“Out-of-the-Box” Solution to the Traffic Congestion in Metro Manila

By Fernando S. Guevara

Manila’s traffic congestion woes turn now into “wow”. Incredibly the “wows” grow bigger by the day. I miss those times of my high school days when traffic congestion was nil and riding a bus and jeepneys was enjoyable. During those times in the 60’s there were few cars on the road. Edsa was still named Highway 54. Today Highway 54, from a simple highway, has turned into a huge senselessly congested, wild vehicular jungle, extremely polluted and accident-prone roadway whose sense of existence is determined by the ultimate patience of people using it for last 50 years. The present EDSA attracted a lot of commercial investors for shopping centers, offices, condominiums, and places of employment for BPOs creating an enormous amount of traffic congestion on EDSA. The question left for us today is “Is there HOPE” to solve the traffic congestion or maybe never...?

For a person who grew-up in Manila the choice of course is never ‘never’. It must be solved period. The joint study of NEDA and JICA entitled “Roadmap for Transport Infrastructure Development for Metro Manila and Its Surrounding Areas (Region III and Region IV)” was done between 2013 and 2014 to formulate a “Transportation Infrastructure Roadmap” for sustainable development of Metro Manila and its surrounding areas (Region III and IV). The study provided for a “Dream Plan for Mega Manila” that focuses on long term physical infrastructure improvements. It also recommended to “rationalize the route structures” of buses and jeepneys.

According to a report in 2013 by Yves Boquet and Vergel de Dios to the United Nations Economic and Social Commission for Asia and Pacific (UNESCAP) entitled “Battling Congestion in Manila: The EDSA Problem”, he concluded that in Metro Manila “Route coverage is poor, because buses concentrate on few corridors while neglecting other parts of the city. This results in low profitability, leading to poor quality vehicles, a poor safety performance, exaggerated pollution and mediocre consideration for passengers”. Due to the worsening traffic congestion, the government introduced measures to reduce the number of vehicles in the streets of Metro Manila by introducing the plate number schemes, bus segregation schemes, vehicle type schemes, closing provincial bus terminals along Edsa who violated the “nose in-nose out policy, towing parked vehicles, remove provincial buses in EDSA, the zipper lane and many others.

According to UNESCAP “Reducing the number of cars on the road has been attempted with a vehicular license scheme which bans on certain days vehicles with certain license plate ending numbers. It is very easy to go around this restriction”.

“Some have suggested” according to USCAP “to use the vehicle type as the base for restrictions: no Toyotas on Mondays, no Hondas on Tuesday... Is it feasible? Toyota is largely dominant. A Toyota ban on some days would create huge uproar. Would it also apply to ubiquitous Toyota taxicabs?”.

The traffic authorities in the past have implemented several measures to reduce traffic congestions and even today plan to introduce ambitious projects such as subway systems in Metro Manila.
But our traffic authorities should be aware of a basic principle that is accepted by all traffic authorities in the world that traffic “congestion results from an imbalance in the supply of and demand for road space. According to the RAND Traffic Report prepared by Sorensan et al reducing congestion means either increasing the supply of road space or reducing the demand for peak-hour automotive travel”. This strategy has been implemented by megacities throughout the world.

Otherwise, as explained by Todd Litman in his report to UNESCAP ‘increasing the supply of road space” more than the demand will in the long run create more traffic congestion.

Based in a Case Study on Urban Transportation Development and Management in Singapore by Lim Lan Yuan Head School of Building and Real Estate Management National University of Singapore, London and Hongkong had experience that building more roads will in the long run will be “insufficient to keep traffic free-flowing, as these roads would inevitably invite more traffic resulting in more congestion”.

One typical example in Metro Manila is the SLEX. It was built to bring relief to the South Super Highway. During its earlier years there was vehicular traffic is nil. Today traffic congestion occurs in SLEX in the morning, afternoon and evening.

By visiting Singapore and Hongkong one could understand that building roads is no longer a major option due to limited space for new roadways. To compensate for this limitation, they created a very efficient mass transportation system of subways and bus systems. In addition the Singapore government due to exigencies implemented the road pricing scheme and the “cordon off” pricing schemes as a measure to reduce cars in the road. Similarly, New York, Tokyo, Taipei, Seoul, London, Paris pursued a strategy of creating together subways and bus systems.

In Metro Manila our traffic authorities should consider creating an efficient bus system first before planning to build subways and road pricing schemes. With the enormous construction activity in building the subway system expect an “earthquake zone” traffic congestion in Metro Manila.

How then can a bus system solve the Metro Manila traffic congestion? A pragmatic approach in solving a traffic congestion that involves socio-political and cultural concerns is needed. Solutions to the traffic congestion can be found in traditionally tested and accepted global standards.

According to Lim Lan Yuan the peak time speeds in Asian countries in 1998 are shown in Table 1 which was sourced from the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP).

Table 1.0 Peak Time Speeds in Asian Countries (1998)

<table>
<thead>
<tr>
<th>City</th>
<th>Estimated average travel speed during peak times (km/h)</th>
<th>Resident population</th>
<th>Length of urban road network (km)</th>
<th>Meters per Capita</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bangkok</td>
<td>8</td>
<td>6,162,000</td>
<td>2,800</td>
<td>0.45</td>
</tr>
<tr>
<td>Manila</td>
<td>10</td>
<td>8,475,000</td>
<td>1,938</td>
<td>0.23</td>
</tr>
<tr>
<td>Hongkong</td>
<td>22</td>
<td>5,851,000</td>
<td>1,559</td>
<td>0.27</td>
</tr>
<tr>
<td>Singapore</td>
<td>30</td>
<td>2,762,700</td>
<td>2,924</td>
<td>1.06</td>
</tr>
</tbody>
</table>
In 1998 Metro Manila peak congestion speed is estimated to be 10 km per hour. Today we are now talking about “parking lot speed” or nil speed in EDSA during peak traffic congested hours. To be at par with Asian countries we should have a peak traffic congestion time speed of not less than 30 kilometers per hour. How do we attain this speed?

My proposal is to relegate EDSA into a one-way traffic roadway based on the principle that traffic “congestion results from an imbalance in the supply of and demand for road space”. EDSA has reached its most peak traffic congestion that any imaginative “out-of-the box” proposal to balance the supply and demand for road space will improve the situation. By assigning all ten lanes in EDSA as one-way traffic route for South bound vehicles, we added road space for vehicles in EDSA. Since we have taken the space of the North bound traffic route we must provide the lost road space for it.

According to Sorense et al in their RAND Corporation report “Paired one-way street conversions can increase travel speed by about 20 percent and reduce travel time by 20 to 30 percent”. This principle has been adopted by many countries as part of their program to reduce traffic congestion.

To address the lost road way of North bound vehicles my proposal would be to assign four lanes of C-5 as North bound lane for those commuters going to the East and four lanes of R-4 via Roxas Boulevard as another North bound for those commuters going to the West. All these routes will remain two-way road way.

Crossing and intersecting these two-circular counter-clockwise routes as shown in the Figure 1 are major road ways such as Quezon Boulevard from Roxas Boulevard towards Fairview via Commonwealth Avenue, Aurora Boulevard from Abad Santos towards Masinag, Espania via Quezon Boulevard towards Masinag. All these major routes should be incorporated in the whole Metro Manila Traffic system.

The are other routes that are important such as the Gil Puyat Avenue from EDSA to Roxas Boulevard, Ayala Avenue, SLEX-Quirino Avenue towards NLEX, Pasay Road, J.P Rizal Avenue, Boni Avenue, Ortigas Avenue and Shaw Boulevard. These roadways intersect EDSA.

These roadways would be the route systems for dedicated bus lanes. In EDSA two lanes will be dedicated to the bus and another two to the Bus Rapid Transit (BRT) system. The remaining six lanes will be for other vehicles. [Picture below shows the ASEAN lane and a congested two-lane EDSA.]
Taking into consideration this proposal, the over-all Metro Manila Traffic bus routes will have approximately 816 bus stops that would serve about 500 kilometers of roadways with dedicate bus lanes. Additional bus stops will be extended to serve commuters living within 200 meters radius.

This “out-of-the-box” proposal is really attainable. If you regularly drive in the Makati Business District you will experience a lot of one-way streets. Before these one-way traffic routes were implemented the Makati Business District is a two-way highly congested traffic roadway. Another similarly best example of a two-way congested roadway converted into a one-way avenue is the J.P. Rizal avenue in Makati City. Until today J.P Rizal Avenue does not experience traffic congestion compared before when it was a two-way avenue.
My proposal is the cheapest and shortest time to implement a “go big time” microcosm of Makati Business District and J.P Rizal Avenue roadways. It will take a lot of a “lion-hearted” courage and “star wars” imagination coupled with a “tons” of patience to accomplish the objective of balancing the supply and demand for road space like Metro Manila. The ultimate purpose of this proposal is to convince vehicular users to be commuters of an “in-placed” efficiently on time and secured bus system. Once this is accomplished Metro Manilans will experience a Highway 54 in EDSA.

Fernando S. Guevara is a Member, Board of Mechanical Engineering of the Professional Regulation Commission.