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Toward an Urban Transport Strategy for Colombo
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Toward an Urban Transport Strategy for Colombo, Sri Lanka
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TOWARD AN URBAN TRANSPORT STRATEGY
FOR COLOMBO, SRI LANKA

SUMMARY

This note reviews and extends recent efforts to chart a course for improving the performance of urban transport systems in the Colombo Metropolitan Region. It is meant to inform the discussions between the Government of Sri Lanka and the World Bank, in the context of developing a country assistance strategy.

The background

The City of Colombo (population 0.7m) and its region (population 5m, inclusive) dominate Sri Lanka in demographic, economic and political terms, and --through the port and airport-- represent the nation's key gateway to the world. The population growth rate is 2.0-2.5% per annum. The work force is 2.2 m, of which 1.9m employed. About 0.6m work in Colombo itself, but new growth is more intense in the middle and outer segments of the region. The labor market is sharply polarized, with formal jobs being stable and rigidly protected, therefore highly sought. Informal jobs tend to be of short duration, which makes informal labor highly dependent on daily mobility. The two bottom deciles of the income distribution, corresponding to poor and very poor people, have mean monthly incomes of Rs 732 and Rs 1,596 per earner, respectively. These correspond to Rs 1,866-3,144 per household. The mean income of the top decile is Rs 21,465 per earner (Rs 29,634 per household). Incomes are growing at about 4.3% per annum.

Apart from Colombo itself, the region is low-density and spread out along radial corridors. The travel is largely by motor vehicles: of about 5.5m daily trips, these carry about 73% (about 4m),while 22% are made on foot and only 5% are by bicycle. The work horses of the transport system are street buses, which carry 63% all motorized trips. Suburban services of Sri Lanka Railways carry another 5% in the aggregate, but up to 25% of transport passengers in major corridors. The remaining 32% of trips are carried by autos, vans,3-wheel taxis and motorcycles. Modal split is shifting towards individual vehicles, especially 2- and 3-wheelers.

The majority of street buses (7,300) are privately owned and operated by owner or leased by owner to individual operators. Licensing by the government is necessary, but frequency and other service obligations remain nominal due to a lack of enforcement. Buses tend to be of the mini size(less than 30 seats), though an effort is being made to license standard-size vehicles. In addition, three public-owned regional transport companies (RTCs) were created in 1998 by combining many small, "peoplized" public-sector companies, themselves a product of a preceding regulatory reform. These operate about 1,600 standard-size buses. Fares are regulated (against the letter of the 1992 law), and apply to all operators; they start at Rs 2-4 for short trips and go to Rs 10 for a 10-km trip. About 1,000 private buses provide higher-quality, seat-only services, at fares 115-160% higher than the regular ones. On public-owned lines only, students and school children enjoy deep discounts. The State compensates the RTCs for offering discount fares and for providing services on some low-density, rural routes. In 1998, the

compensation to the three operators active in the CMR amounted to about Rs. 106m (US$1.7m). Fares are considered low and affordable even to the lowest-income people. Indeed, fares per km are 50% lower in real terms than in 1990. On the debit side, RTCs' total cost recovery from revenue and compensation is 80-85% (compared to less than 40% for the suburban rail lines), and the financial gaps have been allowed to accumulate while awaiting the next step in policy reform. Reflecting a common view that standard fares are not commercially viable, RTCs also receive in-kind assistance, usually new buses and bus engines, but no cash subsidies. Private operators receive no assistance from the government and survive by avoiding low-density routes and off-peak periods.

Total vehicle ownership in the City of Colombo is 262 vehicles per 1,000 inhabitants, falling to 97 in the region. Motorcycles are the largest category (41%), followed by automobiles and vans (33%), freight vehicles (13%), 3-wheelers (9%), and buses (3%). Motorcycle ownership has been increasing at 15% per annum, and that of 4-wheel vehicles at 5.6% per annum. Still, only 12% of households in the region own motorcycles, only 3.4% own cars, and more than 40% own bicycles. The discrepancy in these two sets of numbers is due to the ownership being in the hands of firms and government institutions. Only 32% of motor cycles and 16% of automobiles belong to households. Owning and operating a vehicle is expensive in Sri Lanka. Import taxes are 100-200% for passenger autos, though they are nearly zero for buses and motorcycles. A liter of petrol and diesel cost Rs 50.00 and Rs 13.50 respectively (1999 data), with taxes accounting for 74% of the retail price for petrol and 18% for diesel. The total amount of fuel and vehicle taxes collected from road users in 1999 was about Rs 12.4bn; while in that same year, about Rs 7.9bn was spent on roads.

The strongest transport-related institutions are at the national level, attached to the Ministry of Transport. These include the Road Development Authority, and the Sri Lanka Central Transport Board, the holding company and de facto regulator of RTCs. The corresponding institutions at the provincial level, e.g. the Provincial Road Development Authority and the Western Province Road Passenger Transport Authority (which regulates private bus operators), are of recent vintage and not well developed. This reflects a hesitant approach to decentralization of political and budgetary power. Local governments are also weak in institutional and financial terms, with the exception of the Colombo Municipal Council.

Transport system performance, problems and issues
How well does the transport system work for its users? The public transport network is extensive and services are inexpensive. Unfortunately, the services are low-quality and unsafe. Street buses are infrequent, therefore quite overcrowded and uncomfortable; those in private operation are said to be driven at unsafe speeds only to spend inordinate amount of time at stops. Suburban rail services are also infrequent and overcrowded. Women and older people pay the highest price for this situation. This is bad enough for travelers along radial routes, but much worse for those who must transfer between bus lines, or between bus lines and the railway, there being no fare integration, not to mention timetable coordination. Better-quality services are available but the price differential is quite high. The net impact is to create strong pressure to abandon public transport in favor of motorcycles and other individual modes, which in turn contributes to traffic problems.

The key problem underlying low-quality public transport services is an incoherent public policy as regards the regulation and financing of the public transport sector. Whichever combination of fares and budget support is chosen by the government for the public transport system, it must be affordable to the passengers, to the public purse, and must permit the viability of the operators. Sporadic and unsystematic fare increases may have been politically convenient, and may indeed be affordable to low-income travelers. In the absence of a sensible approach to compensation, however, this practice has eroded the revenue base of the operators, with sizeable costs to both stock and flow. The passengers are getting the worst of both private and public suppliers. Private operators adjust by adopting familiar predatory practices, disregarding the nominal service obligations. If these were tightened and enforced, while leaving fare side untouched, the result would be exit from the market. RTCs do not follow predatory practices, but cannot maintain service standards and their costs are mounting. The companies are in arrears, with downstream problems of under-spending for maintenance, repairs and fleet renewal, bank overdrafts, and non-payment of suppliers and social insurance funds. The most visible symptom of the erosion of the physical plant is the immobilization of some 1,300 bus vehicles, without funds to repair or replace them. Since staff levels cannot be adjusted accordingly, due to labor protection laws, staff which would be fully occupied at an efficient level of fleet availability are kept on at normal salaries with a fleet only at half-size. General overstaffing makes it also difficult to make any changes to the staff structure, so there is in fact a shortage of drivers and mechanics. The costs of neglect are rising by each day of postponed policy reform.

The declared concern of the government is to keep public transport fares affordable to low-income travelers. The expenditure surveys do reveal that the residents of the CMR, whose income is in the lowest two deciles, spend only 1.2-1.5% of their income on public transport. This is low by any standard, though it does not measure the possible exclusion from service due to price, availability or comfort. There is always some combination of income and location at which the current fares are prohibitively expensive. A travel scenario involving a 10-km journey to work or school, made by all members of the household, may require as much as 38% of the household income at the lowest decile and 17% at the second decile. Transport budgets much in excess of the cited average expenditures are confirmed by real-life stories of Colombo residents interviewed in the course of recent transport studies. It does not follow from this that general fares should be set even lower, but that low-income people should be assisted in other ways. The reverse side of the low-fare coin is that public transport services are used by people from higher income categories. Indeed, data from the CMR show that income distribution of bus passengers is quite similar to the overall income distribution. If the fare was set to be affordable to passengers in the second-lowest income decile, the benefits have been leaking to all eight higher deciles. The average income of passengers using suburban rail services is much higher than the population average, so the leakage of benefits is even higher. This pattern has been observed in Sri Lanka even in poverty-targeted programs, such as Samurdhi. Nearly half of the benefits of this program are said to have been captured by households belonging to the top three income deciles.

An inconsistent policy typically reflects an unsuitable structure and/or low capacity of the regulatory institutions. Both are present in Sri Lanka, plus the dominance of the

political power over the letter of the law. The Central Transport Board regulates RTCs and provides them in-kind subsidies in the manner of its past role as the monopoly service provider of road passenger transport for the whole country. It has a staff of 3,500 and a (1999) budget of Rs 1,500m (US$23m). The Western Province Road Passenger Transport Authority regulates private operators, albeit so weakly, and has no capital budget. By law, it also should regulate RTCs, but the law is not followed, and could not be followed without the leverage of a budget and expanded institutional capacity. Fares are deregulated by law, but the law is disregarded at the national government level. Both the regulatory system and the practice need an overhaul.

The problems on the road traffic side are no less serious than in public transport. The road infrastructure in the area is underdeveloped. It is the strongest in the category of arterial roads of radial orientation, and quite weak as regards orbital roads, and primary, limited-access roads, be they radial or orbital. This has both land use and traffic impacts. Land between radials has remained locked up, encouraging outward development. Since commercial and other high-activity land uses were allowed on the existing arterial roads, and the frontage roads are few, the former have lost much of their potential speed and volume capacity. The traffic is chaotic, which is a normal consequence of mixing very diverse vehicle types (buses, motorcycles, cars, 3-wheelers, bicycles) on undivided, limited-width roadways, and permitting direct access to roadside activities. Traffic exhibits signs auguring of saturation, e.g. travel speeds of 5 km/h on the busiest road corridors during peak hours, with a stop-and-go operation. Air pollution is not a serious problem in the short term, but may become so, in part because the high differential in petrol/diesel retail prices is driving the sales and use of diesel-propelled vehicles. Parking is unregulated, which poses serious problems in central Colombo and lower-order activity centers. Traffic lanes get to be blocked by double parking, vehicles parking on pavements and entrances, etc. As usual, bicycle riders get the worst end of this situation, which may explain low use of bicycles relative to a high ownership rate. Pedestrians also get short-shrift, especially as regards street crossing. Frequent and randomly placed police blocks and lane closures, applied as a security measure in the ever-threatening civil strife, add to delays and poor reliability in daily travel.

The underlying causes of traffic problems on the road side combine topographical constraints of the region, unresolved issues of land ownership and development, public policy stressing universal access (as opposed to road system design balancing movement and access functions), and a divorce of user charges from the road funding process. The land issues are outside the scope of this note and the access policy has run its course. This leaves the issue of road pricing and funding on the critical path to achieving an improved road system. The current fuel and vehicle taxation is a revenue generator for the national treasury, not a road use charge. These charges and taxes are high, and not well related to the amount of use, contribution to road wear and tear, and traffic congestion. Nor are they related to the site-specific budgets needed for traffic operations management, and maintenance and expansion of roads.

The potential for much more serious transport problems in the CMR over the longer term is high. Were the economy of Sri Lanka to accelerate to East-Asian growth rates of the early 1990s, with the usual concurrence of increased motor vehicle ownership and use, the center of Colombo and its major road arteries would lock up. The

congestion affects the street-based public transport services faster and to a greater degree than it does the rest of the traffic. This would be especially deleterious in Colombo, given the absence of reserved rights-of-way for public transport vehicles. The traffic restraint measures may help somewhat, but have a limited potential because the transport system is so constrained on all sides. Transport may become a bottleneck to economic growth of the region and its role as the country's gateway to the world.

Towards a transport development strategy

Over the last five years, much work has been done as regards the future of urban transport in the CMR. Some of it was done by local agencies, in line with their mandate, e.g. the Regional Structure Plan, completed in 1998 by the Urban Development Authority. Major policy papers addressing public transport regulation and traffic management were written by special-purpose committees set up by the Government of Sri Lanka. In 1998, a transport sector strategy for the country, fully applicable to the CMR, was put forward by a joint effort of the Government and the World Bank. Finally, a 2-phase Colombo Urban Transport Study (CUTS) was carried out by independent consultants commissioned by the Ministry of Transport, producing in 1999 both a strategy, a master plan, and a detailed implementation plan for several of its key elements. The note in hand reviews the propositions already made, by and large agrees with the approach put forward in CUTS, but then goes on to add recommendations on aspects perceived as necessary to make the strategy complete. For the sake of brevity, this summary amalgamates all propositions, whatever their source, into one strategy.

The starting point is to state the selected "framing" of the problem in hand and its political and economic surround. The wider context is that of a developing country known for its successes in equitable development, but lagging in economic growth, hence also lagging in poverty reduction. One of the reasons for the slow growth is the strength of the public sector of the economy, with its protected employment and low productivity. A parallel context is that of a strong national government under pressure to decentralize, with a 17-year civil war as an all too painful and costly reminder how strong the urge is for greater regional and local rule. The narrow context is that of having to manage the advancing motorization, which calls for ensuring the existence of good-quality public transport services, difficult to achieve on the limited road infrastructure available. The objective of having good-quality transport services also clashes with the objective of keeping public transport affordable to low-income people.

Next, it is important to separate the recommended routine actions from the truly strategic ones. The routine ones involve a well-established best-practice, with time tested results. There are no complex choices involved and no irreversible decisions, merely a political will, a steady commitment of resources, attention to the details, and a continuity of effort. The recommendation to continue and intensify traffic management activities is one of these. Others include: (i) the link between traffic management activities and the traffic law enforcement efforts, in order to increase traffic safety and move traffic better; (ii) introduction of parking management (including charges); and (iii) a pavement management system to maximize the benefits of any given road maintenance budget. It is also a routine matter to recommend the use of private contractors to design traffic management schemes, operate the parking system, or carry out maintenance activities. Finally, in a city where pedestrians, bicycles and several classes of motorized vehicles

compete for the very scarce street space, it should be a routine matter to adopt design standards and practices suitable for the situation, i.e. sufficient sidewalks and safe cross-walks on all roads, the provision of walk-only areas in activity centers, separate lanes whenever possible on existing roads, and separation of local traffic from through traffic on all new arterial and limited-access roads.

The truly strategic urban transport decisions in the CMR have to do with resolving just five issues: (i) the organization and regulation of public transport services; (ii)fare policy with respect to low-income passengers; (iii) the destiny of public-sector operators; (iv) the development of mass rapid transit services; (v) road expansion with reference to pricing of road use and funding roads; and (vi) the institutional set up for urban transport with respect to relations between the state, the province and the municipalities. The recommended strategy is as follows:

*(i) **The regulation of public transport services should follow the for-market competition approach**. The current weak regulation of private operators and over-regulation of public-sector operators, with two different regulators, should be replaced by a unified approach wherein one region-wide public transport authority sets service standards for routes or groups of routes, allocates them to operators based on competitive bidding and signing of multi-year service contracts, and monitors the performance of operators. The pool of eligible bidders would consist of route associations of private operators plus any RTC re-structured on the way to privatization, or already privatized. When tendering a first route or set of routes however, it would be preferable to limit the tender to private bidders only – this would ensure that a viable private-sector benchmark exists alongside the RTCs. Initially, a gross contracting approach (wherein fare setting and all revenue risk is taken by the authority) would be used to eliminate the predatory conduct of operators seeking to maximize revenue, to be gradually and selectively replaced by shifting revenue risk to operators. The link between the Central Transport Board and RTCs would be severed, and the WPRPTA would be strengthened considerably and provided with the budget to pay compensation (see below) and make up the difference between the fare revenue and contractual payments to operators. The transition from the current system would be done using a pilot approach, starting with a major route or a group of major routes, without participation of RTCs (see below). There exist alternatives to this approach, such as incremental strengthening of the WPRPTA's regulatory capacity, leaving all revenue risk to operators, with or without retaining fare regulation and/or privatizing RTCs. Several of these alternatives, based on in-market competition, would be easier to implement, and may involve no significant expenditure of public funds. Unfortunately, they hold little promise for service improvements and may have substantial social costs. Total deregulation, retaining only vehicle/driver licensing and safety standards, has been tried elsewhere, but has failed in essential service, traffic, environmental and social terms.*

*(ii) **Social assistance to low-income and other deserving passengers should be separated from public transport fare policy.** The policy of maintaining general fares low so as to assist low-income citizens should be abandoned in favor of targeted assistance, subject to compensation to the WPRPTA by the subsidizing authority, as it is now paid to RTCs for school children and student fare discounts, and for operations on rural routes. Targeting is not fool-proof against benefit leakage, but would move social policy design*

and implementation concerns where they belong – to agencies specialized for social assistance. Accepting the current practice (not current law) on fare setting as the status quo, and in line with using gross cost contracting in the initial stages of the regulatory reform, fares for the initial round of competitive route tenders should be set against the possible revenue losses that the WPRPTA may experience. For any desired level of service specified in tender documents, general fares should be set with the intent of balancing WPRPTA's accounts. In subsequent tenders, gradually, fare setting and revenue risk should be moved to operators to reap full benefits of competition.

*(iii) **Public-sector operators (RTCs) would be allowed to compete under the new regulatory structure.** The public sector has an important role to play in setting and enforcing service standards and in managing any targeted subsidies, but public operation or ownership of bus fleets is not a necessary part of this role, and has not been found in other countries to improve service standards or efficiency. An efficient long-term model would likely give a greater role to the private sector in service delivery. However, the proposed competitive approach would not discriminate between public and private operators – the public-sector operators, restructured as commercial enterprises initially in public ownership, would be allowed to bid for service contracts, with a threat of liquidation only if they are not successful. The experience with this approach, in London for example, suggests that successful public-sector companies may opt to move rapidly towards privatization. One of the alternatives to the proposed approach is outright privatization or liquidation, which may be difficult to achieve under the current labor protection laws. Another alternative is to leave RTCs outside the competitive bidding system, while relaxing fare regulation and allowing staff cuts in line with the size of the operational fleet. It is this approach which the authorities have failed to take in the CMR. Yet another alternative is to continue the current process of bleeding these companies gradually through dis-investment, at high and increasing direct and indirect costs to the public treasury, which inevitably leads to privatization or liquidation, but at a vastly lower sales/salvage price. An example of this last, very undesirable "business as usual" approach is the progressive destruction of urban services of Punjab Road Passenger Corporation in Lahore in the 1990s.*

*(iv) **Planning for mass rapid transit should focus on the exclusive right-of-way, wherever it can be found.** Given the absence of reserved street space, the regulatory reform would not suffice to ensure high-quality public transport services in the CMR beyond the short term, and especially not if economic growth takes off. What is needed for high-volume, high-quality public transport, in addition to a sound regulatory framework, is a separate and preferably exclusive right-of-way. By definition, mass rapid transit operates on a fully exclusive right-of-way, free of interference from parallel and cross traffic streams, as seen in metros. Under conditions prevailing in Colombo, the most promising avenues for rapid transit are two. One of these is to provide reserved public transport lanes on any and all roads that may be built anew or reconstructed with an expanded cross-section (see below). Once reserved right-of-way is available, the right to provide transport services thereon would be tendered as described above for street-based lines, with the advantage that the revenue risk could be given to the operator straightaway. The strategy does not need to specify whether bus or rail technology would be used, this being a subject matter for detailed studies in any given corridor. The other avenue for achieving mass rapid transit in the CMR would involve upgrading/expanding*

the suburban rail lines of the Sri Lanka Railways (without a priori excluding the change of vehicle technology on any one corridor). Given that the current operations of these suburban lines exhibit all and worse symptoms of poor services and deficit financing described for the RTCs, for this option it is essential to follow the same regulatory reform as for the street-based bus operations. The main difference would be that the funds for restructuring and upgrading the suburban lines would be substantially higher than for RTCs, given the state of infrastructure, power lines and signaling. This would call for private financing or co-financing and drastically changed fare structure and fare levels to make the investment attractive.

*(v) **Investing in road expansion requires a new approach to funding and road use pricing.** Acknowledging that the land available for the expansion of the primary road network in the CMR is limited, but knowing that the current road infrastructure will not suffice to carry the load of future economic growth, the investment strategy is to: (a) upgrade the existing major radial roads in eight corridors to provide elements of limited-access as well as channels for local and non-motorized traffic, and public transport vehicles; and (b) invest in new arterial roads of the orbital type, in support of a poly-nuclear growth concept adopted in the 1998 Structure Plan, and to provide access to undeveloped land, now locked up between radial roads. Whether any of these will be built, and in which order of priority, depends on the funding element of the strategy, presently missing from all propositions. This is where the road strategy for the CMR depends on the national reform of road use pricing and road funding. On the national level, the present, fiscally-oriented taxation of vehicle importation and fuels should be replaced by a system of road use charges reflecting road and social costs by vehicle type. The proceeds would be earmarked for a road fund. The opportunity of reforming the national road pricing and funding system should be used to make that system a platform for a complementary system for regions and/or cities. The current funding method for road development in Sri Lanka, from the general budget, may have served reasonably well in the period of providing basic access country-wide. This stage of development is over. The funding method is no more suitable because traffic growth, congestion and pollution in urban areas require that prices be used as transport policy tools <u>on local scale</u>, especially for modal split management. Increasingly, roads should be treated in a manner analogous to treating utility companies. The fact that nationally aggregated earnings from fuel and vehicle ownership taxation in any one year exceed aggregated road expenditures does not mean that road "utility" recovers its social costs. Cost recovery for roads has to be looked at in local terms, leading eventually to congestion pricing. The time is coming when local road network expansion could only be made if the additional local revenue is available to cover additional, all-inclusive costs, just as it is now being done for toll roads in many large world cities.*

*(vi) **A regional transport development strategy calls for strong regionally based institutional arrangement for transport.** In the CMR, only traffic and parking management can be done by municipal governments, which requires a cumulative process of institution building and improvement of local revenue mobilization and resource allocation. For a regional public transport system to function based on the outlined strategy, it needs a strong, region-wide public transport authority, the WPRPTA provided with a requisite budget and staff, and allowed to carry out its law-assigned functions. For a road system to be well maintained, efficiently operated and expanded so*

as to meet social objectives and constraints, it needs a strengthened WPRDA and a local funding source (local road use charges). For a strategy cutting across modes, as this strategy does, what is needed in the longer term is the unification of the WPRPTA and WPRDA into a Regional Transport Authority.

The past and future assistance of the World Bank

Over the last 20 years, the Bank has financed three credits/loans in the urban transport sector, two of which were straight investment operations and one was an adjustment loan. The Road Passenger Project, approved in 1980, financed the renewal of fleet and facilities of the public-owned operators (Regional Transport Boards), while also trying to re-open the door to private operators, relax the constraints on the public operators, and liberalize the fare regulation for both. When the last two reform actions failed, the Bank in its next intervention supported the dismantling of the public-owned passenger transport sector. This was done within the multi-sector Economic Restructuring Credit, approved in 1990, co-financed with the Government of Japan and also supported by IMF. The overall objective of this credit was to develop the private sector and rationalize public expenditures. The nine Regional Transport Boards were broken into 96 small passenger transport companies and 13 workshops, with 50% of shares given to employees. An incentive program supported a voluntary retirement of about 13,500 staff and a law was passed providing for fare deregulation. Ultimately, the transport initiative of this credit failed, since the law on fares was not implemented and the small, "peoplized" companies had serious problems of efficiency, financial health and service quality. In the latest Bank operation, Colombo Urban Transport Project (approved in 1993), the focus of investments turned to small-scale road and traffic improvements, a high-return operation without a contentious policy content. The declared policy objectives of this project did include the strengthening of the bus regulatory capacity at the state and provincial level, and even the increase in the efficiency of the Sri Lanka Railways, but the funds for these ends were limited to technical assistance. The project was successful in improving traffic conditions in Central Colombo, building up the traffic engineering and procurement capacity in the Colombo Municipal Council, and helping produce several good-quality studies to prepare a comprehensive urban transport strategy. It would have been judged a success were it not for its unrealistic objectives.

The main lessons from these three experiences include the need for modesty in setting project objectives, and of focusing in each operation on a few essential policy measures. Also, given the resistance to reform of its potential losers, it is important to build broad-based coalitions around a reform program, including wide dissemination of knowledge on policy issues, and costs and benefits of what is being proposed.

It is not known at present whether or not the country assistance strategy being prepared jointly by the Government and the Bank will identify urban transport as a priority sector for future Bank involvement. The above lessons would suggest the following time-lagged initiatives as priorities for Government action and donor support:

- *In the short term, aiming for an increase in the quality of street-based public transport services and improving poverty alleviation, the key policy measure involves the separation of fare policy from social assistance concerns, permitting an increase in general fares and better targeting of assistance to low-income households. This essential reform would dovetail with measures on the delivery side (introducing competition for the market by tendering bus routes initially on a gross-cost basis) and its impact could be further enhanced by traffic/mode separation improvements in key bus corridors.*

- *In the medium-term, aiming for enhancing the competitive position of public transport services relative to individual modes, the priority action is to restructure and upgrade the present SLR suburban rail operation into a high-quality, efficient and financially sustainable transport mode, probably as a public/private partnership.*

- *In the longer term, the twin needs of traffic restraint and resource generation for road building in the outer region will require locally-based road use pricing and a dedicated, also locally-based Transport Fund. It is best to anticipate this when reforming the current system of road user charges.*

TOWARD AN URBAN TRANSPORT STRATEGY
FOR COLOMBO, SRI LANKA

1. INTRODUCTION

Over the last decade, the transport sector in Sri Lanka and urban transport in the Colombo Metropolitan Region (CMR) have received much attention from the Government. This has been due to the perceived importance that the quality, price and costs of transport services had for ordinary citizens from all walks of life, as well as for the economic activities, especially those leading Sri Lanka's export drive. Major policy papers have come out of special commissions set up by the Minister of Transport or the National Development Council, on subjects such as: transport fares (1995), bus transport subsidies (1996), traffic management (1997), and bus transport policy (1998). A business plan was put together for the Sri Lanka Railways (SLR) (1991), followed by several studies focusing on the electrification of suburban lines in the CMR. The Sri Lanka Transport Sector Strategy Study (1997), a joint product of the Government and the World Bank, has put forward a multi-stage approach to transport development, all of which are applicable to the CMR.

An intense effort has been made also to develop a transport strategy specifically for the CMR. Phase 1 of the Colombo Area Transport Study (CUTS1), carried out by a joint team of international and local consultants, was completed in 1996. A Structure Plan for the region was completed in 1998. Phase 2 of the Colombo Area Transport Study (CUTS2) was completed in 1999. It included a master plan for the CMR complementary to the Structure Plan, mapping out policy, investment and institutional actions for the next 5 years. The formal adoption of the Master Plan by the Government is said to be imminent.

A review of these reports reveals a solid body of work. A sufficient and diverse data base has been created, thorough analyses of main issues have been done, and a robust urban transport strategy has been developed. It consists of comprehensive and practical propositions, which range from short-term actions and policies to longer-term orientations and investments.

In contrast to this impressive accumulation of studies is an apparent action hiatus. No major policy recommendation or investment has been taken up in this sector in more than a year since the completion of CUTS2. The recently announced increases in bus fares, and diesel prices are not due to new policies, but to the changes in the world price of oil and extra-sectoral pressures on the national budget.

Also in 1999, the Government completed the Colombo Urban Transport Project, financed in part by the World Bank. The completion report indicated that the project succeeded in its investment objectives (involving street traffic improvements in Colombo), but was not successful as a vehicle to assist policy reforms in urban public transport and in restructuring the SLR. This was not the first but the third Bank project addressing urban transport in Sri Lanka.

The Government and the World Bank presently are involved in an effort to develop a new country assistance strategy for Sri Lanka. It is not known yet whether or not the strategy will identify urban transport as a priority sector for future Bank involvement. The objective of this paper is to serve as an input into the on-going discussions concerning sectoral and cross-sectoral aspects of the strategy. The stimulus for writing it arose from four sources. First, urban transport is one of the sectors with an evident tension between growth and poverty alleviation concerns. Second, the sheer bulk of what has been written on this subject called for a short synthesis useful to the participants in the country strategy debate, i.e. members of the Sri Lanka Country Team in the World Bank, and to the key policy makers in the Government and CMC. Third, the work already done notwithstanding, there appear to be remaining questions and/or obstacles between the proposed strategy and its implementation. A closer look at these is warranted. Finally, the past assistance of the World Bank in this sector needed to be placed in perspective, ensuring that the lessons from this experience are known to participants in future projects and policies.

The paper is based on a desk review of the above cited reports, plus two new, small-scale studies commissioned in 2000 by the World Bank specifically to shed light on two subjects where the available literature was not deemed sufficient. One of these studies analyzes institutional capacity of the Colombo Metropolitan Council in the domain of urban roads and traffic (Fernando, 2000). The other addresses the link between public transport fares and household incomes, especially incomes of poor households (Kumarage, 2000). The paper also draws on prior work by this author on transport aspects of poverty alleviation (Kumarage, 1998).

Following this introduction, the second chapter provides a brief background on the region, its people, economy and the transport system. This is needed given that some readers on the Bank side will not be familiar with Colombo. The third chapter reviews the performance of the regional transport system from the point of view of its various users, and attempts to explain the findings in terms of underlying problems and issues. The fourth chapter presents, in summary form, the strategic proposals currently on the table. The fifth chapter provides a critical review of the proposals. The sixth and final chapter reviews the past involvement of the Bank in this sector, then identifies and discusses options that could be considered for future assistance, if the sector emerges as a joint CAS priority. An attempt has been made to shed a stronger light on people concerns, in addition to a traditional focus on transport regulation, infrastructure investments and traffic management. As an explicit sign of this, boxes with real-life travel stories of persons from the CMR have been sprinkled throughout the text.[1]

2. THE BACKGROUND

The region and its people

CMR is the dominant urban area of Sri Lanka, its population of 4.6m (1994) representing about 27% of the nation, and its urban population of 3.1m accounting for more than a half of Sri Lanka's urban population. The annual rate of growth is in the 2.0-2.5% range, which is modest in the context of South/East Asian experience. In

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[1] These travel stories were drawn from interviews organized by Amal Kumarage.

administrative terms, the region corresponds to the Western province, and consists of three large districts: Colombo (population 2.1m in 1994), Gampaha (1.7m) and Kalutara (about 0.9m). It was forecast that the population will grow to 5.2m in 2000, and will reach 6.5m in 2010, much of it due to migration from other areas of the country. Nationwide, at least half a million people have been displaced due to the civil war. It is likely that many of these people have come to the CMR, and have not been included in any of the above numbers.

Colombo itself has a population of 0.7m. With its port and airport, it is Sri Lanka's dominant gateway to the world. The city's traditional center, Colombo Fort and Pettah, still retains its commercial and administrative dominance, but various constraints to its densification have caused the expansion of these activities eastward, in rays coinciding with radial roads. The City's population is therefore seen as stable, with most of the growth taking place in outer segments of the region. The average gross density in the city itself is 174 persons/ha, comparable to Paris and Seoul; this falls to 30 persons/ha in the Colombo District, where the urban/rural mix changes in favor of the latter. Household size varies between 4.9 persons in Colombo to 4.5 in Gampaha, with an average of 1.8 earners per household.

Story 1: Mahinda

Mahinda is part owner of a small printing shop in the city. He travels by bus to work a distance of 20 kms daily. He needs two transfers, as his house is located around 3 kms from the main bus corridor. He takes two hours either way. His monthly cost for travelling to work is Rs. 800. Most of his work time trips are also made by bus. This may cost him an additional Rs. 200 per month. When he delivers printing work he always uses a known three wheeler. The monthly expenses here would be around Rs 1,000. When he works late he is often forced to take a three wheeler back home, as buses are not reliable at late hours on the route that services his house. This costs him Rs 50-60 per trip. He is contemplating buying a motor cycle as bus travel takes too much time off his work. His wife helps him from home with graphic work for printing. Her transport costs are minimal. She too uses the bus to visit her parents and other trips which does not cost more than Rs 100 per month. Their ten-year old child attends a school 10 kms away. Because bus services are poor they pay a van Rs 400 a month to take her. They think this is an unnecessary expense since the school itself is free and transport costs have become the most expensive cost for educating their child. Their income profile would place them in the 7th or 8th decile. Their present expenditure for transport (without work related travel) is around ten percent.

The regional work force is about 2.2m (1994 data), of which 1.9m employed. The City of Colombo leads with commercial and administrative employment, attracting some 900,000 people daily. Gampaha District is predominantly industrial, and Kalutara –once known mainly for its rubber plantations- now has turned to tourism and leisure activities. The occupational structure of the population is heavily skewed towards people doing domestic duties (23.6%), students (17.9%), and retired/disabled (10.2%); among the employed, casual labor leads with 10.3%, followed by private sector employment at 10.3%, the government at 7.1% and manufacturing at 6%. Manufacturing has a narrow focus, with garments being the main export-oriented activity.

The job market is highly polarized. On one side, there is a large segment of less secure, high-turnover, low-paid and low-productivity jobs. On the other, there is a smaller, formal segment consisting of steady, well-paid jobs in both private and public sectors. Government jobs have pension schemes, unusually strong protection against job loss, compensation for price increases, and additional benefits in kind, e.g. cheap travel by railways. Some of the unemployed belong to better-to-do households queueing to enter the upper-tier job category (Rama, 1999). Even at the lower rungs of the public sector ladder, wages are markedly above comparable jobs in the private sector.

Incomes are thought to be increasing roughly in line with Sri Lanka's GDP growth, about 4.6% per annum in 1986-96. The average number of income earners is 1.79, with a range of 2.55 in the lowest decile to 1.38 in the highest decile. The average income in the Province in 1996/97 was Rs. 4,800 per income earner (Rs. 8,600 per household). The threshold of poverty is placed at monthly earnings of Rs. 2,000 per income earner, and extreme poverty at about one half of that.

Travel demand characteristics

Transport data come from different surveys (including different sample sizes) and different dates, and are not fully comparable. According to a large-scale origin-destination survey and the transport model developed by the University of Moratuwa in 1995, (reported in CUTS1), 4.1m daily motorized trips were made in the region.[2] Public transport (buses) carried 63% of all motorized trips, the SLR carried 5% (10% on major corridors), and private vehicles (autos, motorcycles, three-wheeler rickshaws) carried 32%. This modal split is comparable to that found today in Eastern European capitals like Warsaw and Budapest, though the latter have much more developed road systems, public transport modes and a higher quality of service than is the case in Colombo. A small-scale travel survey carried out in 1999, revealed that motorized travel accounted for 73% of all trips, the remnant divided between walking (22%) and bicycling (5%). It was forecast that total motorized travel would increase to 4.7m trips per day by year 2000, and that autos would increase their share to 35%, at the expense of public transport carriers. Traffic data cited below suggest that this may have been exceeded.

Story 2: Wahid

Wahid is a laboratory assistant in a university close to Colombo. He holds a permanent job that pays him with over time and other benefits approximately Rs 5,500 a month. His wife does some sewing work from home which also pays Rs 2,000 or so a month. This would place them in the 5th or 6th income decile. He travels to work by bus, which is only eight kms away. The bus service is good and he takes less than an hour even though he has to transfer once. He does not use a discounted season ticket, as he prefers to use the private buses also. His one way fare now (since last week) costs him Rs. 7.50. He has a three-year-old child and all their family travel is by bus. They spend around five percent of their family income on travel.

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[2] The survey area was slightly smaller than the CMR.

Household expenditure surveys conducted by the Department of Census and Statistics indicate that over the last 15 years there has been a considerable drop in what households in the upper half of the income distribution spend on public transport. For example, households in the top two deciles spent 3.7-3.8% for bus travel in 1985/86, but only 1.8-2.1% in 1995/96. The shift to private vehicles is unmistakable.

The mobility rate implied by the above numbers is low, less than 1 non-walking trip per capita per day, which is in line with the cited occupational structure. Most people (51%) travel within their communities. Those traveling outside their community make about 37%, and tend to belong to higher income groups (only 7% of people earning up to Rs 1,000 per month travel outside their community, but this number is 53% for the income range Rs 5,000-10,000). Trip length data are not available, but it is known that Colombo attracts workers even from outside the Province.

Some 480,000 motor vehicles are registered in the CMR, giving a motorization rate of 97 vehicles per 1,000 population. This compares to 74 vehicles/1,000 population nationally. Motorcycles are the largest category (41%), followed by automobiles and vans (33%), freight vehicles (13%), 3-wheelers (9%), and buses (3%). Bicycles are not included in official vehicle statistics. A Consumer Finance Survey from January 1999 gives the ownership rate of 41.5 bicycles per 100 households. There are some indications that only a fraction of motorcycles and automobiles belong to households, the rest being owned by private firms, parastatals and various levels of government.[3] Motorcycle ownership becomes significant when monthly household earning rise above Rs. 5,000, whereas this income threshold is Rs. 25,000 for auto/van ownership. Generally, vehicles are not well maintained, a situation made worse by the fact that many were imported second-hand.

Story 3: Naresha

Naresha is a sixty-year-old itinerant laborer (gardeners/house worker) who stays nights with one of his employers but daily travel to others that give him work or a pre-arranged basis. His daily pay is Rs 180/=. He works six or all seven days a week. One of his children works overseas and occasionally supplements his income with some cash remittances. His family is now grown up and he visits his wife and other children once a week. His employers live within 5 kms from where he stays. To those houses that are within two kms in distance he always walks. Other places further away, he always takes the bus. Some employers pay his bus fare as well. This costs him on average Rs 50 a week, inclusive of his trip home. He last used a three wheeler two months ago to take his daughter to hospital. He does not own a bicycle and considers it dangerous to use one on busy streets. His transport costs amount to around five percent of his monthly income. He would be typically representing the 3rd Income Decile.

The major growth in vehicle ownership occurred in two periods, immediately after the economic liberalization (1978-81) and again in 1988-91 when import taxes for

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[3] A living standards survey showed that 32% of motor cycles and 16% of automobiles belong to households.

motorcycles were reduced. Since 1979, the average growth rate for motorcycles has been 15% , with some signs of reaching saturation. The growth rates for 4-wheel vehicles has been about 5.6% per annum. Vehicle import taxes are progressive, being nearly zero for bicycles, motorcycles and buses, 50-60% for vans and other utility vehicles, but 100-200% for passenger autos (Kumarage, 1998).

In the City of Colombo, there are about 183,000 registered vehicles, of which 45,000 motorcycles, 34,000 automobiles and 30,000 3-wheelers. The total ownership rate is 262 vehicles per 1,000 population. While keeping in mind the dominant presence of 2-wheelers and 3-wheelers in the fleet, this level of motorization is more than half-way to what is considered as saturation rates in the Western Europe, but on a much less developed road network.

The transport system
The road system has a strong radial orientation, focusing on the traditional business center in the Fort/Pettah area and the port. Of 5,000 km of roads in the CMR, less than 8% are Class A (National) roads. Overall, the road network is extensive, but underdeveloped at the top of the hierarchical ladder. There are just a few weakly-connected arterial roads, and no limited-access roads. Of the arterial roads, only Baseline Road comes close to performing an orbital function. In addition to local physical constraints, the structure of the main road network follows from the national policy to maximize connectivity (access), with less attention on function and hierarchy of roads. Worse yet, undisciplined residential and commercial developments alongside main radial roads, with direct access to the moving lanes, have resulted in sub-standard traffic speed and volume characteristics. Low speeds have acted as a constraint on the densification of the traditional center, thus perpetuating the sprawl. Three roads carry traffic in excess of 40,000 vehicle per day: Galle Rd, Negombo Rd., and Kandy Rd; another three roads carry between 15,000 and 30,000 vehicles per day. Five of these carry between 4,000 and 6,000 buses (with about 800,000 passengers) per day. Growth rates for passenger travel on the radials has fallen from 5.3% per annum between 1965-85 to 4.4% after 1985, and should continue to fall given growing traffic congestion. Orbital growth rates, which used to be 1-2% per annum are now picking up, but orbital movements face road infrastructure constraints.

There is no formal system of road user charges. Various vehicle ownership taxes are paid at the time of import, purchase and annual registration. Petrol is taxed heavily, much higher than diesel. Fuel tax accounts for 18% of the retail price for diesel and 74% for petrol. [4]This has led to greater popularity of diesel-propelled vehicles and a rush to convert petrol engines to LPG, which is taxed at a low rate. The ratio of diesel to petrol in total sales is 5:1, with unfortunate consequences for air quality (and fiscal revenue). The 1992 Road User Charges Study found that some freight vehicles, especially diesel-driven trucks, do not pay their way. This situation has persisted to this day. The total amount of fuel, registration and license taxes collected from road users in 1999 was about Rs 12,362m, of which Rs 4,719m from petrol taxes and Rs 1, 519m from diesel taxes. Vehicle and spare parts import taxes may be of the order of Rs 8,000m. In that same

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[4] This is based on 1999 data, when diesel cost 13.50 Rs/l and petrol cost 50.00 Rs/l. The price of diesel was increased by 20% in June 2000.

year, the expenditures for roads amounted to Rs 7,870m, which some estimate to be about one-half of what would be required to maintain the network in good condition.

Story 4: Bremala

Bremala is sixty-four and her two children have families of their own. She and her husband live in a rented one-room shack. Both of them are now quite frail and in need of frequent visits to the Government Hospital. When health permits she works as a part –time domestic worker for which she is paid Rs 60 per day. She prefers to work in households where she can walk to work as bus services are poor and she is unable to aboard crowded buses. Her longer trips are always by bus. Typically she would visit some of her relatives in Anuradhapura, a distance of over two hundred kms, once a year at most. This too she would do by bus with her husband. Her husband, who is a carpenter, is now too frail to work systematically. He makes a small income of a few hundred rupees a month. They mostly live on the generosity of their former employers and whatever their children can provide from time to time. Their transport costs vary and are incurred only when there is money in the house. In their estimate they do not spend more than two percent of their expenditure on transport, since food and rent take up over ninety percent of typical monthly costs.

Passenger transport is almost exclusively based on street buses. Private operators provide basic ("standard") services on 420 routes with 6,300 vehicles, mainly minibuses with less than 30 seats. Many minibuses are reconditioned vehicles bought on the Japanese market. Recently, authorities have given preference to licensing only standard-size buses on high-volume routes. In addition, 3 public-owned, regional transport companies (RTCs) serve 425 routes, operating out of 24 depots, each with some degree of independence. Together, the three RTCs have an in-service fleet of 1,340 standard-size vehicles, employ 11,800 staff, and serve an estimated 300m passenger trips per year. RTCs are a recent creation, one in a long string of attempts to reform public sector operators (for a history of reforms, see box on p. 8). Private operators are estimated to carry about 55-60% of the bus travel market. They are dominant on high-density routes and in peak hours, while public sector operators dominate on lower-density routes. Complementing street bus services, the Sri Lanka Railways (SLR) provide important suburban/regional services, accounting for about 10% of the total passenger market in the region. In major corridors the SLR's importance is greater and its future potential is much greater (see text below for further details on the SLR).

In addition to "standard" services, private operators also offer higher-quality "luxury" services on 37 routes, with about 1,000 vehicles. These are seat-only services, featuring climate control, with fares at 100-160% premium. The luxury services are on the rise, accounting for about 40% of new permits issued in recent years. There are also chartered vans (mini-buses), carrying 7-10 passengers, and charging slightly more than the luxury buses.

Chronology of Bus Transport Regulation in Sri Lanka

1907 : First recorded omnibus operation by TW Colette from Colombo to Chilaw.

1916 : Vehicle and driver licensing introduced through Vehicle Ordinance Act No. 4 of 1916

1927 : Creation of the Department of Motor Vehicles through Ordinance No 20 of 1927

1937 : Hammond Commission appointed to investigate complaints of thuggery and cut-throat competition

1938 : Appointment of the Commissioner of Motor Transport through Motor Car Ordinance No. 45 of 1938

1940 : CMT fixes minimum fares on all routes and it was made an offence to charge below this fare.

1942 : Introduction of the Omnibus Service Licensing Ordinance No. 47 of 1942 following the report of Mr. Nelson who was appointed to examine the re-organization of the bus services which was suffering under intense rivalry among operators, poor productivity, and unsatisfactory passenger services. This resulted in the formation of limited liability companies and issue of Road Service Licenses and the standardization of buses.

1951 : The introduction of the Motor Traffic Act No. 14 of 1951, after the review by Mr. Rutnam on attempts to improve co-ordination and eliminate wasteful competition. The legislation provided for the private bus companies to form public limited liability companies.

1954 : The Sansoni Commission was appointed to report on the fare structure; means of introducing a public transport service. It recommended amendments to the Motor Traffic Act and the formation of a joint private-public sector Transport Board.

1956 : A new government came to power pledging nationalization of the bus industry. It appoints three committees to produce plans for the nationalization of the 2,500 buses that were then operated by around 80 companies on a territorial basis.

1958 : The Ceylon Transport Board (CTB) commences operations island-wide having been set up under Act 48 of 1957 using buses taken over from the private companies. Hereafter, the CTB enjoyed a monopoly status for 20 years.

1968 : The CTB had expanded its route network, provide for worker welfare, increased fleet productivity and was in some years able to procure new buses from revenue surpluses.

1978 Political intervention in non-policy matters, the lack of financial reimbursements resulting from low fares set by government and the inability to procure sufficient new buses resulted in poor performance, over loading and numerous trade union related problems. The CTB was decentralized by Act No. 19 of 1978 to nine Regional Transport Boards (RTBs).

1979 : The government allows private bus transport on selected routes. By 1980, there were around 5,000 buses in operation. They were allowed to operate on the routes of their choice which were invariably the profitable ones and came into conflict with the cash strapped RTB operations which were unable to cope with the advent of the private buses.

1984 : Creation of the Ministry of Private Omnibus Transport through the Private Omnibus Services Act No. 44 of 1983, following the Ameer Committee Report and issue of route permits.

1985 : Private Omnibus Operators Associations were created in all 25 districts in 1985. They collected membership and stand fees from private bus operators, all of who were required to be members of an association.

1990: The Private Omnibus Operators Associations were dissolved following evidence of large scale corruption involving the 'selling' of lucrative routes and time slots and the inability of the Ministry and the Department of Private Omnibus Transport to adequately supervise these associations, which also sought political patronage in many instances.

1990 : The conversion of the RTB's to "peoplised" transport companies (PTS) was carried out under Act No. 23 of 1987, where in an effort to make State bus operations more viable, employees were given 50% of the shares with the balance held by the treasury. This was carried out under the Economic Restructuring Credit financed by World Bank. Public sector companies were 'restructured' partly through early retirement schemes for retrenchment of excessive staff

1991 : The National Transport Commission Act No. 37 of 1991 repealed the Private Omnibus Transport Acts and set up the NTC to regulate inter-provincial bus transport and advice the government on matters of policy and other functions. Following the Constitutional changes through the 13th Amendment, intra-provincial transport became a subject for the provincial governments and provincial passenger transport authorities (RPTAs) were created in most provinces to regulate bus operations falling within the province. In practice, RPTAs regulate the private provision of transport services only.

1998 : Recognizing that "peoplised" operators were not financially viable, they were clustered into 11 Regional Transport Companies (RTCs) under NTC Act No. 30 of 1996 (also referring to the Companies Act No. 17 of 1982). The SRI Lanka Central Transport Board (SLCTB) acts as the holding company of RTCs.

1998 : In an effort to bring about better management of the private bus industry, legislation was introduced through NTC to require all private operators to form into groups by 2003. Route permits would be issued only to operator groups having 50 or more buses

Source: Amal Kumarage, **A Review of Household Income and Public Transport Services and Fares in the Colombo Metropolitan Region, Sri Lanka**, Report prepared for the World Bank, May-June 2000, Colombo

The private sector is characterized by a high degree of fragmentation. Buses tend to be owner-operated or leased by crews from owners. A typical arrangement is that a leasing company purchases a vehicle and leases it on monthly basis to an "owner" for about Rs 35,000-40,000 (in 1998). The owner pays for fuel and repairs, as well as the fees for route permits and other administrative fees, but he does not necessarily operates the bus, renting it instead to a third party - the actual crew. The rent is a take of the revenue, or a cost-based arrangement, e.g. a fixed amount of money for a number of trips, or daily wages, with or without revenue-based incentives.

Routes, nominal hours of service and frequencies are determined by the authorities, as are the fares. Public-sector operators and private operators charge the same basic fares, but there are some important differences. RTCs offer season tickets, which private operators do not. Also, school children and students have 90% discounts on RTC lines. For this and for operating some non-economic routes, mainly rural ones, RTCs receive cash compensation from the government. In 1998, this compensation amounted to 5-10% of total revenue. Uneconomic routes are tendered, but the process amounts to little more than contract negotiation. Private operators do not provide fare discounts, and do not operate any non-economic routes.

RTCs are in financial difficulties. Summing up the 1998 results of all three companies serving the CMR, their revenue (from all sources) covered about 91% of direct operating costs and about 81% of total costs. The accounting shortfall in 1998 was Rs. 363m, handled mainly by increasing short-term liabilities. The Government does not provide cash subsidies to RTC, but lets them use depots and buildings without charge and provides them occasionally with bus vehicles and engines.[5] These are purchased centrally and parceled out to operators.

Bus services operate exclusively in street traffic, without any reserved lanes or priority at intersections. Still, they show an impressive performance. Galle Road is the busiest public transport corridor. In 1995, more than 5,800 bus vehicles per day were counted in the busiest section, carrying an estimated 190,000 passengers (about 19,000 in the peak hour, two-way). On the same road, private vehicles carry about 80,000 passengers per day and the suburban rail services carry another 61,000.

Regular taxis are available, but the most popular taxi service is provided by some 30,000 petrol-powered 3-wheelers, just like in many other South and East Asian cities. Fares are Rs 25 for the first km and Rs 20 for each successive km, which is considerably higher than public transport fares. They are used mainly by the middle class, or in emergency for lower income people. Owners tend to form associations mainly to keep prices high.

The Sri Lanka Railways network has some 215 km in the area. Its major asset is the potential exclusivity of its right-of-way. Four major, radial corridors converge on the main stations in Fort/Pettah district, with some lines crossing the center. These lines link Colombo with its suburbs and regional centers, carrying about 250 passenger trains per

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[5] The term "subsidy" is used for non-contractual payments by the Government to RTCs, whereas "compensation" is used for contractual payments.

day, at average speeds of 80-100 km/h.[6] The most important is the double-tracked Main (Northern) line, from which the important but single-track Puttalam Line diverges towards Negombo (now being double-tracked). A third set of tracks has been added to the Main line to Ragama. The South-bound Coast line (to Galle) is double tracked for about 30 km. The Kelani Valley line (to Avissawela) has recently been converted from the narrow-gage. The Main Line has 75 trains arriving daily at Maradana Station and 64 trains leaving; the Coast Line has 52 arrivals and 39 departures per day. Peak service is good, but the frequency and punctuality decay sharply in off-peak periods. Passenger volumes are low, about 155,000 passengers in the two peak periods each day, and declining. Rail services are essential on major corridors, carrying 12% of the market on the Coast Line (29,000 passengers in each peak) and 25% for the Main Line (34,000 passengers in each peak). About 60% travelers use season tickets, which enjoy a 45% discount and are much cheaper than a comparable trip by bus. Government employees have an additional discount of 75%. Not surprisingly, the ratio of fare revenue to <u>direct</u> operating costs of suburban services is low, of the order of 40% (1994 data), equivalent to that for SLR as a whole. The <u>total</u> cost recovery for SLR is much lower, about 20%. There is no arrangement for service and fare integration between SLR and street bus services.

Story 5: Padmini

Padmini is forty years of age and is the mother of two school going children. She is full time Home-Maker (a.k.a. House Wife). Her husband is an executive who uses the family car to commute to work. They live in a suburb 20 kms from Colombo. Their family income places them in the top (10th) decile of income earners. Padmini does not possess a driver's license and has no desire to drive a car. She has no need for a second car and a paid drive, even though their income may permit it. Her mode of transport when the husband is away at work, is a combination of para and public transport. For visits to her children's schools which are located in Colombo and for shopping trips she uses the bus. Once a month she makes a visit to a suburban hospital that is conveniently accessible by train going there, but she takes the bus back, as there is no convenient train connection. She also uses three wheelers and a hired van for more complicated trips such as her multi-stop weekly grocery shopping, late evening travel etc. She user three wheelers for short trips and prefers the bus for longer trips. She hardly travels intercity by bus, as the car is used for all such occasions. Her monthly transport bill comes to around Rs 400 of which bus and train fares do not exceed Rs 50. The children travel to school by school vans, which costs Rs 1,350 per month. The car that is company owned, costs around Rs 8,000 a month to operate, for which her husband receives an allowance of Rs 5,000 per month. Their net transport cost is around four percent of their household income.

Institutions

Sri Lanka has three levels of government: national, provincial and municipal. The national level is by far the most developed, and dominates other levels in organization, staffing and control as regards prices, taxes and revenues. At the national level, the key sectoral institution is the Ministry of Transport and Highways. Its road wing features the Road Development Authority (RDA), which is responsible for road maintenance,

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[6] Some sections have speed restrictions due to track problems.

rehabilitation of all "A" and "B" class (national) roads, and for new projects financed by external financial institutions. Also in the Highways Division is the National Road Safety Council, with its secretariat.

The transport wing of the Ministry has several key institutions. The most important for urban public transport is Sri Lanka Central Transport Board (SLCTB), once the umbrella public transport company serving the entire country. Its role has gone through several changes since 1950s. Its service monopoly has been taken away and its clout is diminished, but it still the dominant regulatory institution as far as public sector companies are concerned. It acts as a holding company and regulator of 11 RTCs, does all bus procurement, and operates different facilities such as the central bus station in Colombo, driver training schools, and bus workshops. In 1999, it had a staff of 3,500 and a capital budget of Rs 1,500m ($23m).

The National Transport Commission (NTC), with a staff of 90, regulates inter-provincial bus services, acts as a regulator of intra-provincial services when there is no provincial authority, makes arrangements for the transport of school children, provides support to provincial authorities, issues guidance notes, standards and specifications, and reviews performance of the transport industry. The Transport Studies and Planning Center acts as a secretariat for the NTC. The Sri Lanka Railways are a department of the Ministry of Transport.

Some important aspects of urban transport fall within the jurisdiction of other ministries. Traffic Police is under the Ministry of Defense, and the Urban Development Authority, responsible for land use and structure plans, is under the Ministry of Housing and Urban Development. At the top of the government hierarchy is the National Development Council, formally in the Ministry of Finance and Planning, reports to the Cabinet of Ministers, under the chairmanship of the President. It gets involved in all matters touching policies and longer-range planning.

Provincial Councils are of recent vintage. They were introduced by the 13th amendment of Sri Lanka constitution in 1987 to devolve powers of the government. Councils are elected, and linked through the Ministry of Provinces to the Cabinet of Ministers. In the Western Province, there are two institutions relevant for urban transport: the provincial Road Development Authority (WPRDA) and Road Passenger Transport Authority (WPRPTA). The WPRDA is responsible for roads that are neither national nor municipal. This would include local and agricultural roads of 12 foot width and less, some of which are graveled (Classes C, D and E). The WPRPTA is nominally the regulator of all bus services in the province, authorized to issue service permits, set rules that operators must comply with, install and maintain shelters and terminals, provide information to passengers, and monitor demand levels. In practice, however, it is a regulator of private operators only, leaving SLCTB with its traditional role as regards RTCs. It has no expenditure capacity (other than administrative expenses).

At the local level, municipal councils are responsible for local roads and traffic; water supply and drainage; solid waste collection and disposal. The Colombo Municipal Council (CMC), by virtue of the city's size and historical importance, is a much stronger institution than other municipal councils in the area. The Council, presided by a Mayor,

has 15 standing committees, of which one for traffic, highways and transport. The City administration is headed by a Municipal Commissioner, with three deputy commissioners, one of which is responsible for engineering services. Traffic, design and road safety is a division within the Engineering Services Department.

3. THE PERFORMANCE OF THE REGIONAL TRANSPORT SYSTEM AND THE UNDERLYING ISSUES

This section assesses how well the transport system of the CMR is serving its people, and discusses the underlying problems and issues. It is divided into three subjects: traffic (road services), public transport services, and their affordability to low-income households.

The diagnostic statements made herein are based on what is written in the recent studies and policy papers, both formal and informal. The abundance of data and analyses notwithstanding, the emphasis on the travelers, the shippers, the businesses, and the community and large is much weaker than that related to the supply side of transport. What is especially missing in the documents is the information regarding the interaction between the workings of the regional transport system and business activities, such as services, manufacture, and commerce. For an economy as export-oriented as Sri Lanka's, and given the CMR's position as its main gateway to the world, this lacuna is something to change in the design of future data collection efforts. Altogether, the focus on the "client" of the transport system should be strengthened in the policy and investment planning process. In the meanwhile, this section is necessarily skimpy and uses weakly supported generalizations. The readers are invited to help by additional data, corrections and different insights.

The performance of the road/traffic system
Traffic speeds are 22 km/h on average, but only 10-15 km/h in peak periods on main arterial roads in Colombo. Speeds are higher on the suburban road network, about 45 km/h on the average. On the busiest road corridors, there are some signs auguring of saturation, e.g. instances of stop-and-go traffic flow, and average travel speeds dipping to 5 km/h. Overall, and in relative terms, the traffic situation is still tolerable, Colombo being far from the extreme flow/capacity situations encountered routinely in Bangkok, Jakarta or Manila. Leaving average speeds aside, casual observations reveal that traffic is chaotic on main roads, abounding in conflicts within the vehicle stream, and between vehicles and pedestrians. As usual, bicycle riders get the worst end of this situation, which may explain low use of bicycles relative to a high ownership rate. Pedestrians also get short-shrift, especially as regards street crossing, but the situation on sidewalks -- where they exist-- is not much better. In majority of roads, pedestrians have to use poorly maintained shoulders. It is therefore no surprise that traffic accident statistics show that pedestrians and cyclists are involved in a significant proportion of traffic accidents. Data from 1992 show that pedestrians account for 23% out of 37,495 death/injury accidents reported and bicyclists account for 9%. Out of 1,577 fatalities, 528 (34%) were

pedestrians and 231 (15%) were cyclists (Kumarage, 1998).[7] Recent detailed analyses of accident causes point at motorcycles, three-wheelers and bicycles as the vehicles with highest accident rates. The compensation by insurance companies for these accidents is low, Rs. 500 on the average. The maximum payable for a person killed is Rs. 100,000, whereas payments for damaged or destroyed vehicles can go into millions (Kumarage, 1998).

Drivers trying to park also face difficulties in high-activity areas, since parking is weakly regulated and special-purpose spaces are rare. Hence the proliferation of parked and double-parked vehicles, some of which block moving lanes, entrances or sidewalks.

Behind the cited traffic characteristics is a combination of causes. Some arise out of a general scarcity and minimal width of roads, and structural deficiencies of the road network structure, such as the absence of orbital links and secondary roads. This can be corrected only through a major program of road construction, the opportunity for which is quite limited in Colombo itself, but somewhat better in the outer districts. Compounding the effect of the scarcity of infrastructure is the local traffic mix, wherein diverse vehicle types (buses of different sizes, vans, trucks, motorcycles, cars, 3-wheelers, bicycles) compete for space on narrow, undivided roadways. Strip-development is present on most urban arteries, which adds access problems to the frictions inside the traffic stream. The evidence of weakly controlled land development is everywhere, and consequences will be very difficult to correct.

Yet other causes of traffic problems have to do with traffic management and law enforcement activities, both still in their infancy in spite of strenuous efforts at institution building over the last decade. Probably the weakest spot is the law enforcement, the police having more urgent priorities. In fact, frequent police blocks and lane closures, applied as a security measure in the ever-threatening civil strife, add to delays and poor reliability in daily travel, and work against continuous and consistent traffic management. Some are at fixed locations on major roads, where delays are expected by the traffic and permit making alternative choices of route, time or mode of travel, while others are mobile and therefore have much worse impact. Traffic management has seen progress over the last 5 years, especially as concerns the use of straightforward traffic engineering techniques, such as geometric improvements at intersections (channelization and realignment) and the provision of grade separation at some key bottlenecks in the city of Colombo. Less successful have been attempts to improve traffic signal control, the CMC opting for inexpensive and robust intersection signals, stopping short of the more sophisticated corridor and area synchronization. CMC has capacity for traffic engineering design and processing small-scale projects through completion. Its traffic staff is small however, and is not up to a continuous and strong effort required of full-scale traffic management. The most urgent skills are needed for traffic signal design. No other institution on national or sub-national level, certainly not any other urban center in the region, has the capacity to do traffic management.

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[7] The 1992 data are cited here because they show the predicament of pedestrians and bicyclists. The most recent accident data available are for 1998: a total of 50,274 accidents was reported, involving 2,023 deaths, 2,349 serious injuries and 11,608 other injuries; the source (K.D.A.H. Nanayakkara, "Traffic problems: time to call off the bluff", **Daily News**, June 16, 1999) does not provide other details.

The pavement conditions affect both the comfort of vehicle occupants and pedestrians, and is also a key factor contributing to vehicle operating costs. The roads in CMR show an abundance of cracks and potholes, and other signs of neglect. Because of poor drainage, problems multiply during rains. As noted above, sidewalks are in an even worse shape, as are the shoulders on roads where there are no sidewalks. Countrywide, only 10% of the entire paved network is considered to be in good condition. Studies of road maintenance in Sri Lanka have revealed a tendency to neglect routine and periodic maintenance, the practice being to wait until rehabilitation is warranted or imperative. This is even more true of the sub-national road categories. Unit costs of maintenance are said to be considerably higher in Sri Lanka as compared to other countries in South/East Asia. This reflects a combination of having relied too much on using the force account for maintenance works, instead of developing a competitive market. In the CMR, road maintenance activities are carried out by the national and provincial RDAs, by CMC and by other councils. They have different organizational set-ups, different capacities and different funding patterns. Of the three, the RDA is the strongest institution and WPRDA is the weakest. CMC's road department has accumulated considerable experience in road maintenance and traffic engineering, but still suffers from shortages of qualified staff, lab equipment and analytical tools for maintenance management. Its maintenance activities are still done by force account, but a policy to move to contracting out has been adopted. The amount of funds budgeted for all road works has been the key problem, affecting the activities budget as well as the organization, in terms of staffing and salaries. Within the total available, allocations for maintenance have for some years been quite low. Moreover, there are high variations in the actual road expenditures from one year to the next, especially in the funds coming from the national government, a pattern which is not peculiar to road maintenance. This can be seen from the following data for the WPRDA and CMC (all amounts are in current Rs million):[8]

	1996	1997	1998	1999
PROVINCIAL ROADS (WPRDA)				
Amount allocated by the Government	130.0	145.0	196.0	134.0
Amount allocated by the Province	35.0	45.0	50.0	75.0
Total allocations	165.0	190.0	246.0	211.0
Actual expenditures	163.3	185.9	211.5	61.0
CMC ROADS BUDGET				
Total funds allocated	73.2	125.9	331.8	71.6
Actual expenditures	58.5	110.8	282.0	2.4
CMC GENERAL BUDGET				
Total funds budgeted	3,142.5	4,398.9	4,651.6	n.a.
Actual expenditures	1,408.6	1,672.3	1,652.1	1,700.0

Air pollution, as related to vehicle emissions, is not a serious health hazard as yet but has a potential of becoming so. Based on limited measurements in the CMR, the chief concern is the exposure of people to particles of less than 10 microns in diameter, now at a level of 40-50 mg/m3 (compare to a target ceiling of 20 mg/m3 in the U.S. and the

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[8] Sources of data: data for WPRDA are from Wijetunga (1999); data for road spending in CMC and for the entire CMC budget are from Fernando (2000)

European Union). The key contributors are under-maintained diesel vehicles and 2-stroke petrol engines on 2-wheelers, whose owners tend to use wrong lubricants. Other pollutants are due to poor quality fuel in general, and the presence of lead. A major underlying factor is the above cited high differential in petrol/diesel retail prices, which has driven the sales and use of diesel-propelled vehicles. The sales of diesel fuel have increased at a rate of 10% per annum since 1995, while the sales of petrol increased only 10% over the entire period. The recent introduction of diesel-powered motorcycles and 3-wheelers is going to make this situation much worse, given the popularity of these vehicles. The effort to establish and enforce national standards for vehicle emissions is of recent vintage and has yet to bear fruit.

In addition to the usual concerns about the performance of the road/traffic system, discussed above, it is noteworthy that the interests of one large group of road users are not on any agenda explicit in the documents available for this paper, namely the shippers of goods. Freight movements by road are essential in large urban areas, whether they involve the shipment of foods and other consumption items to their final destination, or the shipment of inputs to productive processes, or import/export shipments on links to the port and the airport. How long does it take to get the tea and textiles to the Port of Colombo? How long does it take or how much does it cost to get the produce from rural parts of the region to the markets in the city? Are there wild swings in the travel time? The reports are quiet on this subject.

Public transport services

The street bus service network is extensive, and main streets are full of buses, which would lead one to conclude that services are satisfactory. Yet, passengers complain of overcrowded and uncomfortable bus rides, of long waits, of vehicles driven at unsafe speeds and (in a seeming contradiction) of low travel speeds. The cited symptoms are indicative of poorly supervised, predatory practices of private operators in an oversupplied market, where drivers tend to race between stops, then linger at stops and terminals until full. Overloading by private operators was estimated in 1997 at 50% and the accident rate was 19.4 accidents per million bus km (compare to 12.3 for the "peoplized" public-sector operators for the same year). Buses operated by RTCs are said not to race between stops, but are aged and also overcrowded since the companies do not have enough operational vehicles to maintain their timetables. Overcrowding tends to be especially onerous for women, the children and the elderly.[9] Overcrowding is also common on the SLR's suburban rail lines. Rail travelers have to put up with frequent delays (on the Main and Coast Lines, only about 40% of trains are within 5 minutes of scheduled time, and about 30% on the other two lines); like with buses, the service quality is much worse in the off-peak periods both in terms of frequency and punctuality. The difficulties are compounded for travelers whose itinerary is not radial, requiring a transfer between bus lines, or between bus and suburban railway lines, there being no timetable coordination or fare integration. Also, services in off-peak periods and on low-density routes tend to be poorer than peak services, especially since private bus operators pull their vehicles out of service in these money-losing market segments. Finally, for the

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[9] These comments apply to "standard" services only. The quality of service is much better on the "luxury" buses and chartered vans, but at a sharply higher price.

school children and other passengers who get discount fares on RTCs lines but not on private lines, the frequency of service may be less than half that for ordinary passengers.

Behind the cited service problems lie unresolved issues of passenger transport regulation in Sri Lanka.[10] At present, the CMR's public transport system not only has public and private operators, but also two separate regulatory regimes. Neither of these appears to be working well. The term "at present" is of essence. It refers to the status quo as of the mid-2000. As noted above, this arrangement is but a temporary stage in a long-lasting and quick-paced series of experiments by the successive Governments with ownership, industry structure, and degree of regulation.

RTCs are over-regulated, adding to operational constraints due to street congestion. They follow fixed routes and schedules, the choice having been made on a combination of commercial judgement and political criteria (by various governments). RTCs must follow statutory rules as regards work hours and wages, as well as staff hiring and firing. Altogether, RTC managers have few instruments to manage the productivity and performance of the staff, the result being low productivity and low levels of service. There is even less freedom to maneuver on the revenue side. Though the 1992 National Transport Commission Act stated that fares are de-regulated and should be related to the costs of service provision, RTCs *de facto* do not have the freedom to set fares or change fare structure (more on fares in the next section). Students, school children and children under 12 get 90% discounts off both regular and season tickets. This is in part compensated by the government (through SLCTB), as are the losses on certain uneconomic, rural routes (through NTC). The total compensation received in 1998 by the three RTCs amounted to Rs. 106m which may be less than the actual revenue losses. CUTS2 estimated that uncompensated annual losses are of the order of Rs 51m. There is no formal provision for operational subsidies and none is paid in cash. Instead, RTCs receive an occasional gift of new vehicles or engines purchased by the Government through the SLCTB and use fixed facilities owned by the Government.[11]

A combination of low internal efficiency and an *ad hoc* approach of the Government to fare levels and compensation (see below for details) has placed RTCs in financial difficulties and brought on the low level of service.[12] The following table, showing 1998 operating income statement for the Metrobus RTC (which serves CMC), provides a telling, if incomplete, illustration of the financial situation:[13]

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[10] This account is focusing on street buses. The SLR's suburban services also have aged vehicles and are plagued by capacity problems due to single tracking, out-of-date signaling, poor track conditions, difficult mixing of local, regional and inter-city lines, and interruptions due to interaction with freight lines. The recovery of costs from the fare-box is even lower for the SLR than for the street buses, and, likewise, the government has not been able to close the financial gap. In that passenger fares for suburban services are even lower that for buses, and the discounts are deeper, the incoherence of the policy is even greater.

[11] In the period 1992-97, an average of 765 buses were turned over to public-owned bus companies each year, costing about of Rs 1,313m p.a..

[12] It was noted in CUTS2 that there is also revenue leakage. It is not clear whether this refers to the arrangement whereby RTC drivers get to keep the surplus of revenue over some agreed, route-specific level, or revenue leakage beyond this.

[13] The source of accounting data is: Working Paper No. 10, "Financial review of the Bus Sector", CUTS2, April 1999. The text warns that depreciation write-offs are questionable.

COSTS/REVENUES (Rs m)

Fare revenue	546
Other	106
Compensation from the SLCTB	34
Total revenue	686
Salaries	376
Fuel & oil	178
Spares and repairs	125
Administration	48
Direct operating costs	727
Depreciation	76
Total operating costs	803
Accounting loss	117

FINANCIAL INDICATORS (%)

Operating Ratio	117
Revenue/direct costs	94
Revenue/total costs	85

The losses are handled by bank overdrafts and arrears to the pension funds and various suppliers, a sure sign of an unsustainable arrangement. The reality is probably worse than the above numbers indicate. Companies in financial trouble tend to reduce maintenance expenditures, with a negative feedback to their operational output. Also, seeing one-year losses gives little idea of the accumulated liabilities. Having a full balance sheet and funds flow statement is essential to gage the depth of the financial problem. Because of the still-unresolved issues following the creation of RTC from "peoplized" companies, including the treatment of inherited assets and liabilities, the balance sheets for 1998 were not available to CUTS2. Nor is it clear that the completed balance sheets would contain proper accounting for subsidies in-kind, including vehicles, engines and facilities, or that a realistic valuation of assets would have taken place.

The internal impact of the financial ill-health of the three RTCs is best seen in that much of their fleets are immobilized: out of 2,625 buses carried on the books, only 1,336 (51%) are in service. The RTCs survive by operating younger buses, leaving the older ones to wait for better times when spare parts can be purchased and overhauls done. In terms of public finance, the immobilization of such a large number of public-owned buses represents a colossal waste of resources. The best depots have availability rates as high as 70%, but this is still far off the mark of 90% for a well-run operation. Low availability is the main factor behind bus overloading and poor frequency of service, two key aspects from the passengers' point of view.

Staffing ratios, when computed per bus in service are quite high, 9.4-10.2. This is in part due to the inordinate number of immobilized buses, but also to having inherited too many clerical and managerial staff when "peoplized" companies were fused.[14] Overstaffing reflects the unwillingness and/or the inability to lay off the staff no longer needed, due to the restrictive provisions of the Termination of Employment and

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[14] A shortage of drivers is also said to affect the low number of buses in service, not just their poor state of repair.

Workmen Act. This has resulted in a surplus in administrative staff and a shortage of operational staff. Being short of funds also means that little is spent on staff training, introducing technological innovations in service and administration, market surveys, etc. Were it not for this structural weakness, other performance indicators are reasonable, e.g. the average daily kilometers run for all RTCs is 200 km per bus in service, and the range is 165-220. Some depots, which operate longer suburban lines reach as high as 270 km per day.

On the private sector side, operators are under-regulated. Nominally, the role of WPRPTA includes approving applications for 1-year route permits, preparing timetables (basically departure times), monitoring performance and safety, and providing and maintaining stops and terminal facilities. In practice, WPRPTA is mainly active in issuing route applications, apparently without much concern for what might be an appropriate level of supply on any one route. It is empowered by law to regulate RTCs also, but it does not do so. Per contra, WPRPTA should have no say in fare regulation, but it does. It uses the route service application process to exert pressure on private operators to abide by the same fares as RTCs, but does little as concerns the essential activity of specifying and monitoring performance, and using sanctions to suspend or cancel route permits of operators who violate the terms of service.

Claiming that fares are set too low for a profitable operation, and profiting from lax monitoring of performance, private operators evidently pursue a predatory revenue-maximizing approach. On any given day, only two-thirds of the authorized private buses are actually placed in service. This is reflected in bus-km operated, 120-170 per day (compared to 165-220 for RTCs). The available data do not disclose whether these statements hold only for "standard" services only, or also for premium-quality services for which operators are allowed to charge higher fares.

If, for standard services, fares are the same and passengers do not have too much to choose from in terms of service quality, the key difference between public and private operations appears to be that the former incur financial losses, whereas the latter must be profitable or they would not remain in service.[15] The term "subsidies" is used here to refer strictly to financial and other assistance beyond the compensation for giving discounts to students and operating on low-volume rural routes, which the private operators do not provide.[16] The question whether there are also differences in the production efficiency between the two has attracted much attention in recent studies. This is not an easy question to answer, since data are generally not of good quality, and private sector is not known for sharing its cost data freely, much less the revenue data. The answer reached in CUTS2 is that the average direct costs <u>for both types of operators</u> fall between Rs 16 and Rs 20 per bus-km, and average full costs (including depreciation and financial costs) were Rs 18-22 per bus-km. Private operators had lower staff costs, higher fuel costs and lower vehicle utilization (km run). CUTS2 suggests that significant cost

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[15] The private operators interviewed for CUTS2 claimed that they were losing money, but this claim cannot be taken at face value, especially in an expanding-service market. It is likely, though, that the profit margin is low.

[16] Another difference, of course, is that student discounts are only honored on RTC lines.

differences are not between private and public operators, but between different types of routes.

It is difficult to believe that RTCs, whose staff has all the privileges of the formal job market, and with half of the fleet immobilized would be as cheap as the informal sector, the latter having a strong survival motive and following exploitative practices typical of the informal job market. The data do not permit a reliable resolution of this question. In the final analysis, however, asking whether private or public sector operator s have lower average costs is not very useful as regards policy. Neither are doing well as regards service to passengers, and RTCs definitely have productivity problems. The useful question to ask is how to set up and implement a regulatory arrangement for the entire pool of operators so as to get lowest costs for some desired combination of service and fares. Less restrictively, the question is to find a regulatory structure which would balance service levels and fares so as to have financially sustainable operations, as well as meet social and political objectives on the demand side.

In sum, the present arrangement is incoherent, since it has two different regulatory regimes, and its implementation is inconsistent in that fare regulation is applied by both national and provincial authorities without a legal sanction to do so. At least in part, this reflects an unfinished decentralization process, where "ambiguities of power and management .. undermine the delivery of … services at the local level" (World Bank, 1998).

Affordability of public transport for low-income people
The concern for affordability of public transport fares, especially for people at very low incomes, has for a long time been in the focus of professional and political debates in Sri Lanka. It is important to look at both the long-term trend in fare making as well as the current fares relative to incomes.

Since 1958 (Independence) fare increases have been few and fare <u>structure</u> has not been changed at all. The following table shows the history of changes in base fares, in current terms:[17]

Year	Unit fare (cents/km)	Increase (%)	Fare for 5-km trip (Rs)
1958	2.35	-	0.15
1971	2.77	18	0.20
1974	4.79	69	0.30
1978	5.47	16	0.40
1980	7.18	31	0.70
1980	11.60	61	1.20
1983	14.40	24	1.50
1983	17.00	18	2.00
1990	25.07	48	3.00
1996	28.51	14	3.50
2000	33.07	16	4.00

[17] Source: Kumarage, 2000 (Table 3.7). Fares consist of a step-in charge plus a distance-based part.

Also, fare increases bear no relation to general or specific inflation. The following table shows the Consumer Price Index since 1971, using 1990 as the base year, as well as fares/km in current and 1990 terms: [18]

Year	CPI Base=1990	Unit Bus Fares (cents/km)	
		Current	1990 terms
1971	10.3	2.77	26.89
1974	17.5	4.79	27.37
1978	20.3	5.47	26.95
1980	26.7	7.18	26.89
1980	26.7	11.60	43.45
1983	53.3	14.40	27.02
1983	53.3	17.00	31.89
1990	100.0	25.07	25.07
1991	112.2	25.07	22.34
1992	125.0	25.07	20.06
1993	139.6	25.07	17.96
1994	151.4	25.07	16.56
1995	163.1	25.07	15.37
1996	189.0	28.51	15.08
1997	207.1	28.51	13.77
1998	226.5	28.51	12.59
1999	237.1	28.51	12.02

It can be seen that unit fares were kept roughly level in real terms until 1990. Thereafter, they have been permitted to drop well under their past value in real terms, reaching in 1999 less than half of their historic levels. With regard to fares, the only consistent aspect hallmark of government decision making since 1990 has not been the reluctance to change fares, but a determination to reduce them in real terms.[19] At the same time, the real incomes in Sri Lanka have gone up. As noted earlier in this paper, the practice of controlling fares has survived the National Transport Commission Act of 1992, according to which fares were deregulated and placed under jurisdiction of operators. The accompanying trend of lowering the quality of service apparently has been of less concern to the decision makers.

How affordable are public transport fares under the present circumstances? Underlying this frequently asked question is the assumption that there are norms of how much travel should be "consumed" for some minimum level of mobility and how much that should cost in terms of household budgets. There being no widely agreed norms for urban and regional public transport, and given the essential arbitrariness of many norms, an attempt will be made here to see transport prices as they relate to incomes by approaching the subject from two sides: (i) how much is actually spent by different

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[18] Changes in the Consumer Price Index are from International Financial Statistics, published by the IMF.
[19] Changes in actual fares paid for different trip lengths follow a slightly different pattern because of the step-in charge.

households for travel by bus; and (ii) how much might be spent, using simple synthetic scenarios, by people at the bottom of the income range.

At present, the step-in charge is Rs 1.50 on all routes. The variable portion is based on sections, the length of which varies between routes. The lowest regular fare at present is Rs 2.0, rising to Rs 4.0-5.50 for a 5-km trip without and with transfer, respectively. A 10-km trip without transfer would cost Rs 5.50 and Rs 7.00 with transfer. For the school children and students, the discount is so deep that the rides are all but free.

On the passenger income side, the following table shows, for each income decile, the mean monthly incomes per earner and household, the percentage of bus passengers belonging to that decile, and the percentage of household expenditures going for bus travel (excluding school bus expenditures, which are minimal).[20] According to these numbers, bus passengers come almost uniformly from all income groups, an unusual result that should be tested in future surveys.

Income Decile	Monthly income		% of bus Psgrs.	% hh income spent for bus
	Per earner	Per h-hold		
1	732	1866	7.90	1.2
2	1596	3144	9.30	1.5
3	2227	3973	10.70	1.9
4	2840	4773	10.00	1.8
5	3512	5636	10.70	1.9
6	4284	6712	9.30	1.7
7	5255	8075	10.70	2.0
8	6649	10089	11.40	2.2
9	9037	13516	10.70	2.2
10	21465	29634	9.30	1.8

For the two bottom deciles, which correspond to the poor and very poor categories, these expenditures are in the range 1.2-1.5%. For the top deciles, the expenditures are 1.8-2.2%. From these numbers, it is reasonable to conclude that the actual spending on bus transport by poor travelers is low and could not be termed onerous. This conclusion is confirmed by a more detailed analysis of spending by poor and very poor households for all transport and communication items, separating urban households, from those in rural and estate groups (Kumarage, 2000). The spending for bus travel in 1995/96 survey is in the range 1.4-1.6% and additional spending for school bus travel is 0.1-0.2%.

Fares on the SLR's suburban lines are no more onerous for the low-income travelers than bus fares, and for some passengers they are much better. The base (3rd class) fare per km is equivalent to that for buses, but the season discounts on suburban

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[20] Income deciles are based on the 1996/97 Consumer Finance and Socioeconomic Survey conducted by the Central Bank of Sri Lanka (Kumarage, 2000). Distribution of bus passengers by income is from 1995/96 Household Income and Expenditure Survey (also Kumarage, 2000). It is not clear in the original source that the distribution of bus passengers by income and household expenditures for bus travel are coherent, coming as they must do from different sub-surveys.

lines are substantial, and government employees get even higher additional discounts. On the income side, 55% of rail passengers earn Rs 3,000-7,500 and 16% earn over Rs 7,500 (data from The World Bank 1997, Table 18, probably for the SLR as a whole). In view of this, it is difficult not to postulate that fares are reduced in real terms not for the sake of the poor, but for the sake of non-poor majority of passengers. There is evidence that there is a cultural aversion in Sri Lanka to paying for social services (Rannan-Eliya, 1997). The only available evidence to the contrary, i.e. that people are willing to pay for better public transport services, comes from the fact that high-priced "luxury" services are doing well.

A different picture is obtained by looking at what would be spent by individual households for bus travel under specific circumstances. These are of course many possible scenarios, but only three have been adopted to illustrate possible spending. In each, costs of the daily commute by bus has been estimated assuming that all income earners of household travel the same distance, 25 days per month and shown in the table below as a percentage of the household income. In the table, Case 1 refers to a bus trip 5 km long (each way), without having to transfer, with a fare of Rs 4.00; Case 2 assumes a 5-km trip with transfer or a 10-km trip without having to transfer (same fare, Rs 5.50); Case 3 is for a 10-km trip with a transfer, with a fare of Rs 7.00. [21]

Income Decile	Transport budget as % of hh income		
	Case 1	Case 2	Case 3
1	21.9	30.1	38.3
2	10.0	13.8	17.5
3	7.2	9.9	12.5
4	5.6	7.7	9.9
5	4.5	6.2	7.9
6	3.7	5.1	6.5
7	3.1	4.2	5.3
8	2.4	3.3	4.2
9	1.8	2.4	3.1
10	0.7	1.0	1.3

The table indicates that poor and very poor households could spend as much as 30-40% of their income for bus travel at current prices for a daily commute of 10 km with transfers. This last scenario is by no means representative of an upper limit, as illustrated by the stories of Mahinda and Padmini in Annex 2. Considerably longer daily trips are known to be made in the CMR, since many people come from Galle, Kandy and Ratnapura, traveling more than 2 hours each way (Kumarage, 2000).

It may appear that the numbers from synthetic travel budgets contradict the survey data on household spending for bus transport. What these different numbers do is map out the range from the actual to the possibly demanded. The actual average fare expenditures are low, but public transport is potentially a major expenditure item for the captive traveler. This says that the potential for exclusion is considerable. It is difficult

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[21] Since the fare levels used are the current ones, mean incomes for each decile, originally for 1996-97, were inflated to 1999 terms.

without further empirical evidence to gage the extent of exclusion, by price, area, or comfort. Large price and wage variations for essential goods and services have been noted to exist both within and between regions in Sri Lanka, which may be due to different levels of accessibility. Unfortunately, research has not been done to explore the links between the workings of the transport system and the prospects of producers of goods and services.

4. PROPOSITIONS FOR IMPROVING URBAN TRANSPORT IN THE CMR

This section reviews the main propositions regarding urban transport in Colombo, as they have been expressed in the recent spate of government policy papers and studies cited in the beginning of the paper. These propositions respond to the diagnosed problems of the transport system and visions of the future. The emphasis in this review is placed on the propositions put forward by CUTS2, as the most recent, the most comprehensive and entirely focused on the CMR. When propositions from other sources differ from CUTS2 to a significant degree, this is noted in the text. The review excludes one subject of strategic importance for Colombo, namely air quality. The propositions on this subject, e.g. the price of diesel fuel relative to petrol, the elimination of lead in automotive fuels, vehicle imports policy and the emission testing system, are discussed at length in other sectoral studies, and have intrinsic value whatever strategic urban transport choices are made for Colombo. Another subject, the link between funding of road maintenance and road user charges, is only touched to the degree that affects directly some aspects of the urban transport strategy.

The urban development strategy underpinning of the proposals

The proposals are based on the assumption that the land available for road widening and/or construction of new roads in the City of Colombo is quite limited, thus a large shift of passengers to private motor vehicles is neither possible nor socially desirable. The strategic focus for the City itself is therefore towards improving public transport services and managing the street traffic. This does not imply that the road network should not be expanded, but that road expansion is not the major axis of the strategy. In line with the recommendations of the regional Structure Plan (completed in 1998 by the Urban Development Authority), which calls for a poly-nuclear growth concept (satellite cities), the road development would consist of upgrading the major radial roads within the same right-of-way, while the expansion effort would focus on the orbital connections. Some of these would be within Colombo, to help develop areas between the existing radials, while others, of limited-access type, would be constructed in the outer areas of the region.

Propositions for reforming the regulation of the street-based public transport system

The options in this matter are quite diverse. It is possible to adopt an incremental, minimum-resistance approach. This would involve improved financing of the public operators coupled with improved regulation of the private operators as regards the quality of service. In principle, and even though the public sector has an important role to play in enforcing service and safety standards, this role does not require public operation or ownership of buses. Better regulation of the private sector could therefore be combined

with a complete divestiture or liquidation of the public-owned system.   This would encounter strong resistance by the unions however and may not be politically viable in the medium term.   A more feasible approach may be to change from in-market competition to an institutionally complex approach, based on for-market competition by larger operators and/or operator associations:

- a single regulatory authority (a strengthened Western Province Road Passenger Transport Authority) would have sole jurisdiction for public transport services in the region, not two as at present. This would terminate the role of the Central Transport Board in the Western Province;

- the authority would set service standards (networks, frequencies, punctuality, ..) and have capacity to monitor the operators' adherence to these;

- the authority would sign route service contracts with operators whether public- or private-owned.   This would require that private operators organize themselves into associations large enough to serve routes or groups of routes (a decision in this direction was already taken by the Government in 1998, allowing for the minimum fleet size of 50 vehicles by 2003);

- the authority would initially set fares and take all revenue risk, i.e. the contracts would be cost-based, with some revenue incentives. This is aimed at eliminating the current predatory practices used to maximize revenue and permitting greater integration of services. Over time, as the market and the monitoring capacity of WPRPTA improves, revenue risk should be shifted towards operators;

- fare structure would be changed to remove current inconsistencies as regards distance tapers, permit transfers, introduce quantity discounts, …; fare variations to reflect service quality would be maintained;

- a formal mechanism would be introduced to adjust fares annually, in line with inflation; CUTS2 proposals include fare adjustments to catch up for years of neglect, 30-40% increase over a 2-year period, to permit RTCs to break even, while other proposals (e.g. the paper on Bus Transport Policy) would merely maintain the current level of fares in real terms, for social reasons;

Whereas most sources agree on the above proposal, the ideas for getting there vary. The past failures of the "tinkering" approach, and doubts on the ability of public operators to be governed and managed in a business-like manner and shielded from political interference in their daily operations, would suggest a one-step move to a fully competitive industry structure, with immediate divestiture of the RTCs and tendering of all routes to private operators.   However, this approach may not be politically acceptable, and a more incremental approach may be necessary, especially as regards the privatization of RTCs.   In this incremental approach, the RTCs would remain at least initially in public ownership but with greater autonomy, including the weaning of these operators from the SLCTB.

Propositions for providing public transport system with exclusive-use infrastructure

- in parallel with regulatory evolution, public transport system development would proceed in two directions: (i) in corridors with high bus flows and where 6 lanes are available, bus priority would be introduced to the maximum extent possible, though stopping short of full separation; and (ii) a rudimentary network of semi-rapid transit lines would be introduced in the medium-to-longer term. This would include (or be built around) an improved suburban rail system (see below). CUTS2 is pessimistic as regards the realism of providing a fully exclusive right-of-way or even lateral exclusion for bus lines, and argue strongly for the use of light-rail technology (LRT) on the semi-rapid corridors, in preference to bus vehicles. The problem of scarce on-street width in major corridors would be resolved by elevation. Still, CUTS2 carried out a pre-feasibility study of LRT-based options, limited to financial evaluation, and showed persuasively that the investments required for such options would be unaffordable, given local preference for low fares and Government preference for not paying subsidies.

- the suburban rail system would be upgraded in terms of track renewal, double tracking, vehicles, signaling, motive power, operations management, and coordination with the street-based public transport system. There are sharp differences in the scale of what is being proposed. The Government is thinking of a major investment program, with an objective of doubling the market share of the suburban lines to 20%. This is considered unrealistic in both CUTS1 and CUTS2, which propose a more modest and gradual improvement program. The Government's version was included in the SLR's 6-year development plan;

- in regulatory terms, the suburban rail system would be set up as an independent network, separate from SLR's intercity services, with a possible private-public partnership, in the form of a long term concession. This proposal will be investigated in an agreed new study, scheduled to start towards the end of 2000.

Propositions for the road network
- it is recognized that traffic management is a continuous activity, combining tactical and strategic aspects, hence the importance of having an institutional structure at all government levels, national, provincial and local. Only this last exists at present, and only in the CMC. The first building blocks of this structure would be: (i) a Traffic Management Council, in the Ministry of Transport and Highways, to set policy, develop standards, ensure inter-agency coordination, assess of traffic management schemes developed by others, fund and monitor the implementation of such schemes, and do/commission research and development; (ii) a Traffic Directorate and a Traffic Management Unit within the Road Development Authority (with a short-to-medium term jurisdiction over the CMR outside the City of Colombo, and outside the Western Province, until other municipalities evolve to take over this activity); and (iii) a strengthened Traffic Division in the Engineering Services Department of the City of Colombo, featuring a new Parking Unit and Traffic Safety Unit;

- an activist approach will be adopted for parking management, including on-street parking control, parking charges, and enforcement. Actions needed to be taken by the

Government have been elaborated, including the legal framework and policy guidance, while leaving local governments to develop local policy;

- traffic restraint will be introduced in the central (Pettah/Fort) area, which will be become a pedestrian and public transport hub; a full-scale plan has been prepared for this, including the main bus terminal, one-way circulation plan, pedestrianization, and vehicle entry prohibitions;

- improvements would be made to 8 major radial roads, designated as "high mobility corridors," to increase their transport function while reducing their interaction with adjacent land uses; and

- road network would be extended through investments in new, orbital roads. It is generally agreed in various policy documents and studies that the creation of such roads in the Colombo region, and their connection/blending with the inter-regional network is necessary, especially if carried out in close cooperation with land use developments put forward in the Structure Plan. The agreement ends there. The Government has placed high priority on the construction of new roads such as Katunayake Expressway (the start of construction was announced in August 2000), Southern Highway, and Outer Circular Road. Both CUTS1 and CUTS2, as well as the above cited policy documents, place much higher priority on the relief of the existing radial roads (the preceding item) and traffic management.

5. A DISCUSSION OF THE PROPOSALS ON THE TABLE

The larger, country context in which this discussion of urban transport in the CMR is taking place is a patchwork of light and shadow. Sri Lanka has managed to maintain steady if modest economic growth, in spite of a 17-year long civil strife. Unemployment is low and so is inflation. These results owe to good macroeconomic management, trade liberalization, and privatization. On the other side of the ledger, the pace of development is believed to be much lower than the country's human and resource potential would permit. The contributing factors to relatively low growth rates, other than the civil war and its attendant horrors, include rigidity in the labor markets, and a gone-astray poverty reduction effort, many of whose benefits have been captured by the non-poor. There is also a visible deterioration in public sector institutions, especially the administration which is "oversized, costly and suffers from low efficiency" (The World Bank, 2000).

The more narrow context of urban transport features accelerated motorization, a result of and an input into economic growth, and a travel market laden with low-income and poor households. The most visible people-side transport problems in Colombo have to do with poor public transport services, a consequent shift towards individual motor vehicles (2-wheel and 4-wheel), and increasing traffic congestion with its accompanying dangers of accidents and air pollution. The main factors contributing to these problems are poor regulatory set up and practice, and severe constraints on the road infrastructure in the central Colombo, respectively. This last works especially against public transport vehicles, it being difficult to grant this mode its own, protected street space.

Against this background, the main axes of the above described strategy are: (1) regulatory and pricing adjustments in urban public transport, with improved public institutions on the critical path; (2) a much strengthened traffic/parking management activity, combining traffic improvements with traffic restraints; (3) road upgrading in major corridors outside the central area; and road expansion in the outer segments of the region; and (4) the upgrading of the suburban rail network as Colombo's main chance to come close to mass rapid transit services. Do these proposals amount to a complete and coherent package, which could be called a strategy?

The answer is a qualified yes. The technical concepts of the proposed strategy are sound and coherent, but the strategy lacks some essential components. Also, some long-standing tensions are left unresolved, and there is also a question of implementation in the absence of a strong leading institution, the strategist of the piece. These lacunae will now be discussed.

Funding the proposed actions.
The most conspicuous aspect missing from the recommended program is its financial dimension, both its current and capital costs. It is telling that the CUTS2 Final Report provides an exhaustive list of the proposed actions, including investment projects, but with very few cost estimates and without an attempt to place the costs of the entire program within a budget perspective. This is not a criticism of the CUTS2 team, since their terms of reference did not include a budgeting exercise, nor were they asked to develop a resource generation plan. Unfortunately, without a budget constraint it is difficult to establish the funding priorities for the program, and its implementation schedule. This will need to be done.

The problem is exacerbated by the fact that the revenue collection and budget authority regarding the CMR is split among multiple institutions, on the state, provincial and local levels. For each of these, funding transport improvements in Colombo is but a segment of their total investment budget. It would be difficult to make sense of these pieces without a full-scale analysis of public expenditures. As a first-cut, however, a simple approach is to look at the historical spending by all the institutions involved. It is quite unusual for future spending to increase beyond the rate of increase in major macro-economic variables, which is helpful in establishing the upper limit on budgets. Judging from what is said in the various reports about the problems of funding road maintenance and/or paying compensation to RTCs, budgeting at all levels is a problem in Sri Lanka, and inter-government financial relations are especially problematic. This bodes ill for the implementation of any comprehensive transport investment program that cuts across institutional boundaries, as this one does.

Managing motorization
Going beyond the preceding comments on budget constraints, for a transport strategy to be complete it would be essential to take a comprehensive look at pricing and funding for all transport modes in the context of dealing with increased motorization. For the time being, the available studies address only the pricing of Sri Lanka's public transport services and fuel taxation as it applies to funding road maintenance. In the studies reviewed here, pricing road use as a tool for both traffic management and revenue generation was touched only through a ritualistic mention of electronic congestion

pricing, and was quickly dismissed as unpractical and premature in Colombo. This is not an unusual approach to pricing urban roads, but it is regrettable. With rare exceptions, the transport profession in many countries appears to be willing to wait until traffic congestion in a given city has become intolerable, before trying to reach for the pricing instrument.

The standard approach to road pricing and funding has been to charge for road use through fuel taxes, applied nation-wide. The funds thus generated normally go to the treasury, contributing to the general government revenue. Funding road maintenance and road expansion in this approach, for all categories of the road network, is done through normal budgeting processes of the government. A variant on this approach involves setting up a dedicated road fund, fed by a specified portion of the fuel tax. These funds are then used to finance road maintenance, or the entire public budget for roads. As an approach to cost recovery, this tends to work well for nation-wide road networks, but fails to capture the difference between average and marginal social costs on congested roads, especially in urban settings. Moreover, a national fuel tax is too blunt an instrument when it comes to managing traffic in specific places and time periods, typically to ration scarce space in the presence of congestion. Increasing fuel tax rates to staggering magnitudes, as a means to restrain urban traffic, has been attempted in several European countries (e.g. Holland), without much positive impact on traffic congestion.

A widely used complementary approach, also proposed for the CMR in CUTS2 and other documents, involves some form of traffic restraint, above and beyond the use of traffic engineering techniques to fine-tune the street system. Entry by motor vehicles into defined sub-areas is limited or prohibited, with parking controls and parking charges introduced to allocate the scarce street space between different classes of users and to dampen the overall demand. This is done in tandem with subsidies to maintain high-quality public transport services, the availability of which is expected to slow down the modal shift towards private vehicles. This standard approach may for a time provide relief from congestion, but it is non-selective and it leaves open the question of funding new urban roads where expansion is warranted. By and large, worldwide, it has failed as an approach to managing motorization in a sustainable manner.

The least tried approach to managing motorization is to introduce some form of locally-based road use pricing. This could be a simple peak period entry fee made famous by Singapore, tolling all new limited-access urban roads as is done in Norway, or a more advanced form of area-wide road pricing using electronic means. All of these, but especially the first and the third have a potential to be effective both as a tool for traffic management _and_ for revenue raising. Several conditions, however, have to be met for such a road charging system to be acceptable. The national fuel taxes and vehicle ownership taxes must not be excessive, and the proceeds must be treated as would be the business revenue of an urban utility company. In other words, the revenue should be plugged back into the system, or the measure would not have the public support. The situation in Sri Lanka is that the petrol tax is already high and the pressure is to raise diesel taxes both for reasons of equity and air quality. Ownership taxes are also high. If this trend continues, the likelihood of ever introducing locally based road use fees is low, hence the potential to manage effectively and develop the transport system of the CMR would also be low. The thrust of this argument is not to recommend that diesel taxes be

kept low or that congestion pricing be introduced in the CMR. What is recommended is to ensure that the national road use charges and the road fund, whose political acceptance in Sri Lanka appears to be increasing, be designed in such a way that it does not preclude the introduction of locally-based congestion pricing in the future.

The preceding section discussed the fact that the proposed strategy and investment program neglected the budget constraint, and suggested that past spending would be a good guide to how much may be available in the future. Is there some potential for providing a stable funding source for the urban transport sector in the CMR? Short of introducing city-based road use charges, there are no proposals on the table for funding transport other than what might be allocated from the future, national road (maintenance) fund. Is there some scope for thinking about a CMR Transport Fund? Funds of this type exist mainly in France, nourished by a dedicated tax on salaries, an approach not easily recommendable to any developing country. A possible approach would be to have a fund based on allocations to the CMR coming from the normal budget process on both road and public transport sides, and/or from the Road Fund when it is implemented. For this to happen, there have to be an institutional set-up at the regional level ready to receive and use the funds. More on this below.

Poverty alleviation and public transport fares.

The most frequently cited rationale for keeping public transport fares lower than their economic levels is the desire to help some segment of a society, e.g. low-income people. In Sri Lanka, the accepted view is that the Government keeps the fares low because of the affordability to poor households. Through various processes reviewed above, this has resulted in poor services by both private and public-owned operators. What is wanted now is better services. In their recommendations, CUTS2 and various Government committees agree that improved regulation is needed, (i.e. competition for the market, tight implementation monitoring, cost-based contracts, liberalization of RTC's terms of reference), but disagree on whether fares should be raised in real terms. Those who argue for fares remaining at current levels, albeit with introducing an annual fare adjustment process, do so on poverty grounds. If fares are raised in real terms, the argument goes, this would hurt the low income travelers' chances of finding and keeping jobs. These are different strategic orientations indeed. Which is the better one?

First, it is important to make a distinction between general fares, available to all passengers, from preferential fares, available only to specific categories of passengers. Low fares indeed help the poor people, but when available to all travelers they also involve a leakage of benefits to income groups which should have no claim to them. The income distribution of bus passengers presented earlier in this paper is almost uniform across all categories, i.e. about 80% of all passengers are above the poverty threshold. It follows that the leakage of benefits, such as they are, is considerable. At the same time, there are people for whom the current level of fares may be too high. The higher the leakage, the lower will be the funding capacity to help those at the very lowest rungs of the income ladder.

Only if the low-income people were in the majority of passengers would it be acceptable on income distribution grounds to maintain general fares at low levels. This holds for some rural transport services in the country, some of which may be in the CMR,

and requires a special, separate treatment. It follows that the general fares on ordinary lines should be raised in real terms, though not as a stand-alone measure but in package with other regulatory changes. Merely raising fares under the current regulatory setup would be unlikely to lead to better services, especially not from the weakly monitored private operators. Given that the great majority of public transport services are ordinary street-based buses, without any specialized infrastructure, there is no reason why the sector should not be self-financing. Indeed, general fare levels should aim for full cost recovery, albeit for some higher level of service than is currently the case.

Assisting poor passengers and would-be passengers on most lines operated by the RTCs in the Colombo region should be done along the same lines as is currently done for schoolchildren and students – through a targeted program with an explicit compensation formula and a demonstrated funding capacity. A corollary to this is that discount fares should be offered by all operators, whether private or public-sector owned.

It may be that the targeting approach to helping low-income passengers also will result in benefit leakage. Even in transfer programs meant specifically for the poor, such as Samurdhi, it is estimated that 44% of benefits are going to top three income quintiles (The World Bank, 2000). This, however, is not an argument against targeting, but for better administration of social assistance programs. There is evidence that such improvements can succeed, e.g. the screening method used under the Janasaviya Program, based on the possession of consumer durables in poor households. It may take time to achieve good targeting for assistance related to mobility, but in the meanwhile, the debate on the level of general fares will be directed at service levels and operators' costs, not poverty.

Public transport fares, service quality, and motorization.
The only argument for maintaining low fares in urban public transport, other than assistance to low-income people, has to do with trying to prevent a shift of passengers from public transport to automobiles and motorcycles. This principle is theoretically sound only when the users of individual transport modes are charged lower than economic prices (for using roads). Unfortunately, the modal shift argument is strong only when the level of service offered by public transport modes, in terms of access, frequency, reliability, comfort, and safety, is high enough to be competitive with individually owned motor vehicles. Poor services create and maintain a powerful incentive for better-to-do passengers to leave the public transport mode, and it is very difficult to get them back. Such a shift has been reported in the CMR and is likely to accelerate in line with economic growth. If the country or the city is wealthy enough, and if the wealth symbolized by increased motorization is also taxed to generate resources to build roads, and if there is space to build roads, modal shift away from public transport may take years before it becomes socially undesirable (e.g. in environmental terms). Per contra, if the country is not wealthy, and if the wealth, such as it is, is imperfectly translated into fiscal resources, and if the space for building roads is scarce, the limit of social undesirability of motorization is reached quickly. In such a case, it is imperative to have good-quality public transport services to reduce the pressure on roads. This is the case of the CMR and Sri Lanka.

The approach taken in the CMR at present, to assure quality services for those willing to pay more, is to issue permits for "luxury" bus lines and allow them to charge fares much higher than for standard services. The approach has its advantages, though here, too, the absence of for-market competition and lax monitoring of the terms of service mean that the service is not quite "luxurious" and the price level charged is probably too high for what is being offered. These weaknesses could be readily corrected by applying the proposed regulatory strategy to this type of service also, but permitting from the outset bidding for the lowest fare.

While the successful provision of "luxury" bus services in the CMR invalidates the argument for keeping fares low to prevent or slow down modal shift to motorization, it cannot be used to justify the maintenance of the rest of the market at its rock-bottom service level. "Luxury" buses probably tap only a part of the market which is tempted by switching to an individual motor vehicle. The modal shift in the CMR is not simply from buses to automobiles, as it happened in Europe and the U.S., but primarily from buses to motorcycles. This is modest man's motorization. Having "luxury" bus services is likely not effective for this market. What is needed for the majority of travelers is a good standard service, efficiently produced and priced to cover costs. This is exactly what is being proposed in the above strategy, with a necessary corrective of removing the poverty concerns from the decisions regarding fares and service levels.

Poverty and transport: forgotten modes.
The concern of the Government for the mobility of low-income people, so prominent in the efforts to maintain low fares in both urban and rural public transport services, needs to go beyond fare and service policies in public transport. Judging from the studies and policy documents reviewed for this paper, walking and/or using non-motorized transport modes in the CMR are neglected subjects. Bicycle ownership in the CMR is high but the usage is low, therein lying a potential for expanding the role of this mode, even if it be limited to just local transport and collection/distribution for bus and rail networks. Without any prejudice as to how large a role this may turn out to be, it is recommended in the next batch of studies to have an explicit focus on non-motorized vehicles and the demand for their use. The World Bank and other international lenders should assist by incorporating a safeguard review for non-motorized transport for all the roads financed under its loans. The main problem appears to be the shared road space, something difficult to correct under CMR conditions. Still, there may be existing road itineraries where a better design is possible, e.g. the introduction of service roads. Such design features should be obligatory on all new orbital roads.

What to do with the regional transport companies.
The future status of RTCs and that of the SLR's suburban operations is one where there is little consensus among various teams contributing to the CMR transport strategy development. The range of options proposed runs the gamut from merely attempting to change the terms of reference for this particular set of public-sector companies to outright privatization or liquidation of the RTCs. The history of regulatory reform of passenger transport services in Sri Lanka cited in Chapter 2 shows that all past attempts have been grouped towards the former part of the range, i.e. tinkering with the public sector companies without changing the essential parameters of their existence. It is possible to read this history as evidence that no progress in the service output and cost-efficiency of

these companies is possible without privatization. In a long-term model, public ownership of buses is not a necessary part of an effective public policy to ensure effective and safe transport, and it has certainly not been shown to enhance the efficiency of bus operations. However, it is clear that the Government's fitful fare policy – even more than the weak efficiency incentives which often go with public delivery – has been the primary cause of past failure. If fares are raised, and/or if the fare issue has been taken out of the equation by a gross-cost contracting approach to service contracting, publicly-owned RTCs could certainly perform better than they have in the past, and competition for the market between RTCs and private route association would be the best way to determine the pace and extent of privatization in the sector.

The resolution lies in giving up the obsession with one, single-best solution (Samoff, 1996). This is made easier by the fact that the policy decision does not involve the status of just one public-owned company in this sector: there are three RTCs in the region and another eight in the country. There is also the Sri Lanka Railway, which potentially could be disaggregated into several companies. The approach to be taken should be incremental and experimental, starting at a small scale. The reform process for bus passenger services should be launched through one gross-cost tender for a major street corridor, open to private bidders only as a means to establish a viable private-sector benchmark and so create "yardstick competition" which would drive the RTCs to improve their efficiency. Restructured RTCs (or public or private spin-off companies which could be created in this restructuring, for instance composed of selected depots from one or more RTCs) would be able to compete in subsequent route tenders. Nothing prevents that "modest" reforms be implemented for other RTCs while they wait their time to bid for services in subsequent tenders, whether or not they are privatized before tendering. The reform would proceed by gradually enlarging the route network where services have been awarded competitively, with feedback from previous cases. The unfolding experience would point to either privatization or restructuring as the more successful way under the local, Sri Lankan circumstances, especially the pace of the overall privatization program in the country.

The recommended approach is akin to one of the two variants used in the most cited and successful case in recent history of public transport regulatory reform, that of the UK. There, one distinct approach was implemented in London, along the lines suggested above for Colombo, and another approach, much more in the vein of in-market competition, was implemented in other British cities. In London, some tenders were won by private operators and others by public-owned operators. There were gains both on service and cost sides. Outside London, the gains were mainly on the cost side, i.e. the subsidies paid by the local authorities were reduced drastically; service quality and patronage suffered, and there may have been negative environmental impacts also. Both approaches persist in the U.K. to this day, some twenty years later. The long-term trend in London is to increase the revenue risk taken on by operators, i.e. by going from gross-cost towards net-cost contracts. Also, the successful public-sector companies have been moving into the private sector. The key to success has been in abandoning the comparative-statics, blueprint approach, and going for diversity and adaptation. It is this orientation that can be fruitfully emulated elsewhere, certainly in Sri Lanka.

The strategy without the strategist.

Of the four essential elements of any strategy (what is to be done, how is it to be paid for, who is in charge, and who will do it), the above discussion dealt with the first two. With regard to what is to be done, it was said that the technical propositions for the CMR put forward by various consultants and committees are reasonable. With some correctives, they look promising. The funding side was found lacking, with locally based road use pricing as the only promising, albeit distant option.

The last two essential elements of the strategy have to do with the jurisdiction and capacity of implementing institutions. The problem of multiplicity of institutions and fragmented authority over transport modes in the CMR has already been alluded to in the preceding discussion of budgeting, in that it is difficult to assess the resource capacity and priorities in such a setting. More bluntly, the matter has to do not just with having legal authority and administrative capacity but having control over funds. It is indeed difficult, if not impossible, to have an effective strategy without a body with a sufficient legal authority and funding capacity. This problem has plagued urban transport planners the world over. It is no coincidence that the most successful urban transport programs have been implemented in authoritarian city-states like Singapore and Hong Kong. Similarly, the implementation of some politically difficult transport planning decisions, e.g. the insertion of an at-grade busway into busy city streets, was first done in some cities while they were under military rule (Curitiba and Istanbul).

The situation in the CMR is especially difficult in this respect because the creation of provincial governments has not been accompanied by a realistic transfer of power over resources. This has left both provincial and council authorities in an unsettled state. The provincial Road Development Authority is not weak just because it has too small a staff, but because it does not have the funding capacity. Funds tend to drive plans, not the other way around. In this perspective, the proposition found in some of the cited documents that a Transport Authority should be set up for the CMR, with jurisdiction for all modes, is a attractive, but it is doable only if there was also a funding mechanism attached. The feasibility of keeping two separate modal authorities, the WPRDA and the WPRPTA, but making them effective, is in question – unless they get some money to spend. The fact that WPRPTA by law has the jurisdiction over RTCs, but cannot exercise this authority, can be traced to the arrangement wherein the financial assistance to RTCs comes from the SLCTB, not from WPRPTA. It follows that WPRPTA to become a genuine regulatory authority it has to be given the resources sufficient to pay for the difference between the revenue take and costs of route service contracts with operators. If the movement to setting up a national or regional Road Fund gathers momentum, implying a financially stronger WPRDA, a marriage between WPRPTA and WPRDA may hold some promise.

6. THE PAST AND FUTURE ROLE OF THE WORLD BANK

The past

The Bank first intervened in the urban transport sector in Colombo in 1980, through The Road Passenger Project (Cr 994-CE; PCR No. 8011, August 1989). The beneficiaries of the credit were the then newly formed 9 Regional Transport Boards, the

temporary heirs to the original SLCTB. The funds provided by the credit, amounting to $53m, were used to finance the purchase of bus vehicles, engines, and parts, and the improvement of bus maintenance facilities of. Apart from improving services and operational efficiency of the regional companies, the Project aimed at their financial stability, mainly through fare increases. In parallel, the Government liberalized the re-entry of private operators in the road passenger sector, from which they had been banned in 1950s. The development objectives of this project were not reached. The Government did make two drastic fare increases in 1980, but then chose to freeze them in 1983, for both public-owned and private operators (see the history of fare changes earlier in this paper). Furthermore, "no changes were made to allow the regional companies to compete more effectively with the private sector. Public sector purchasing and personnel rules were retained and fares were controlled. This omission brought about a gradual deterioration in services provided by the public companies, while the privately owned buses prospered." (The World Bank, 1990). The Completion Report does not say how the passengers fared.

A decade later, passenger transport was addressed through a component of the Economic Restructuring Credit (Cr 2128-CE; approved in 1990 and completed in 1995; ICR No. 14986, dated September 1995). This Credit was co-financed by the Government of Japan and supported by a parallel IMF operation. Having failed to mend the state of the public-sector bus companies in the first project, the Bank now became the mid-wife in the break-up of the Regional Transport Boards into 96 small-scale, "peoplized" bus companies and a dozen workshops. The plan was to have 20,000 surplus staff compensated to leave, and terminals and other facilities were to be either privatized or given to local authorities to manage. The remaining employees received 50% of the shares of the companies, and the expectation was that they would become fully private in the near future. A considerable increase in fares was agreed under the Credit, as was the legislation to deregulate fares by December 1990. The breakup did take place, with 28,000 staff moving to the new companies and about 13,500 staff taking voluntary retirement.[22] A 48% fare increase was approved, and the law on fare deregulation was passed. As noted elsewhere in the paper, the law on fare deregulation has not been respected. The "peoplized" companies did show some operational improvements, but most of the old problems of low efficiency and financial ill health persisted, this last made worse by the Government's unilateral wage increase. New problems of coordination arose and the services suffered. Eventually, a re-grouping of the "peoplized" companies into 11 RTCs took place in 1998. Among the lessons drawn from this operation, the advice to focus on building strong support for a few of (2-3) most important policy changes stands out, to avoid "the reform fatigue" as well as reduce the preparation and implementation costs. Another important point, which has recently become widely acknowledged, is that the political support for the policy reform needs to be broad, not limited to the narrow circle of the government elite. This goes together with the advice to consider carefully the short-term winners and losers of the reforms undertaken.

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[22] These numbers are from the Implementation Completion Report, para. 31. In the part of the same report written by the co-financier, Japan's Overseas Economic Cooperation Fund, the number of retired staff is 26,000 out of the total staff of 52,000 (Annex 3, p. 44).

More recently, the Bank's tangible involvement shifted to financing urban road and traffic improvements. The vehicle for this was the Colombo Urban Transport Project, approved in May 1993 and completed in June 1999 (CUTP, Ln 2495-CE; ICR Report No. 19900, December 1999). The reform agenda of this project (but not the loan funds) retained the focus on road passenger transport organization and policy. Also, reflecting much more ambitious plans when the project preparation started, reforming the SLR was added to the agenda. The loan was for US$20m equivalent, of which about US$14m was disbursed and US$6m cancelled. The greatest part of project costs (76%) went for traffic improvements in the most congested section of Colombo's road network (Olcott Mawatha corridor and the Maradana junction). The remaining 24% was spent for studies, including CUTS1 and CUTS2, other technical assistance and minor equipment for bus regulators and operators, for the SLR, and for air quality monitoring within the Clean Air 2000 action program. The key development objective as regards urban public transport was to "strengthen the bus regulatory capabilities of the National Transport Commission and Provincial Councils."

Beyond the undisputed success of the physical investment component of the CUTP, the project succeeded in installing threshold-level capacity for traffic management in the CMC, and in plotting in sufficient detail the traffic management activities over the next 5-year period. The project was also successful in that, through CUTS1/2, it supported the development of a comprehensive transport improvement program, discussed above. On the debit side, it failed as a vehicle to introduce lasting regulatory reforms in the public transport market and to increase the efficiency of the SLR, for which it clearly lacked any leverage other than the technical assistance.

The Implementation Completion Report for the CUTP (World Bank, December 1999) states in its summary of lessons learned that the objectives of future projects "should be related to what the project <u>can</u> deliver" and that "the potential results of institutional strengthening (read: implementation of major policy changes) …depend critically on the progress of country-wide economic and decentralization reforms." On this same subject, the Borrower's section of report notes: "In retrospect, widespread agreement is observed among the Sri Lanka Transport Policy makers that the …. reforms were over-ambitious and inappropriate, being grounded in neo-classical economic ideology and a lack of appreciation of the socio-economic realities of the implementation environment of Sri Lanka."

Just like in the preceding lending operation, the completion report for the CUTP found that having "too many implementing agencies involved with the project weakens the impact of dialogue on project matters and policy reforms." An additional lesson may be drawn from the CUTP. For a possible future Bank lending operation to be effective as a catalyst and an instrument of change, it should have a mutually reinforcing coupling of investments and reforms, preferably dealing with one institution only. Conversely, far-reaching reforms are less likely without funds attached to the reforming institution.

The Future

It is not known at present whether or not the country assistance strategy being prepared by the Government and the Bank will identify urban transport as a priority for

future Bank involvement.   In the light of the preceding discussion of the transport development strategy and the experience from past projects, the following three initiatives stand out as the most critical for the success of the urban transport strategy in the CMR:

- In the short term, the pivotal aspect of the public transport regulatory reform is the separation of fare policy from the social assistance concerns. It is this action (with accompanying elements on the regulatory side) which will make the largest difference in getting higher-quality public transport services. Raising fares in real terms and adopting a systematic fare adjustment procedure would require action by the sectoral authorities, e.g. Ministry of Transport. Introducing a social assistance program for mobility would require action by different branches of the Government. This essential reform of fare and subsidies policy would dovetail with delivery-side measures to raise the efficiency of bus fleet operations through competitive tendering of routes.   Its impact could be further enhanced by traffic/mode separation improvement on key bus corridors.

- In the medium-term, a success in restructuring the present SLR suburban rail operation into a high-quality, efficient and financially sustainable transport mode will make the largest difference to the cause of managing motorization in the CMR. This would be a large-scale undertaking, requiring a public-private partnership, large-scale investment funds, and a fare reform much more painful for the current passengers than that for the street bus lines.

- In the longer term, focusing on both congestion management in the central area and funding the expansion of the regional road network, the critical ingredient will be road use pricing. More specifically, it will be the design of the national road use pricing system and the possibilities it leaves for the introduction of locally-based road use pricing. It is this action which will give the means to the regional transport institutions to plan and act strategically.

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ACRONYMS

CMC	:	Colombo Municipal Council
CMR	:	Colombo Metropolitan Region
CMRSP	:	Colombo Metropolitan Regional Structure Plan
CUTS1	:	Colombo Urban Transport Study (Stage 1)
CUTS2	:	Colombo Urban Transport Study (Stage 2)
HIES	:	Household Income & Expenditure Surveys
MoTH	:	Ministry of Transport & Highways
NDC	:	National Development Council
NPD	:	National Planning Department
NTC	:	National Transport Commission
RTC	:	Regional Transport Company
SLCTB	:	Sri Lanka Central Transport Board
SLIS	:	Sri Lanka Integrated Survey
SLR	:	Sri Lanka Railways
SLRA	:	Sri Lanka Railway Authority
UDA	:	Urban Development Authority
WPRDA		Western Province Road Development Authority
WPRPTA	:	Western Province Road Passenger Transport Authority