

TECHNOLOGY FACTSHEET

PROMOTE CARPOOLING AND PARK-AND-RIDE SYSTEMS DURING RUSH HOURS AND ON ROADS WITH HEAVY VOLUMES OF VEHICLES¹

1. **Sector:** Transport
2. **Introduction:** Transport sector is a major GHG emitting sector in Sri Lanka. About 60% of the air pollution (especially in Colombo City) comes from this sector (AirMAC, 2009). The main way of transportation is through the road network, which is supplemented by rail, air, and water transport means. Out of passenger transport, buses carry about 50% and railways carry about 4% of the passengers, while the rest of the passengers are carried by the other modes (Jayaweera, 2011). Road transport accounts for about 96% of passenger transportation and 99% of freight transportation (Jayaweera, 2011). Currently, the transport sector in Sri Lanka utilizes petroleum-based fossil fuels, leading to significant amounts of CO₂ and other GHG emissions (e.g. N₂O, CH₄) considered under the United Nations Framework Convention on Climate Change (UNFCCC) and Kyoto Protocol. Technology transfer, defined as the flow of experience, know-how and equipment between and within countries, is one of the priorities under the United nations Framework Convention on Climate Change (UNFCCC). Technology needs assessment (TNA) is a key element of the technology transfer, and is carried out with the intention of moving towards cleaner, less GHG emitting technologies.
3. **Technology name:** Promote carpooling and park-and-ride systems during rush hours and on roads with heavy volumes of vehicles
4. **Technology characteristics:** Park-and-ride lots are parking facilities where the commuters can leave their personal vehicles in such and transfer to a common coach or do carpooling (i.e. several commuters traveling in one car) for the rest of their journey. Cars or personal vehicles are parked in the facility throughout the day, and picked up when the commuters return at the end of the day. Typically, such facilities are found in the suburban areas. Carpooling and park-and-ride options can be considered for roads where congestion is extremely high, causing traffic delays. Availability of these facilities needs to be given enough publicity and awareness, with substantial details on who and where to contact regarding the same. This system is especially applicable in industrial zones and busy city areas, and passengers should have secure parking facilities for parking any personal vehicles before getting to a common vehicle in reaching the final destination.
5. **Country specific/ applicability:** Easy applicability in Sri Lanka
6. **Status of the technology in the country and its future market potential:** Currently, there is one proper park-and-ride system operating in the country (i.e. CityLiner), between

¹ This fact sheet has been extracted from TNA Report – Mitigation for Sri Lanka. You can access the complete report from the TNA project website <http://tech-action.org/>

Katubedda, Moratuwa and Colombo Fort. The massive vehicle park at Katubedda provides parking facilities for nearly 150 vehicles. Commuters are transported by the CityLiner Coach Service to the Fort via Nawam Mawatha. The coach service is operated by the E.C.D. Global (Pvt) Ltd., under the permission of the Western Provincial Road Passenger Authority. The development of more such facilities in other areas will help further environmental benefits, reducing overall traffic congestion in Colombo area.

7. Barriers: -

8. Benefits

a. Socioeconomic:

- It helps reduce the load of traffic moving towards Colombo from Moratuwa daily, and help prevent unnecessary traffic delays and more idle time on roads caused by congestion.
- Smoother flow of vehicles and more efficient fuel use.
- Reduced overall cost through less use of personal vehicles

b. Environmental

- Low GHG emissions and low air pollution
- Reduced noise through milder traffic

9. Operations: -

10. Costs: Can be applicable within a cost of US \$ 0.5 million (FTPN, 2011)

11. References

- AirMAC 2009. Clean Air 2015. Air Resource Management Center. Ministry of Environment & Natural Resources, Sri Lanka
- Florida Transit Planning Network (FTPN), 2011. Park & Ride Lots. Available at <http://planfortransit.com/ozonereduction/Docs/Park%20&%20Ride%20Lots.pdf>
- Jayaweera, D.S. 2011. Analysis on effectiveness of fiscal strategies introduced on hybrid vehicles and market response- policy reforms on clean air. Presentation at the Center for Science and Environment Conference, India, held on September 28-29,2011