Our Transportation System is in Crisis - IV

This is the fourth article in our analysis of the transport system in the country. This week we examine a mode of travel that has been receiving a lot of attention lately: Light Rail Transit (LRT). LRT is not a definite specified type of railway system, but is a conceptual approach: LRT combines certain operational and technical features of proven railway technology, so that even under difficult conditions feasible and viable solutions can be provided.

The term “light” refers to the light design of axle load, and the fact that this new system falls between “heavy” inter-city commuter train system and streetcar or tram systems, and so is flexible to work on any rail line. The size of its carriage was developed from having to adjust the width of the carriage to fit into a roadway lane, while being wide enough to accommodate 4 seats across. The width of the body eventually selected from experiment was 2.65m. The length of the carriage is between 28-30m to adjust to the curves in the roadway. Also, significant reduction of investments costs and construction time may be achieved with LRT compared with traditional heavy trains, its key strength being flexibility of implementation.

A few systems such as people movers and personal rapid transit could be considered as even "lighter", at least in terms of how many passengers are moved per vehicle and the speed at which they travel. Monorails are also considered to be a separate technology, with lower carrying capacity, and is suspended from or supported by a guide-way formed by a single beam or rail.

The most difficult distinction to draw is that between light rail and streetcar or tram systems. There is a significant amount of overlap between their technologies, and it is common to classify streetcars / trams as a subtype of light rail rather than as a distinct type of transportation. Trams usually operate as single units mainly on city streets. Light rail vehicles usually operate in trains of one or more units, either on-street or in segregated rights-of-way, or a mixture of both. LRT metro operates along completely segregated tracks, either on viaducts or in underground tunnels.

Light rail is generally powered by electricity, usually by means of overhead wires. In some cases, particularly when initial funds are limited, diesel-powered versions have been used, but it is not a preferred option. Automatic operation, which dispenses with the need for a driver; is more common in smaller people mover systems than in light rail systems, where the possibility of at-grade crossings and street running make driverless operation of the latter inappropriate.

High quality public transport should be: accessible to all members of society; affordable, representing good value for money; caring, treating passengers with dignity and respect; comfortable, improving vehicle standards and ride quality; effective, serving a wide range of origins and destinations; environmentally sound, progressively reducing the environmental impact of transit services; responsive to changing travel needs and patterns of activity; safe, ensuring high standards of physical safety; secure, providing a travel experience that is not blighted by fear of assault, attack or other anti-social behaviour throughout the journey; and, likely to increase the proportion of people who choose to use public transport to meet their travel needs.

The primary advantages of LRT are: capability for moving volumes of people in short periods of time, without adding to congestion; high improvement in safety from high levels of traffic accidents and irresponsible behaviour by privately owned public transport operators on the roads; allows high reliability for light rail operations and service frequencies fully responsive to expected or established levels of travel demand; passenger transfers can be quick and easy; and can be tailored to provide a high level of passenger amenity in seating, lighting, and air conditioning within the cars.

The primary disadvantages of LRT are: costs of installation, and consequently cost per revenue vehicle kilometre; limited range of origins and destinations served; limited door-to-door passenger convenience; focuses major capital expenditures in high growth areas, thereby reflecting imbalance in national transportation priorities; lacks flexibility in dealing with the need, either temporarily or permanently, to realign routes to cope with changing traffic and development patterns; and power failures may affect the trains and thus paralyse a large part of the system. LRT passengers travelling to areas where demand has been insufficient to justify extension of the rail system must change modes to reach their destination.

Where LRT operates on a reserved street track with at-grade intersections, capacity is up to 20,000 passengers per hour per track, but on segregated tracks with grade-separated intersections, peak capacity may be as high as 36,000 passengers per hour per track. Capital cost per track kilometre ranges from US$ 6 to 23 million, with an average of US$ 20 million.

The extension of the elevated people mover in downtown Miami, known as Metromover, where everybody rides free, cost more than US$ 50 million per track kilometre.

Next week, we examine Bus Rapid Transit (BRT) Systems.

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Light Rail Transit downtown

LRT aesthetically attractive with clean surroundings

LRT tracks and surrounding area kept immaculately clean. Is our culture conducive to this?

This fence was unable to restrain the swelling crowd at Skinner Park, San Fernando. One of two teams will go to the finals in Germany hence the determination of thousands of Trinbagonians to don their trademark red football jerseys in solidarity with the national side.

With this behaviour, are we ready for LRT?

These football fans resorted to scaling the Hasely Crawford Stadium fence in Port of Spain to reach closer to the ticket booth.

Would we use any means necessary to access limited LRT seating?