel. It might be asked to remove the blockage in the water channel and not allowed to close part of the water channel (for putting up the staging) during the oncoming high water flow period. Assuming that the Contractor might be allowed to close part of the water channel again after the coming monsoon is over and assuming that it mobilizes 2nd set of Staging and Shuttering and assuming 2.5 months of cycle time required for one superstructure construction as informed by the Contractor, it appears that the Bridge can be completed earliest possibly around April 2016.

26. The Mission was informed that the Railways have approved all designs and drawings for the Road Over Rail Bridge (RoB). The Contractor has commenced the piling works for the RoB. Later, the Contractor will be required to obtain the 'time blocks' from the Railways for erection of the superstructure. The Contractor informed its plan of completing the RoB by October 2015. PCMC has agreed to an Extension of Time (EoT) for contract completion until 30 April 2015. PCMC has returned back to the Contractor in January 2015, the amount of INR 3.4 million earlier deducted towards Insurance.

27. The Contractor presented during the Mission its plan to complete the contract in all respects by end of December 2015. The Mission considered it to be an unrealistic one. The history of the contract performance since start of the contract does not provide any confidence on the Contractor's ability to deliver within a reasonable time period. Assuming the future progress to be at the same speed (of erection of pre-cast superstructure segments) as in the period from April 2014 to March 2015 (erected 244 segments in 12 months, means 20 per month), erection of remaining 437 Superstructure Segments can be completed in 22 months, means, by January

2017. So, the Contract may possibly be completed by say March 2017. Optimistically, assuming a better average speed of 30 Segments per month, erection of Remaining Segments can be completed in 15 months, means, by June 2016. **Optimistically, therefore, one may expect the Contract to be completed by around August 2016.**

The Contractor informed that it cannot enter to work in P11 to P17 stretch because of opposition by a Land Owner who claims of not been compensated for full land. PCMC representative however informed that it would arrange for police protection if the Contractor wants to work in this stretch.

28. Although full land for Approach to Bridge across River Pawana under Component 1 was handed to the Contractor in December 2013, the Contractor started the works therein towards end-March 2015. Although the time required to complete the works in this stretch may not be critical, the Contractor is required to concurrently progress on this stretch so as to complete the BRTS Corridor.

29. PCMC advised that there was recent public opposition to building the off- and on-ramps connecting the western approach of the flyover with the northbound service road of NH-4. The main concern seems to be that (i) the additional traffic would cause congestion at the merge/diverge with the NH-4 service road, and (ii) the 5.5 m wide one-way access roads to the Empire Estate buildings, one on each side of the flyover, would be insufficient for expected traffic demand. The mission's transport specialist reviewed the flyover plans and discussed the alternative routes that traffic would take if the two ramps were deleted from the project. He concluded that the negative impact of having the traffic volumes go through the narrow streets west (or east) of NH-4 would far outweigh the concerns (i) and (ii) mentioned above, which in any case would be quite minor. The mission therefore recommends that the Empire Estate flyover be completed **with** the off- and on-ramp included.

30. *Contract IV:* Works are ongoing. Land is available except for 60 m of private land.

31. *Contract V:* 1.45 km of exclusive BRT corridor (out of the total contract length of 3.79 km) is fully complete.

32. *Construction of Bus Stops:* Both the contracts are ongoing.

33. *Dedication of Corridor:* The works for erecting Railing-type Separator to create completely physically separated exclusive BRT Corridor are ongoing.

34. *Project Management Consultant (PMC)'s Services:* Written brief report on Contract III (Empire Estate Grade Separator) presented by the PMC to the Mission is inadequate and lacks key information required to review performance of the contract. The Mission would prefer a brief Report containing, besides the information presently being provided, (i) important contract data, (ii) an S-curve showing month-wise and cumulative 'planned target' as per approved work program prevailing in the respective month and 'achievement' (both in terms of 'total value of works') since start of the contract, (iii) current issues together with the PMC's recommendations and actions agreed, (iv) Contractor's available resources and the PMC's comments thereon, (v) information on variations, claims, disputes if any, and (vi) annex the Minutes of Monthly Review Meeting.

35. **ITMS:** The Bank mission encouraged the use of geo-fencing to ensure schedule adherence. The AVL provider agreed to implement alerts on the AVL control screen whenever the driver deviates from the programmed route or drives out of designated area of operation.
36. The use of GTFS to enable development of third-party trip planning applications was also discussed with the AVL provider and PMPML. Even though the AVL provider will produce a smartphone app to enable trip planning as per the base ToR, it was agreed that the provider will enable the AVL system to generate and make the GTFS data stream available for use by third party application developers.
37. When downloading new on-bus audio messages to include special announcements, the Bank mission discussed the 3G/GPRS bandwidth and on-board memory requirements.
38. The Bank team identified the need to have integrated PIS that will display travel information for two corridors at Interchange points in the network.
39. The provider of ITS clarified that the AVL system will support a smartphone application to remotely monitor and manage the Bus fleet and disseminate traveler information.
40. The Bank mission understood that the AVL and PIS provider will ensure that the older fleet of buses that do not have on-board ITS will be equipped with modules that are compatible with centralized ITS operations.
41. During the BRT demo it was observed that the AVL system inside the bus was not able to transmit the GPS and on-board information to the central control system due to unavailability of 3G/GPRS coverage at certain locations along the BRTS route. The Bank mission has urged the AVL provider to address the gaps in 3G/GPRS coverage along the BRT route, especially in geographies close to the cantonment areas by adjusting service levels with multiple GPRS/3G providers and consider appropriate remedial measures in software such that the Bus maintains updated route information when coverage is restored.
42. When discussing features of the on-board ITS system, it was clarified that even though there are no on-board Green House Gas (GHG) emission sensors, the OBU is capable of transmitting data from a GHG sensor if installed.
43. The Bank mission urged the ITS vendor to pay particular attention to on-board power supply and wiring circuitry in the context of known issues in the Mysore BRT system. PMPML informed the mission that they have already provisioned for proper wiring and created sources for fitment of ITS equipment.
44. The location for BRT Control Center Place has been identified at PMPML HO Building. While the draft floor plan has been prepared by the Architect, the construction is expected to begin by April end. It was clarified that in the first phase of implementation, the Control Center will include Server Room and Video Wall in support of the BRT launch timeline. The Bank mission encouraged PMPML to consider incorporating standard protocols that might be required to interface with other Transport Operations Center in future. The Bank team also highlighted the need for a Disaster Recovery or a Secondary Control center and was informed that such a site is provisioned for at Pimpri Chinchwad.
45. The Bank mission urged PMPML to work closely with providers of ITS equipment in order to meet the ITS requirements for 250 BRT buses by the launch deadline. There will be a need to convene frequent and periodic meetings with ITS vendors (AVL, PIS, and ETM) to

synchronize the respective work plans. The UMTC consultants should ensure the ITS vendors generate implementation plans consistent with the overall BRTS project launch timeline.

46. The Bank mission was informed that the equipment and Service contract for Electronic Ticketing Machines (ETM) will be finalized by end of April 2015 having completed a successful trial period. It was clarified that the PCI-compliant Fare Collection system contract will include provisioning of on-board and off-bus ETMs and service and maintenance of ETMs for a period of 5 years after an initial launch period of 1 year. The ETMs, although capable of, will not support Smart Cards during the initial launch. The Bank mission suggested the use of ETM Kiosks at Bus Stops and discussed approaches to support Smart Cards and flap gates in the network in future.

47. Although the centralized ETM infrastructure consisting of Servers and Business Intelligence engines will be co-located with the centralized AVL and PIS monitoring systems at the ITS Control Center, it was clarified that ETM and the rest of ITS equipment will require no integration.

48. While discussing the training requirements for the BRT drivers and conductors, the Bank mission encouraged PMPML to consider specific training programs related to the use of on-board ITS Units (e.g. OBU) and ETM.

49. The Bank team urged PMPML to maintain and enforce a Service Level Agreement with the ETM service provider that would take into account future enhancements over the 6-year service period.

50. The Bank mission also encouraged the newly formed PMPML IT unit to collaborate with the ITS vendors to develop standard operating procedures (SoP) for ITS operations.

51. Although PMPML web page plans to have a Facebook page at launch time and a Twitter handle later, the Bank team identified a need for a Grievance Management System via crowdsourcing of feedback from BRTS users.

52. Placement of and phasing /timing plans for traffic signals at about 30 intersections in corridors 2 and 3 have not been finalized yet. The Bank team understood that the proposed traffic signals to be installed are pre-timed (not vehicle actuated) and are neither synchronized nor controlled centrally. The mission identified the need for coordination with Traffic Police to ensure smooth flow of BRTS fleet.

53. Since the PMPML IT unit has just been formed, it is critical that the PMPML team receive extensive on-site support from the ITS PMC (i.e. UMTC) in terms of ITS project management and working closely with the AVL, PIS, and ETM vendors in order to resolve all installation, testing, integration, and acceptance issues.

54. **BRT Service Plans for Corridors 3 & 4:** PCMC had contracted M/s Aakar Abhinav, from its own resources, to conduct surveys and prepare service plans for the two corridors. The Mission was informed that Service plans for Corridor 3 and 4 have been finalized and ITDP has independently reviewed these. These suggestions have been incorporated by the consultant and submitted to PMPML.

55. **BRT Advisor and BRT Cell.** The BRT Advisor (Mr. Pratik Dave) to PCMC is monitoring the project progress and apprised the mission with the latest updates on the implementation plan. He has also been supporting PMPML in its preparations for BRT launch. Meanwhile, PMPML has appointed 3 Assistant Managers (IT, HR and Operations) for the BRT

Cell as on March 1, 2015. A study tour cum training was organized in Ahmedabad for the team members in last week of March 2015.

56. **Operations Management by PMPML:** The Mission held discussions with the PMPML team about its preparedness for the upcoming launch of BRT in PCMC. PMPML has a fleet of 950 buses with BRT specifications which includes 650 buses owned and maintained by private operators. In addition it will be procuring 165 buses under JnNURM and 25 articulated buses by December 2015. PMPML shared the following update on the BRT Service launch:

- It plans to launch the PMC corridor and Corridor 2 of PCMC on the same date, Corridor 3 will be launched in another 15 days. PMPML has approved the service plan prepared by PCMC.
- PMPML has identified separate BRT operators for each corridor. Currently, it has designated one operator for the PMC corridor and another for Corridor 2. The operator for corridor 3 is yet to be decided.
- The location of the control Center has been finalized. The ETM tender will be issued by April 15, 2015 and thereafter it will take atleast 3 months for the first roll out of ETMs.
- ITS vendor has completed the test pilot and will proceed with manufacturing (3 months from issue of work order) and then installation (3 months from manufacturing) as soon as the work order is issued. PMPML is negotiating with the vendor to complete the work in 90 days. Since only about 250 buses will be required to be equipped for the initial launch its possible for the vendor to complete the installation of these buses and stations on priority.
- PMPML informed the mission that the current ITS procurement only has on board ticketing systems and no off board ticketing is included in the current package. The mission repeated its previous recommendation of ensuring the provision of off board ticketing at all the BRT bus stations even though automatic fare collection systems were not being installed to begin with. The ITS vendor informed that the existing ticketing arrangement can be integrated with off board systems as and when they are installed. PMPML will have to hire additional conductors for managing the ticketing booth in each of the BRT stations in PCMC. PMPML agreed to implement off board fare collection, though manual, at PCMC stations from the start of service launch.
- Ex-servicemen have been appointed as traffic wardens for the BRT corridors. The housekeeping staff is also being procured. They are expected to come on board by May 15, 2015.
- Training for drivers was taken up previously and 150 drivers have been trained in driving techniques specific to BRT over the last two years. In total there will be 270 buses put for operations in the three BRT corridors accordingly, the mission advised PMPML to make sure that it completes training for 270X2.5 drivers (including 2 shifts and spare). Considering the upcoming launch in the next 3-4 months, PMPML was advised to intensify the driver training exercise for all the drivers. A minimum of two weeks of training is proposed for each driver, and only a certain number i.e. approximately 15-20 drivers per day, can be trained. PMPML will need to accordingly plan out the training for the requisite number of drivers before the launch. It also needs to assess whether the training can be run concurrently with the construction work on bus stations ongoing. The on bus ITS related training will be conducted separately by NEC so that drivers learn how to handle the on board systems. The systems will be kept semi manual for flexibility.
- Terminal and bus station construction is also reasonably advanced and expected to be completed by April-May 2015.

The Mission commended PMPML on the progress made by it on the various aspects of BRT Launch. In view of the imminent launch of the BRT it advised PMPML to:

- Prepare in consultation with PMC and PCMC a timebound action plan for launch of the BRT corridors. This would identify the activities that are required to be completed, the time it would take to complete the activity and whether they can only be implemented sequentially or parallel with other activities. This would help all stakeholders focus on the critical activities and also make realistic assessment of the likely timelines to the launch.
- Discuss and jointly finalise the Communications Plan and activities as a run up to the final launch.
- Ensure adequate depot and maintenance facilities for a reliable BRT service. PMPML informed that in regard to depot facilities it has been assured 5 land pockets within PMC for bus parking and maintenance and an additional 10 locations have been committed by PCMC.
- Ensure off board ticketing.
- Regular review meetings with all stakeholders to track slippages in schedule and take necessary mitigation measures.

57. **BRT Implementation Schedule.** PCMC shared its plans to launch the BRT starting with Corridors 2 and 3 in the third quarter of 2015 followed by Corridors 1 and 4 later in the following year. The mission noted that the implementation schedule was rudimentary and neither included the complete set of activities required upto launch nor identified timelines for completion of each activity. As such, different officials referred to different launch dates without a clear sense of the timelines involved.

58. The Mission advised PCMC and their BRT Advisor to develop in consultation with PMPML a detailed action plan required for the successful launch of BRT. This would help all stakeholders be aware of critical actions, plan around slippages or early deliveries and know exact launch dates. Once this base document exists it can become the basis for joint reviews in regard to progress and likely launch timelines. Both PCMC and PMPML agreed that this would be a useful tracking tool going forward. It was agreed that the BRT Implementation Schedule for Corridors 2 and 3 would be shared with PMU and the Bank by April 30, 2015.

59. The key activities and their likely completion dates are outlined below:

- Complete bus stations along Corridor 2 and 3 – April 30, 2015
- Complete traffic signal plans for Corridor 2 and 3 – April 30, 2015
- Finalise Operator for Corridor 3
- Complete construction of Nashik Phata Ramp 2 – August 31, 2015
- Completion date for Mukai chowk terminal – April 30, 2015
- Completion date for Bhosari terminal – May 15, 2015
- Complete finishing works, station doors installation at bus stations – April 30 to Aug 31
- Complete balance infrastructure improvements i.e. passenger access, table top, signals etc
- Award contract for passenger access between Corridor 3 and 1 – July 2015
- Hire traffic wardens, security and housekeeping staff
- Issue contract for ETMs by PMPML/ Installation – April 15, 2015/ August 15, 2015
- Issue work order for ITS/ Installation – April 30, 2015/ August 31, 2015
- Launch Communications Plan and activities
- Driver Training – One month (?)
- Trial Runs – One month (?)

Studies, Technical Assistance (TA) and Capacity Building:

60. Presentations were made of various studies under implementation, financed under the GEF grant.

- a) ***BRT Passenger Access:*** The consultants are currently at the detailed designs stage. Concept plans and detailed plans for Corridor 1 were have been developed simultaneously as per a previously agreed decision. The detailed designs for Corridor 1 are partially complete. It was informed by the consultants that due to space limitations for providing IPT parking at all stations therefore it has been agreed upon with PCMC that only some of the stations, wherever space permits, provisions will be made for parking. Concept plans for Corridor 2,3 and 4 will be finalized by April 2015. Subsequently, the detailed designs will be submitted in July 2015 along with the Implementation Plan.
- b) ***Promotion & Outreach Plan for BRT:*** The consultants informed that most of the stakeholder workshops, street exhibitions, workshops, preparation of radio jingles presentation sessions etc have been completed in the recent months. A fresh iteration is being done on the signages for PCMC based on learnings from PMC.. Station maps and Staff uniforms have been finalized and approvals have been given for these. The colour palette for the buses has been modified to a base blue colour along with logo graphic design. This has been approved by the PMPML board. RTA approval is pending. Currently, the only pending activity is creation of the promotional video and preparation for the launch activity.

The Mission advised the PCMC and their consultants to focus on managing negative perceptions and develop recommendations on how they should address the major issues being raised regarding (i) delayed launch of the BRT, (ii) safety of BRT Corridor, etc. The consultants suggested that PCMC should refrain from giving an exact launch date and instead highlight the progress and areas that are getting addressed ahead of the launch. Regarding the safety issues highlighted in the media reporting, the consultants expressed that some of the design issues need to be looked at carefully, specifically in the context of Corridor 1, merge ins/outs and breakdown handling. The Consultants were advised to develop a strategy for PCMC to handle the specific issues raised by the public. The mission strongly advised PCMC and the consultants to develop a detailed communications plan around the BRT launch including teasers, activities and events running up to the final launch. It was agreed that such a plan would be developed and shared with the PMU and the Bank by April 30, 2015.

Information dissemination: The mission noted with concern that only FAQs have been uploaded on the PCMC website. The other promotion materials such as banners and posters are still to be uploaded on the website as they are awaiting approval of the competent authorities. The Mission again repeated its previous recommendation of uploading all developed promotional material on the BRT on the PCMC/PMPML website. Edits and improvements to the material would be an ongoing activity and should not deter PCMC from making available the information to the public at large. The PMPML website is being developed in phases and the first phase of the website will be launched in the first week of April. A BRT newsletter is being planned to be launched in April by PMPML and thereafter it will become a monthly activity. A private entity is also engaged in developing a grievance redressal mobile application. The Mission advised that this should be formally adopted and integrated with the existing ITS.

- c) ***Monitoring and Evaluation:*** The Consultants gave a presentation on their approach and methodology of the exercise. Data for the baseline scenario has been collected and the first annual survey is currently in progress. 9 surveys have been identified out of which 2

surveys are ongoing. The consultants will be submitting their first annual report by August 1, 2015.

- d) ***Parking Policy and Master Plan:*** The consultants have recently submitted the draft parking policy, management and operations plan for PCMC and this report is currently under review by the World Bank. The consultants gave an interesting presentation on the parking analysis carried out for the city and their recommendations and proposed pricing policy. The Mission generally appreciated the work done however advised the consultants to review the recommended pricing policy and rationalize it with respect to the prevailing parking reforms introduced in Delhi. The consultants will resubmit the document based on written comments received.

Environment Management

61. The mission met with the PCMC team and their consultants supervising the construction of the Flyover along Corridor 4. It also visited the various locations on the corridor where construction is underway to review the implementation of the EMP provisions, especially with reference to safety of workers and residents close to these areas.

62. *Construction over the Pavana River:* The removal of material used to constrict the waterway to allow the construction of the bridge piers is a key priority in advance of the coming rainy season for 2015. It has been agreed that this will be done by 31st May 2015 and photographs of the cleaned up river bed will be shared with PCMC who will share with the Bank so that this can be confirmed in time.

63. *Ramps for connection between Corridors 4 and 1:* The mission was informed that PCMC had already sought services of the IIT-Bombay, Mumbai to understand what feasible options can be considered to address the concerns of the residents of Empire Estate regarding the ramps that would connect NH4 (Corridor 1) with the flyover (Corridor 4). A consultation with the local elected representatives, 1 resident from each building, PCMC and the IIT-B team has already been organized and the report on the options from the IIT-B team is now expected. PCMC is showing its willingness to respond to concerns of the potentially affected persons regarding key aspects of environment and safety as the project implementation moves forward, albeit slowly.

64. *Plantation update in line with revised EMP:* The mission noted that the plantation details provided by PCMC pertained to the year 2012. Since two planting seasons have passed, and more road length has also become available for planting as works have been completed, additional plantation along the road and the off-site block plantation at Durga Tekri need to be updated. It has been agreed that the PCMC website will have the updated plantation details by 31st May 2015.

65. **Funds Utilization and Disbursement Projections:** Detailed item wise discussions were held with PCMC on funds utilization. The Mission learnt that the latest IUFRR did not reflect disbursements in January and February. PCMC informed the mission that of the March IUFRR would capture the entire quarters disbursement. The Mission advised PCMC to utilize the savings (approximately Rs. 3 Crores) from the grant amount for communications activities ahead of the launch. Training activities for traffic police and other staff like drivers etc could also be planned.

66. **Key Agreed Actions**

- Finalize strategy for the completion of Empire Estate contract – May 31, 2015;
- Close monitoring of Empire Estate contract – Continuous

- Complete remaining procurements as necessary – August 31, 2015
- Submit jointly developed BRT Implementation Schedule for corr 2 & 3 – June 5, 2015
- Prepare monthly update of BRT implementation schedule by BRT Advisor – Continuous
- Preparation of a communications run up plan upto the launch of BRT – May 31, 2015
- Traffic signal plans for intersections on Corridor 2 & 3; traffic engineering & capacity analysis for intersection of corridor 2 and 3– April 30, 2015
- Carry out an assessment of traffic engineering and capacity analysis of intersection between Corridor 2 and 3 – April 30, 2015
- Complete pending road infrastructure finishing works along Corridor 2 and 3 – May 31, 2015
- Issue contract for ETMs/ITS by PMPML – April 30, 2015
- Finalize strategy for construction of 8 bus stops between Nashik Phata and Bhosari terminal (mixed lane) – April 30, 2015
- Resolve all LA R&R issues – June 30, 2015
- Finalize and issue tender for passenger connections at Nashik Phata interchange – May 31, 2015
- M&E Report: Submission of annual report – Aug 1, 2015
- Parking Policy: Submission of revised draft parking policy report – April 30, 2015
- Extend contract for Communications consultant to include post BRT launch phase
- Substantial implementation of safeguards Commitment plan. – May 31, 2015
- Substantial completion of pending Land acquisition cases – June 30, 2015
- Removal of material from River Pawana, May 31, 2015
- External audit clarification - September 20, 2015

Annex 3-A

Contract	Description	Length (km) of exclusive BRT corridor	Original Contract Amount (million INR)	Revised Contract Amount (million INR)	Start Date	Original Completion Date	Extended Completion Date	Approximate Value of Works Done (million INR)	Physical Progress (in financial terms)	Remarks
Corridor 3										
3-1	Interchange at Nashik Phata (Bank-financed)	0.9075	988.1	975.1	12 Jul 2010	13 Jan 2013	31 Aug 2015	890.4	91.3%	Ongoing
3-2	Nashik Phata to Kasptewasti	4.85	571.1		25 Aug 2009	24 Feb 2011	31 Mar 2015	516.7	90.5%	Ongoing
3-3	Kasptewasti to Wakad	2.28	288.7	400.1 (0.9 km length added, which is not an exclusive BRT corridor)	25 Aug 2009	24 Feb 2011	31 Aug 2013	364.4	91.1% (100% of 2.28 km exclusive BRT corridor, except for one side of 260 m length)	Contract closed. Required land not available on one side for 260 m length, thus there will be no exclusive BRT corridor in that length.
	Pedestrian Facilities		Revised Estimated Cost 170 (approx.)	Earlier bidding process cancelled; fresh bids to be invited						
	Construction of 8 Bus Stops		38.96		05 Mar 2014	04 Sep 2014		23.7	60.8%	Ongoing
	Construction of 7 Bus Stops		34.09		07 Nov 2014	06 May 2015		14.1	41.4%	Ongoing
	Dedication of Corridor		49.83		12 Aug	11 May 2015		27.5	55.2%	Ongoing

Contract	Description	Length (km) of exclusive BRT corridor	Original Contract Amount (million INR)	Revised Contract Amount (million INR)	Start Date	Original Completion Date	Extended Completion Date	Approximate Value of Works Done (million INR)	Physical Progress (in financial terms)	Remarks
					2014					
Corridor 4										
4-1	Kalewadi Phata to Chinchwadgaon Bridge Phata	1.600	241		25 Aug 2009	24 Feb 2011	30 Sep 2013		100%	
4-2	Chinchwadgaon Bridge Phata to Pawana River Bridge Approach	1.400	198.9		14 Dec 2010	13 Jun 2012	31 Mar 2014	0.0	0%	Land not available for the full length
4-3	Empire Estate Grade Separator (Bank-financed)	1.600	984.0	992.8	06 Apr 2011	10 Oct 2013	30 Apr 2015	381.4	38.4%	
4-4	Pawana River to KSB Chowk	2.080	372.9		28 Feb 2013	31 May 2014	31 May 2015	289.0	77.5%	Works ongoing. Land not available for 60 m length.
4-5	KSB Chowk to Dehu Alandi Road	1.450 (total length of contract 3.795 km)	370.7		25 Aug 2009	24 Feb 2011	31 Dec 2013 (extension until 31 May 2015 under review)	296.1	79.9%	Exclusive BRT corridor length 1.45 km fully completed
	Construction of 10 Bus Stops		48.6		05 Mar 2014	04 Sep 2014		21.2	43.6%	Ongoing
	Construction of 10 Bus Stops		48.6		05 Mar 2014	04 Sep 2014		16.00	32.9%	Ongoing
	Dedication of Corridor		49.6		05 Mar 2014	04 Dec 2014		7.7	15.5%	Ongoing

Contract	Description	Length (km) of exclusive BRT corridor	Original Contract Amount (million INR)	Revised Contract Amount (million INR)	Start Date	Original Completion Date	Extended Completion Date	Approximate Value of Works Done (million INR)	Physical Progress (in financial terms)	Remarks
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3-3	Kasptewasti to Wakad	2.28	288.7	400.1 (0.9 km length added, which is not an exclusive BRT corridor)	25 Aug 2009	24 Feb 2011	31 Aug 2013	364.4	91.1% (100% of 2.28 km exclusive BRT corridor, except for one side of 260 m length)	Contract closed. Required land not available on one side for 260 m length, thus there will be no exclusive BRT corridor in that length.
	Pedestrian Facilities		Revised Estimated Cost 170 (approx.)	Earlier bidding process cancelled; fresh bids to be invited						
	Construction of 8 Bus Stops		38.96		05 Mar 2014	04 Sep 2014		23.7	60.8%	Ongoing
	Construction of 7 Bus Stops		34.09		07 Nov 2014	06 May 2015		14.1	41.4%	Ongoing
	Dedication of Corridor		49.83		12 Aug 2014	11 May 2015		27.5	55.2%	Ongoing
Corridor 4										
4-1	Kalewadi Phata to	1.600	241		25	24 Feb 2011	30 Sep 2013		100%	

Contract	Description	Length (km) of exclusive BRT corridor	Original Contract Amount (million INR)	Revised Contract Amount (million INR)	Start Date	Original Completion Date	Extended Completion Date	Approximate Value of Works Done (million INR)	Physical Progress (in financial terms)	Remarks
	Chinchwadgaon Bridge Phata				Aug 2009					
4-2	Chinchwadgaon Bridge Phata to Pawana River Bridge Approach	1.400	198.9		14 Dec 2010	13 Jun 2012	31 Mar 2014	0.0	0%	Land not available for the full length
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	Construction of 10 Bus Stops		48.6		05 Mar 2014	04 Sep 2014		21.2	43.6%	Ongoing
	Construction of 10 Bus Stops		48.6		05 Mar 2014	04 Sep 2014		16.00	32.9%	Ongoing
	Dedication of Corridor		49.6		05 Mar 2014	04 Dec 2014		7.7	15.5%	Ongoing

Social Management

Pimpri-Chinchwad BRT

1. *Land acquisition Progress.* The total land acquisition required for two corridors (No 3 and 4) is about 50 hectares private land and another 10 hectares of Government land. No update on the land acquisition progress was provided to the mission by PCMC. Out of this, about 93% of private and 95% of Government land is available. The remaining land acquisition is delayed due to pending court cases or due to encumbrances on the site earmarked for acquisition. A brief account of pending land acquisition cases is proved below.

Case 1 (Corridor 4): 4.69 hectares of land involved in a stretch of 1.4 Kms near MM school to Pawana river and is a complex case. The affected persons need to be shifted to EWS houses and some of them are not eligible and their case needs to be dealt separately. Only after shifting and land is made free of encumbrance, the land department will complete land acquisition process. Out of the total land, 1.7 hectares is being pursued through land acquisition, while 1.9 hectares is being considered through offer of TDR and the remaining 1.09 hectares is being offered FSI in lieu of compensation. During the field visit, it is learnt that some of the affected people, though have another house as per PCMC records, but they mentioned that they have sold those houses and this could pose a challenge in getting vacating those households without having alternative housing in hand.

Case 2 (corridor 4): This relates to MIDC land in Indo Euro city building of about 0.23 hectares and the process of private negotiations on the price and submission to court on the agreed price, etc. It seem there is no resolution is forthcoming on the agreement with commissioning rehabilitation assistance to be offered to the affected industrial unit. PCMC has indicated that they are planning to submit to court asking them to intervene this case since no resolution is forthcoming.

Case 3 (Corridor 4): This involves 4.29 hectares in Kudalwadi area. Out of these 3 hectares is being pursued through land acquisition and another 1.29 hectares is being pursued through TDR route.

Case 4 (Corridor 4). It seem that the land owners in P11-P17, the land owner is opposing on the ground that he has not received full compensation. This issue needs to be resolved as appropriate to avoid any objection to construction.

In addition to above, it was revealed that there are some resistance from the local residents near Empire Estate (slip roads/Ramps) and Nashik-Phata Ram -2 Right side of the ramp) and these objections to be looked into and take appropriate measures to minimize the obstructions to the local residents due to construction related activities.

The summary of land acquisition details and progress is presented below.

No	Land acquisition Impacts	Kalewadi-Dehu-Alandi Road (Corridor 4)	Nashik Phata Flyover	Nasikphata-Wakad Road (Corridor 3)	Total
(i) Private Land					

1	Land acquisition (in Ha)	20.90 (100%)	1.09 (100.0%)	27.30 (100.0%)	49.29 (100 %)
2	Land acquisition completed	18.40 (88.05%)	1.09 (100.0%)	26.25* (96.15%)	45.74 (92.79%)
(ii) Government Land Transfer					
3	Land Transfer (in Ha)	8.29 (100.00%)	00	1.43 (100.0%)	9.97 (100.00%)
4	Land transfer completed (in ha)	8.07 (97.34%)	00	1.43 (100.0%)	9.50 (95.28%)
(iii) Compensation payment					
5	Award Amount (INR/Millions)	54.31	74.26	55.75	459.75
6	No. of land owners as per LA compensation Award	NA	NA	NA	NA
7	No of land owners received compensation	NA	NA	NA	NA
8	No. of People opted for FSI/TDR	46 (100.0%)	02	149 (100.0%)	197 (100.0%)
9	No. of people received FSI/TDR	44 (95.65%)	00 (0.00%)	143 (95.97%)	187 (94.92%)

* The discrepancies are noted and this needs to be corrected by PCMC.

2. *Entitlements to different Impact groups.* The payment of R&R assistance has been paid to all those who came forward and a notice was published in the local newspaper in case of those who could not avail this opportunity. Since the remaining people did not turn up to receive the assistance, the targets are revised and reflected below. The progress to date is as follows.

No	Type of assistance	Target	Revised Target	Progress	Remarks
1	Transportation allowance	282	187	187 (100.0)	
2	Assistance for Vulnerable Families	76	54	54(100.0%)	
3	Payment of subsistence allowance	68	35	35(100.0%)	
4	Subsistence allowance for Non- title holders	72	5	5 (100.0%)	
5	Allotment of EWS Houses (handover of house keys)	257	110	46 (42.0%)	
6	Allotment of alternative houses to affected squatter families	144	144	00	Part of supplementary RAP. 90 identified as eligible and the verifications in progress for the remaining
7	Payment of Vulnerability	93	79	79	Part of

	assistance to Squatter families			(100.0%)	supplementary RAP
8	Payment of additional subsistence allowance to shopkeepers	34	26	26 (100.0%)	Part of supplementary RAP
9	Payment of R&R assistance to affected shopkeepers	32	25	25 (100.0%)	Part of supplementary RAP
10	MOUs with shopkeepers	32	32	26 (81.25%)	Shops will be allotted as and when ready

3. *EWS Housing.* The allotment of EWS housing to eligible PAPs is at various stages. The revised target is 198 after excluding those 59 who have not responded after notices. Out of these 198, as of now 54 families are allotted houses and another 8 are expected to receive soon. 42 families were found not eligible as they have already own a house or received house under earlier social schemes and another 22 tenants were also offered houses who will be accepting the houses after payment towards the cost of housing at subsidized rates. The remaining applicants are under verification.

4. *Resettlement of those residing in the Transit camps.* The Commissioner held a meeting with the Transit residents in December, 2014 and heard their concerns and willingness to move to already identified site and it was mentioned to the Bank Team that most of the people have expressed their consent to move to Vittal Nagr where alternative housing is available for this group. As a follow-up of this meeting, PCMC is engaged in processing the Bank loan and documentation for allotment of alternative housing. However, when the Bank terms met these people during the field visits, the people expressed that they would like to reside in and around this transit site for employment and schooling purpose. However, PCMC feel that the distance is only about 3 Kms and they will be able move once the allotment process commenced. In order to move forward, the immediate attention required from PCMC is that they should make the alternative housing ready for occupation by ensuring all basic amenities and facilities are ready and then commence allotment once the documentation is ready. PCMC has reconfirmed that this process is expected and allotment will be made middle of May, 2015. In case of those 20 ineligible cases, it is noted that some of them are eligible for alternative shops and since the alternative shops are not available offering alternative house may be considered.

5. *Status of commitment Plan.* During last mission in December, 2015, PCMC has submitted a commitment plan for remaining land acquisition and resettlement actions. While there is some progress, but still a long way to go before it is fully implemented. The current status is summarized below.

Status of Implementation of commitment plan

(As of March 31, 2015)

No.	Action	Proposed Action/	Target Date and current status
(a) Resettlement of PAPs residing in Transit Site			

No.	Action	Proposed Action/	Target Date and current status
1	Resolving Beneficiary contribution	Letter issued to 84 PAPs on 13/06/2013 to deposit their self-contribution. Commissioner PCMC held a meeting with PAPs and appealed to PAPs to deposit their self-contribution. Till today not a single PAPs deposited Self Contribution. Second Follow-up meeting with PAPs has been scheduled on 30 th December 2014 by the Commissioner PCMC.	<ul style="list-style-type: none"> • Bank loan under process for 90 families • 20 ineligible and require further verification • 74 families have opened Bank accounts • Verification in progress for the remaining • Process is expected to be completed by April 30, 2015
2	Agree with PAP's on their alternative Resettlement options, if required	Based on outcome of meeting by Commissioner, PCMC with PAP's, the alternative options for resettlement of all 144 PAP's will be finalized.	<ul style="list-style-type: none"> • Not required and need revisit later as needed
3	Completion of documentation as of allotment requirements	As above	<ul style="list-style-type: none"> • In progress and expected by April 30, 2015
4	Issue of possession Letter	As above	<ul style="list-style-type: none"> • May 15, 2015 for all those eligible
5	Shifting of people and dismantling of Transit site	As above	<ul style="list-style-type: none"> • May 31, 2015
6	If alternative options required	Necessary steps will be initiated and completed to shift people from Transit site	<ul style="list-style-type: none"> • Not required
(b) EWS Housing			
No.	Action	Proposed Action/Update	
7	Issue of final reminder letter to those who have not yet applied.	Letter issued to 4 PAPs on 20/01/2014 Letter issued to 44 PAPs on 10/09/2014 Letter issued to 16 PAPs on 04/01/2014 Reminder letter issued to 62 PAPs on 27/11/2014 PCMC will publish an advertisement in newspaper stating last date for application for EWS House in a week.	<ul style="list-style-type: none"> • Done

No.	Action	Proposed Action/	Target Date and current status
8	Completion of verification of eligibility of applicants.	63 applicants report received from Town Planning, 63 applications have been verified and remaining 130 will be verified by 15 th March 2015.	<ul style="list-style-type: none"> In progress (to be completed by April 30, 2015)
9	Completion of documentation of allotment process for eligible applicants		<ul style="list-style-type: none"> April 30, 2015
10	Issue of possession letters	Possession to 33 PAPs against the book adjustment from amount of land compensation will be done by 15 th Jan 2015. Remaining 9 PAPs have first to deposit Rs.3.76 lac against self-contribution, and then the possession will be given to them.	<ul style="list-style-type: none"> May 15, 2015
11	Pursing people to vacate the currently occupied houses among ineligible applicants.	Compensation for land to be paid is in process for ineligible applicants for EWS house and will be vacated after payment of land compensation.	<ul style="list-style-type: none"> May 31, 2015
12	Commissioning of NGO services		<ul style="list-style-type: none"> Done. Two individual consultants are appointed.
(c) Land Acquisition			
1	Complete land measurement as per court directive in Anand park case and follow up action	The plan of land measured by TILR is received to PCMC & submitted for the orders from District Court.	<ul style="list-style-type: none"> The work expected to be completed shortly
2	Completing of compensation award of remaining 4 cases of pending Land acquisitions cases and payment of compensation to land owners	Award for land at Kudalwadi part is declared & land is in possession. The work in this area is started & planned to complete by March 2015. PCMC is following the matter with SLAO for remaining cases.	<ul style="list-style-type: none"> Status quo maintained
3	Tripartite agreement for transfer of	Terms & Conditions of Tripartite agreement for transfer of MIDC Land are prepared & in process of approval	<ul style="list-style-type: none"> Delayed

No.	Action	Proposed Action/	Target Date and current status
	MIDC Land	all concern parties.	
4	Submission of triplicate agreement for MIDC land to the court for vacating the case	After approval to Terms & Conditions, it will be submitted to High Court.	<ul style="list-style-type: none"> • Delayed
5	Payment compensation and getting the site vacated and complete MIDC land in favour of PCMC	After vacating the case compensation will be paid & 8 to 9 months' time will be required to rehabilitation / removal of industrial buildings to vacate the land.	Rehabilitation by 30th Sept. 2015. Removal by 7th Oct. 2015.

INDIA: GEF-World Bank-UNDP: Sustainable Urban Transport Program (SUTP)

Naya Raipur

1. A World Bank mission met Naya Raipur Development Authority (NRDA) officials on April 10, 2015, to discuss the implementation of the Naya Raipur component of the Sustainable Urban Transport Program (SUTP). The meetings were chaired by Mr. S. S. Bajaj, Vice-Chairman and ex-CEO, NRDA, Mr Rajat Kumar, CEO, NRDA, Mr. L.K. Panigrahi, Chief Project Manager (SUTP), NRDA and his team, and representatives of the PMU and the consultants working with NRDA on various activities.

Non-Motorized Transport (NMT)

2. **Non-Motorized Transport Infrastructure (Construction of Cycle Tracks, Walkways, CD Structures):** Scope of contract comprises construction of Cycle Tracks, Walkways / Foot Paths, Cross-drainage Structures, and Road Furniture including Signage. This contract of INR 416.5 million with 15 months completion period started on 28 March 2014. Subsequent to modification of the proposed road cross-sections and detailed review of the proposed works, it's now estimated that the Completion Cost of the contract is likely to be about INR 481.8 million. Physical progress has been 23% of original contract amount and 19.9% of likely Completion Cost.

3. Contractor's mobilization has been slow. The Contractor has established its Camp including Concrete Batching Plant and Wet Mix Macadam (WMM) Plant. The Contractor has planned to get supply of bituminous mixed materials from other Owner's Hot Mix Plant located nearby. It has planned to mobilize a Sensor Paver for laying the bituminous layers.

4. There are about INR 40 million worth of works for Cross-Drainage Structures. Out of the Six Minor Bridges, Deck Slab completed for Two, Superstructure works ongoing for Two, and Substructure works ongoing for remaining Two. Out of the 21 Pipe Culverts to be constructed, 20 structures are complete in all respects and the remaining One will be constructed after water pipeline works are carried out by another agency. Works for One Box Culvert is complete in all respects.

5. The Contractor could not initially proceed on about INR 410 million worth of Road works (about 84% of contract works) because of NRDA's review of the proposed Road Cross-Sections. Final Road Cross-Sections were issued to the Contractor on 10 October 2014 (about 6.5 months after contract start), and Final Road Levels (FRLs) were issued starting from 15 October 2014. Out of about 55 kms of Cycle Tracks, the Contractor has completed 1st layer of Wet Mix Macadam (WMM) in about 30 kms, Granular Sub-base (GSB) in another 1.5 kms, Subgrade in another 3.5 kms, Earthworks in another 10 kms, and no works started in the remaining 10 kms. Out of about 31 kms of Footpaths, GSB has been completed in about 4 kms only. Grading of the WMM laid appeared to be finer than specified. The Mission suggested to NRDA to look into this. As the Contractor is not crushing and producing the stone materials and procuring those from the suppliers, it's necessary that the quality of materials is checked for each supply. The Contractor is casting two types of pre-cast kerbs at its camp and procuring a third type from a manufacturer. The finish quality of In-situ Kerb is not satisfactory, it should be improved. Sources for procurement of Tiles and Paving Blocks have been finalized.

6. The Contractor presented a Schedule showing completion of all contract works in September 2015. Reasonableness and likelihood of such Program (having no linkage with its Resources) cannot be assessed. In order to complete all contract works by September 2015, the Contractor is required to carry out about INR 64 million (about 13.5%) of works in each of the Six months from April to September as compared to only about INR 21 million of works per month carried out on average during the last Four months from December 2014 to March 2015. The Contractor has mobilized Three Working Groups for Road works. The Contractor shall have to work extended hours with corresponding manpower unless it increases its Working Groups together with corresponding Machinery thus increasing its production capability substantially. Progress of Road Works is dependent upon the progress of manually laying of pre-cast Kerbs. Out of a total length of about 117 kms of Pre-cast Kerbs to be laid, only about 5 kms of length have been laid. With expected progress of laying about 400 meters per day with two Kerb-laying groups presently deployed, the remaining length will take about 11 months to complete. PMC should ask from the Contractor a Resource-based Work Program. That will push the Contractor to review and augment its Resources as well as the PMC and the NRDA to monitor the progress and assess likely completion of the works.

7. It's of concern that the monsoon likely to start from mid-June is expected to affect the Contractor's progress substantially. Completion of all works by September 2015 appears unrealistic. The Contractor should however attempt to complete the bituminous surfacing as well as the paving tiles prior to onset of monsoon in whatever length it has started the works, so that its works are not damaged by rains.

Bus Rapid Transit (BRT) Lite

8. Three BRT corridors are planned:
- Corridor 1: Naipur Railway Station – NH6 – Capital Complex in Naya Raipur (24.7 km)
 - Corridor 2: Kabir Nagar (Raipur) – NH43 – Capital Complex in Naya Raipur (37.5 km)
 - Corridor 3: Along the main east-west axis of Naya Raipur, between NH43 and NH6 (17.8 km).

Construction of BRT Bus Shelters, Pick-up Points, BRT Workshop Depot and Control Centre

9. Scope of the contract originally included construction of Bus Workshop Depot and Control Centre, Eight Bus Shelters, and a Pick-up Point near Old Mantralaya. The contract of INR 298.9 million with 15 months completion period started on 31 December 2013. Subsequently, construction of another Pick-up Point at Raipur Railway Station of approximately INR 9 million has been added to the contract as Variation. The Mission was informed that the Completion Cost is likely to be about INR 239.6 million. The reduction is because of higher provision of several items in the contract. Progress of works is about 36.4% of likely Completion Cost. The contract has been provisionally extended until 15 June 2015.

10. There were substantial delays in providing final drawings to the Contractor. Final drawings are yet to be issued for (i) Substation Building, (ii) Diesel Generator (DG) Platform, (iii) Watchman Cabin, (iv) Gate Structure, and (v) False Ceiling of the Control Centre. Drawings for the Steel Gate Structures are required to be issued urgently, which will require the Contractor to place order with the manufacturer for supply of the steel materials. In addition, the Contractor was slow in mobilization and its progress of works has also been slower than required.

11. At the proposed **Pick-up Point at Raipur Railway Station**, floor slab of the Bus Shelter is done and works on Ramps are ongoing. Quality of the shuttering used for casting of concrete

and finish of the concrete works is poor. Fabrication of the steel roof is ongoing. Design of the Pavement is yet to be finalized in consultation with the Railways. The mission was informed that decision has been taken in consultation with the Railways, to construct a safe clear pedestrian pathway between the Pedestrian Crossing at the Pick-up Point and the Railway Station Building, to be constructed through this contract.

12. At the proposed **Pick-up Point near Old Mantralaya**, the Contractor is carrying out the works in phases allowing parking of some cars to continue within the site. Part of the Dry Lean Concrete (DLC) is complete in the Parking and Pavement areas. Floor slab of the Bus Shelter is done, and further works ongoing. The Contractor explained that, in order for it to carry out the proposed works in the Entry Road, the Road needs to be closed to through traffic (except for traffic to BSNL Office) for about a month including not allowing car parking as well as remove a few movable vendors. NRDA's plan of closing the Road to the traffic for part of each day may not suit the Contractor's works.

13. At the **Workshop Depot and Control Centre** site, almost full Compound Wall is completed, structures for Underground Water Tank Washing Ramp and Inspection Pit are complete and finishing works to be carried out, Dry Lean Concrete (DLC) is complete in full pavement area and about half of the Pavement Quality Concrete (PQC) works have been completed, structure including steel trusses for the roof for the Workshop are complete and roof sheeting and finishing works to be carried out, and structure (except intermediate deck slab) including steel trusses for the roof are almost complete for the Control Centre and roof sheeting and finishing works to be carried out. The Mission was informed that the outside access Roads connecting the Gates of the Complex with the Service Road (of NRDA-1 / Expressway) will be built together with the Service Road through the Contractor of Naya Raipur Phase II. No permanent arrangement for flow of storm water (discharged from the site) outside of the site towards the outfall has been planned for execution.

14. The Contractor has mobilized a specialized skilled team for finishing of the exposed concrete walls for the **Bus Shelters**. Steel fabrication works for roof of all Shelters are complete. Roof truss has been erected for Shelters 2 and 4. Erection of roof truss is under progress for Shelters 3, 5 and 6. Casting of walls is in progress for Shelters 1 and 8. Foundation works are complete for Shelter 7. NRDA needs to implement appropriate safety measures for the bus passengers crossing the high-speed arterial road at grade to / from the Bus Stations located in the median of the road. The Mission noted that the floor of a Bus Shelter being constructed is about 400-500 mm more than required 900 mm higher than the abutting road pavement level, which could possibly be avoided with little site-specific change in the design.

15. The Contractor expressed its intention of completing all works by July 2015. The Mission was informed that the contract requires bought out finished items of about INR 58 million. Even deducting the same from remaining value of works, the Contractor will be required to carry out about INR 24 million of works in each of the months from April to July 2015, as compared to on average about INR 9 million worth of works per month carried out by the Contractor since November 2014. The Contractor should attempt to complete all roofs prior to monsoon expected from mid-June, in order to continue with the internal finishing works during the monsoon. The Mission felt that, with the present mobilization, scale of activities and progress during the recent months, the contract works may not be completed by July 2015. The Project Management Consultant (PMC) suggested that the Contractor is required to increase its skilled manpower including Engineer(s) and Supervisor(s) for accelerated progress of works.

16. **BRT Terminal at Old Government Offices:** Construction has started on this important element of the BRT services to Naya Raipur. The previous mission visited the works and the bus and pedestrian access/egress roads to the facility and voiced some concern on the proposed traffic arrangements on these roads. NRDA advised that Arya architects, who will visit Raipur in later this month, will be requested to address the concerns raised. The mission recommends that NRDA inform the PMU and the World Bank by April 30, 2015, what physical and traffic management measures will be taken to ensure smooth access to and egress from the terminal, taking account of Arya's advice.

STATUS OF THE WORKS CONTRACTS

Contract Description	Name of Contractor	Original Contract Amount (million INR)	Likely Completion Cost (million INR)	Contract Start Date	Scheduled Contract Completion Date	Extended Contract Completion Date	Approximate Value of Works Done (million INR)	Physical Progress (% of likely Completion on Cost)
Bus Shelters, Pick-up Points, Workshop Depot and Control Centre	Essel Infrastructure Private Limited, Raipur	298.9	239.6	31 Mar 2013	30 Mar 2015	15 Jun 2015	87.1	36.4%
Non-Motorized Transport Infrastructure (Cycle Tracks, Walkways, etc)	BSBK Private Limited, Bhilai	416.5	481.8	28 Mar 2014	27 Jun 2015		95.7	19.9%

17. Technical Assistance and Capacity Building

- a) **TA on Transit Oriented Development (ToD):** The Mission was appraised by NRDA that based on the findings of the TOD study by IBI, changes were made to the Naya Raipur Development Plan in its Chapter 9 and Chapter 18. Majority of the recommended norms that facilitate TOD implementation have been incorporated in these chapters. Planning of certain sectors has also been modified based on the TOD concepts. NRDA has received in principle approval from the Government of Chattisgarh in March 2015. Statutory orders are expected in May 2015 following public notification and public hearing.
- b) **Regional Mobility Plan.** The consultants (LEA Associates) gave a presentation on April 15, 2015 at the World Bank office on the progress made so far. The draft interim report along with junction plans was submitted to NRDA in January 2015. In addition to the primary survey findings already discussed with the mission in December 2014, the consultants further discussed the transport model results and the model outputs. The mission appreciated the work done so far however the following recommendations were made:

- Segregate the presence of footpath for urban and rural areas
 - Revisit the mode share distribution in the horizon years for two wheelers
 - In the scenario and mode wise travel demand assessment, the consultants must refrain from identifying the public transport modes for scenario building and instead use demand related nomenclature such as high/medium/low capacity public transport service and network.
- c) **Monitoring & Evaluation Study.** The consultants (DIMTS) presented the contents of their 2nd Half-Yearly Report, which had been submitted on March 18, 2015. Surveys for this were conducted in January 2015. It presents an impressive wealth of data, mostly collected in January 2015, and compares them to the data collected in mid-2014 and the base-line survey carried out in March 2013. The verbal (aided by powerpoint) presentation to NRDA and the mission raised many questions on the meaning of the data presented. There was general agreement that future reports and presentations should place greater emphasis on the presentational aspects so the outside observer can gain a clearer understanding of the travel characteristics, and what the numbers actually mean.

Also, some of data as currently presented appear to be misleading, such as the key Table 5-3 which is titled “Bus Users between Raipur and Naya Raipur”. It indicates that in 2015 there are **11,723** passengers (in regular services) between the two cities. A closer review of the data contained in Tables 4-17 to 4-19 of the same report indicates, however, that there are only about **4,630** trips on regular services between Raipur and Naya Raipur, the balance being internal trips within Raipur using one of the four bus routes listed². Table 5-3 should thus be titled “Users of RNNTL Bus Routes 1 to 4”. That table is also somewhat confusing as it makes reference to “3,808 passes issued”, which presumably is equivalent to about 7,616 trips per day. The significance is that captive bus trips (i.e. by staff who are issued passes) to Naya Raipur far outweigh the number of passengers on regular services – the Report (with the current title of Table 5-3) implies otherwise. The implications for the business plan of future BRT services between the two cities could be considerable.

The modal split and other parameters for travel between the two cities have been calculated on the base of O-D surveys taken at 12 locations. Trips between the sum of Raipur zones and the sum of Naya Raipur zones were analyzed – a straightforward methodology which seems appropriate. However, the Airport has been lumped with the Naya Raipur zones – in other words, travel behavior for trips between the airport and Raipur show up as trips between Raipur and Naya Raipur, an assumption which is not always helpful for understanding the travel behavior between the two cities. This will be corrected in future, possibly by presenting both the with and without Airport trips in this type of analysis.

² (α) About 60% of the 975 passengers using Route 1 (Railway Station – Mantralaya) are internal Raipur passengers. (Table 4-18). (β) About 40% of the 4,022 passengers using Route 2 (Railway Station – Navagaon) are internal Raipur passengers (Table 4-17). (γ) Route 3 (railway station – Gandhi Chowk – Dumartari – Mukhtangan – Mantralaya) carries 3,653 trips. Table 4-19 shows that, of these, about 50% get on and off between Railway Station and Dumartari, i.e. they are internal trips within Raipur. (δ) Of the total regular passengers using the four bus routes, 26% use Route 4 between Raipur Railway Station and the Airport. No doubt this is an important bus route, but it does not connect Raipur with Naya Raipur proper. (ε) Sum of Raipur – Naya Raipur trips on regular services : 390+2414+1826 = **4630** trips

It appears that, up to now, staff bus services (i.e. for pass holders) have not been included in the surveys, and that Corridor 2 bus service from Kabir Nagar / DD Nagar to Naya Raipur is not shown on any maps of the report. The mission recommends that surveys and reports also cover the staff bus services, and that ambiguities such as those outlined in the preceding paragraphs be corrected. It was agreed that NRDA would facilitate the survey of the staff bus users as this is valuable information currently missing from the analysis.

The presentation by the consultants had the following issues:

- Many of the indicators were poorly defined, e.g.,
 - using the term “Raipur to Naya Raipur” to mean both all travel for the multiple origins and destinations within that respective corridor, and trips for the Raipur to Naya Raipur origin to destination pair;
 - not clearly defining the various components of travel time for trips of various trip lengths
- Some of the numbers e.g., mode shares, the number of public transport trips) shown in the presentation and report seemed either to conflict with indicators collected by other consultants or did not make sense, as in the speed for public transport for the class of short trips being less than walking speeds

Accordingly, the Mission made suggestions that the presentation of the current situation in the respective M. and E. report and presentation should “tell a story;”

1. Define all indicators to make sure there are no conflicts with other study results or ambiguity
2. Display and describe in detail measured and surveyed facts
3. Show the implications of the findings as descriptors of the current situation

- d) **Bus Service Plan and Financial Plan:** Previous Bank missions had commented on the technical scope of this activity, the importance of which had been discussed since 2013. Considering that NRDA intends to have BRT Lite operations started in the second semester of 2015, the design of the service plan is now clearly on the critical path. In early 2015, the consultants already working on the Monitoring & Evaluation Study (DIMTS) were contracted to prepare the “Service and Business Plan for City Bus operations”. For the first phase of the study (Service Plan), the output of which is due within three months, the study should focus on defining an initial service plan for a relatively short-term horizon. The mission repeated its previous recommendation that transport modeling should be kept simple for that purpose and just cover the influence area of the proposed BRT services rather than the entire metropolitan region. Alternative bus service plans could be evaluated on the base of existing public transport origin-destination matrices. As a first step, a small set of options for services along Corridors 1 and 2 should be defined and agreed with NRDA, and then tested by a simple model. The options might include the possible incorporation of express services, and variations of bus size and service frequency. The second phase of the study (Business Plan), for which results are to be produced within nine months, might employ a more sophisticated modeling approach.

The Mission emphasized that the service planning efforts for the BRTS system should address more than BRTS branded services but encompass changes to Raipur City bus, the dedicated Chatisgarh Government Raipur-Naya Raipur “shuttle” service and those

operated by IPT providers. The objective of the work is to be able to accommodate all public transport travel in the *entire corridor* defined by Raipur at one end and Naya Raipur at the other, including internal Raipur and Naya Raipur travel. The objective is to accommodate that market with a minimum of total travel difficulty (addressing waiting and transferring as well as in-vehicle travel time) for a given level of net cost subsidy.

The Mission reiterates its suggestion that the “four step” travel demand model prepared for strategic planning *not* be used to analyze service plan options given the above objective. Rather, it recommends a simpler analysis approach. A total public transport trip table from the on board public transport passenger O/D surveys undertaken as part of M and E work, expanded to represent whatever services which were not surveyed (i.e., IPT) might be assigned to a variety of draft public transport networks representing the service plan options being considered. In this process, the total public transport trip table could be “Fratared” (Furnished) to reflect population (productions) and employment and student enrollment (attractions) growth during the period from the survey to analysis year. Additional “growth” factors based on application of elasticity’s or a pivot point model could be utilized with travel time, etc. input matrices derived from network models of the respective service options. To support this service plan analysis process, the Mission provided the consultants and PMC a variety of methodology documents, e.g., “The Demand for Public Transport: A Practical Guide” prepared by the UK’s Transport Research Laboratory in 2004.

The Mission made suggestions to the Consultants on their overall methodology and advised them to carefully address issues such as:

- Optimum utilization of the fleet in the region considering the current travel trend
- Subsidy for the service in lieu of the losses due to government passes
- Tapping into the Urban Transport Fund
- Use of new links (canal road) in Raipur city

18. **Marketing and Communications Strategy:** NRDA needs to engage a marketing and communications firm to start the marketing campaign ahead of the BRT launch which is tentatively being planned for November 1, 2015. Discussions were held on how weekly events promoting NMT and BRT can help in spreading awareness on BRT amongst the public. NRDA plans to seek support from NGOs in organizing these public awareness events at the earliest.

19. **Utilization of the Balance Amount:** NRDA has a balance amount of US\$ 0.5 million for which a plan for utilization is awaited. Another 15 days have been sought by NRDA to finalize this and their decision will be communicated to the World Bank by April 25, 2015.

20. **BRT Lite Implementation.** The mission expressed concern over the delays in completing the ongoing civil works. NRDA confirmed that they were closely reviewing the situation and would target the launch of the BRT Lite by November 1, 2015, their State Day. The Mission advised NRDA to start working backwards and develop a BRT Implementation Schedule capturing all the critical activities to be completed ahead of launch (including BRT pickup points and key stations, bus delivery and hiring of bus operators, ITS installation, service plan, communications, fare collection agents, traffic wardens, security & housekeeping etc.). It was agreed that NRDA would share the plan with PMU and the Bank by April 30, 2015.

Environment Management

21. The mission visited the work sites in Naya Raipur and Raipur to understand the extent to which the EMP provisions are being used during construction. It also discussed the progress on various aspects with NRDA officials, the consultant team assisting them to supervise the implementation, and contractor representatives.

22. *Workshop and Depot site in Naya Raipur:* The contractor team at the depot site has continued to ensure that the workers have the necessary PPE that conform to the health and safety requirement since the initial expectations were clarified. Mission also noted that record keeping at the site has also stabilized with the assistance of the PMC's environmental specialist. It suggested that NRDA ask the contractor and PMC jointly confirm that the proposal for adding workforce, if required, can be supported by the facilities available with the contractor for their accommodation and other amenities.

23. *Interchanges in Raipur:* The railway station interchange platform has been created. The mission was informed that about 200m long stretch of road in front of this platform may need to be dismantled and replaced with a concrete pavement for operational reasons. The total quantity of dismantled pavement would depend on the depth and eventual decided length, would need to be disposed of. The mission advised NRDA to work closely with Railway officials to ensure its safe disposal. If possible, it should be reused in the worksites.

24. At the old Sachivalaya pick-up point, tree transplantation has been completed with the help of Forest Department. The area around the bus platform would need filling up to maintain the level for smooth boarding. The mission suggested that if the material from the road close to the railway station is found suitable, it should be used for filling up. This would have double advantage – it would save space in a disposal facility where the dismantled pavement would have ended up, and it would save fresh/good earth that would be substituted. It was agreed that this would be examined and the final decision regarding the same would be shared as part of the June 2015 QPR.

25. Another issue at the old Sachivalaya site that NRDA must follow-up urgently pertains to the possible impacts due to the improvements to the entry to the site for buses. The mission was informed that the current plan envisaged addition of a drain at the edge of the road, which may impact some temporary businesses. NRDA officials informed that the Raipur Municipal Corporation is already in the process of providing alternative arrangements for these vendors. The mission advised NRDA to confirm this and ensure that all such persons get the compensation and assistance in line with the ESMF. This should be confirmed to the Bank as soon as the finalized designs are tallied with the ground situation and consultation with the Raipur Municipal Corporation on the subject is formally undertaken.

26. *NMT Infrastructure Sites:* The mission visited a few locations where the construction of bicycle tracks and footpaths is underway. There is scope of improvement at the Contractor's campsite to bring it in line with EMP requirements. The mission provided suggestions to improve the facilities for storage of material, and safe movement of vehicles both in the camp, and in construction site. It advised NRDA to confirm that the borrow areas used for procuring the earth for the embankments have been properly rehabilitated. It also requested NRDA to ensure that the regulatory clearances for the plants – such as crushers and hot-mix plants, are available for the duration of the project. Several bridges/culverts are still under construction across Naya Raipur where NMT infrastructure is being installed. It was agreed that this would be completed by April 30, 2015 and confirmed to the Bank in the QPR for June 2015. The mission advised NRDA to confirm through its PMC that the debris that may clog the waterway in such locations are removed well in advance of the upcoming rainy season to avoid any problems of flooding/erosion. It has been agreed that this too shall be a part of the QPR for June 2015.

27. **Key Agreed Actions**

- System Integrator on board by May 31, 2015
- Hiring of operator – July 31, 2015
- BRT Infra Contract - Complete all roof works prior to monsoon – June 30, 2015
- BRT Infra Contract - Final drawings for pending items to be shared with Contractor – April 30, 2015
- NMT Contract - Complete bituminous surfacing and paving tiles prior to monsoons – June 15, 2015
- Submit monthly progress report contract wise – Continuous
- Finalize traffic arrangements and prepare designs for old mantralaya site for smooth flow and access egress to BRT station for passengers – May 31, 2015
- Submit draft Service Plan – May 31, 2015
- Submit revised M&E Report – April 30, 2015
- Confirm issue of public notification in regard to ToD – May 31, 2015
- Submit BRT Implementation Schedule – May 25, 2015
- Submit funds utilization plan for the savings from GEF grant – May 31, 2015

INDIA: GEF-World Bank-UNDP: Sustainable Urban Transport Program (SUTP)

Indore

1. The World Bank mission, along with PMU and PMC, held discussions with Mr. Sandeep Soni, CEO, AICTSL on the project progress in regard to the Indore component in Delhi on April 14, 2015

BRT Corridor

2. **BRTS corridor:** The High Court decided in favour of the BRT in mid March 2015. The 12 km corridor runs from Niranjapur towards the north of the city to Rajiv Gandhi chowk in the south. There are 7 interchanges with the city buses in between these two points. With the court ruling in place, the average travel time for a BRT bus from end to end reduced to 35 minutes from 45-50 minutes. Accident rates have reduced with mixed traffic no longer being allowed within the BRT corridor.

3. Corridor extension is proposed for another 8 kms as per in principle approval by the AICTSL Board and Sarak Suraksha Committee in Indore. Stations will be developed on PPP. Road widening works (6 lanes) are already ongoing. AICTSL needs to develop depots for maintenance of the new bus fleet.

BRT Bus Fleet. AICTSL has 36 buses and the daily passenger traffic has crossed 45,000. The service frequency ranges from 3 minutes – 5 minutes. 65 midi buses are ready for delivery out of the 165 for which procurement orders were placed under JnNURM scheme II. However, there is some certainty regarding MoUD's contribution for the Scheme II buses, and AICTSL is planning to source funds from state/city resources for the buses.

4. **ITS Component.** Two bids were received and opened on Feb 2, 2015. The value of both the bids received is much higher than estimated. AICTSL has still not initiated the evaluation of the bids as the PMC contract has expired and will require to be extended along with payment of remaining dues. AICTSL is awaiting a decision from its Board on the matter. Unfortunately, the Board meeting has not been held until now. The mission advised AICTSL to proceed with evaluation of bids at the earliest as its a critical activity for determining the quality of bids, also the reasons for the high bids and possibilities for scope modification, if any. However, evaluation would require technical expertise and therefore AICTSL is advised to retain the support of PMC for this activity. AICTSL informed that the Board Meeting was scheduled for April 17, 2015, and it was agreed that they would share with PMU and the Bank their strategy for proceeding on the ITS as well as the PMC contract by April 25, 2015.

5. The Mission again reminded AICTSL of the closing date of the Project (November 30, 2015) and advised them to make an early decision in regard to ITS, so that the grant funds could be reallocated and utilized in case there was likely to be further delays in decision making.

6. **Technical Assistance Activities.** The Mission reviewed the status of the proposed TA activities.

(i) *Preparation of BRT Accessibility Plan, including pedestrian access:* The bid price has been found to be high and AICTSL needs to evaluate the bids on priority and re assess the requirements. It should ensure active participation of Municipal Corporation in the study execution.

(ii) *Monitoring & Evaluation Study*. Last date for submission of EOIs is May 11, 2015. It was discussed that AICTSL could consider alternate procurement methods for this consultancy.

(iii) *Preparation of a business plan for AICTSL*. 11 EOIs were received. Shortlisting is ongoing.

7. **Key Agreed Actions:**

- Submit ITS BER – June 30, 2015
- Finalize strategy for bid evaluation of ITS and engagement of PMC for additional services and communicate to the Bank – May 31, 2015
- BRT Accessibility Study – Submit minutes of negotiation – May 31, 2015
- Submit RFP for Business Plan study along with shortlisted firms – May 15, 2015
- Submit RFP for Monitoring and Evaluation study along with shortlisted firms – May 31, 2015
- Hiring of ITS expert / transport planner -May 31, 2015
- Hiring of System Integrator to implement ITS -July 31, 2015

INDIA: GEF-World Bank-UNDP: Sustainable Urban Transport Program (SUTP)

Mysore

1. A World Bank mission held discussions with Mr. Mallikarjuna, Chief Mechanical Engineer, KSRTC, his team including MCTD officials, their consultants and vendors through a Video Conference facility on April 1, 2015 to discuss the project's progress. Also present in the meeting were representatives from PMU and PMC.

GEF-SUTP Funded Project

2. **Intelligent Transport Systems.** Intelligent Transport System (ITS) was implemented and launched in November 2012, and has following sub components:

- Passenger Information System (PIS)
- GPS based Automatic Vehicle location (AVL) System
- Monitoring center to track and monitor bus movement through GPRS based devices

3. The Mission was informed that most of the underlying technical problems have been resolved and the system is working well with over 90% of the ITS commissioning complete as on March 2015. Completion of remedial work and elimination of backlogs needs to be done. The Mission was informed that as on Mar 30, 2015 398 buses were being tracked, 377 buses were running as per schedule and 89% of kilometers are now being tracked with ITS of the entire fleet. The VMUs functionality has significantly improved so has the in bus display from the previous month's performance. VMU fitment was recently completed in all 452 buses and the full fleet has now been handed over to KSRTC. The Mission was informed that Expected Time of Arrival (ETA) performance has reduced from 85% in November 2014 to 79% in February 2015. The gap of 21% is due to VMU functionality issues and operational issues within KSRTC. These are being resolved. The variation from Form 4 has been reduced from 26% to about 11% in the last one month. The Form 4 routes are simultaneously being modified based on actual route operations.

4. It appears that CMC have resolved all underlying technical problems, that the system is working well, and that what remains is the completion of remedial work and elimination of backlogs. If this is so, then the structure of the reports needs to change from implementation issues to performance. The reports should begin with performance shown against SLA and monthly/periodic trends for all relevant indicators. It should then follow with detailed explanation of below-SLA performance, of causes, and of corrective measures that will be implemented. Subsequent reports should track the effectiveness of planned corrective measures.

5. It seems that there are buses in the system at present on a temporary basis that are not equipped. This means that there are schedules and their operated kilometers that are not being tracked, and are not appearing in the ETA, etc. How long will this situation continue? Should these form part of the baseline for SLA? If not, how should it be handled within the reports? This is an important matter that will need to be addressed soon so that its possible to distinguish between the technical issues within CMC's ambit and operational and extraneous issues beyond their control.

6. The Disaster Recovery site has been installed within CMC site currently. This will be operationalized within one month after operational acceptance. However, the Mission repeated its previous recommendation of identifying a permanent location for disaster recovery servers and a disaster management plan should be put in place.

Mission advised KSRTC team to consider operational acceptance and that in order to be able to do that, CMC should demonstrate that the performance parameters defined in the SLA are being met. There may be some reasons why certain SLAs are not being met. For example, where buses operate without equipment, where Schedules are missing not due to any CMC issue but for operational or other reasons. It should be possible to quickly construct a framework that would adjust for such things, and allow it to be seen whether CMC are achieving SLA on the adjusted basis.

7. The M&E consultant's contract with KSRTC has ended on March 31, 2015. The mission advised KSRTC to extend their contract by another 3-6 months, to until after the operational acceptance is provided to be able to capture the 'after project' impacts.

8. **Additional Grant:** Under the project restructuring, KSRTC shall be receiving an additional GEF grant amount of \$0.6 million towards (i) project management of ITS, (ii) marketing & communications of ITS, (iii) driver training simulator. KSRTC shared that a revised proposal for procurement of activities/items has been shared by them which includes (i) Consultancy for Communications and Outreach of ITS Project (ii) Consultancy for Training and Capacity Building for MCTD/KSRTC (iii) Consultancy for Project functionality monitoring during operations & maintenance phase (iv) Selection of vendor for providing Simulator for Driver Training

9. KSRTC was advised by the mission to appoint one expert instead of a firm for support with project functionality monitoring and operations improvements. For the training and capacity building activity, the Mission advised that funds would be best utilized for available trainings that are ongoing instead of appointing a firm which designs the training format. The proposal will be finalized in April and procurement will be initiated by the end of April.

10. **Comprehensive Service Operations Analysis Study.** The World Bank reviewed the various task reports and suggested that the immediate action plan focus on service design and operation. The Bank suggests that it is important to first develop and implement a service plan that: 1) provides reliable service (actual operations reflected in passenger timetables) and 2) makes the most cost effective use of limited funding and service resources. The World Bank acknowledges the importance of other improvements suggested in task reports (e.g., improved passenger information, better fleet planning), but feels that these improvements should be addressed after a sound service plan has been implemented.

It is recommended that the immediate action plan focus on following three important improvement areas that were identified in the service analysis work performed by the KSRTC consultant team and were discussed during the conference call:

- Assessment of poorly-performing routes
- Scheduling of realistic running times by time-of-day and day-of-week
- Revision of operating procedures regarding initial departure of trips from route terminals.

Key Agreed Actions:

- Extend M&E Contract – May 31, 2015

- Submission of draft Final M&E Report – April 15, 2015
- Submission of update on compliance– Weekly
- Operational Acceptance – June 15, 2015
- Submit procurement plan for new activities – April 30, 2015
- Initiate procurement for new activities – May 31, 2015
- Submit revised CSOA Report – May 25, 2015

INDIA: GEF-World Bank-UNDP: Sustainable Urban Transport Program (SUTP)

Mysore – Proposed Public Bike Sharing Project (PBS)

1. The inclusion of the Mysore Bike Sharing Project has now been processed with the formal request received from DEA. The amended project agreements are being signed by the competent authority. The project includes 450 bikes, 52 docking stations and a central control centre.
2. MCC shall be the implementing agency for this activity with a committee for managing the overall administration of the project. The proposed committee will be headed by the Deputy Commissioner, Mysore. The total project capital cost and operating cost for one year is estimated to be roughly Rs. 80 million and after budgeting an additional amount for technical assistance and capacity building a total GEF grant amount of \$1.6 million have been allocated to the Project.
3. The PBS is proposed to be contracted out to a private developer on a design, supply, install and operate model. The bid documents have been reviewed and cleared by the Bank in January 2015. However, the launch of the bids has been delayed owing to pending Cabinet clearance for the Project. The Project clearance was received on April 17, 2015.
4. **Key agreed actions included:**
 - DULT/ MCC to issue bid documents by May 20, 2015
 - Submission of BER by July 31, 2015
 - Designation of Team at MCC - Immediate
 - Appropriate opening/ designation of budget head with provisioning by June 30, 2015
 - Appointment of auditor\Entrustment of audit to AG within three months from restructuring

Financial Management

A. Budget & Expenditure: The budgetary allocations for FY 15-16 have been provided to all PIU's submitted by their respective UD department³. In view of project closure in November 2015, the same was critical to ensure adequate fund flow.

B. Disbursement profile: As on April 9 2015, the disbursement profile (excluding advances) stood at 25.51% against IBRD and 30.86% against GEF financing. Disbursements reflect the expenditure claimed by project until February 2015. Overall position is stated below and the PIU wise disbursement position is summarized in Annexure 1).

IBRD status of Disbursement		USD Million
Financing source	Allocation	Disbursement*
IBRD	105.23	26.85
DA Advance	-	10.00
Total	105.23	36.85
% Disbursed inc DA		35.01%
% Disbursed exc DA		25.51%
Including front end fees		

GEF status of Disbursement		USD Million
Financing source	Allocation	Disbursement
GEF	18.45	5.69
DA Advance	-	2.00
Total	18.45	7.69
% Disbursed inc DA		41.70%
% Disbursed exc DA		30.86%
*Excluding agency fees of US\$ 1.88 mn		

C. Restructuring and its impact on FM arrangements for the project:

The GEF restructuring request stands processed and is awaiting countersignature from respective State governments in order for amendments to be effective.

- Inclusion of Mysore city corporation (MCC) as one of the implementing agencies for implementing PBS (USD 1.6 mn)
- Allocation of USD 0.6 mn to KSRTC under Category 2C (0.4mn at 73% disbursement ratio) and category 3B (0.2 mn at 100% ratio) KSRTC
- Allocation of 0.6 mn to HDBRTS under category 5.
- Change in disbursement category to 89% for category 2e PCMC

The impact of restructuring on fm arrangements of PIA's is as follows:

- **Mysore PBS-** An amount of USD 1.60 million has been allocated under category 5 under this component. Discussions were held with Mysore city corporation (MCC) along with DULT officials on status of the agreed FM arrangements. It was apprised that the request for separate budget head creation will be made shortly. In the interim, the project will be

³ Confirmation by PMU.

supported by UD with DULT responsible for coordination with State Government for timely availability of funds for the project. Instructions have been issued for opening of a separate bank account for the project at MCC level with cheque signatory authority at MCC . All the project related expenditure will be met by MCC and reimbursements of the eligible expenditure will be made by Bank on the basis of financial reports (IUFRR) submitted by the project. The project related accounts will be maintained as per double entry accrual based system operational at MCC. The expenditure on the project will be subject to audit.

- **KSRTC:** An amount of USD 0.40 mn has been allocated to Category 2C (ie from current allocation of USD 0.46 mn to 0.86 mn). In addition, an amount of USD 0.20 mn has been reallocated to goods Category 3B (from current allocation of USD 1.43 mn to USD 1.63 mn). In terms of accounting separate expenditure heads will be made under the present category to capture expenditure against these activities.
- **HDBRTS:** An amount of USD 0.60 mn has been allocated to Category 5 (ie from current allocation of USD 1.90 mn to 2.50 mn). In terms of accounting separate expenditure heads will be made under the present category to capture expenditure against these activities.

D. External Audit- The audit report for FY 13-14 has been shared with the Bank. In response to the audit review letter, it was highlighted that PCMC has furnished its response to auditors-AG on their observation and that these will be taken up by auditors in the upcoming audit cycle ie for FY 14-15.

E. Internal Auditors: The mission was informed that the process of appointment of internal auditors is delayed and is now expected to be completed by mid May 2015. It is agreed that a consolidated audit report for FY 14-15 will be submitted by the appointed firm not later than June 30 2015. The audit committee, last held in November 2013 is expected to be held post June 30th once the consolidated audit for year 2014-15 is concluded.

Key Actions

<u>S.No.</u>	<u>Actions</u>	<u>By Whom</u>	<u>By When</u>
<u>1</u>	Entrustment of statutory audit of PIU of MCC to the state AG	MCC	Within 3 months of restructuring
<u>2</u>	Appropriate opening/ designation of budget head with provisioning (BE 2015-16).	DULT	June 30 2015
<u>3</u>	External audit clarification	PMU and PCMC	Sep 30 2015
<u>4</u>	<u>Internal Audit</u> c) Appointment of internal auditors d) Internal audit report submission	MoUD PMU	May 15 2015 June 30 2015

PIA's wise disbursement profile USD/Mn

IBRD- PIU wise disbursement				
PIU's	PCMC	NRDA	HDBRTS	Total
IBRD allocation *	35.58	13.94	55.45	105.23
Advance	7.00	1.00	2.00	10.00
Reimbursements	21.00	2.75	2.82	26.83
Total Disbursements	28.00	3.75	4.82	36.83
% Disbursed inc DA	78.71%	26.89%	8.69%	35.00%
% Disbursed exc DA	59.03%	19.72%	5.08%	25.50%
* Including the front end fees of USD 0.263 mn				
** PCMC includes unallocated amount for Maharashtra				

GEF- PIU wise disbursement with revised GEF allocations								
PIU's	PCMC	NRDA	Indore	KSRTC	MoUD	HDBRTS	Mysore PBS	Total
Revised GEF allocation (under process)	1.90	1.90	1.91	2.49	6.15	2.50	1.60	18.45
Advance	0.46	0.23	0.23	0.23	0.85	-	-	2.00
Reimbursements	0.10	0.68	0.44	1.83	1.91	0.73	-	5.69
Total Disbursements	0.56	0.91	0.67	2.06	2.76	0.73	-	7.69
% Disbursed inc DA	29.31%	47.87%	35.19%	82.85%	44.90%	29.26%	-	41.70%
% Disbursed exc DA	5.10%	35.76%	23.14%	73.62%	31.08%	29.26%	-	30.86%

