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Bangkok Traffic Congestion: Is There a Solution?[1]

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Though few would believe it, Bangkok was the first city in Southeast Asia to draw up plans for a system to reduce traffic congestion. Thailand was, ironically, the third Asian country, after Japan and Hong Kong, to plan such a system.

More than two decades ago, the World Bank hired German experts to evaluate Bangkok's traffic problems. The resultant "Bangkok Transportation Study" in 1971 stressed that Bangkok, even then, badly needed a mass transit system, as well as a city study plan. Neither were ever drawn up and today Bangkok is one of the world's most heavily congested cities, with arguably, its worst traffic.

Bangkok's traffic situation is desperate. And yet the problem has never been properly analyzed. The current chaos is an inescapable result of an endless hodgepodge of half-measures, wrong measures, and no measures. Expanding existing roads, for example, merely causes further congestion due to messy, obstacle-course construction that hurts at least as much as it helps. It also encourages people to put more cars on the roads.

Proposals on how to improve Bangkok's traffic problems continue to abound: a subway system, a sky train, and a waterway system. Viable alternatives to cars and motorbikes must be provided; experts are needed, as are more traffic data, funds and a coordinated intergovernmental master plan.

Bangkok's average traffic speed rates are much lower than those of other cities. As traffic gets worse, the rates drop even more. The plethora of business centers along the Ratchadapisek Road, for example, has slowed traffic there to a maddening crawl, just 8 to 9 kms. an hour in normal traffic situations, and a barely moving 2 to 3 kms. an hour in rush hours. In crowded residential areas, traffic flow is now only 10 to 15 kms. an hour. The city center, without a single restricted zone, of course has the most severe traffic. People do not drive there anymore unless they must.

Public transportation, especially public buses, has lagged far behind the city's population and business growth (Table 1). This lack of alternative transport options causes more and more people to buy cars and motorbikes, thus generating an endless cycle of traffic defeat.

In 1990, Bangkok vehicle registrations increased by 935 per day, or 341,275 vehicles in a single year. These included private cars, public vehicles, motorcycles, trucks of all sizes, and buses. Private cars alone increased by 524 per day. By 1992, the number dropped somewhat to the still staggering figure of 846 vehicles per day-232 being private cars.

EXPRESSWAYS VERSUS MASS TRANSIT SYSTEMS

The Expressway and Rapid Transit Authority (ERTA) was established in 1972 to reduce Bangkok traffic congestion by building expressways and mass transit systems. Until now, ERTA has opted to build expressways rather than mass transit systems. This decision was based on the difficulties and problems which ERTA felt it might encounter in establishing a mass transit system. These considerations include:

- Managing a mass transit system is a complex task and ERTA does not have the necessary expertise.
- Mass transit systems require high technology which must be standardized to ensure efficiency and cross services.

The government requires mass transit systems to be financially self-supporting. It does *not* want them to rely on government funding. The government has no support policy, except in the provision of land. With expressways, toll charges can be collected to recuperate the capital invested. But mass transit systems usually do not set fares at prices high enough to offset building and operating expenses. If they did, the public would protest. ERTA, however, still hopes to eventually acquire the funds and expertise to build a mass transit system.

The first stage of the city's expressway system consisted of the Bangna-Klongtoey Port Road and Daokanong-Klongtoey Port Road. Completed in 1987, their major purpose was to allow cargo trucks to easily come in and out of Bangkok. There was also a plan to build a route joining the Klongtoey Port and major cities in the north, east and south. No plans were set for these routes to cater to private drivers wanting to use the expressway to get to business roads in the city, because it was expected that people living in the outskirts of Bangkok would use the envisioned soon-to-be-constructed mass transit system.

Stage one of the expressway system quickly proved to be unrealistic. The city lacked zoning regulations that would separate housing, business and industrial areas and give each access to the other. Housing had spread to Bangkok's outskirts and this necessitated people's traveling to the city center for work.

A second stage expressway was then built to enable motorists living in the suburbs to get to town. A major portion of this road has been in operation since 1993, with other portions still under construction. There are also plans to build third and fourth stage expressways. The Arjnarong-Ramindra Road and Donmuang Tollway projects are still under construction.

The three electric mass transit systems-to be built through the Thanayong, Hopewell and Mahanakhon Projects-have all been delayed. The Lavalin Project was proposed in 1972, approved in 1990, but finally cancelled, principally due to lack of funding. The routes for the Lavalin Project have been changed to suit the Mahanakhon Project.

The mass transit system that is furthest along is the Hopewell Elevated Railway Project. Its concrete pillars have just been installed. The project is, however, already two years behind schedule.

The Mahanakhon Project has been heavily criticized because it will be built over main roads. Current plans include building underground routes in some of the city's heavily-trafficked areas, such as under Rama IV Road. These are expensive and thus the total budget has now increased to over 6 billion baht. After lengthy discussions on which system should be used for the Lumphini area, the government has only now decided to use an underground system. Project delays and technical alterations have made it difficult to acquire funds from financial institutions.

All these projects are progressing, albeit very slowly-the contracts have been signed for three to four years. The projects, however, continue to come under critical fire.

SHORT-TERM SOLUTIONS

Despite the overwhelming difficulties of Bangkok's traffic crisis, some actions can and should be taken now. The following measures could conceivably improve Bangkok's traffic capacity by up to 15 percent:

- Install correct and coordinated timing for street lights.
- Improve existing public transportation. This can be done by setting up new systems for bus lanes on such major roads as Petchburi and Sukhumvit, by increasing bus routes on expressways, and by opening main bus routes that cut through and circle the city.
- Re-arrange the one-way road system to facilitate a better traffic flow (Illustration 1). The best one-

way system for countries with left-hand driving is a clockwise system. This means reversing the north-south route of Phayathai Road, Rajdamri-Rajprarop, Chidlom Road, Wireless Road at the section between Ploenchit and Petchburi Roads and North Nana Road to follow the clockwise system (Illustration 2). The present two-way Asoke Road and Phayathai Road should follow the one-way system (see Illustration 3). Nine usually congested areas-Victory Monument, Phayathai, Rajthawee, Urupong, Yodsee, Pratumwan, Rajprasong, Asokepetch and Pratunam-and five intersections-Rajthawee, Urupong, Pratumwan, Asokepetch and Pratunam-could be reduced to four intersections (Urupong, Rajprasong, Asokepetch and Pratunam) with a considerable drop in traffic if a proper one-way system is introduced.

CONTROLLING TRAVEL WITH PRICE MECHANISMS

There may also be a need to restrict private vehicle travel through a pricing system. But this option would affect the daily public routines and its consequences will have to be carefully considered. Using price mechanisms can change the travel formats, routes, destinations and travel times of commuters.

Singapore has instituted numerous price controls to regulate traffic. These include higher fuel prices, higher tollway fees, collecting passing fees from private vehicles using restricted zones, and restricting the movement of single passenger cars. These measures should also be considered for Bangkok.

ADAPTING SOLUTIONS TO THE THAI SITUATION

Most data on Bangkok's traffic problem is compiled based on the personal preferences of those involved. This is grossly inadequate for solving a problem of this magnitude and complexity. Systematic and coordinated planning is needed. We still need to refer to other countries' experiences, data and solutions. All these, of course, must be adapted to the realities of the Thai situation. Using foreign expertise may not be beneficial in all cases, for example, in the case of the Thai one-way counter-clockwise traffic system.

SUMMARY

Bangkok's traffic situation is now critical. Support from many groups is urgently needed to tackle the problem.

In the past, the government tried to solve the problem by building more roads, especially expressways. This only resulted in more private cars and worsening traffic.

In the long term, there is an urgent need for a major mass transit system capable of carrying up to 50,000 people an hour. It should be faster and at least as comfortable as traveling by private vehicle.

A mass transit system will be a long time in the making. In the interim, improvements in the existing public transport systems within the available road network must be made.