

## Estimation of Green House Gas Emission and Co-Benefits for Sustainable Urban Transport Project (SUTP)

Increase in travel requirements of citizens in fast growing countries has created many visible issues such as road congestion, traffic jams, long commute times, high air and noise pollution, accidents and fatalities. Transport is also the key and fastest growing source of Green House Gas (GHG) emissions responsible for climate change. Therefore, it is essential to look at and adopt all means of sustainable growth with transportation being no exception.

Enhanced economic growth of India since liberalization and resulting increase in purchasing power of its people has led to explosion in demand of private vehicle particularly in the urban centers of the country. Cities are grappling with this increase in number of private vehicle on road and finding it difficult to manage it by traditional methods. The environmental and other negative impacts are well known and are also highlighted above. To minimize the negative environmental impacts of such rapid growth in private vehicles, Sustainable Urban Transport Projects (SUTP) such as Bus Rapid Transit, Intelligent Transport System, Non-Motorized Transport and Transit Oriented Development are being implemented by Government of India and State Governments with support from GEF and World Bank.

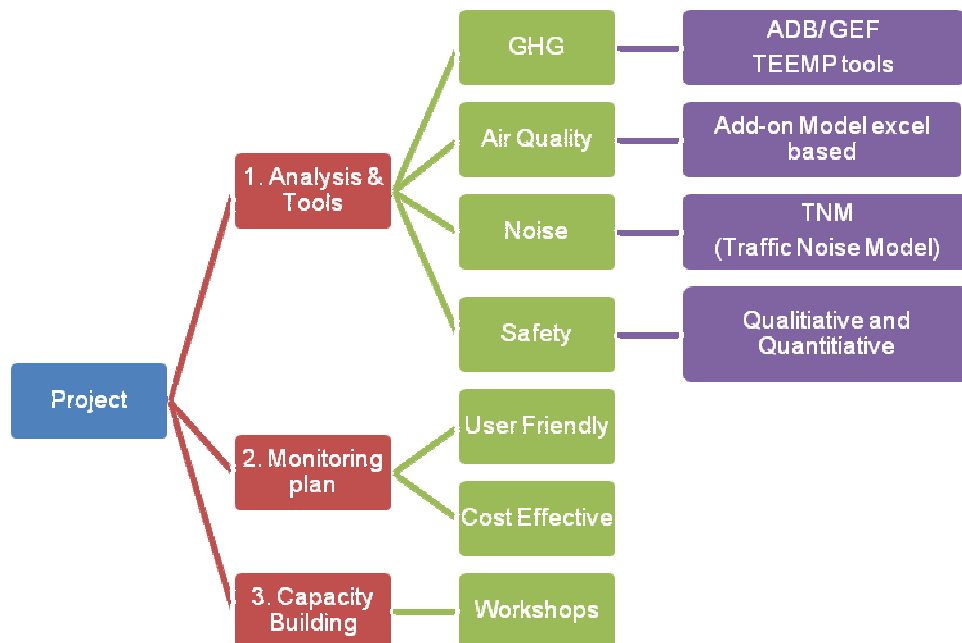
Currently, various SUTP projects are under different implementation phase in five cities of India namely Indore, Naya Raipur, Hubli Dharwad, Pimpri Chinchwad and Mysore as shown in the figure below. The key objective of implementation of SUTP projects is to facilitate natural shift of people from private transport to public transport system. This is possible only by providing affordable and dependable world class transport facilities, eliminate trips required by integrated development and promote use of non-motorized mode of travel which is one of the key objectives of SUTP projects.

City	Public Transport	NMT	ITS	Integrated Development
Pimpri-Chinchwad	✓		✓	✓
Naya Raipur	✓	✓	✓	✓
Indore	✓		✓	
Mysore	✓		✓	
Hubli-Dharwad	✓	✓	✓	✓

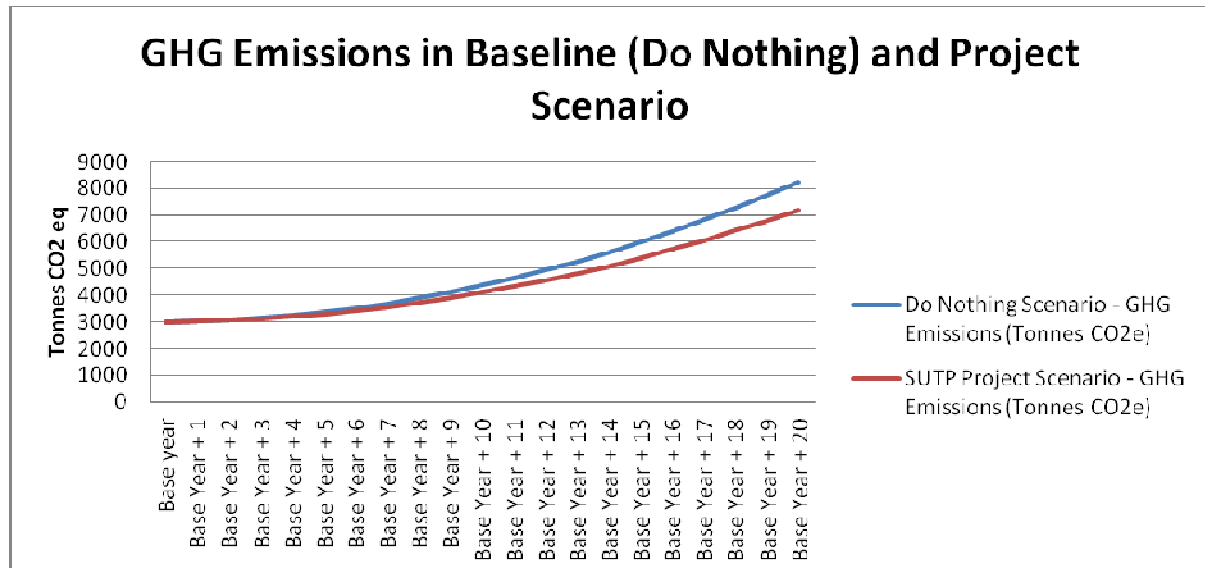
While these initiatives are deemed environment friendly but the impact of these initiatives on environmental aspects is not estimated. With this objective, MoUD has commissioned this study to Emergent Ventures India and its partners so that the direct and indirect impacts of SUTP initiatives can be measured and quantified. The assessment is to be done for corridors under SUTP projects and involves the following key deliverables:

- 1) Assessment of GHG emissions reduction in business as usual scenario (no project) vs. project scenario for next 20 years.
- 2) Assessment of co-benefits in terms of reduction of air and noise pollution and safety impact assessment on corridors where the projects are being implemented.
- 3) Modify TEEMP GHG Assessment tools for Indian scenario and make them user friendly.
- 4) Develop capacity of local bodies in applying these tools
- 5) Develop cost effective monitoring plans for cities

The methodology adopted to deliver the results is presented in the figure below. The assessment approach uses traffic data pre and post implementation of projects to determine benefits.



The results will be developed for do nothing and project implementation scenario as highlighted for GHG emissions below. Similar results will be developed for co-benefits assessment.



Apart from addressing environmental issues, these results will provide cities with the quantitative assessment of benefits which can be used to develop similar projects in other cities and seek support of international climate finance for these projects.