

## Suitability of Light Rail Transit (LRT) and Monorail for Western Province, Sri Lanka

A. W. N. Abewickrema<sup>1</sup>, G. L. D. I. De Silva<sup>2</sup>

### Abstract

Within Colombo CBD area, the existing passenger demand in almost all the roads and in the existing public bus transport service has been surpassed. Therefore, the traffic congestion is at its peak, where average travel speeds have come down to around 10-15 km/h in city roads. The necessity of sphere heading a long term solution is at an alarming stage. A new Rapid Transit System will be introduced in the CBD of Western Region. It will introduce new transit modes and will provide easy access to the major attractions in the system. It will ensure a higher quality service for everyone in terms of cost, time and safety introducing a new mode will help the rider to choose most appropriate mode of transport based on his trip purpose and hence will increase the modal shift towards the public transportation reducing the traffic congestion significantly. All the major points in the CBD will be connected by the new system.

Faced with the escalating demand for public transportation in Colombo Metropolitan Area, transportation authorities are challenged to select a technology that will satisfy the often conflicting demands of high capacity and reliable service, urban fit, minimized environmental impact and budget restrictions.

Main cause for the selection of LRT (Light Rail Transit) preferably referred as “Light Metro” over monorail and was its popularity corresponding to its versatility. Light Rail can run on all possible types of alignment (elevated, at-grade, tunneled), depending on the particular situation in a given area of a given city, such as: cost, density, station spacing, ridership, etc. Moreover, the same line can be running on one type of alignment in one area of the city and on another type of alignment in another area of the same city depending on the possibility. Since the proposed Rapid Transit system spreads through suburbs such as Battaramulla, Kottawa, Malabe, Kaduwela and Kadawatha, considerable portion can be accommodated at-ground level while blended facilities such as depots and stations can be located at ground level irrespective to line been at-grade or elevated will significantly truncate associated cost. It incurs lower operations costs as unlike for instance LRT does not pose switching issues. Although monorail is unable to expand as a network with crossings LRT could be expanded.

Plus there are more providers across the world so - have the system at a very competitive rate with the best technology. The modern LRT system technology permits slender contemporary structural supports ensuring the aesthetic beauty of the urban context. LRT technology proliferated everywhere in the world beginning in the late nineteenth century to the present day, while monorail systems remain few and far between, says a great deal about the relative versatility, suitability, reliability, and cost-effectiveness. The number of cities in the world where monorails actually perform a general, practical urban transit function can probably be counted on the fingers of one hand and even there, –it is usually a single-purpose- and point-to-point operation.

The key to more public transit, a better urban quality of life and less environmental damage from roads is to get something built and running ASAP. In the vast majority of cases, definitely will be Light Rail, because –that is what fits best in lower-density, automobile-oriented cities relative to all the identified demands a new "fixed guideway" system must meet.

Key words: LRT, Monorail, Transportation

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1. Transport Planning Engineer, Western Region Megapolis Planning Project, Wing “C”, Sethsiripaya, Battaramulla, wanujia30@gmail.com
  2. Senior Lecturer, Department of Civil Engineering, University of Moratuwa, Katubedda, dimanthads@uom.lk