

Bus Rapid Transit and Transport Management Systemⁱ

Sector	ENERGY
Subsector	Transport
Technology name	Bus Rapid Transit and Transport Management System
Scale	Medium to large scale
Availability	Short to Medium term
Technology to be included in prioritization	This type of technology is prioritized nationally and is being considered in various transport-related plans.
Background/notes	Intelligent Transport Systems (ITS) apply information and communication technologies to vehicles and to transport infrastructure. This may increase the reliability, safety, efficiency and quality of transport systems. An increase in the efficiency of the transport system usually also leads to reduction in associated GHG emissions. Some ITS applications are already being used in traveler information systems and electronic road pricing. More advanced systems for traffic management, eco-driver assistance, intermodal freight management, and public transportation are being developed and demonstrated around the globe. Barriers for implementation include technological complexity, capital costs and privacy protection.
Implementation assumptions	ITSs are technologically complex which requires careful planning and public consultation and monitoring. Barriers to implementation include: High initial investments and chicken-and-egg problem, i.e. decision makers only recognize the need for investments once they experience the benefits of a fully functional ITS system; Complex implementation process due to roll-out to large numbers of end-users; Technological complexity; Uncertainty regarding costs, benefits and public acceptance; Protection of privacy, security and legal issues; High data requirement for ITS operations.
Impact Statements (how this option impacts the country development priorities)	
Country social development priorities	Bus Rapid Transit can make an important contribution to sustainable urban transport system. It is more energy efficient than conventional bus systems per person-kilometer due to the higher speeds and higher capacity buses. Also it may improve the modal split towards more use of public transport. Thereby, it contributes to the following aspects of sustainable development: Social equality and poverty reduction by providing affordable high-quality transport; Economic prosperity by reducing travel times and congestion.
Country development	Energy efficiency is a priority of the Cambodian Government

priorities	with regards to energy security, reducing dependency on imported energy, reducing poverty in society. Public transportation contributes to reduction of energy consumption and promotes social equity.
Country environmental development priorities	This type of technology can help: Reduce air pollution; Reduce GHG emissions; Reduce congestion; and Increase energy supply security due to reduction of imported oil.
Other consideration and priorities such as market potential	The RGC recognizes and supports efforts in environmental protection, addressing climate change, and improving efficiency of energy resource use.
Costs (US\$)	
Capital costs over 10 years	Estimates for investment cost for BRT systems vary widely. Depending on the required capacity, urban context and complexity of the project, BRT systems can be delivered for \$ 1 - 15 million per km (IPCC, 2007), with most existing BRTs in developing countries in the lower part of this range (ITDP, 2007). These figures are substantially lower than those for rail-based systems, which cost approximately \$ 50 million per km (IPCC, 2007). For China, the incremental cost of implementing BRTs have been estimated at 2.6 \$/tCO ₂ (CCAP/Tsinghua, 2006). For Latin American cities, costs for BRTs were estimated to be 14-66 \$/tCO ₂ , depending on the policy package involved (IPCC, 2007).
Operational costs over 10 years	N/a
Other costs over 10 years	N/a

ⁱ This fact sheet has been extracted from TNA Report – Kingdom of Cambodia - Technology needs assessment and technology action plans for climate change mitigation. You can access the complete report from the TNA project website <http://tech-action.org/>