FEATURES

PRIVATE MOTOR CARS AND THE TRAFFIC IN COLOMBO CITY

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This paper is the outcome of a traffic survey conducted by Dr. Mrs. P. C.H. Ranasinghe, Senior Lecturer of the Department of Geography, University of Colombo, during the months of March, April and May 1983. Though the survey was undertaken purely as an academic exercise, on analysis of the data it was found that some of the results would be of wider public interest. A major conclusion she arrives at is that if the number of private cars on city roads are limited, while a better public transport service is offered to the average traveller, the benefits would include: less expense for the authorities to maintain the city road net work; retaining the capacities of roads at present levels without the need for further expansion; a reduction on fuel oil consumption and on road investment. Another main suggestion is that stricter measures be introduced for enforcing road safety, speed limits and driver competence.

A traffic count was undertaken at 11 points which I consider as entry points to the city of Colombo. Both in-bound and out-bound traffic was counted. Counting was done manually and by the type of vehicles. It was conducted during normal working days from 6.00 to. 1900 hours. (6 a.m. to 7 p.m.) The complexity of the vehicles made the observations particularly difficult. (Maps 1 and 2).

Advantages of a Private Car

Everyone of us is aware of the inherent advantages of a private car.

TABLE 1
VEHICLES ENTERING AND LEAVING THE CITY BETWEEN 0600 – 1900 HOURS

	SLCTB		Private buses		Motor Cars		
	Numbers	%	Numbers	%	Numbers	%	Total
In-bound	12,904	19.0	17,980	26.0	37,931	55.0	68,815
Out-bound	10,883	16.0	15,208	22.0	42,078	62.0	68,169

**includes all public as well as private cars and also taxis (4 wheeler)*

Table 1 and Fig 1 & 2 illustrate the in-bound and out-bound vehicles to and from the city from 11 entry points during a normal working day between 6 a.m. and 7 p.m. According to table 1, there are 68,815 passenger vehicles entering the city and 68,169 leaving the city. This figure clearly illustrates that out of the volume of traffic in the city the smallest proportion is composed of the public sector passenger vehicles, that is, 19.0% in-bound and 16.0% out-bound. Private passenger buses constitute 26.0% in-bound and 22.0% out-bound vehicles while Private motor cars contribute 55.0% in-bound and 62.0% out-bound traffic. But Table 2 below will show the correct picture regarding passenger transport.

Especially when the public or mass transportation is so inadequate and unreliable, everyone of us would wish that we had a private car. A motor car gives its owner an unlimited independence, permitting him to travel as and when he decides, at speed equal or superior to most of the other land vehicles, following any route he wishes and stopping as and when he wants. Some people compare a motor car to a large handbag or an extension of one's home. For a busy person such as a businessman, a motor car becomes a necessity. But there is an underlying truth in the view that a motorist is not completely independent. He has to depend on several others, on a range of services and industrial products such as fuel, spare parts and even the road surface. In addition, he has to depend on somebody for the mechanical knowhow. Thus the independence of a private motor car owner is subject to limitations.

Preposterous Situation

The average commuter who travels by bus or train in the most uncomfortable manner leaves home very early because he has to be at his work place on time. This same person has hard working conditions during the rest of the day. By the time he reaches his home in the evening his children are sometimes asleep. But the 'car owner' on the other hand has the previlege of coming to work in a more relaxed fashion and also invariably has the 'authority' to pull-up his poor brethern who come late because they use mass transport. A car traveller also has the 'luck' of going home early and has the freedom to visit friends and relations or go for recreation in the evening. Thus, the question arises who rides on whose back ? The distorted relationship is further enhanced by the fact that decisions about the provision of buses or trains are made by decision makers who travel, by motor car. Of course the decision makers cannot afford to waste their 'valuable time' at bus halts or railway stations subjecting themselves to various natural hazards.

Pressure of Cost

The use of motor cars involve costs such as cost of buying them, and running them, and the cost of repairs and maintenance. Added to this we have the cost of environmental pollution and social injustice. Those who can own a private car today have

to spend more on the car perhaps than what a worker receives for his whole family for a month.

If we look at the expenditure on petroleum by our country we can well understand the economics of using the private motor car indiscriminately. In 1978 Rs 2 4 m has been spent on petroleum and today 28% of the country's income is spent on oil imports. Half of this is said to be consumed by the private motor car.

It would not be unreasonable to believe that other costs in scarce resources are proportionate to this. Therefore, if travel is to be discouraged in order to conserve foreign exchange or any other resources, the primary discouragement should be placed upon car travel and not on mass transport. It is said that in Sri Lanka a private car rider requires approximately 10 times as much energy as a bus rider or a train rider, and travel by car is 6 or 8 times more expensive than travel by public transport.

In Sri Lanka it is difficult to obtain the correct figures of fuel usage for various types of vehicles because the sales records are not kept for that purpose. Hence, it is not easy to calculate the correct economics of fuel usage on various forms and types of vehicles. However, there is inherent energy thriftiness is mass transportation because of their high passenger mileage per gallon . It is true that there are other forms of energy which can be used for transport. Theoretically cars could be propelled by methanol gas or batteries or even hydrogen, but the practicality of these techniques are yet to be established.

Low Load Factor

If we look at Table 1 we understand that the biggest proportion of vehicular traffic during a day is composed of motor cars. If we estimate the proportion of passengers carried by these three types of vehicles, assuming that a SLCTB bus on the average carries 50 passengers, a private passenger bus carries 25 passengers, and to give a motor car its full credit assuming that it carries 4 passengers, the following are the figures we derive.

TABLE 2
ESTIMATED PASSENGERS BETWEEN 6 a.m. TO 7 p.m. BY VEHICLE

	SLCTB buses		Private buses		Motor cars	
	Number	%	Number	%	Number	%
In-bound	645,200	51.76	449,500	36.06	151,724	12.17
Out-bound	544,100	49.79	380,200	34.79	168,312	15.40

Table 2 shows the estimated number and also percentage of passengers carried by these types of vehicles. Here if we compare the tables 1 and 2 with each other, we notice that out of the total in-bound traffic during a day although motor cars form 55.12% of the total number of vehicles, they carry only 12.17% of of the passengers, while out of the out-bound traffic 61.72% are cars but they transport only 15.40% of the passengers. It is worthwhile noting that although the SLCTB registers a lower percentage of vehicles they are responsible for carrying a bigger proportion of the passengers to and from the city. Table 3 shows the estimated number of passengers and their percentage during the morning and the afternoon peak hours.

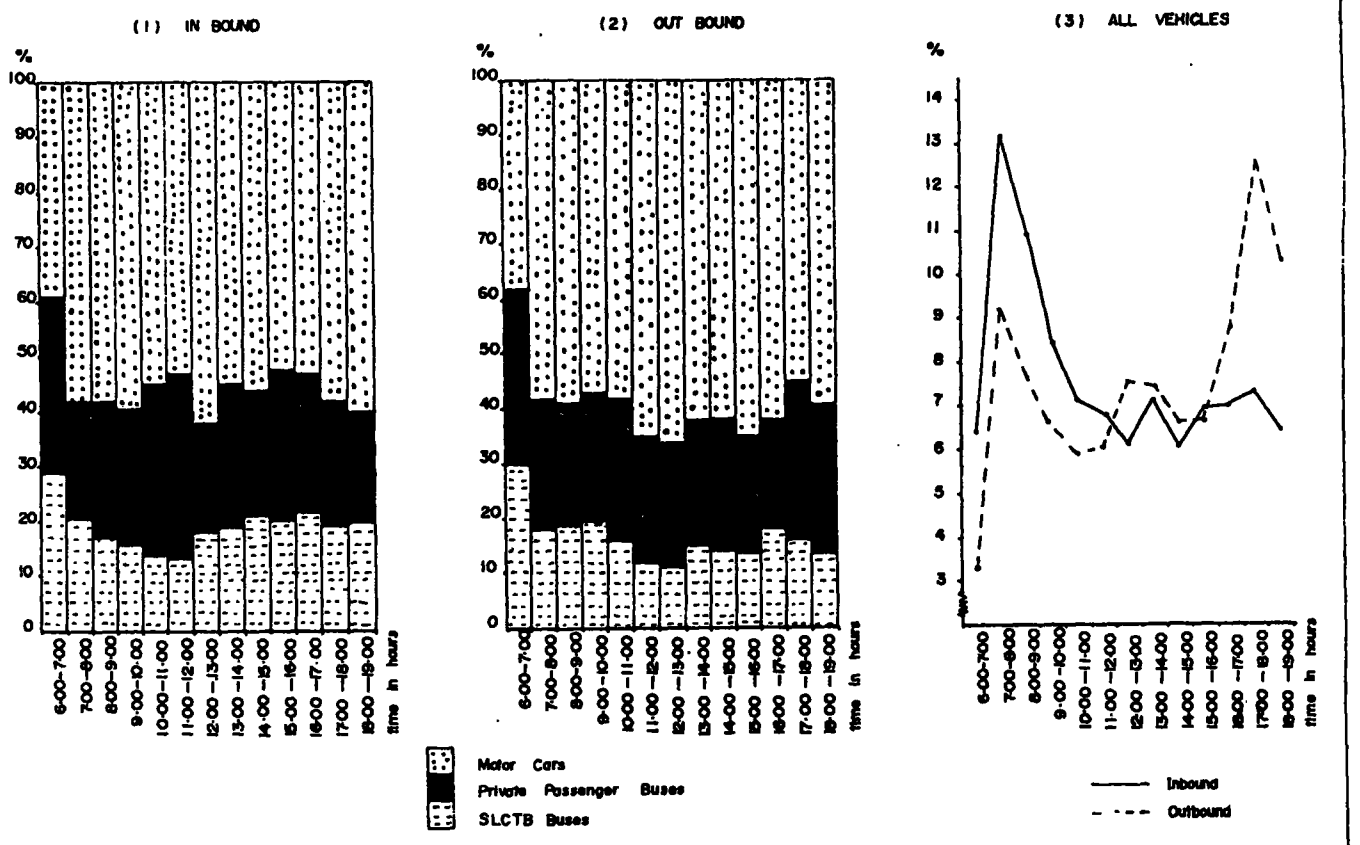
TABLE 3
ESTIMATED PEAK HOUR PASSENGERS 0600–0900 AND 1700–1900 HOURS

	SLCTB buses		Private buses		Motor cars	
	Number	%	Number	%	Number	%
In-bound	236,625	60.98	123,584	31.85	27,768	7.15
Out-bound	174,300	55.93	96,000	30.80	41,308	13.25

Here I have taken as the morning peak the two hours between 7.00 a.m. to 9.00 a.m. and the evening peak as between 5.00 p.m. to 7.00 p.m. I have assumed here that during the rush hour an average SLCTB bus carries 75 passengers, a private passenger vehicle carries 32 passengers and a motor car carries 4 passengers. This figure illustrates that the SLCTB is responsible for carrying the largest number of passengers during the peak hour, compared to private buses and motor cars, while motor cars carry the least number of passengers..

Road Congestion

Anyone who would glance through the 'Transport Statisticies in Sri Lanka 1974–1981: published by the Ministry of Finance and Planning, would see that during the last four or five years, although the additions to the SLCTB bus fleet was insignificant, there had been a substantial increase in the number of private passenger buses and as well as in the number of motor cars. This implies that during the last five years a notable number of vehicles with a smaller capacity have been put on the roads in Sri Lanka, especially the roads of the city of Colombo. Although the city roads are usually wider than the rest of the road network of Sri Lanka, they are now subjected to heavy traffic volumes, taxing their capacities not only at peak hours but throughout many hours of the day. It is heartening to note that most



Percentage of vehicles Entering / Leaving the city during a normal week-day from 0·06 — 19·00 hours.

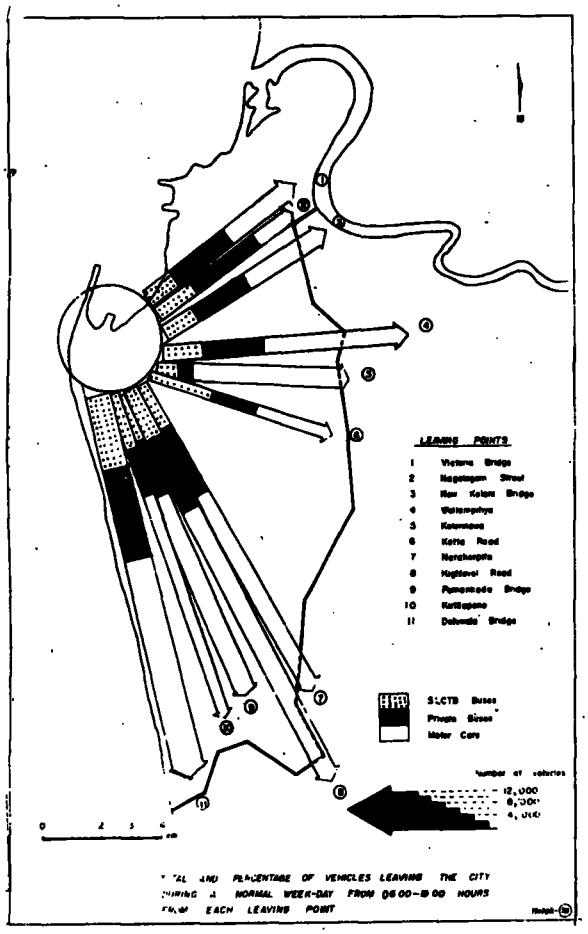
of the roads which were not originally designed for heavy volumes of traffic are now being widened. But one has to consider whether we are economically in a position to invest more and more money on widening of the city roads.

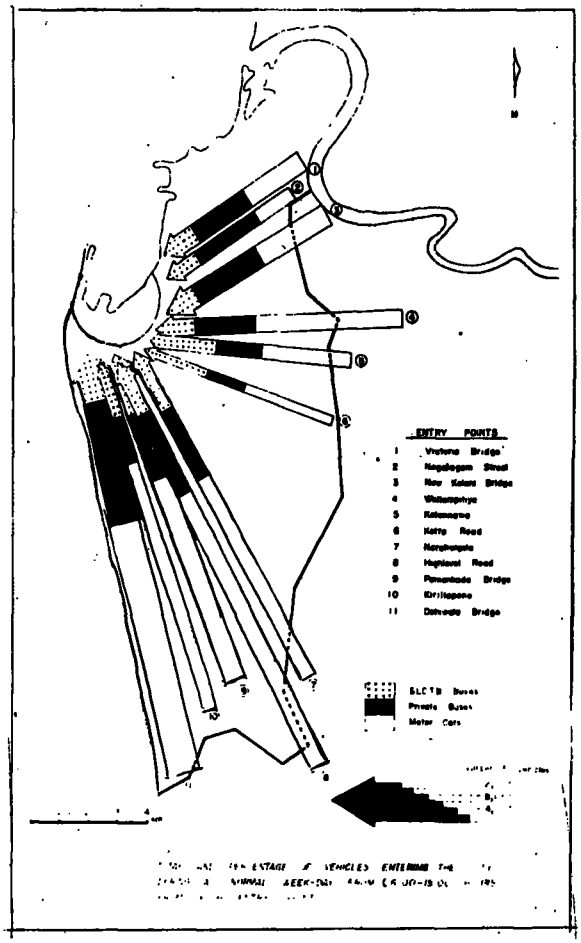
Environmental Pollution

From the traffic survey, as well as from the published data, it is clear that there are more motor cars on the city roads than before. These cars are not only the cause for traffic congestion but are also subjected to the same delays and hold-ups as other vehicles and are also part of them. This means lower speed and a larger amount of exhaust pollutants per vehicle kilometer. Numerous stops in traffic also result in less dilution of pollutants in the immediate neighbourhood. Although there is a popular belief that nature always takes care of the products discharged by our transport and industries, when too great a number of units emerge and all the emmissive products of transport and industry flow uncontrolled to the environment, harmful effects are unavoidable.

Exhaust gases from vehicles, with gasoline engines are said to contain 150–200 different compounds. Only a few of these have been identified as harmful. The products which have aroused most attention are carbon monoxide, hydrocarbons, oxides of nitrogen and compounds which contain lead. Lead is regularly added to automobile gasoline in order to extract more power from the internal combustion engine while maintaining its smooth, regular operation. However, this technique means that significant quantities of lead are emitted into the air due to the extensive and rapid increase of road traffic. It has not yet been possible to prove that lead has done harm to the Sri Lankan city population but there could be a risk of harmful effects after a long period of time or resulting from the combined effect of other substances. It can be believed that the problem of vehicle exhaust gases will become more severe if the trend is not arrested in time. The number of vehicles increase year by year. In addition to the vehicles entering and leaving the city limits, there are a fair number of vehicles within the city limits which are out on the road during most of the day. Thus, it could be expected that the load of air pollutants in the city of Colombo will increase even more steeply.

Noise is a social problem which has attracted more and more attention in recent years. Absence of noise constitutes an important part of the demand for good environment. However, noise can also develop into a health hazard and a medical problem affecting the community. One of the major sources of noise in the city is the motor vehicle. Traffic noise is already severe and creates increasing annoyance and irritation. This





not only depends on the noise level of the individual vehicles but it is also due to the steady increase in the number of vehicles and also due to the technically unsuitable way in which they are being used especially in the city.

Parking Facilities

Parking facilities are invariably part and parcel of a transportation system. Parking demands are high, especially in the city centre, not only during the peak hour but throughout the working day. According to the Colombo Master Plan Project, in the year 2001 there will be an estimated 20,000 cars of employees and also 10,000 cars of visitors in the city centre. The Plan has also estimated that ground level parking would require 75 hectars of land. At present illogical, irresponsible and inconsiderate parking, especially on main roads aggravates problems like traffic congestion, waste of valuable time on the road, burning of fuel unnecessarily and causing irritation and strain to the road user. This could be minimized if not eliminated in two ways. One is having separate car parks and the other is by limiting the number of cars on the city roads.

Pedestrians

The right of use of the road by the pedestrians cannot be completely overlooked. Especially during the rush hour there is a heavy flow of pedestrians predominantly at the city centre. Along the carriageway pedestrian movement must be eliminated fully . Pedestrain crossings should be located logically at points on the street network, and sidewalks should be provided on every roadside and these sidewalks should not be used for purposes like pavement hawking and car parking.

Accidents

An important aspect that the transport planners should pay attention to is the number of accidents that are occuring at present. Today road accidents have increased tremendously. Statistics reveal that of the road accidents, the highest number recorded is in Colombo city area where the traffic concentration is highest. In 1980 of the total number of accidents recorded by Police Divisions, 25.27 were in the Colombo Police Division. Accidents not only incur economic costs but they also incur social costs. Accidents can be reduced to a minimum if we limit the motor vehicles on the roads.

Restraints on Motor Cars in the City

Any government that has the will to limit the supress travel by bus or train can do so, but car travel cannot be so easily curtailed. Once cars have been imported and ownership of them secured to individuals or institutions in the private and the government sectors, those owners have the right to use cars as and when they wish.

Only heavy restraint on the use of cars could significantly reduce car travel and petrol use. Some such restraints could include a significant increase in petrol prices, heavy parking taxes, road use pricing or a series of physical restrictions on the use of cars in urban centres.

For quite sometime, when the cities in most parts of the world were unable to manage traffic congestion, air pollution and noise caused by private cars, and added to these the energy crisis, many organizations such as Nelson Rockefeller's Commission on Critical Choice for Americans, the International Union for Public Transport and the Royal Institute of British Architects have recommended restraints on the use of cars especially in the cities. Many cities all over the world, infact, were taking firm decisions to restrict and control the use of private motor cars. Some of the direct as well as indirect restraints were, priority for buses at traffic signals, one-way for cars and both ways for buses, down-town car charges, limits to private parking places, pedestrians only-city centres, public-transport only city centres etc. Some countries even tend to welcome OPEC price increases as being a blessing in disguise because of their assistance to the restraints of motor car use.

If we limit the number of private cars on city roads, while extending a better service to the average traveller it could be less expensive for the authorities to maintain the city road network, and also the capacities of the roads could be retained at present level without further expansion. If we can induce part of the private car users to travel by bus or train by providing them better public transport systems, we could then hope that it would entail some reduction on oil consumption and in road investment. At the same time we have to take several strict measures concerning road safety, speed limits and driver competence.