



PROJECT IDENTIFICATION FORM (PIF) ¹

PROJECT TYPE: Full-sized Project

TYPE OF TRUST FUND: GEF Trust Fund

PART I: PROJECT IDENTIFICATION

| | | | |
|---|---|------------------------------|------------|
| Project Title: | Efficient & Sustainable City Bus Services | | |
| Country(ies): | India | GEF Project ID: ² | |
| GEF Agency(ies): | WB (select) (select) | GEF Agency Project ID: | |
| Other Executing Partner(s): | Ministry of Urban Development, Government of India; other State Governments | Submission Date: | 2012-03-31 |
| GEF Focal Area (s): | Climate Change | Project Duration (Months) | 48 Months |
| Name of parent program (if applicable): ➤ For SFM/REDD+ <input type="checkbox"/> | | Agency Fee (\$): | 920,000 |

A. FOCAL AREA STRATEGY FRAMEWORK³:

| Focal Area Objectives | Expected FA Outcomes | Expected FA Outputs | Trust Fund | Indicative Grant Amount (\$) | Indicative Co-financing (\$) |
|--------------------------------------|---|---|------------|------------------------------|------------------------------|
| CCM-4 (select) | Outcome 4.1: Sustainable transport and urban policy and regulatory frameworks adopted and implemented | Output 4.1: Cities adopting in low-carbon programs | GEFTF | 700,000 | 2,000,000 |
| CCM-4 (select) | Outcome 4.2: Increased investment in less-GHG intensive transport and urban systems | Output 4.2: Investment mobilized Output 4.3: Energy savings achieved | GEFTF | 8,100,000 | 80,000,000 |
| (select) (select) | | | (select) | | |
| (select) (select) | | | (select) | | |
| (select) (select) | | | (select) | | |
| (select) (select) | | | (select) | | |
| (select) (select) | | | (select) | | |
| (select) (select) | | | (select) | | |
| (select) (select) | | | (select) | | |
| (select) (select) | Others | | (select) | | |
| Sub-Total | | | | 8,800,000 | 82,000,000 |
| Project Management Cost ⁴ | | | GEFTF | 400,000 | 3,000,000 |
| Total Project Cost | | | | 9,200,000 | 85,000,000 |

B. PROJECT FRAMEWORK

| Project Objective: Promote a shift to sustainable modes of transport through a more comprehensive focus on city bus transport | | | | | | |
|--|------------|---|--|------------|------------------------------|-----------------------------|
| Project Component | Grant Type | Expected Outcomes | Expected Outputs | Trust Fund | Indicative Grant Amount (\$) | Indicative Cofinancing (\$) |
| Capacity Building & Technical Assistance on | TA | Outcome 1: Sustainable city bus transport policy and regulatory | Output 1.1: Policy notes and recommendations developed for sustainable | GEFTF | 700,000 | 2,000,000 |

¹ It is very important to consult the PIF preparation guidelines when completing this template.

² Project ID number will be assigned by GEFSEC.

³ Refer to the reference attached on the [Focal Area Results Framework](#) when filling up the table in item A.

⁴ GEF will finance management cost that is solely linked to GEF financing of the project.

| | | | | | | | |
|--|----------|---|---|--------------------------------------|-----------|------------------|-------------------|
| Policy, Regulatory, Fiscal issues | | frameworks adopted and implemented | city bus transportation and deliberations at national and state level initiated Output 1.2: At least 8 Cities adopting low-carbon programs including improved fuel efficient techniques | | | | |
| Capacity Building & TA to Demonstration Cities | TA | Outcome 2: Increased adoption of efficient & sustainable city bus services | Output 2.1: More efficient and user responsive bus service plans adopted in at least 2 cities Output 2.2: Improved financial planning and increased use of private sector participation in at least 2 cities Output 2.3: 210,000 tons of CO2 savings achieved | GEFTF | 2,100,000 | 500,000 | |
| Demonstration Projects | Inv | Outcome 3: Increased investment in less-GHG intensive transport and urban systems | Output 3.1: Investment mobilized Output 3.2: 1.26 mn tons of CO2 savings achieved | GEFTF | 6,000,000 | 79,500,000 | |
| | (select) | | | (select) | | | |
| | (select) | | | (select) | | | |
| | (select) | | | (select) | | | |
| | (select) | | | (select) | | | |
| | (select) | | | (select) | | | |
| | (select) | | | (select) | | | |
| | (select) | | | (select) | | | |
| Sub-Total | | | | | | 8,800,000 | 82,000,000 |
| | | | | Project Management Cost ⁵ | GEFTF | 400,000 | 3,000,000 |
| Total Project Costs | | | | | | 9,200,000 | 85,000,000 |

C. INDICATIVE CO-FINANCING FOR THE PROJECT BY SOURCE AND BY NAME IF AVAILABLE, (\$)

| Sources of Cofinancing | Name of Cofinancier | Type of Cofinancing | Amount (\$) |
|--------------------------|-------------------------------|-----------------------|-------------------|
| National Government | Ministry of Urban Development | Grant | 33,000,000 |
| National Government | Ministry of Urban Development | In-kind | 2,000,000 |
| Local Government | To be determined | Grant | 30,000,000 |
| Local Government | | Unknown at this stage | 20,000,000 |
| (select) | | (select) | |
| Total Cofinancing | | | 85,000,000 |

D. GEF/LDCF/SCCF RESOURCES REQUESTED BY AGENCY, FOCAL AREA AND COUNTRY¹

⁵ Same as footnote #3.

| GEF Agency | Type of Trust Fund | Focal Area | Country Name/Global | Grant Amount (a) | Agency Fee (b)² | Total c=a+b |
|------------------------------|---------------------------|-------------------|----------------------------|-------------------------|-----------------------------------|--------------------|
| WB | GEF TF | Climate Change | India | 9,200,000 | 920,000 | 10,120,000 |
| (select) | (select) | (select) | | | | 0 |
| (select) | (select) | (select) | | | | 0 |
| (select) | (select) | (select) | | | | 0 |
| (select) | (select) | (select) | | | | 0 |
| (select) | (select) | (select) | | | | 0 |
| (select) | (select) | (select) | | | | 0 |
| (select) | (select) | (select) | | | | 0 |
| (select) | (select) | (select) | | | | 0 |
| (select) | (select) | (select) | | | | 0 |
| Total Grant Resources | | | | 9,200,000 | 920,000 | 10,120,000 |

¹ In case of a single focal area, single country, single GEF Agency project, and single trust fund project, no need to provide information for this table

² Please indicate fees related to this project.

PART II: PROJECT JUSTIFICATION

A. DESCRIPTION OF THE CONSISTENCY OF THE PROJECT WITH:

A.1.1 the [GEF focal area/LDCF/SCCF](#) strategies:

The proposed project is consistent with the focal area of Climate Change Mitigation of GEF5, specifically with its objective 4, "Promote Energy Efficient, Low-Carbon Transport and Urban Systems." It will support improvements in the policy and regulatory environment and modernization of bus services in selected Indian cities, aimed at making these services more attractive and convenient to personal motor vehicle users and thereby lead to a modal shift. Such a modal shift will result in (i) increased share of energy efficient and low carbon transport usage, (ii) improved energy efficiency in the movement of non public transport traffic due to reduced congestion, (iii) reduced air pollution, easier access to affordable and efficient transport, and other local issues.

The proposed project is strategically structured to have a significant effect on both national and local levels. It will review and prepare a series of policy notes on, among other things, governing legislation for public transport regulation, such as bus routes licensing, fare fixation, technical standards and safety norms. It will also take up pilot projects aimed at modernizing bus services through a comprehensive set of supporting measures that help make them more attractive and convenient to use, thereby making them a mode of choice even for those who have other options. These would include measures such as safer and more convenient bus stops, easier boarding and alighting facilities, improved passenger information systems, systematic routing and scheduling, systematic maintenance practices, marketing and branding, etc. Building on the existing relationship developed between the implementing agency, the World Bank, and the Indian Ministry of Urban Development through the implementation of India Sustainable urban Transport Program (SUTP) under GEF4 program, strong commitment from national and local levels for this proposed project is expected.

A.1.2. For projects funded from LDCF/SCCF: the LDCF/SCCF eligibility criteria and priorities:

A.2. national strategies and plans or reports and assessments under relevant conventions, if applicable, i.e. NAPAS, NAPs, NBSAPs, national communications, TNAs, NIPs, PRSPs, NPFE, etc.:

GHG emissions from transport sector in India were 80 million tons in 1994 (National Communication), 119 million tons in 2004. In 2004 transportation contributed 8% of India's energy based emissions (India Low Carbon Study). India has become the fourth largest emitter of green house gases, and the Government of India is committed to achieving a sustainable development path outlined in the National Action Plan for Climate Change (NAPCC). Among the eight National Missions included in the NAPCC, National Mission on Sustainable Habitat identifies Promotion of Urban Public Transport as one of the three pillars. The Mission emphasizes the combination of policy framework and low -carbon technologies to realize emission reduction in the transport sector, which is in alignment with the proposed plan. The proposed plan is also in line with the National Urban Transport Policy 2006, which emphasizes priority to public transport facilities and non-motorized modes over personal vehicles. GOI took the initiative in financing and implementing the [National Portfolio Formulation Exercise \(NPFE\)](#), and the proposed project is a part of India GEF5 programming plan, which resulted from the NPFE.

B. PROJECT OVERVIEW:

B.1. Describe the baseline project and the problem that it seeks to address:

Urban transport demand in Indian cities is met by a range of modes. While the high income

group has access to cars, the middle-income and lower-income group depends on public transport services and 2-wheelers and non-motorized modes such as walking and cycling.

Rapid urbanization has led to severe congestion, increasing air pollution and a rapidly increasing contribution to GHG emissions. Coupled with increasing income levels, growing city size and poor quality of public transport, this trend has been aggravated by an increasing reliance on motorized transport and use of personal motor vehicles. With growing income levels, the move in travel choices, therefore, has been from poor quality buses to motor bikes and then to cars. In cities that do not have any bus service, typically the small and medium-sized cities, the move has been from bicycles and cycle rickshaws to motor bikes and auto rickshaws. Unless existing city bus transport services are revamped and upgraded and quality services launched in new cities, the shift to personalised modes will continue.

The long-term sustainability of cities depends on promoting public transport services, as they occupy less road space and cause less pollution per passenger-km than personal vehicles. City bus services can meet the public transport needs of most cities in a cost-effective and efficient manner. Despite this, many of the cities do not have a structured public transport service. In fact, out of 88 cities that have a population of over half a million people, only about 20 have a public bus service. In the others, informal para-transit in the form of shared tempos (3-5 wheeled vehicles that take about 8 – 10 passengers) or poorly regulated minibuses tend to provide some kind of public transport, primarily for those who have no other options. These offer very low quality of service and the vehicles used are badly maintained, polluting and high energy consumers. Even in the cities that do have a structured public transport service, they are generally run by state-owned monopolies that tend to focus more on the inter-city service than on the intra-city service, as the inter-city services are more remunerative. In fact, according to a study by the Ministry of Urban Development (Traffic & Transportation Policies and Strategies in Urban Areas) public transport mode shares have generally dwindled over the last couple of decades and fleet sizes in nearly all public bus companies did not keep pace with demand.

It is in this context that the Government of India (GoI) announced the National Urban Transport Policy (NUTP 2006) emphasizing the use of sustainable modes of travel like public transport and non-motorized modes and the National Environment Policy (2006) to reduce the global and local emissions from transport. GoI launched the Jawaharlal Nehru National Urban Renewal Mission (JnNURM), whereby approximately 50% of the total cost of urban infrastructure investment in 61 selected cities could be financed. These cities either had a population of over one million or were capitals of the state governments or had some other tourist/heritage interest. The \$300 mn GEF-UNDP-World Bank Sustainable Urban Transport Program (SUTP) involving (i) National Capacity Building in Urban Transport and (ii) City Demonstration Projects, was also initiated underlying the principles of NUTP.

Road transport in India is governed by the Motor Vehicle Act 1988, which endows State Governments with the responsibility for bus transport (including city buses) and the power to license routes for plying stage carriages, fix fares, and set technical standards and safety norms. Apart from the states of Maharashtra and Gujarat, where urban transport falls under the purview of city governments for historical reasons, in all other states' it continues to be regulated at the state level. The legislation was oriented towards policies that encouraged monopoly operation of road services by the State Transport Undertakings (STU). In spite of modifications in the Act allowing for greater private sector participation, the STUs continue to dominate the road transport sector in several states. On the city routes, there are monopoly public bus services in few very large cities (Delhi, Bangalore, Chennai, Mumbai, and Hyderabad). In most medium and small-sized Indian cities, STUs either do not provide service or only limited service.

The financial situation of STUs providing monopoly bus services in large cities has been unsatisfactory for many years. With mounting losses, they have not been able to adequately replace old buses or expand services to keep pace with demand. Thus, there is an urgent need to also undertake reform of the policy framework regarding bus transportation as well as examine options for restructuring STUs.

In medium and small size cities, with a population of roughly 0.5-4 million, fleet availability by STUs has steadily declined with a sharp decline in patronage. The vacuum created by declining STUs or absent public transport services has been filled in by intermediate modes of public transport (auto rickshaws, jeeps, taxicabs, shared taxis and so on), a service that is often fragmented and poorly regulated. Apart from this, the fuel efficiency gains that are possible from better maintenance and driver training have not been recognized and taken advantage of, largely due to a mindset that has been more concerned with fleet utilization rather than improved fuel economies. Initial estimates suggest that these interventions aimed at improving the fuel efficiency of public bus services (through improved maintenance and driver training) alone could provide fuel savings of the order of 5-15% in the operation of such buses and corresponding savings of 3 – 8% in carbon emissions from the urban transport sector in the city.

In an attempt to promote public transport GoI under the second stimulus package, on 2nd January 2009 announced that states would be provided with financial assistance under JnNURM for the purchase of buses for their urban transport systems. Under this program, GOI provided funding for purchase of buses in 61 cities across India with the following objectives:

- Provide new, cleaner, more user friendly buses to cities in order to provide a higher level of service and convenience for passengers.
- Assist in the implementation of public transport institutional and service reforms, including setting up Special Purpose Vehicles (SPV) for managing and operating JnNURM financed buses, changes in route and network structure, operations and maintenance practices, etc.

The buses under JNNURM were sanctioned with the condition that the following reforms would also be carried out:

- a) Set up a SPV to manage bus services, set up a Unified Metropolitan Transit Authority (UMTA) to coordinate urban transport and use PPP for operations
- b) Use of ITS and integration of multi-modal systems
- c) Bus prioritisation at intersections, dedicated/demarcated lanes for buses
- d) Designate a nodal department for urban transport
- e) Formulate a policy on parking and advertising and its implementation plan
- f) Formulate a policy on Transit Oriented Development
- g) Set up an Urban Transport Fund
- h) Waive/reimburse state and local taxes on public transport
- i) Mechanism for periodic revision of public transport fares
- j) Set up a Traffic Information and Management Centre

Accordingly, a total of 15,260 buses have been sanctioned to 61 JnNURM cities at a total cost of Rs.4723.94 crore (\$1bn) out of which total admissible Central Assistance would be Rs. 2088.05 crore and the remaining would come as the counterpart share of state and city governments. Many of these cities would for the first time have a bus based public transport system. While MoUD shall provide funds for fleet procurement and replenishment, the state and city agencies shall be responsible for procuring and operations of the fleet as also the implementation of reforms identified by MoUD.

The India Sustainable Urban Transport Program (SUTP) under GEF4 was an umbrella program focussed on (i) developing necessary national, state and city level capacity in urban transport

planning and (ii) kickstarting the preparation and implementation of sustainable urban transport projects through some high impact demonstration projects on Bus Rapid Transit, Non-motorized Transport, ITS in a few cities (5 cities). It was not designed to systematically address bus services and operations in major cities. This proposal deepens and takes forward the earlier initiative for promoting public transport by focusing more comprehensively on city bus transport and treating the multiple issues - operational, financial, regulatory, fiscal - facing it.

SUTP has completed two years of implementation and expected to close in Nov 2014. 11 Toolkits spanning various aspects of urban transport planning are under preparation and several other studies including assistance to cities with implementation of urban transport reforms are under procurement under the capacity building component. In regard to the demo projects, (i) the ITS project in Mysore is in advanced stages of implementation, (ii) major works contracts under the BRT Project in Pimpri-Chinchwad have been procured and are under implementation, however, there are safeguard implementation challenges (iii) Project Report and concept designs of the project are under finalization in Naya Raipur, (iv) in Indore, the Project Management Consultants have prepared designs and contracting strategy for ITS, however, the Project Cost share proposed to be funded through JnNURM is still under discussion, and finally (v) the funds allocated to the Pune project is proposed to be cancelled owing to non performance and change in city priorities and reallocated to Hubli-Dharwad.

- B. 2. [incremental /Additional cost reasoning](#): describe the incremental (GEF Trust Fund) or additional (LDCF/SCCF) activities requested for GEF/LDCF/SCCF financing and the associated [global environmental benefits](#) (GEF Trust Fund) or associated adaptation benefits (LDCF/SCCF) to be delivered by the project:

This proposed project intends to fund the incremental cost of activities aimed to enhance sustainability, energy efficiency, and quality of city bus services, and therefore the potential for GHG emissions reductions from the baseline project. Under the baseline project scenario, GoI and state governments of India would provide financial support to city bus services through replenishment of 15,260 buses under the overall JnNURM program. In addition, the impact of the capacity development initiatives for urban transport planning, taken up under the SUTP and the demonstration projects in 5 cities would also begin to be felt at the national, state and city levels.

In many cities the bus routes structuring is old and has not kept pace with the changes in the travel demand. A route rationalization exercise will help better align the route network with the current demand patterns. Similarly, due to poor passenger information systems, bus services are losing patronage and those who can afford it are shifting to other modes, primarily motorized 2 wheelers. Improved passenger information, coupled with improved waiting area of passengers at bus stops and terminals would help a mode shift in favor of public buses from personal vehicles. Improved driver training and vehicle maintenance regimes, through modernizing the record keeping on individual bus performance, would enable fuel efficiency gains.

For the above reasons, the baseline project involving fleet expansion/replenishment is proposed to be supplemented with the following as part of the modernization program for securing the full benefits of the modern public bus system:

- (i) upgradation of requisite infrastructure such as terminals, depots and bus stops,
- (ii) improved quality of service through proper route structuring / rationalization, integrated fare collection systems, use of intelligent transport systems (ITS) such as GPS, scheduling, passenger information systems, integration with other modes etc.
- (iii) introduction of private sector efficiencies in operations and infrastructure and performance monitoring systems,
- (iv) greater autonomy and financial sustainability of STU's/ city bus companies through

- improved regulatory and fiscal environment,
- (v) greater fuel efficiency through adoption of measures such as driver training and improved maintenance practices,
- (vi) overall capacity building and training in operational, environmental and financial sustainability aspects.

Unfortunately, despite GoIs requirement for many of these the above additional measures could not be implemented due to (i) Capacity constraints at the city level, (ii) Resource constraints to carry out the required studies, (iii) Limited follow up under the bus funding scheme on enforcement of reforms, (iv) Inadequate appreciation of the need for a holistic approach to public transport service improvements, and (v) Lack of an appropriate regulatory environment / fiscal incentives framework for such quality enhancement .

The proposed project, therefore, is designed to complement the baseline project so that the additional activities that would help realize its full potential, can be implemented. It would put particular emphasis on city bus services and (1) review the policy, regulatory and fiscal environment as well as the market structure for public bus services and prepare policy notes for reforms, (2) promote modernization to enhance quality and convenience and therefore help increase ridership through demo pilots in select cities. This would enable a fuller realization of the benefits of a public transport system, and (3) provide technical assistance to achieve better fuel efficiency and thereby reduce fuel use/carbon emissions in public transport use.

The project comprises the following components:

Component 1: Capacity building and Technical Assistance on Policy, Regulatory, Fiscal issues (GEF US\$ 0.7M, co-finance US\$ 2M)

Policy, regulatory and fiscal constraints will be reviewed at national, state and city levels to promote efficient and high quality city bus services. Areas such as modernization of STUs / city bus services, private sector participation, greater decentralization to city government level, and the taxation burden on public transport vehicles vis-à-vis personal vehicles, etc. will be reviewed to assess the different models/treatment in operation across the country in different states, their effectiveness, and lessons drawn. For example, the case of the states of Maharashtra and Gujarat where public transport matters are delegated to city level and their effectiveness will be studied, compared to Karnataka where reasonably efficient STUs exist with a strong state role and yet other states with centralized authority and inefficient and unprofitable urban STU operations. A series of policy notes will be developed and workshops organized to create awareness and facilitate deliberation at the national and state level on the issue, its impact and options for addressing identified issues. Support will be provided to the national and state level, as relevant, to enable the process of deliberation and decision making in the identified areas. Capacity building initiatives aimed at driver training, creating awareness of the potential for fuel efficiency, private sector involvement, and other cross cutting issues will also be taken up for cities in India. Workshops will be conducted to disseminate experience of these cities and propagate the use of fuel conserving practices among STUs and private bus companies. Curricula for such training program will be developed.

Component 2: Capacity Building & Technical Assistance to Demonstration Cities (GEF US\$ 2.1M, co-finance US\$ 0.5M)

Pilot projects to modernize bus services will be taken up in 2-3 cities where they already exist and new modern bus services will be introduced in 2-3 cities where such services do not exist. The elements of such modernization will include route rationalization, greater private participation through better contracting and introduction of incentive schemes that improve viability, improved branding and overall financial sustainability. Technical

Assistance will also be provided to STUs and private bus companies in these cities to enable them to adopt improved techniques through driver training and vehicle maintenance and thereby improve fuel efficiency and training in relevant areas. This component would also complement JnNURM in terms of following up the conditions set forth for participating cities by providing necessary expertise and support.

Component 3: City Demonstration Projects (GEF US\$ 6M, co-finance US\$ 79.5 M)

Pilot projects in the selected 4-6 cities, which are the same cities chosen in Component 2, will include better bus stops, terminals and depot infrastructure, ITS for enabling efficiency and user responsiveness, equipment related to improvements in bus maintenance etc.

Pilot cities for Component 2 and 3 will be selected through a competitive process with emphasis being on medium sized cities (population between 1-4 mn) that have a rapid growth projection and where a clear commitment to the project is fully demonstrated by the city leadership. Emphasis will also be on a comprehensive set of modernization measures so that each of these measures complement one another and the full impact of all such measures becomes visible. It is felt that only such a comprehensive approach will help create meaningful demonstrations that would be attractive for future scale up.

Institutional Arrangement for Implementation: The Project Steering Committee, consisting of the Secretary of MoUD (chairperson) and senior officers from MoUD, Department of Economic Affairs (DEA), MoEF and other relevant Ministries, will guide and oversee the implementation of the Project through the national Project Management Unit (PMU) set up at the MoUD. The PMU shall be headed by a National Project Director, who will be a senior officer from MoUD and also the Member Secretary of the Steering Committee. The PMU shall comprise a full time Project Manager, specialists and a Project Management Consultant (PMC) team. The PMU will be responsible for advisory and technical assistance to the participating cities and state implementing agencies, coordination of the entire program at national level, and overall monitoring and evaluation. The MoUD with support of the PMU will also be responsible for implementation of all activities under the Component 1, including procurement, financial management, as well as monitoring and evaluation.

The participating state governments, through their designated Implementing Agencies (PIAs), will be responsible for implementation of their city demonstration projects. A Project Implementation Unit (PIU) led by a full-time project manager shall be established at each PIA to manage the day-to-day project implementation activities, including procurement, financial management, social and environmental management, as well as monitoring and evaluation.

The World Bank shall be responsible for oversight of the GEF Project and shall provide support to the implementing agencies.

Replication of the Project: The project is strategically positioned for abundant future replication by cities not only in India but also abroad due to the following reasons.

- (a) Public transport system is still a less developed field in India. According to a 2005 study, only about 20 out of 88 cities with population in excess of half million had structured public transport, which presumably are or at least include city bus services. Considering the speed of urbanization and motorization since then and in the future projection, city bus services will have to assume significant responsibility within the urban transport system in the country. It is likely to have public expectation for better service, thus good examples would be in high need by the operators of city bus services.
- (b) With Jawaharlal Nehru National Urban Renewal Mission (JNNURM) in place for more than 6 years, which has provided financial assistance to eligible cities, there is an established network of government organizations working in the urban transport

field in India at national, state and local levels. The project can build on the network to share the experience gained through the implementation including good practices, effective technologies, and lessons learned.

- (c) The project will be implemented as a collaboration of GEF, the World Bank, MoUD, and participating state and local governments in India. Certain relationship among these agencies has already been established through past collaborations including SUTP, with better understanding of the environment that urban transport in India is faced with. This makes it easier to extract the outcomes so that it could be utilized in foreign environment.

Global Environment Benefit: Modernization of bus services can lead to fuel savings on several accounts. The more important among them are the following:

- Improved maintenance, focusing on the identification and targeted maintenance of the consistently poor performing buses, through modernization of depots and better record keeping on bus performance
- Improved training of drivers who are consistently performing poorly in terms of fuel consumption when they drive
- Reduced non-revenue kms and idle movement
- Reduced idle capacity by use of buses of appropriate sizes on trunk and feeder routes
- Reduction in over supply of inadequately occupied buses and better matching of supply to demand
- Improved ridership and modal shift from other modes on account of (a) improved routing, (b) better passenger information, (c) greater attractiveness, (d) more convenient bus stations and terminals under a modernization program

Studies undertaken by ESMAP, in developing a guidance note for bus fuel efficiency improvement in Hyderabad and Vijaywada (which have among the more fuel efficient bus services in India) show that fuel efficiency gains of 5-15% are possible through:

- Improved maintenance wherein focused attention is given to the maintenance of the most poorly performing buses so that they consume less fuel, and
- Driver training, wherein the poorly performing drivers are given focused training of more fuel efficient driving practices

In cities in India, based on compiled data for STUs by Central Institute of Road Transport 2009-10, each bus runs for about 196 km per day at the baseline fuel efficiency of 3.88 km to a litre of diesel, on average. Each bus would accordingly use up about 18,400 liters of diesel a year. With an efficiency gain of 15%, as can be conservatively expected, the fuel consumed would come down to about 15,700 liters of diesel a year. Thus there is a saving of about 3000 liters a year for each bus.

When we take into account the 15,260 buses that have been sanctioned, the saving comes to 41.4 million litres a year or 110,200 tons of carbon dioxide (at 1 liter of diesel = 2.66 kg of carbon). Over a 10 year assuming an average 3% increase in this annually on account of increase in buses and in average kilometers covered per day, this would translate to a savings of **1.26 million tons** of carbon dioxide.

While the above potential savings are in respect of the 15,260 buses recently granted to the 61 NURM cities, the savings, if we take into account the total urban bus fleet of about

150,000 buses, would be much higher.

The above savings come from the fuel efficiency gains that are possible from improved maintenance and driver training. As stated earlier, modernization of bus services will also have gains from a reduction in idle movement of buses, idle capacity in the bus services and from the mode shift that can be expected from a more attractive and reliable bus service. Savings from these have not been quantified and captured in the estimate prepared.

Thus the potential savings turn out to be as follows:

| | Million Liters of diesel/petrol | Tons of carbon dioxide |
|--|---------------------------------|------------------------|
| Per bus per year | 0.003 | 7.2 |
| For 15,000 buses sanctioned under JNNURM per year | 41.4 | 110,200 |
| For 15,000 buses sanctioned under JNNURM in 10 years assuming a conservative growth rate of 3% | 475 | 1.26 million |

Savings from reduced idle capacity and idle kms would only enhance the potential savings. Thus a modernization of the bus services in India has immense potential for carbon savings.

While the objective of the project would be to take up comprehensive public bus modernization initiatives in about 4-5 cities, with a total population of 12-15 million people and having a total of about 2500 buses, it is expected that the positive benefits that get demonstrated and the capacity building efforts of Ministry of Urban Development will encourage others to take up similar programs. As a result of such up-scaling the benefits would accrue to about 150,000 buses and 300 million urban population.

- B.3. Describe the socioeconomic benefits to be delivered by the Project at the national and local levels, including consideration of gender dimensions, and how these will support the achievement of global environment benefits (GEF Trust Fund) or adaptation benefits (LDCF/SCCF). As a background information, read [Mainstreaming Gender at the GEF.](#)": Access to safe, affordable and efficient bus public transport will not only improve the overall productivity of the city but in particular improve access to economic opportunities for the urban poor leading to significant socio-economic impacts.

The transport needs of women tend to differ from those of men and traditional transport planning typically tends to ignore these specific requirements often limiting access of women to economic opportunities, employment, healthcare, education etc. Public transport if not designed well can obstruct mobility for women. Personal safety considerations, vehicle and fleet designs, trip schedules are some of the factors that need careful consideration and incorporation into the project design. This project presents an excellent opportunity for the incorporation of the unique gender dimensions into the design of the city bus services.

In addition, local environmental benefits such as reduction of air pollutants to be caused through the modal shift may generate significant impact, and potential impact shall be quantified during the project formulation process.

- B.4 Indicate risks, including climate change risks that might prevent the project objectives from being achieved, and if possible, propose measures that address these risks to be further developed during the project design:

GoI and State Governments do not take forward the recommendations of the Policy notes in regard to regulatory, fiscal and legislative improvements for city bus services- this risk will be mitigated by greater involvement of the stakeholders during the analysis stage and securing a better understanding of their constraints so that the recommendations are more practical and implementable

Lack of sustained commitment of the city leadership towards the project – changes in leadership tend to impact the commitment to the project. To mitigate this, deeper involvement of state and city level officials and other interest groups, including civil society, will be ensured so that changes in incumbency do not adversely impact interest in the project.

Demonstration and pilot projects will not be replicated – better dissemination of the successes will be provided for in the project.

Financial resources as expected may not be leveraged from the National / State Governments – to mitigate this, the possibility of leveraging resources from the private sector through PPP approaches and viability gap support will be strengthened.

B.5. Identify key stakeholders involved in the project including the private sector, civil society organizations, local and indigenous communities, and their respective roles, as applicable:

The main stakeholders involved in this Project include:

- Ministry of Urban Development, GoI, as the nodal coordinating agency responsible for Component on TA on cross cutting issues in city bus transport
- Ministry of Environment & Forests, GoI, the operational GEF focal point
- City and State Governments, implementing agencies for the demonstration projects and beneficiaries of the policy notes and TA for cross cutting issues
- Private Sector, involved in bus service operations through structured operations contracts and potentially in construction and operation of infrastructure such as bus terminals and shelters through public-private-partnerships (PPP) with attractive packaging of real estate development and alternate revenue streams such as advertising revenue.
- NGOs, dealing with sustainable urban transport will be key sources of technical support to demo cities
- City residents, the primary beneficiaries of an improved bus transport system in the demo city

B.6. Outline the coordination with other related initiatives:

The project would mainly involve coordination with the (i) JnNURM and capacity building program of MoUD and any other subsequent programs, (ii) capacity building component of SUTP and the learnings from the SUTP program would be factored into the current project design, and (iii) any state or city level programs once the demonstration projects have been selected.

The project will also coordinate as necessary with the ADB-GEF project titled *Regional: GHG Assessment Methodologies in Public Transport*, which develops GHG emission impact methodology and prepares policy recommendations regarding public transport operations.

C. DESCRIBE THE GEF AGENCY’S COMPARATIVE ADVANTAGE TO IMPLEMENT THIS PROJECT:

The key advantage the Bank brings is its global knowledge of modern bus services and the opportunity for south- south knowledge exchange through appropriate capacity building initiatives. Better oversight by the Bank would allow the comprehensiveness of the modernization effort to be fully realized.

C.1 Indicate the co-financing amount the GEF agency is bringing to the project:

MoUD proposes to request IBRD funds from DEA, Ministry of Finance, Government of India. However, given that India is fast approaching the Single Borrower Limit, IBRD funds are limited and in view of the likely delays and uncertainty and the high potential for low carbon transport and perceived value of expertise brought by the Bank MoUD has proceeded with the Project. The World Bank shall consider IBRD financing upon request from Ministry of Finance, GoI.

C.2 How does the project fit into the GEF agency's program (reflected in documents such as UNDAF, CAS, etc.) and staff capacity in the country to follow up project implementation:

The overarching objective of the Bank's Country Strategy for India (FY09-12) is to help India achieve the long-term vision encapsulated in the Eleventh Plan of a country free of poverty and exclusion. The Bank will assist India in dealing with the following inter-related challenges, (a) Sustaining high growth; (b) Making growth inclusive; (c) increasing the effectiveness of service delivery; and (d) Ensuring development is sustainable, and the proposed Bank Project on Efficient & Sustainable City Bus Services will contribute to addressing in particular the latter three challenges. The Project is also consistent with the Bank's Transport Business Strategy for 2008-2012, which promotes "safe, clean, and affordable" transport for development.

The South Asia Region is one of the most decentralized regions of the Bank with the majority of the task managers based in country offices. The India Country Office is the largest country office of the Bank with a staff strength of 225. The India Transport portfolio is roughly \$5.8 bn in size and the Transport Team based in New Delhi includes 8 Transport Specialists leading the preparation and implementation of a majority of the projects. Presently, there are two ongoing urban transport projects in the country, Mumbai Urban Transport Project 2A and Sustainable Urban Transport Program.

PART III: APPROVAL/ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT(S) AND GEF AGENCY(IES)

A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S): (Please attach the [Operational Focal Point endorsement letter\(s\)](#) with this template. For SGP, use this [OFP endorsement letter](#)).

| NAME | POSITION | MINISTRY | DATE (MM/dd/yyyy) |
|-----------|-----------------|-------------------------------------|-------------------|
| Hem Pande | Joint Secretary | MINISTRY OF ENVIRONMENT AND FORESTS | 03/16/2012 |
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B. GEF AGENCY(IES) CERTIFICATION

| This request has been prepared in accordance with GEF/LDCF/SCCF policies and procedures and meets the GEF/LDCF/SCCF criteria for project identification and preparation. | | | | | |
|---|--|-------------------|---|--------------|-------------------------|
| Agency Coordinator, Agency name | Signature | DATE (MM/dd/yyyy) | Project Contact Person | Telephone | Email Address |
| Karin Shepardson, World bank GEF Executive Coordinator |  | 4/11/2012 | Akiko Nakagawa, Sr. Environmental Specialist, SASDI, World Bank | 202-473-9012 | anakagawa@worldbank.org |
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