Our Transportation System is in Crisis – 311

Can HOV lanes work in Trinidad? High Occupancy Vehicle (HOV) lanes are an effective tool to help manage traffic congestion by moving more people in fewer vehicles.

An HOV lane is a highway lane reserved for the use of transit and ridesharing vehicles. The term ridesharing generically denotes the act of sharing vehicles for the trip to/from work. Ridesharing can involve carpooling, vanpooling, and buspooling.

Carpooling involves the use of an employee's private vehicle to carry one or more fellow employees to work, either using one car and sharing expenses, or rotating vehicle use so that no money changes hands. Vanpooling generally involves the use of an 8-to12-seater van, and the fixed and operating at least partially paid by the riders through monthly fares. There are three types of vanpool programmes: company-sponsored, third-party and owner-operated. Buspools are usually initiated by employers, although residential-based buspools may also be formed under the auspices of transit agencies.

HOV facilities are usually found in heavily congested corridors where the physical and financial feasibility of expanding the roadway is limited. The travel time savings and improved trip time reliability offered by HOV lanes provide incentives for individuals to change from driving alone to taking transit, carpooling, or vanpooling. HOV projects typically focus on meeting objectives related to increasing the average number of persons per vehicle, maximizing the person-carrying capacity of a congested roadway, and enhancing transit operations.

Discussions with local professionals and other stakeholders suggest the following criticisms: (1) Trinis will never accept a free-flowing lane while the other two lanes are backed upon (I recall people often saying that the Priority Bus Route is a wasted asset, which should be freed up for everybody to use); and, (2) Enforcement is a serious concern.

According to the data collected in 2006 as part of the Comprehensive National Transport Study (CNTS), the peak hour northbound traffic on the two lanes of the UBH between Munroe Road Interchange and the Caroni Interchange was about 2,000 vehicles per hour (vph) and this volume remained at this level for the entire period from 6:00am to 5:00pm, after which it slowly decreased. The peak hour southbound traffic on the two lanes of the UBH between Munroe Road Interchange and the Caroni Interchange was about 1,500 vph at 8:00am and steadily increased to about 2,500vph at 6:00pm, after which it slowly decreased.

Theoretically this roadway capacity is of the order of 4,800 vph, and the current maximum traffic flow is of the order of 2,700 vph on the northbound carriageway including 2,100 private cars (data collected last year by this writer) should be easily accommodated. But, the high volumes of merging traffic (and lower volumes of diverging traffic) at several points along the highway have contributed to major delays, at Endeavour Interchange, Munroe Road Interchange and Caroni Interchange, as well as traffic entering the highway at Biljah Road, Assaraf Road, Warner Village, and traffic exiting at John Peter Road West. In addition, the inability of the Churchill-Roosevelt Highway (CRH) to appropriately absorb the traffic from the UBH is also a major contributor.

Likewise, the actual traffic flow on the southbound carriageway should be easily accommodated, even on evenings. But, the high volumes of diverging traffic (and lower volumes of merging traffic) at several points along the highway have contributed to major delays, at Munroe Road Interchange, Endeavour Interchange, and Chaguanas Interchange, as well as traffic exiting the highway at Warren Road, Bejucal Road, Francis Lalla Road, Jerningham Junction Road, and the exit to the Narsaloo Ramaya Marg. In addition, the inability of the road network in the urban centre of Chaguanas to appropriately absorb the traffic from the UBH is also a major contributor.

It is suggested that the innermost lane of each carriageway (right lane) be used exclusively for vehicles with two-or-more persons and all transit vehicles (provided that they have two-or-more persons). All other vehicles with a single occupant, as well as all trucks and other commercial vehicles must use the other two lanes only.

In 2006, the UBH was carrying about 8,000 persons in 2,000 vehicles during the peak hour, and this included persons in transit vehicles. For example, we could have had the HOV lane system to work such that 6,000 persons would travel in say 500 vehicles, that is, an average occupancy of 12 persons per vehicle in the HOV lane. Then 2,000 persons would be travelling in 1,000 vehicles that include trucks and other commercial vehicles, on the other two lanes. This would result in an overall traffic flow of only 1,500 vph on the three lanes.

There are other tweaking issues in addition to the criticisms mentioned earlier, such as how do the HOV vehicles make a left-turn? This would have to be carefully considered in the traffic signage and markings. This and enforcement will be dealt with in another article on this subject.

e-mail: info@ccost.org