This paper reports and discusses two major transport/traffic problems in Medan, those are the public transport systems and the traffic congestions problems. This paper also discusses what factors may cause those problems and what further traffic problems may be risen by those major cases. In addition, this paper provides certain suggested solutions which have been discussed with certain important bureaucrats of Medan such as from the Regional Planning Agency of Medan (Bappeda Kota), from Department of Communications (Dishub Kota) of Medan and from Department of City and Building Arrangements (Dinas TKTB) of Medan, certain professors from Tokyo University of Technology, NGO (Non Government Organizations/LSM) of Medan and several journalists in order to formulate and undertake appropriate actions or further studies to cope with or at least to minimize the future more severe and complex impacts on the community and the city life systems of Medan.

1. PUBLIC TRANSPORT SYSTEMS IN MEDAN

Problems of Public Transport Systems in Medan

1. Overlapping and disorganized public transport routes & trajectories. Data from the Department of Communications (Dishub) of Medan: the number of Urban Public Transport (angkot) is 7,583 units (the plafond is 15,272 units) with 248 trajectories; taxi fleets are 1,187 units (plafond is 2,545 units); cycle & motor trishaws (18,800 units). On 2004, the numbers are increase, especially the urban taxi, motor-trishaw in Honda-Win type and Kancil type. This problems cause further complex problems such as:
   a. Conflicts between angkots’ drivers in order to obtain the optimum number of passengers.
   b. Unhealthy competitions among angkots’ operators to obtain optimum profits.
   c. Indisciplines angkots’ drivers to reach the “daily money target” (setoran) for the operators, e.g. stop anywhere to serve the passengers, disobey the traffic light/rules and driving in excessive speed.

Factors raise this problems as follows:
   • No specific and clear reasons and background basis/criteria of determining and adding the fleet numbers, the plafond numbers by the City Government (Pemko) and Dishub of Medan.
   • Less-function of bus-stop/shelter (halte) and no sanctions for the angkots’ drivers for not taking/dropping the passenger at the halte.
   • Too much illegal/informal charges to the drivers and operators by the civilians, e.g. safety charge and passenger scalper money cause difficulties for the drivers to reach the “daily money target”.

2. The types and sizes of the fleets are not in accordance with the road hierarchy and functions and the demand of the passengers. E.g.: larger capacity for buses/angkot (30-40 passengers) that pass the primary artery roads, which has larger demand of passengers than collector or local roads.

3. No prohibition for the inter-city public transport (e.g.: Sutra, Sinabung Jaya, Sempati, Tapian Nauli, and illegal taxi) to enter the internal city area to serve (take/drop) the passengers. This problem may cause bankruptcy for urban public transport’ operators.

4. The present of inter-city bus pools that utilize the side of main roads (primary artery/collector roads) to park their busses waiting for the
sufficient passengers. The Pemko and Dishub of Medan City have been aware of this illegal action, however until now, no actions have been undertaken to correct this problem.

5. **Too many shadow terminals on the main roads**, e.g. : prior to the entrance/exit accesses of Amplas and Pinang Baris Terminals, at Simpang (Sp) Limun, Sp. Sumber Padang Bulan, Sp. USU, Sp. Halat and Sp. Aksara). This illegal actions are exactly in front of the assigned officers either from the police unit or Dishub. **This problem raises further problems**: 
   a. Narrowing the traffic lanes, e.g. : from 3 effective lanes per direction become 1 lane.
   b. Increasing the traffic congestion levels since this problem usually occur on the congested sensitive spots.
   c. Higher congestion levels cause longer travel time, less trip numbers, inconvenience trips and higher risks for passengers' safety.

6. Poor accessibilities of prior to and subsequent (pra & purna) public transport. This problem may cause unattractive public transport and increase the number of private vehicle users.

7. Lack of pedestrian facilities including the crossing facilities. This problem cause narrowing the effective traffic lanes and interrupting the traffic flow for crossing the road.

8. Lack of competent academics experts and no Transport experts especially in Public Transport Systems expertise, involved by the Medan City Government (Pemko, Pemprovsu, Dishub, Bappeda) in giving academics based inputs/analysis to find the best solutions for the city’s problems. The involvement of competent academics experts will minimize the impacts of “wrong men on the wrong place” of the high officials/functionaries of Medan City.

**Suggested Solutions on Public Transport Problems**

1. In accordance with all identified problems above, then several solutions are suggested in order to cope with the problems or to minimize the impacts of the problems. The several solutions are as follows:
   a. Re-routing the fleets of public transport.
   b. Exchanging the size of several small buses (angkot) to a medium or a larger bus in accordance with the road functions and hierarchy and the demand of passengers.
   c. Training the operators (drivers and owners) on the management systems of running the public transport enterprise.
   d. Eliminating the shadow terminals, public transport pools and re-organizing the public transport facilities, such as halte/bus-shelter, bus-bay, ticketing and waiting-room.
   e. Law enforcement on public transport systems regulations such as fines the drivers when not serving the passenger on the shelter or terminal, disobey the traffic light/rules and driving with excessive speed.
   f. Eliminating the illegal charges from civilians to the drivers and ensuring the security from local civilians.

2. It is highly recommended to undertake an appropriate study involving the right and competent persons from various sources such as the decision makers from the City Government (Pemko), Dishub, Bappeda of Medan City and especially involving the Transport and Regional/Urban Planning Experts from academicism parties. The study issues/topics could be as follows:
   - Re-routing and re-sizing the fleets of public transport system in Medan City based on the road hierarchies, road functions and the passengers’ demands.
   - Re-organizing the terminal systems and public transport facilities and
eliminating the pools of public transport in Medan City.

- Training of managing and running the economic enterprise (koperasi) of public transport systems in Medan City for the benefits of the owners and the drivers.
- The planning and development of Mass Transit Systems (SAUM = Sistem Angkutan Umum Massa) at Medan City.

2. TRAFFIC CONGESTIONS IN MEDAN

Factors Cause The Problem

1. The effects of changing the land use functions in CBD area without evaluating thoroughly the traffic management systems considering overall road networks in Medan. For instance, the land use function in Medan CBD area should be office complex in accordance with RTRWK Medan (The City Space Arrangement Plan) 1995-2005. Therefore, the establishment of several commercial buildings such as Mall Grand Palladium, the City Hall, the Crystal Square and several condominiums in Medan CBD area without undertaking an appropriate and thoroughly study on the regional transport systems in Medan will cause the traffic problems become more severe and complex and also severe financial losses on community due to the traffic congestion; total financial losses for the travelers in Medan is Rp.1.3 millions per day or Rp.36 billions per month (please see the attached analysis in ANALISA newspaper in OPINI column page 18 on Nov 19th 2004).

2. Determining the traffic flow directions by spots and not taking into account the whole road networks will definitely add more congestion spots and levels in the road networks of Medan City. E.g. changing the two-way traffic direction into one-way direction along Jalan Gatot Subroto due to the existence of Medan Fair Plaza (Carrefour) without undertaking appropriate transport systems study adds more congestion spots and levels along the street and surroundings collector and local roads.

3. Lack of competent academics experts and no Transport experts involved by the Medan City Government (Pemko, Pemprov, Bappeda, Dishub) in giving academics based inputs/analysis to find the best solutions for the city’s problems. The involvement of competent academics experts will minimize the impacts of “wrong men on the wrong place” of the high officials/functionaries of Medan City.

4. The effects of high side-frictions cause narrowing the width of road lane (bottleneck). The side-frictions for instance are:
   a. On-road parking.
   b. Selling/market on the trotoir/sidewalk or on-road market.
   c. On-road trishaws and angkots’ pools.
   d. On-road social activities (parties or funeral ceremony).
   e. Poor pedestrian’ facilities: on-road walking and road crossing.

5. Ineffective management of the signalized and/or unsignalized intersections, such as follows:
   a. Inappropriate design of intersection geometric (the width, the slope, minimum sight distance, turning radius, etc).
   b. Incorrect setting of traffic light on the intersections and poor coordination of integrated signalized intersections.
   c. Inappropriate canalization.

6. Indiscipline behaviors of the motorists, e.g. stopping the vehicle anywhere or overtaking suddenly to take/drop the passengers, driving the vehicle with excessive speed and disobey the traffic light/rules.

7. Imbalance ratio between road infrastructure development and the growth rate of vehicles.

Suggested Solutions on Traffic Congestion Problems in Medan

1. Need urgent study on regional transportation systems in Medan to evaluate the road networks thoroughly including examining and restructuring the traffic management systems in Medan. The suggested topic of the study is “A study of planning and development of regional transportation systems of Medan
City based on RTRWK (The City Space Arrangement Plan) of Medan 2005-2015 (Studi perencanaan dan pengembangan transportasi wilayah Kota Medan berdasarkan RTRWK Medan 2005-2015). This study will be including the public transport systems in Medan as well.

2. Precise and appropriate arrangement of traffic management systems, such as:
   a. Parking location arrangement.
   b. Provision of road-crossing facilities and traffic signals (rambu and marka jalan).
   c. Re-setting the traffic lights.
   d. Re-arrangement the traffic flow directions.

3. Law enforcement on the traffic rules and training the motorists and public transport operators about the traffic rules and the management systems of public transport enterprises.

4. CONCLUSION
   1. Two major transport problems in Medan City are the public transport systems and the traffic congestion problems.
   2. The main factors cause public transport problems in Medan City are the overlapping and disorganized public transport routes & trajectories.
   3. Several factors cause traffic congestion problems are:
      a. Establishment of various commercial buildings concentrated in city center (CBD area) without undertaking appropriate study on regional transport systems of Medan City.
      b. Incorrect method in changing the traffic flow directions.
      c. High side-frictions.
      d. Ineffective management of signalized and unsignalized intersections.
      e. Indiscipline behavior of motorists.
      f. Imbalance ratio between road infrastructure development and the growth rate of vehicles.

4. It is strongly recommended to involve relevant competent academics experts especially competent Transport expert in giving academics inputs/analysis for the decision-makers of the city.

5. It is highly suggested to undertake a further study concerning transport/traffic problems with the topic of: “A study of planning and development of regional transportation systems of Medan City based on RTRWK (The City Space Arrangement Plan) of Medan 2005-2015 (Studi perencanaan dan pengembangan transportasi wilayah Kota Medan berdasarkan RTRWK Medan 2005-2015). This study will be including the public transport systems in Medan as well.

6. Law enforcement in traffic regulations is an urgent compulsory action to be applied soon in Medan City.

4. REFERENCE