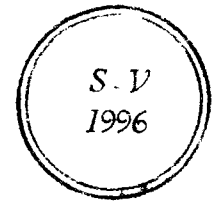


Passenger and Goods Tax for Delhi Pros and Cons

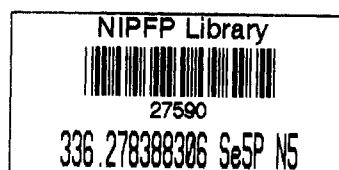
2005
SV

Final Report



Tapas K. Sen
O. P. Bohra

February 1995



NATIONAL INSTITUTE OF PUBLIC FINANCE AND POLICY
New Delhi 110067

PREFACE

The National Institute of Public Finance and Policy is an autonomous non-profit making organisation, whose major functions are to carry out research, undertake consultancy work and impart training in the area of public finance and policy.

The study on *Passenger and Goods Tax for Delhi: Pros and Cons* was entrusted to the Institute by the Transport Department, Government of National Capital Territory of Delhi. The work for this Final Report, which incorporates the Interim Report submitted earlier, has been carried out by Tapas K. Sen and O.P. Bohra.

The Governing Body of the Institute does not take any responsibility for any of the views expressed in this Report. This responsibility belongs in general to the staff of the Institute and more particularly to the authors of the Report.

A. Bagchi
Director

ACKNOWLEDGMENTS

This study was taken up by the National Institute of Public Finance and Policy at the request of the Transport Department, Government Of National Capital Territory Of Delhi. We thank Shri Ashok Pradhan, then Transport Commissioner, Delhi, for taking a personal interest in the study. Shri K.N.C. Sharma, Accounts Officer in the Transport Department, has provided us with relevant information and has acted as our contact person in the Department for which we thank him.

It was important for this study to obtain detailed information on motor vehicle taxation in States other than Delhi. We were fortunate in being able to gather almost all the information we needed, thanks mainly to the officials of the Transport Departments of the selected States in Bombay, Calcutta, Faridabad (for Haryana), Chandigarh (for Punjab), Alwar (for Rajasthan), and Lucknow (for Uttar Pradesh). Shri S. Barma, Special Secretary, Finance Department, Government of West Bengal and Shri P.B. Janwalkar, Assessor and Collector, Bombay Municipal Corporation have extended full cooperation in this endeavour. Without the help of these officials, it would have been impossible to complete this Report; we are extremely grateful to them.

We would also like to thank Dr. S.M. Sarin and Shri V. K. Sood of Central Road Research Institute, Mrs. P. Anuradha Balram of the Ministry of Surface Transport, Government of India, and Shri Chittarajan Das, Secretary, All India Motor Transport Congress for useful discussions as well as for the information supplied.

Dr. A. Bagchi and Shri S.V. Iyer have freely given their advice and comments on the approach to be adopted for the study; they have also provided a substantial amount of very useful material. Prof. O.P. Mathur has also contributed useful reference material for this study. We are grateful to them for their generosity. Shri Diwan Chand and Shri Kuldeep Sati have helped in collecting some of the necessary information, for which we thank them.

Tapas K. Sen
O.P. Bohra

CONTENTS

PREFACE

ACKNOWLEDGMENT

	Page
I MOTOR VEHICLE TAXATION IN INDIA: RATIONALE AND PRACTICE	1
1.a Rationale	1
1.b Attributes of a Desirable Motor Vehicle Tax System	2
1.c Forms of Motor Vehicle Taxation	5
II PASSENGER AND GOODS TAX: ECONOMIC AND ADMINISTRATIVE ISSUES	11
2.a Economic Efficiency	12
2.b Administrative Considerations	17
2.c Relative Burden of Tax on Different Types of Vehicles	18
III TAXATION OF MOTOR VEHICLES: COMPARATIVE PICTURE	21
3.a Structure of Motor Vehicle Taxation in Selected Cities/States	21
3.b Rate Structure	25
3.c Overall Burden of Motor Vehicle Taxes	28
IV SUGGESTED MEASURES FOR RESOURCE MOBILISATION	33
4.a Taxation of Vehicles Registered in Delhi	33
4.b Taxation of Vehicles Registered Outside Delhi	37
V SUMMARY AND CONCLUSIONS	42
APPENDIX: ROAD CONGESTION, VEHICULAR POLLUTION AND TAXATION OF MOTOR VEHICLES	49
REFERENCES	57
ANNEXURE-I Tax Rates on Different Types of Motor Vehicles in Selected Cities/States	59
ANNEXURE-II Number of Registered Vehicles in Selected Cities/ States (as on March 31 1991)	83

CHAPTER I

MOTOR VEHICLE TAXATION IN INDIA: RATIONALE AND PRACTICE

Taxation of motor vehicles is a widely used instrument of raising resources for governments all over the world, especially in developing countries. Motor vehicle taxation can, however, take several forms and the structure of taxes varies among countries. Whatever the form, motor vehicles constitute a broad and growing tax base suitable in many respects for governments trying to find ways of raising tax revenue consistent with the canons of equity and economic efficiency. The main considerations which lend support for taxation of motor vehicles as a desirable tax are outlined below.

1.a. Rationale

First, levies on the road transport sector can be justified as approximate user charges; it can be argued that the expenditures on road construction and maintenance are directly or indirectly linked to the consumption of road transport services and thus there is a rough *quid pro quo* (implicitly argued in Guhan, 1992). Economists generally argue that cost recovery through user charges is necessary for economic efficiency, although there is no unanimity on the exact method or the optimal degree of such cost recovery. Some of them advise full cost recovery (Nanjundappa, 1973a, 1973b, for example), while others believe that there is no economic case for it, though there may be political and institutional reasons (Walters, 1968). Even if full or partial cost recovery is taken to be desirable, it can provide only a broad justification for the current structure of motor vehicle taxation, which is primarily based on ownership and only indirectly linked to consumption (of the road transport service) and thus very imperfect user charges.

Second, in developing countries, such levies are often supported on the ground that they would, directly or indirectly, help to restrict consumption of motor fuel, which often has to be imported using precious foreign exchange. Moreover, fuel conservation is now a global concern due to the fact that (i) it is regarded as a non-renewable resource and the reserves are fast dwindling, and (ii) it is directly linked to environmental problems.

Third, motor vehicle taxation is supported on the ground that it has a fast growing base and is equitable being amenable to the introduction of a progressive structure. The progressivity argument is valid in a partial equilibrium framework; but in a general equilibrium framework, in which the impact of the tax on the non-taxed sectors is also taken into account, it may not always hold due to the myriad backward and forward linkages that exist. Road transport is an input into almost all final consumption goods; it also uses a large number of goods and services as inputs. It is therefore not easy to ascertain who really bears the burden of the tax.

Motor vehicle taxes are also advocated to control the social costs imposed by the consumers of road transport services. Apart from the physical damage caused to the roads, externalities in the form of pollution caused (noise and air) and road congestion need to be internalised to maintain an efficient allocation of resources.

Finally, some of the taxes on road transport sector are relatively easy to administer. For example, a fuel tax at the wholesale level or at the refinery level poses no administrative difficulties (Walters, 1968).

1.b Attributes of a desirable motor vehicle tax system

Before attempting to evaluate any specific tax or a tax system, it is necessary to have an idea of its objectives. Evaluation of available alternatives can then be facilitated by the use of a benchmark. However, when different objectives are not consistent with one another, evaluation of a policy measure like a tax becomes difficult. The only way to resolve such a problem is then to assign implicit weights to various objectives, perhaps using informed judgement. We set out below some objectives of motor vehicle taxation which we believe are relatively non-controversial, which are used in the subsequent analysis.

(i) Like any other tax, motor vehicle taxes should promote efficiency which, in this context, would imply minimisation of unintended distortions in resource allocation. Approximating an appropriately defined economic user charge (this would normally have

no connection with benefits received and thus cannot be termed benefit taxation) can minimise loss of efficiency. Application of this principle, however, is not easy in practice. Although marginal cost pricing is the most efficient method of charging the road users, it has several problems of implementation. These include that of an appropriate definition and necessary measurement of marginal costs, a strong possibility of persistent deficits, and possibly unacceptable distribution of net benefits. Alternative pricing methods like average cost pricing, two-part tariffs and discriminatory pricing have been suggested (and even applied), but no consensus has emerged yet.¹ Actually, roads are good examples of impure public goods; neither the 'exclusion principle' (excluding those consumers who do not pay for the commodity) nor the 'rival consumption principle' (given the supply, consumption of one reduces possible consumption of others) apply fully. It is possible to exclude individuals from the benefit of particular roads (through tolls, for example), and the use of a congested road by any vehicle does affect its use by others in a limited way. However, since the essential features of a public good are present in roads (and other travel infrastructure), the usual market solution of demand and supply reaching an equilibrium through the instrument of price will not work efficiently as the demand for roads will not be fully revealed. Structuring the motor vehicle taxes as approximation of economic user fees is likely to have the advantage of preserving the optimal characteristics of a free market mechanism.

(ii) With respect to the objective of equity, it may perhaps not be very difficult to structure the taxes to take into account the ability to pay (the value of the motor vehicle owned would normally be an excellent indicator); but it is much more difficult to take into account the benefits received, because the valuation of transport services by individuals is highly subjective and not revealed. The latter issue is connected to the issue of determining user charges too, and apart from the actual use of roads, other factors like valuation of time may have to be taken into account.

(iii) The system of motor vehicle taxation should internalise the externalities of congestion and pollution as far as possible. The presence of an additional vehicle on an

¹ See Walters(1968), Nanjundappa(1973a), Hau(1992) and Button(1993) for detailed discussions on various methods of road pricing.

already congested road causes increase in travel time, vehicle wear and tear and increased fuel use for all other users of the road. Since these costs are not part of the private costs of the user of the vehicle, there is a divergence between the social cost and the private cost. Similarly, every additional vehicle adds to the air pollution and noise pollution for the residents of the affected area, raising the social costs but not private costs of the vehicle owners. Unless these externalities are internalised by raising the private costs, resources will be overallocated to transport and would cause lower social welfare. How exactly this should be done is, of course, a difficult problem and is the subject of considerable amount of research. One general answer, however, is to tax negative externalities (Baumol and Oates, 1988). Accordingly, it may be useful to relate taxation of motor vehicles to the externalities caused in a suitable manner.

(iv) It goes without saying that the revenue objective is important as motor vehicle taxes (even excluding sales tax on road transport) constitute an important element of the States' tax structure in India. Given the difficulties faced by the States in raising sufficient revenues to meet their expenditure obligations, a revenue loss on account of any tax reform would not be kindly received. Hence, any modification to the existing system must be at least revenue neutral. Further, the tax system should have built-in elasticity, i.e., the tax revenue should automatically rise at least proportionately in real terms with the increase in the tax base without requiring new legislations every now and then.

(v) A pragmatic policy reform must always be administratively and politically feasible, and taxation of motor vehicles is no exception. Any change in the motor vehicle tax structure, unless warranted by some overwhelming consideration, should simplify the tax structure, or at the least not complicate it further. It should not be prone to evasion only due to difficulties of administration, nor should it cause undue harassment of the taxpayer. Compliance costs should also be kept as low as possible without compromising on coverage.

There can be other objectives of the motor vehicle tax policy; nevertheless, the above objectives of revenue productivity and high elasticity, enhancement of economic efficiency, promotion of equity, internalisation of the externalities, and administrative

feasibility with low compliance costs should be relatively non-controversial and should cover a large part of the ground.

1.c. Forms of Motor Vehicle Taxation

Taxes (or non-tax charges) on road transport sector can be broadly classified into the following categories:

- i) taxes on the vehicle purchase,
- ii) fuel taxes,
- iii) taxes on motor parts including tyres and tubes,
- iv) Registration and Transfer fees, and licence/permit fees,
- v) periodical vehicle tax, also called road tax,
- vi) tolls,
- vii) parking fees, and
- viii) passenger and goods tax.

1.c.i. In the Indian context, taxes on the vehicle purchase denote import duty/excise duty levied by the Central Government, sales tax levied on the sale value by the State Government and octroi/ entry tax levied by the local government (where leviable). Excepting the last mentioned, the other taxes on motor vehicles are not uncommon elsewhere, although the excise duty and sales tax may be combined under a value added tax (VAT) system. This type of tax would be a straightforward commodity tax, no different from the same on other commodities excepting possible differences in the rate. Given the rising number of motor vehicles and the *ad valorem* nature, the revenue from this type of tax should have been substantial, but inter-State tax competition has resulted in much lower sales tax revenues in all States from motor vehicles than what it could be. Under the present sales tax and excise duty structure, the tax rates can vary between different types of motor vehicles on the basis of some objective criterion, which can be used to channel the demand for motor vehicles in a particular direction. For example, in many States, automobiles with engine capacity below 1000 cc bear a lower sales tax rate than other automobiles. The idea obviously is to encourage fuel economy, but the objective can only be imperfectly achieved through the method cited above, because a lower engine capacity

is no guarantee of economy in fuel consumption which depends on other technical factors as well. Since such taxes are on ownership and bear little relationship to the actual use of the vehicle, they can be designed to approximate user charges, or used to control the externalities only to a limited extent.

1.c.ii. Fuel taxes clearly serve the objective of controlling fuel consumption; theoretically the tax rate can be varied to raise the price to exactly match the social costs of fuel consumption, so that a socially optimal amount of fuel is consumed by the motor vehicles. There are, however, practical difficulties in implementing an optimal tax on motor fuel apart from estimating the social cost in money terms. These arise mainly due to alternative uses of motor fuel, as well as varying degrees of social desirability of different types of road transportation, resulting in attempts to influence the pattern of demand. For example, diesel is sometimes taxed at lower rates (either under individual taxes, or overall taxation including implicit taxation through administered prices) compared to petrol because diesel is generally used in heavier vehicles (buses, trucks, tractors) and also because diesel is used for agricultural pumpsets. The presumption is that the burden of diesel taxation is mostly borne by lower income groups, whereas the tax on petrol is more progressive. There has developed a tendency among owners of motor vehicles with petrol engines used commercially to replace them with diesel engines even though it costs a tidy sum to do so. Clearly, in the long run, saving in fuel costs outweighs the engine conversion costs. This trend has now reached the manufacturing stage itself, and new Indian cars with diesel engines not available earlier, have been available for some time now. This is liable to negate attempts to make the tax structure progressive.² It has recently been suggested that fuel taxes, *in combination with* direct controls and technical abatement measures, can be gainfully employed to reduce air pollution caused by motor vehicles (Eskeland, 1993).

These taxes are also levied at the Central and State level. Since the prices are also administered prices, the Central government can use price changes and excise duty rate

² Apart from progressivity, there can be other reasons for promoting use of diesel instead of petrol(gasoline). A litre of diesel costs less to produce and gives better mileage as compared to petrol (Churchill, 1972). Even if differential taxation does not result in progressivity, it would at least cause relative consumption of diesel to rise, which would be cost-efficient for the economy as a whole.

modifications interchangeably. In fact, there is an implicit tax on motor fuel, equal to the difference between the average costs (of production and import) to the government of motor fuel and the price at which they are sold in India. Sales tax on motor spirits is levied by the States/ Union Territories. Some local bodies also levy octroi/ entry tax on motor fuels.

1.c.iii. Taxes on spares, motor parts and tyres and tubes can raise the initial cost of the motor vehicle (when used by vehicle manufacturers in new vehicles) or its running cost (when used as replacements). In the first case, the effect is the same as in the case of a tax on motor vehicles (assuming that the tax is fully shifted forward). The tax on replacements can have several effects: it may cause fall in demand for motor vehicles as the total cost of transport over the lifetime of the vehicle (initial cost plus present value of expected running costs) would rise; it may negate the fuel economising impact of fuel taxation as parts may not be replaced in time, causing per kilometre fuel consumption to rise; inadequate replacements can cause increase in road accidents; these may also cause lower use of the vehicles purchased, as the consumption of spares are related to the intensity of use of a vehicle. The last effect can be considered good or bad depending upon the location of the reduction in use; in congested roads, this would be desirable, but the same effect on the use in suboptimally used roads would be undesirable. Thus, the overall effect of these taxes are difficult to assess *a priori*.

1.c.iv. Registration and vehicle transfer fees are essentially one-time payments and are part of the initial cost of a motor vehicle. Thus, although the effect is similar to that of the taxes on motor vehicles, it may differ in practice to some extent. Specifically, the registration fee can be varied to a much greater extent for the sake of progressivity, as every vehicle has to be registered and details about the vehicle would be available to the registering authority, which would normally not be available to, say, a sales tax official. However, the revenue significance of registration fees is usually small as the rates are kept low to prevent registration in other jurisdictions; its actual importance lies in helping to maintain the details of individual vehicles which facilitates the levying of the periodical vehicle (road) tax according to the type of vehicle, in containing evasion of the vehicle tax, and in road planning and vehicle control (Bahl, 1992 and Bahl and Linn, 1992). Vehicle

transfer fees serve more or less the same purpose. Additionally, it can be used to discourage purchase of old vehicles, which are in general, less fuel efficient and more polluting. In practice, however, the information system on motor vehicles that is supposed to be built up through the system of vehicle registration does not provide all the necessary information, particularly when a vehicle owner needs to be traced. Further, a substantial number of vehicles are said to be running without proper registration, which makes all information on road transport based on data from this source suspect. The vehicle registration fee is usually levied by the State Transport Department.

Route permit charges collected from commercial transport operators are a major source of revenue for the State governments. In the States where commercial transport is primarily provided by the private sector (in the case of goods transport, this is universally the case), these charges provide an additional fiscal handle (instead of direct intervention) for the government to influence the market forces and can be substantial in terms of revenue.

Drivers' licence fees are insignificant as revenue sources, but are important for the information system and more so, for promoting road safety.

1.c.v. Annual (or quarterly) vehicle tax (also called road tax), along with excise duties and sales tax on road transport forms the bulk of the total revenue from the transport sector. In fact, in budgetary parlance, motor vehicle taxation refers to only this tax levied by the State Governments. The administration of this tax is closely linked to registration, and the administration overlaps to a considerable extent. The tax usually has a complicated rate structure with considerable rate differentiation based on vehicle characteristics. Theoretically the tax allows such differentiation with the available vehicle details from the registration system; in practice, there may be considerable evasion through non-registration. Further, the administrative effort needed to link this tax to the list of registered vehicles is often lacking, thereby encouraging evasion. The effects of this type of levy based on ownership are little different from the initial one-time vehicle taxes; with the introduction of a one-time levy on some motor vehicles this has become another part of the registration fee. Thus, excepting an effect on the demand for vehicles, no other

effect of this tax can be expected *a priori*, although the motive behind the often elaborate classification of the vehicles and the substantial differences in the tax treatment of different types of vehicles appears to be a desire to build in equity considerations and to tax according to the expected road damage caused. However, equity considerations can be applied to a tax of this nature only for privately owned non-commercial vehicles; the present tax structures do not go far enough in terms of a progressive rate structure applied to a properly defined tax base reflecting ability to pay and cannot be expected to have any significant impact. They do, however, promote efficiency by levying higher tax rates on heavier vehicles, but the incentives are diluted to some extent by too much of cross-classification of vehicles (not observed in Delhi) to meet several objectives at the same time.

1.c.vi. Tolls are not used very much in India except for very specific purposes like recovering the cost of a bridge, or recovering some city expenditures from tourists or pilgrims who cause a large part of such expenditures but do not otherwise pay for them (in places of tourist/religious interest). Nanjundappa (1973c) argues for selective introduction of toll financing of roads mainly on the grounds that this would ensure proper maintenance of roads by establishing a link between revenue from and expenditure on roads, and that it would generate the right kind of economic signals by emulating a user charge. However, since these are based on physical movement of vehicles, checkgates are corollaries of toll administration, with the attendant risks of bribery of checkgate operators and impeding smooth flow of traffic. Tolls can be used to control congestion in well-defined areas, provided an efficient administrative system can be effected (Hau, 1992b, cites the case of electronic toll ring system operative in Oslo and electronic road pricing with automatic vehicle identification in Hong Kong and Netherlands). Pending a big leap in the application of electronic technology in these areas, tolls must remain a minor source of revenue from the transport sector in India.

1.c.vii. Parking fees again form an insignificant revenue source for the local bodies who may collect such fees from the parking spaces provided by them in congested locations. These, however, can form a strong disincentive to additional congestion if kept high in congested areas; their added advantage is the possible variation according to time, which is relevant for vehicular congestion.

1.c.viii. Finally, passenger tax and goods tax, leviable by the State Governments are a distinct category from taxes on vehicles since these are taxes on the actual service of transportation (passengers and consignors of goods) and are not linked to ownership. With increasing use of compounding, however, the distinction no longer holds, and passenger and goods taxes tend to become an additional motor vehicle tax on buses and trucks, usually the only categories of vehicles bearing this tax. We discuss these issues in greater detail in the next chapter.

The brief discussion above of the desirable characteristics of road transport taxation and the system that obtains now in India serves to highlight the following points. First, due to the lack of requisite information on sales tax collection by commodities, it is not possible to estimate the total tax burden on the road transport sector. Second, a comparison between localities should not be undertaken for any single component of the overall tax structure; all the elements of road transport taxation must be considered to avoid misleading conclusions. At the least, taxes on the same base and serving the same set of objectives ought to be considered together. Third, none of the taxes listed above seem to be geared to specific objectives in an efficient manner except perhaps fuel taxes. Registration fees should serve the purpose of creating an information system on motor vehicles, but their revenue significance is usually low and the information system is both inadequate and underutilised. Fourth, while the tax structure does try to accommodate some of the objectives listed above, there is little in the tax structure (except the combination of direct measures and fuel taxes as advocated by Eskeland, 1993) to tackle two important modern-day problems: vehicular pollution and road congestion. One might argue that any tax on the road transport sector would reduce congestion; this would, however, not be true since congestion cannot be tackled by reducing the aggregate transport supply/demand. Such reduction may affect the use of only uncongested roads without any impact on congested ones. Fifth, except the cases of the demand for transport being met by the same person who demands it (privately owned vehicles used by the owners themselves), most of the taxes operate on the supply side of transport services by raising the cost of transport; passenger and goods tax is the only exception (when explicitly added to the fares\ freight charges).

CHAPTER II

PASSENGER AND GOODS TAX: ECONOMIC AND ADMINISTRATIVE ISSUES

Although our terms of reference require us to examine the advisability and feasibility of only passenger and goods tax (PGT) in Delhi, we have surveyed the entire gamut of road transport charges in the previous chapter mainly because (a) we believe that it is not possible to meaningfully analyse PGT without putting it in the context of overall motor vehicle taxation, and (b) the question of another levy on motor vehicles (PGT) cannot be properly discussed without reference to the existing structure of motor vehicle taxes. In this chapter, we examine the economic effects of and the feasibility of PGT in Delhi along with the administrative issues related to it. This is complemented by a discussion of the taxation of motor vehicles in the other metropolitan cities and the neighbouring States in the next chapter. In the fourth chapter we list out our suggestions regarding motor vehicle taxation in Delhi in general, and PGT in particular. And finally, the last chapter summarises the issues discussed and the suggested measures. The present discussion assumes that the major proposal being assessed, that of introducing PGT in Delhi, is motivated primarily by the need to raise some additional revenue. Also, the taxation of commercial vehicles in Delhi -- registered in the States as well as in other States -- is generally believed to be much lower than in the neighbouring States and other metropolitan cities, and this discrepancy needs to be corrected to prevent distortions in economic decisions. Our analysis is limited to the advisability and feasibility of doing this through PGT and consideration of possible alternatives. However, we are of the view that any discussion of governmental policy relating to motor vehicles is incomplete without an assessment of its fallout on vehicular pollution in Delhi, which has already reached alarming levels. Hence, although not specifically required by our Terms of Reference, we include a brief note on this aspect in the Appendix to this report.

2.a. Economic Efficiency

Economic efficiency of a policy measure usually refers to the impact on total social welfare. In the case of any tax, except the taxes which are universal and lump sum in nature (like a poll tax), relative prices of factors or products or both are affected by it. The exact nature and extent of these effects depend on the nature of the tax, the way the tax base is defined, the rate of the tax and the exemptions. These effects cause further adjustments in the consumption pattern and the production structure in turn, leading to changes in income distribution. All these have welfare implications; the central problem in any analysis of economic efficiency is to maximise social welfare in the cum-tax scenario. To examine efficiency issues with respect to PGT, we have to consider passenger tax and goods tax separately, because despite their being clubbed together, their structures are quite distinct and hence give rise to different sets of economic effects.

2.a.i. Passenger Tax: Passenger tax is in principle a tax on passenger fares paid for commercial transport services. Typically, the tax is a percentage levied on bus fares and is collected from commercial road transport operators. Employing the user charge argument, it is possible to take the argument that since buses cause considerably greater amount of damage to roads as compared to other passenger vehicles³, a special tax on buses will lead to increased efficiency in resource allocation in that the price will better reflect costs of the service and thus would adequately finance the costs of investment on roads and related infrastructure and their maintenance.

Assuming full shifting through an equivalent increase in passenger fares, this can have several effects of unknown magnitudes.⁴ The demand for bus transport is likely to be moderately price elastic in Delhi; the rise in fares is therefore likely to have two effects: (i) a fall in the use of taxed commercial transport, (ii) a rise in the use of close substitutes,

³ Equivalency factor (1 for the standard axle load of 8.16 tonnes) for buses is usually between 13 and 18; that for cars, in contrast, is close to zero (maximum 0.003). The wide gap is caused by the standard rule that road damage increases by the fourth power of the increase in axle weight: this is known as the 'Fourth Power Law' (CRR1, 1993).

⁴ In fact, in the whole discussion that follows in this chapter, we have not been able to benefit from prior empirical estimates of important parameters; we are thus forced to resort to judgements and plausible guesses. We only hope that these are recognised as such.

i.e., alternative commercial transport and private vehicles. The magnitude of these effects is an empirical issue; the relevant own price and cross price elasticities and the extent of rise in passenger fares would be the determinants. To hazard a reasoned guess, the first effect are not likely to be very significant unless the rise in fares is very steep; to assess the possible magnitude of the second effect, we need to compare the present costs of travel by alternative modes of road transport and the likely costs of the taxed mode of transport, assuming that the tax is levied at a certain rate.

In Delhi, among the alternatives available for passenger transport, the 3-wheeler autorickshaw is the closest competitor to buses in terms of fare, as far as urban transportation is concerned. The price structure is such that irrespective of the distance travelled and the number of travellers in one group (the 3-wheeler autorickshaws are allowed to carry up to three passengers), buses turn out to be the cheaper mode of transport, even with an increase in fares up to 50 per cent due to the tax, for any distance beyond approximately two kilometres. Also, as the distance travelled increases, the gap increases more than proportionately. Thus, relative prices are not likely to be altered by the tax in a way sufficient to cause a large shift of demand in favour of 3-wheeler autorickshaws, although a marginal adjustment would be expected. By the same token, a large shift towards taxis or private vehicles is not likely.

With regard to inter-city transport, the consideration would again be the price of the alternatives: in this case the competitors would be primarily various State road transport undertakings (SRTUs) operating their services from Delhi, including Delhi Transport Corporation (DTC). Although the stipulated passenger fares per kilometre are not the same for all the SRTUs, the passenger fares they charge on common inter-city routes are the same. If these agreed passenger tariffs remain the same even after the introduction of the proposed passenger tax, the profits (losses) of DTC (and the other SRTUs, if they are subject to the proposed tax) would fall (rise) by the amount of the tax paid. This may have further implications down the line which we do not pursue here. On the other hand, if the passenger tariffs do change equally for all the SRTUs, total travel demand and profits/losses of all SRTUs involved can be affected. A pertinent observation here is that roads in Delhi may be underpriced at present for the SRTUs (and other out-of-

State suppliers of inter-city transport), because they do not pay anything at all for the maintenance of roads that they use in Delhi. There is clearly a case for taxation of such vehicles on efficiency grounds.

In view of the administered prices of urban transport in Delhi, the tax may not result in a price rise for the consumers of commercial passenger transport. The tax will then reduce profits of DTC and other suppliers of urban transportation, which is likely to reduce the supply of commercial transport in Delhi, unless even the reduced profits are better than those available elsewhere. An indication of this can be had from the relative demand for route permits available. We understand that permits had to be refused to a large number of applicants recently when a large number of routes were opened to private operators by the State Transport Authority (STA). In this situation, a passenger tax may be an approximation of the rise in price of route permits (permit fees) that was called for, and would be a step in the right direction.

Passenger tax is conceptually similar to the sales tax; sales tax is levied as an *ad valorem* tax on the sale of commodities, while passenger tax is levied on the sale of a service, i.e., transportation. In a comprehensive scheme of value added taxation, a separate passenger tax is not required as the base is covered under VAT. VAT on transport is superior to a passenger tax in that its comprehensive coverage allows credit to be given for tax on inputs, and when transport is an input, the VAT on business travel can also be credited. This minimises 'tax cascading', i.e., tax levied on the tax element (through the costs) in the base for the levy. With independent passenger and sales taxation, the latter would be levied on a base which would include the former to the extent that passenger travel is undertaken for business purposes and the cost of such transport forms part of the business costs and thus price of the commodities involved. Of course, passenger tax is not the only tax which has this shortcoming; electricity duty, for example, has the same drawback and is levied in almost all the States in India. In fact, the present system of commodity taxation itself causes a considerable amount of tax cascading by taxing inputs as well as final consumer goods. Despite the shortcoming, taxes like the passenger tax and electricity duty, being taxes on the services sector, serve to limit the distortions introduced by the almost complete exemption of the services from commodity taxation.

An economic issue that needs to be examined in the context of a passenger tax is the question of equity. It may be argued that in the Indian context, any tax on public transport is likely to be regressive compared to alternative forms of motor vehicle taxation, as the users are predominantly from lower and middle income groups. While this could be true (even when administered prices are not revised, lowering the quality of service may result in the same effect), we have no idea of what the optimal degree of progressivity should be in the matter of motor vehicle taxation. This must, in the ultimate analysis, depend on the value judgement of the decision-makers; the discussion in the next chapter on the rates prevailing elsewhere may help in making the judgement.

As far as pollution caused by motor vehicles is concerned, the passenger tax cannot be expected to have any noticeable effect, just as none of the other existing taxes on motor vehicles have any effect on it. At best, it would contribute marginally to the reduction in air pollution to the extent that demand for or supply of stage carriages and contract carriages are lower. It is generally believed that these vehicles, typically powered by diesel engines, emit greater amount of pollutants as compared to engines of equal capacity using petrol (gasoline). This, however, is not true in Delhi; cars are the greatest polluters (CRRI, 1991, p. 17). In any case, any gain on this front may be more than offset by the increase in congestion; it is well known that substitution of public transport by private transport causes an increase in road congestion. This would also cause increased air and noise pollution.

As a revenue earning instrument, a pure passenger tax has the advantage of being *ad valorem* in nature and thus that of built-in revenue elasticity. Also, since the tax base is not confined to the vehicles registered within the given area, the revenue potential of this tax is higher (particularly in States where commercial passenger vehicles registered in other States form a significant proportion of the total vehicles on the road).⁵ But it is unlikely that this tax can be levied in the pure form (the administrative aspects are discussed below), and thus the advantage of elasticity will not be available. However, a lump sum levy is not necessarily worse, because it may encourage better utilisation of the vehicle concerned as

⁵ This was pointed out to us by I. S. Gulati.

compared to the pure passenger tax. A fixed levy, as is well known, does not affect decisions at the margin and is therefore more efficient.

2.a.ii. Goods Tax: A pure goods tax is one which is levied as a percentage of the freight charged by the transport agency and paid by a consignor; the transport agency collects the tax from the consignor and passes it on to the tax authorities periodically. Unless the freight charges are regulated, the imposition of a goods tax is likely to raise transportation costs for all goods carried through road transport, causing a rise in the general price level. We mentioned the problem of tax cascading with respect to input taxation above; the same considerations apply with much more force in this case as goods transport is almost invariably an input, and practically in all commodities. A goods tax, being a tax on only one input, viz. transportation, will also result in distortions in the combination of inputs to produce a given commodity and thereby cause avoidable welfare losses.⁶

The effect on the demand for and supply of goods transport by road is difficult to assess *a priori*. Since we expect the tax to be fully shifted, supply should not be affected significantly. On the demand side, the price elasticity of demand is unknown but is probably not very high (given that railway transport of goods is not really a substitute for road transport; the goods transport market is a segmented one), and hence the equilibrium quantities are unlikely to change much.

The likely incidence of this tax is extremely difficult to assess within the short period at our disposal. We venture to suggest that since goods transport by road is an input for a wide variety of goods, the burden of a tax on this is likely to be spread over all economic agents, probably roughly in proportion to consumption expenditures.

Like the passenger tax, goods tax can also be argued to be efficiency enhancing, as it would cause the freight charges to better reflect the road damage costs. It is difficult to justify this tax as a pollution charge in view of the finding that diesel vehicles are not the

⁶ Transportation costs also affect location decisions; see Walters(1968), pp. 95-102 for a short discussion. Within Delhi, however, this consideration is not likely to be very important as the transport costs are unlikely to be a determining proportion of total costs, fixed and variable, given the small size of the State and factors other than transportation costs.

major culprits responsible for fast rising pollution levels in Delhi. It cannot be justified as a congestion charge either, because the problem of congestion is better tackled (as is now done) by regulating goods traffic keeping in view the time-specificity and area-specificity of road congestion.

2.b. Administrative Considerations

The administrative considerations with respect to both the taxes are quite similar and can be discussed together. Essentially, these involve two basic questions: (i) can the taxes be levied in their pure form? and (ii) if not, what is the feasible alternative?

The pure passenger tax, a percentage of the fare charged from each passenger requires that the tax authority should be able to check the number and value of each ticket sold; it would be rather easy to charge passengers without actually issuing a ticket, or underreport the value and/or the number of tickets sold. Without frequent checking of commercial passenger vehicles in operation, the first possibility cannot be kept within limits. Of course, if the major supplier of passenger transport happens to be a public undertaking, the need for such enforcement measures is minimised, as there is no reason for such undertakings to evade the tax. That is probably the reason why Maharashtra still continues to levy passenger tax in the pure form. Underreporting of ticket sales is virtually impossible to keep within control without security printing tickets with serial numbers and supplying them to all commercial passenger transport suppliers. The administrative problems are very similar to those arising in the case of entertainment tax on cinema theatres. As is well-known, similar problems have forced a shift to the compounding (lump sum) system for the purpose of levying entertainment tax in almost all the States. Otherwise, a vicious circle of rising evasion, falling revenue, rise in tax rates to maintain and raise revenues, and further rise in evasion tends to develop.

Similar problems arise in the case of goods tax. The freight charges, in a free market, are decided between the consignor and the transport company, and the only documentary evidence of this transaction is the invoice. Short of regulating freight rates, it is not possible for the tax administrators to challenge the invoice, even when there is a clear suspicion of

underinvoicing. It will be a Herculean task for the assessing authorities to ensure that all goods transport transactions are properly recorded and to make sure that all goods tax collections from the consignors are remitted in full to the government by the transport operators.

These considerations lead us to the conclusion that there are overwhelming administrative considerations which will not allow the levy of a pure passenger and goods tax in Delhi. Feasible alternatives include a special road tax which would be essentially a compounded passenger and goods tax and an additional tax, which would be a lump sum amount of tax exactly like the usual motor vehicle (road) tax, the rates of which will have to be revised from time to time to keep pace with rising passenger tariff and freight rates. We return to this issue later.

2.c. Relative Burden of Tax on Different Types of Vehicles

The decision to raise additional resources from a tax like the passenger and goods tax, which affects the relative burden of taxation on different types of motor vehicles, must be taken keeping in mind four factors as discussed below.

(a) Parity with neighbouring States: The relative burden should be spread over different types of vehicles in such a way that the tax burdens are, as far as possible, in line with the rates in neighbouring States. If this is not the case, then vehicles may be registered in places other than the place where they ought to be, only to take advantage of lower tax rates. Since there is no effective mechanism to ensure that vehicles with out-of-State registration get registered with the local transport authority within the stipulated time when used locally, it is important to prevent tax-induced selection of place of registration.

(b) Ability to pay: As we have noted earlier, ownership of motor vehicles reflect ability to pay to some degree, particularly in the case of non-transport (private) vehicles like cars and two-wheelers. The relative burden of taxation should take this into account and introduce some progressivity in the tax structure.

(c) **Damage to roads:** All vehicles cause a certain amount of damage to roads, and greater the axle weight, greater the damage. Introduction of user charge principle requires that the tax structure should be related to the road damage caused by various types of vehicle in some way. Using this principle, two-wheelers and cars should be taxed the least and trucks the most. This need not necessarily mean higher tax burden on users of buses as compared to cars, because the tax per passenger kilometre can be much lower for buses due to the differences in seating capacity.

(d) **Congestion:** When flow of vehicles is affected due to crowding of roads, all vehicles contribute to congestion costs; however, due to restrictions on use, goods vehicles are usually not guilty of increasing road congestion. Among passenger vehicles, it can be argued that those for which the vehicle length (width is of less importance as long as lanes are sufficiently wide) per passenger is the highest are the ones which contribute most to road congestion, and ought to pay the highest congestion tax.⁷ It is obvious that cars would have to bear the highest congestion tax in such a system, and buses the least.

Admittedly, it is possible to apply these considerations to the design of tax structure only in a very rough way. All the same, it is useful to keep these considerations in mind when judging a particular motor vehicle tax system.

To sum up, it appears to us that there is no strong case against the passenger tax on the grounds of economic efficiency. In fact, it may actually increase welfare by correcting the underpricing of route permits and by reducing the differential tax treatment of goods and services to some extent. Given that the road damage caused by heavier vehicles is much more than that caused by the light vehicles, a separate tax on heavy passenger vehicles may be justified on the grounds discussed above. On the other hand, the tax may be somewhat inequitable if passed on in the form of higher fares or lower quality of the service provided; the significance of this argument will depend on the tax rate contemplated. A goods tax, however, may reduce economic welfare due to the reasons discussed above. However, such reduction will be minimal if marginal decisions are not affected significantly by the tax,

⁷ It has actually been suggested in the literature that the motor vehicle tax be levied according to the dimensions of the vehicle and equal revenue tax rates have also been worked out for Maharashtra (Bagade, 1991).

which we think is a distinct possibility. Also, road damages caused by the goods vehicles, which typically have the highest axle weights among all types of vehicles, would argue for a corresponding levy on these vehicles.

CHAPTER III

TAXATION OF MOTOR VEHICLES: COMPARATIVE PICTURE

We now examine the system of motor vehicle taxation in Delhi and four selected Northern States (Haryana, Punjab, Rajasthan and Uttar Pradesh), as well as in the three metropolitan cities of Bombay, Calcutta and Madras, to assess the relative undertaxation, if any, of motor vehicles in Delhi. The purpose of this comparison is to set a ceiling up to which the rates can be raised in Delhi, if at all. For, it will not be advisable to raise its rates beyond what prevails in the neighbouring States (and other metropolitan cities) due to the possibility of large scale shift in the place of registration of the vehicles (perhaps even business) out of Delhi, and taxpayer resistance. But first, we examine the salient features of the system of motor vehicle taxation in the selected Cities/States, to put the tax rates in perspective.

3.a. Structure of Motor Vehicle Taxation in Selected Cities/States

The tax systems in various States differ considerably not only in terms of the rate structure, but also the coverage, vehicle classification and the method of administration. The details of these are given in Annexure - I; we summarise the basic features and comment on their suitability for Delhi below.

3.a.i. Coverage: While all types of motor vehicles are usually subject to basic motor vehicle or road tax everywhere, the exempted categories of vehicles can vary. Vehicles of the respective State governments are, of course, exempt; but not necessarily vehicles of the Central Government (as in West Bengal, for example). Vehicles of the armed forces and paramilitary organisations like the Border Security Force, Central Industrial Security Force are also universally exempted, along with the vehicles owned by foreign governments and diplomats. The minimum exemptions also include ambulances, hearses, and some other

notified types of vehicle on humanitarian grounds. The coverage of passenger and goods tax, special road tax, or additional tax is, however, far from uniform. In Madras, the tax structure has been considerably simplified, and only the basic motor vehicle tax is levied. Maharashtra (Bombay) only has a passenger tax on stage carriages apart from the basic motor vehicle tax, although some local bodies (including Bombay) levy a wheel tax on vehicles. Discussions with the concerned officials reveal that there is a conscious attempt to simplify the tax structure for the sake of better administration and taxpayer convenience. Passenger tax on stage carriages continues to be levied because private stage carriages plying in the State are relatively small in number, and pose no administrative problems; most of the revenue from passenger tax is actually collected from public sector enterprises. The additional tax in Calcutta is levied only on heavy contract carriages and private cars among the vehicles registered in the State. In contrast, all the four neighbouring States examined levy passenger and goods tax, or special road tax, or additional tax covering all commercial vehicles (except in Uttar Pradesh, where passenger tax is not levied on three-wheeler and four-wheeler taxicabs).

3.a.ii. Classification of vehicles: Goods vehicles are usually classified either according to their unladen weight (ULW) or gross vehicle weight, also called registered laden weight (GVW or RLW). Sometimes (in Uttar Pradesh, for example) the difference between the two -- payload -- also forms the basis of classification. In principle, gross vehicle weight is the right basis for taxation, as it reflects road damage (given the number of axles and the weight distribution) the best; further, this is usually linked to the engine capacity and size of the vehicle. However, in practice there is very little to choose between the three bases because the limits on payload imposed by the RLW is rarely adhered to or effectively enforced. For the purposes of passenger vehicles, the usual classification is on the basis of seating capacity; in Calcutta, however, privately owned passenger vehicles are classified according to weight. The area/route of operation, use of the vehicle, and/or ownership can also determine the tax rate. Delhi at present has a simple tax structure in that vehicles are categorised according to only one characteristic (GVW for goods vehicles and seating capacity for passenger vehicles) which is easily ascertainable. We do not believe that introducing further complications will achieve anything worthwhile, but it is certain to cause administrative difficulties and harassment to the taxpayers.

3.a.iii. Administration: As far as basic road tax or motor vehicle tax is concerned, there are specific rates per vehicle everywhere, and if the vehicle is properly categorised, the tax payable can be easily determined. We have already noted that cross-classification of vehicles using several characteristics unnecessarily complicates the tax structure and creates administrative problems; it also opens up avenues for evasion and avoidance. Economic efficiency also is affected, because relevant decisions are distorted by the tax treatment. For example, a company wishing to provide transport facilities to its staff can do it by hiring a contract carriage or by purchasing a vehicle itself. If there is a difference in the tax treatment of the vehicle based on ownership (as in Haryana and West Bengal, for example), the decision will not be based on pure efficiency considerations but on tax liability as well.

The administration of passenger tax/ special road tax/ additional tax varies considerably between States. Maharashtra, as noted earlier, levies a pure passenger tax on stage carriages⁸ mainly because it does not have the administrative problems associated with such a levy due to the overwhelming presence of the public sector in the supply of passenger transport.

West Bengal (Calcutta) has an additional tax on contract carriages (buses) and private cars probably on distributional grounds; this is not really comparable to a passenger tax. In Punjab and Rajasthan, the special road tax levied essentially utilises the same base (for the taxed categories of vehicles) as the basic tax. For stage carriages, the specific rate is fixed per kilometre per seat per day (or some other unit of time) of operation, the idea clearly being to approximate a passenger tax. However, provisions for compounding of the tax on the basis of assumed kilometrage, days of operation and occupancy provide scope for discretion of the tax officials and result in disputes, taxpayer harassment (which the compounding option is designed to minimise) and corruption.

In Haryana, a similar problem arises for contract carriages (except some specified categories of them) also since they are required to be taxed more or less on the same basis

⁸ The specific rate of the basic tax on contract carriages have been suitably raised, so that the tax burden on stage carriages and contract carriages are comparable.

as the stage carriages. Further, the tax rate technically is a percentage of the passenger fare, and hence the compounding formula has to build in an estimate of this as well, which is normally done by applying the per kilometre passenger fares stipulated by the State government from time to time. Since Haryana still levies the tax under the Taxation of Passenger and Goods Tax Act, compounding can be applied only if the taxpayer opts for the same.

In Uttar Pradesh too, a similar system prevails, with additional complications introduced by varying the tax rate according to the type of route and number of trips made per day. It must be noted that in these two States, the passenger tax would have a measure of built-in-elasticity, as even the compounded tax will be responsive to the change in stipulated passenger fares. The administrative complications that a such a system gives rise to, however, must be weighed against this advantage.

As far as goods tax is concerned, the *de facto* tax rate everywhere is a specific rate calculated on the basis of ULW, GVW/RLW or payload. Thus, the only possible complication in goods tax is when a transport operator chooses to be taxed under the pure goods tax system instead of the compounded system. This, from all accounts, rarely happens as the transport operators also prefer to pay the tax without going to the trouble of maintaining complete accounts of their transactions and supplying copies of all invoices and related documents to the tax officials.

Finally, we should note that the taxes relating to motor vehicles are not always collected by the same department or even the same level of government. In Haryana (and in Punjab, until 1993), the passenger and goods tax is administered by the Excise and Taxation department and not the Transport department which administers the basic tax. In Bombay, as noted above, the Bombay Municipal Corporation levies the wheel tax, and the scheduled rates of the basic tax administered by the Transport department of the State government are reduced by one-third for the vehicles paying the wheel tax.⁹ Both these

⁹ This has actually reduced the tax burden on the vehicles registered in Bombay, as the amount of wheel tax is much lower than one-third of the scheduled rate of the basic tax. The local authority is trying to get the ceiling rates (imposed by the State government) raised, failing which they may prefer to abolish wheel tax and get a share of the revenue from motor vehicle tax instead.

practices are likely to raise compliance cost for the taxpayers and cause avoidable duplication of administrative effort. We have confirmed that in both the cases cited above, the cooperation of the Transport department is a must for effective administration, and we see no reason then why all the taxes on motor vehicles cannot be administered by the Transport department. As such, we do not think that either of the above systems is suitable for use in Delhi.

3.b. Rate Structure

With this background, let us now compare the prevailing tax rates in the selected cities/States for some representative vehicles. Since the classification of the vehicles are not uniform and the tax rates are not defined on uniform basis, we must make some assumptions about the vehicles before we can ascertain the tax rate applicable. This is particularly important for passenger tax, as explained above. Under the stated assumptions, the tax liability for heavy commercial vehicles is given in Table 3.1. Table 3.2 gives the tax rates applicable to smaller vehicles including cars and two-wheelers.

Taking heavy commercial vehicles first, it can be seen that the stage carriages in Haryana and Punjab bear the heaviest tax burdens, with Uttar Pradesh not far behind.¹⁰ Among the metropolitan cities, where the tax burden on stage carriages are much lower than in the four Northern States selected, the highest burden on stage carriages appears to be in Bombay. Calcutta appears to be the only city where the tax on stage carriages is lower than in Delhi. However, as far as contract carriages are concerned, Delhi certainly has the lowest rate at a little more than half of that in Madras, which has the next lowest rate on contract carriages.

Goods vehicles are taxed relatively lightly (as compared to buses) in all the selected States; in Calcutta and Madras, however, the tax rates on goods vehicles are higher than that usually applicable to stage carriages. Of course, compared to the rates on buses with contract carriage permits, the rates on goods vehicles are lower everywhere. A comparison

¹⁰ Given that the rates are based on some assumptions made by us and therefore only approximations, it will be prudent not to accept them as accurate figures, but only indicative of the relative burden.

Table 3.1: Taxation of Heavy Passenger and Goods Vehicles

(Rs. per annum)

State/City	Tax Levied	Buses (52 seaters)		Trucks (RLW 16200 kg./ ULW 7000 kg.)
		Stage Carriage	Contract Carriage	
City				
1 Bombay	motor vehicle (road) tax	3467	69337	5617
	passenger tax	4732	x	x
	wheel tax	260	260	260
2 Calcutta	motor vehicle (road) tax	3235	5500	6188
	additional tax	x	6000	x
3 Delhi	motor vehicle (road) tax	5910	5910	3140
4 Madras	motor vehicle (road) tax	6864	10400	9760
State				
1 Haryana	motor vehicle (road) tax	28600	28600	1500
	passenger and goods tax	48672	48672	3500
	-do- (for specified uses)		10400	
2 Punjab	motor vehicle (road) tax	26000	26000	1500
	special road tax	53269	104000	1500
3 Rajasthan	motor vehicle (road) tax	5200	5200	3500
	special road tax	40560	46800	3500
	-do- (within city area)	28500		
4 Uttar Pradesh	motor vehicle (road) tax	5590	5590	3250
	passenger and goods tax	56784@	85000	4666

Notes: Buses are assumed to cover 100 km.s per day, operating at 50 per cent occupancy on an average, 260 days in a year.

@ Assumed Rs. 10 per seat per day ticket sales on an average and 260 working days.

of the representative rate on goods vehicles in Delhi with similar rates in the selected States/cities shows that only Punjab has a rate lower than Delhi, the difference being negligible. The highest rate on goods vehicles among the ones reported is applicable in Madras, which is more than three times the rate in Delhi.

The highest rate of tax on two-wheelers (motor cycles) is observed in Madras, followed by Calcutta and Bombay. The rate in Delhi is actually half of that applicable in Calcutta and about 35 per cent of that in Madras. It may also be noted that the two-wheeler population in Delhi as on March 31, 1991 was about 1221 thousand, while that of Bombay, Calcutta and Madras was 242, 195, and 387 thousand only. Among the States, the largest number of two-wheelers were registered in Uttar Pradesh -- only about 110 thousand more than in Delhi. Given this large number, it could provide a good source of additional revenue in Delhi with a small increase in the tax rate. With the one-time tax system applicable, however, only new registrations matter, the number of which is not proportionately large in Delhi.

The highest rate of tax on cars is applicable in Calcutta, followed by Madras and Bombay. Except Delhi, none of the other metro cities have a one-time tax on cars, although the neighbouring States of Punjab, Rajasthan and Uttar Pradesh do. The rate in Delhi is higher than only Punjab in nominal terms; since the tax for ten years is paid in advance, any comparison with annual rates in nominal terms would be somewhat risky. We have not computed present values of the annual tax payments as the purpose of the comparison is only to indicate roughly the differences in tax rates.

Taking the metro cities only, three-wheeler autorickshaws bear the highest taxes in Calcutta, where it is a less common mode of transport. Among the other cities, the rate in Delhi is relatively high. However, in all the neighbouring States, the rates of tax on this mode of transport are much higher than in Delhi, partly because in three of the four selected States (barring Uttar Pradesh), these vehicles have to bear either a passenger tax or a special road tax over and above the basic motor vehicle tax. Overall, the tax burden on this type of vehicle is the highest in Punjab (Rs. 400 per annum).

Table 3.2: Taxation of Private Vehicles and Small Contract Carriages

(Rs.)

State/City	Tax Levied	One-time/ Annual(A) Tax (private vehicles)		Annual tax	
		Motor cycle	Cars	Three- Wheeler Auto- Rickshaw	Taxicabs
City					
1 Bombay	motor vehicle (road) tax	644	317(A)	79	158
	wheel tax	48(A)	140(A)	60	140
2 Calcutta	motor vehicle (road) tax	1250	1000(A)	260	600
	additional tax	x	500(A)	x	x
3 Delhi	motor vehicle (road) tax	625	2500	155	310
4 Madras	motor vehicle (road) tax	1750	500(A)	40	120
State					
1 Haryana	motor vehicle (road) tax	31(A)	100(A)	117	156
	passenger tax	x	x	272	408
2 Punjab	motor vehicle (road) tax	500	1800	100	400
	special road tax	x	x	300	500
3 Rajasthan	motor vehicle (road) tax	600	3500	150	250
	special road tax	x	x	53	460
4 Uttar Pradesh	motor vehicle (road) tax	850	3000	303	605

The highest tax burden on taxicabs (four-wheeler) is observed in Punjab among the cities and States examined -- Rs. 900 per annum. The rate in Delhi is almost a third of this at Rs. 310 per annum. The rate of tax in Madras is the lowest at Rs. 120 per annum. In each of the neighbouring States, the tax rates are higher than in Delhi; the lowest among them being in Haryana at Rs. 564 per annum, which is less than Rs. 605 and Rs. 710 per annum in Uttar Pradesh and Rajasthan respectively.

3.c. Overall Burden of Motor Vehicle Taxes

The comparison of the tax rates on representative vehicles broadly indicate the overall burden of taxes on motor vehicles in selected cities and States; however, the actual

burden would depend on certain other factors like the extent of exemptions granted, categorywise distribution of vehicles and administrative efficiency. Higher rates of tax may not always translate into higher revenue performance. We now turn to this aspect.

Revenue performance can be judged in several ways, all of which require that the revenue figures be normalised with some suitable variable. We first examine the performance using two standard indicators -- per capita revenue from motor vehicle taxes (broadly defined to include the basic tax, passenger and goods tax, additional tax, special road tax, and tolls levied on motor vehicles) and the same as a ratio of per capita State Domestic Product (SDP). The second comparison cannot be made for cities other than Delhi because SDP data are not available at the required level of disaggregation. The city of Calcutta is excluded from the first comparison also, as the revenue figures for the whole city could not be obtained expeditiously. On the other hand, we have included all the major States of India in the table prepared to broaden the scope of the comparison (Table 3.3). Per capita motor vehicle taxation is seen to be higher in the metropolitan cities as compared to the States, clearly because of the concentration of motor vehicles. The difference persists (with respect to Delhi) when we examine the revenue from motor vehicle taxes as a ratio of SDP, probably because of the same reason. This indicates the need to be careful while comparing the performance of Delhi or any other city with that of any large State on the basis of standard indicators.

Considering the metropolitan cities only, the reported figures reveal that the revenue performance of Delhi in per capita terms was better than both Madras and Bombay in 1991-92. Among the States, the best performance was recorded by Karnataka in 1991-92, in terms of both per capita revenue and the tax-SDP ratio, though the performance of Tamil Nadu was almost equally good. Despite much higher tax rates, the performance of Punjab and Uttar Pradesh appeared to be poor, while that of Haryana a little better. Although per capita revenue in Rajasthan was lower than in Haryana, its revenue performance was better in terms of the ratio to SDP. In terms of growth rate, the performance of Rajasthan was outstanding (more than 21 per cent per annum); Delhi also did reasonably well in terms of growth of revenue (about 17 per cent per annum).

Table 3.3: Revenue from Motor Vehicle Taxes

State\Year	Per Capita Motor Vehicle Tax (Rs)				Motor Vehicle Taxes as a ratio of SDP (per cent)			Percentage Growth Rate (1980-81 to 1991-92)
	1980-81	1985-86	1990-91	1991-92	1980-81	1985-86	1990-91	
State								
Andhra Pradesh	9.96	19.05	28.25	30.27	0.72	0.84	0.62	14.28
Bihar	1.73	5.61	5.58	9.51	0.20	0.37	0.22	15.18
Gujarat	6.60	11.13	23.44	27.15	0.34	0.34	0.39	16.29
Haryana	7.61	10.44	22.14	41.39	0.32	0.27	0.32	14.66
Karnataka	12.88	24.00	43.28	50.21	0.79	0.89	0.90	15.66
Kerala	7.92	17.43	25.68	32.39	0.52	0.72	0.64	14.87
Maharashtra	8.28	13.75	26.19	29.23	0.34	0.36	0.37	16.09
Madhya Pradesh	5.70	9.00	11.44	18.46	0.48	0.48	0.33	12.78
Orissa	3.71	8.84	16.72	18.76	0.30	0.43	0.53	18.46
Punjab	6.48	11.63	18.68	19.84	0.24	0.25	0.22	11.53
Rajasthan	4.11	17.19	24.75	31.29	0.34	0.86	0.61	21.04
Tamil Nadu	16.91	21.42	41.10	44.25	1.13	0.81	0.92	12.47
Uttar Pradesh	2.38	3.45	6.20	6.60	0.18	0.17	0.18	12.12
West Bengal	3.49	6.28	10.65	10.89	0.22	0.24	0.23	13.34
City								
Delhi	64.60	135.53	190.04	368.62	1.70	2.21	1.8 **	16.74
Greater Bombay	49.46	138.64	261.82	264.72	N.A.	N.A.	N.A.	15.79
Madras*	N.A.	N.A.	100.30	105.90	N.A.	N.A.	N.A.	16.26#

Relates to Madras district.

Relates to, 1989-90.

Annual average growth rate for the years 1988-89 to 1991-92.

The analysis above, as we have already noted, does not permit a comparison between the States on the one hand, and the cities on the other. Delhi is both a State and a city; but just as in the case of other cities, its revenue performance cannot be compared with the other States due to the difference in the number of vehicles per person. The obvious way of getting a better comparative picture is to standardise the tax revenue in

terms of number of vehicles. However, that still leaves the problem of varying distribution of vehicles by type; even with the same total number of vehicles, the revenue performance of the States/Cities may differ depending on the distribution of vehicles by types that are taxed differently. We have already seen how great the variation in tax rate is between types of vehicles; the effect of the distribution of vehicles thus cannot be ignored. Unfortunately, revenue data are not available by types of vehicles; the only way we can build this factor into the comparison of revenue per vehicle is to calculate a weighted total number of vehicles in each State/City, where the weights are the ratio of respective tax rates on different types of vehicles (as per tables 3.1 and 3.2) and the total of these rates. The data on the number of vehicles by type has to be suitably modified to match with the classification of vehicles made for the purpose of rate calculation, or vice versa. For example, the tax treatment of jeeps and cars are rarely different, and we have therefore treated both as cars. On the other hand, the available data for buses have not been broken up into stage carriages and contract carriages, although this distinction is very important for revenue purposes. We have taken the rate on buses to be an average of the rates applicable to the two types of buses. The result of this exercise is reproduced in Table 3.4.

It is clear from the table now that the revenue performance of Bombay is far better than any other city or State concerned. Calcutta is the other extreme. The performance of Delhi is shown to be only better than Calcutta; every other State/City derives more revenue from the vehicles registered in their area than Delhi. The common conception of undertaxation of motor vehicles in Delhi is thus confirmed by this comparison. Among the neighbouring States, the performance of Rajasthan again is shown to be better than others, while the performance of Uttar Pradesh (despite the passenger and goods tax) is the worst. Punjab's performance is also only marginally better than Uttar Pradesh. Of course, these observations are true for 1990-91 only; from the figures in Table 3.3, it appears that the revenue performance of Delhi, Haryana and Rajasthan improved considerably in 1991-92, and a similar comparison for 1991-92 would probably see Delhi score over Madras, as well as Uttar Pradesh and Punjab.

Table 3.4: Revenue from Motor Vehicle Taxes per Standard Vehicle: 1990-91

City/State	Number of vehicles (weighted total)	Revenue from Motor Vehicle Taxes (Rs. lakh)	Revenue per Standard Vehicle (Rs. '000)
City			
1 Bombay	14810	25945	175
2 Calcutta *	38278	2070	5
3 Delhi	154321	17506	11
4 Madras	18358	3806	21
State			
1 Haryana	8668	3578	41
2 Punjab	12867	3743	29
3 Rajasthan	14837	10750	72
4 Uttar Pradesh	30362	8542	28

* Relates to the Calcutta (Beltala) office only.

The above comparisons show the importance of (a) simplicity of the tax structure and (b) effective administration. Bombay does not appear to have very high tax rates, but its revenue performance is outstanding. Conversely, Uttar Pradesh and Punjab have fairly high tax rates, but the revenue performance is far from impressive. We feel that the two factors noted above made the difference. Punjab has simplified its motor vehicle tax structure considerably during the last two years, the results of which should be visible soon. It should also be noted that the two factors we emphasise are not independent of each other; a simple tax is invariably administered better. The tax structure of Delhi, at the moment, is reasonably simple and our preference would be to keep it simple, both for the sake of better administration and taxpayer convenience.

CHAPTER IV

SUGGESTED MEASURES FOR RESOURCE MOBILISATION

4.a Taxation of Vehicles Registered in Delhi

The comparison of rates and tax burden on motor vehicles carried out in the preceding chapter indicates that there is some scope for raising additional resources from taxation of motor vehicles in Delhi, which will put the tax rates in Delhi more in line with the rates in neighbouring States. There is also an economic case for levying higher taxes on heavy passenger and goods vehicles as compared to the lighter vehicles under the principle of cost recovery, as a form of user charge. The approach that we adopt for the present report is to take the prevailing rates of tax on lighter vehicles in Delhi as the benchmark, and applying the ratio of road damage caused by different categories of vehicles, to estimate the maximum rates on heavier vehicles. We then modify the maximum keeping in view other relevant considerations.

4.a.i Stage Carriages: Taking stage/contract carriages first, the benchmark rate we adopt is that on four-wheeler taxicabs, which is Rs. 310 per annum. The road damage caused by buses are about 4600 times that by a car. Hence, the ceiling rate on buses would be Rs. $(310 \times 4600 =)$ 1,42,600. Since buses pay about Rs. 6000 more than taxicabs as road tax and other related charges at present, the ceiling on additional taxation works out to Rs. 1,36,600. This clearly would be an intolerably high rate of additional taxation on buses. We have already noted that efficiency and equity considerations require that the buses are not taxed too heavily, relative to the taxation of automobiles. Further, if the lowest combined rate of tax on buses in neighbouring States is taken as another constraint, then the ceiling rate on buses comes down to Rs. 36,850 (the average of the combined rates on stage carriages and contract carriages in Rajasthan minus the road tax applicable in Delhi). We consider even this to be too high a rate to be charged at the time of the introduction of a new levy to be acceptable. Fortunately, the rate determination problem can be looked at

in another way. As discussed earlier, a passenger tax (or any surrogate thereof) can be considered a tax on the sale of the service of passenger transport, just as the sales tax is a tax on the sale of goods. Assuming a reasonable gross earning (i. e. sales) of Rs. 3000 per bus per day and 260 days of operation in a year, total earnings in a year would work out to Rs. 7,80,000. A low rate of 2 per cent on this amount would come to Rs. 15,600 per annum. Keeping this in mind, we suggest a rate of Rs. 15,000 per heavy passenger vehicle (as defined by the *Motor Vehicles Act 1988*, section 2.17) in addition to the existing road tax. The rate can be adjusted upwards or downwards later, after the effects of the levy are observed carefully. The rate on medium passenger vehicles and maxi cabs (as defined by the *Motor Vehicles Act 1988*, sections 2.22 and 2.24) can be kept lower at Rs. 8000 per vehicle, while light passenger vehicles can be exempted.

4.a.ii Goods Vehicles: Since the road damage caused by an average goods vehicle is even higher than that by a bus, the ceiling rate derived on the cost recovery principle would work out to more than Rs. 1.5 lakhs. Unlike passenger tax, however, there are strong reasons to tax goods vehicles lightly, because goods transport is an input used in different proportions by different final goods; heavy taxation of this input would alter the relative prices of goods sufficiently to reduce the level of social welfare significantly. In any case, the low tax rate on goods vehicles in Punjab (Rs. 3000 per annum) would constrain the possible increase in Delhi to a large extent. Considering these factors, we suggest a rate of Rs. 2000 per annum on heavy goods vehicles (as defined in section 2.16 of the abovementioned Act) excluding tractors in Delhi. Medium goods vehicles (section 2.23 of the Act) can be taxed at Rs. 1000 per annum, while light goods vehicles can be exempted.

Despite our intention of keeping the tax structure in Delhi simple, there is one complication that must be introduced for the sake of economic efficiency. This relates to the vehicles plying on inter-State routes without National Permits. If no distinction is made between these vehicles and the vehicles plying within Delhi, then they would end up paying the full tax in Delhi and additionally, whatever tax they must pay in the other States they have to traverse. Thus, the tax structure would discourage the choice of inter-State routes, for vehicles registered in Delhi. Also, since the other States generally tax these vehicles on the basis of the portion of the route lying within the respective State, or at

lower rates, it would be profitable for all vehicles plying in Delhi and (at least) another State to register in (one of) the other State(s). This will also cause revenue loss to Delhi. As such, we suggest that vehicles registered in Delhi and plying on inter-State routes, without National Permits¹¹, be taxed at a concessional rate which can be fixed at 60 per cent of the rate applicable to the vehicles plying within Delhi. The rate for the purpose of National Permits is fixed at a lower level compared to the standard rate in any case (through a separate institutional mechanism involving representatives from all States).

4.a.iii Administration: As we have noted earlier, the administration of a pure passenger and goods tax is not easy when the public sector is not playing the dominant role. Also, we have seen that a simple tax structure, which is easy to administer, is more productive in terms of revenue and is less resented by the taxpayers. As such, a fixed rate per annum would be better. Also, if this tax is to be levied on vehicles *operating* in Delhi and not necessarily *registered* in Delhi, then it may be better to levy this as a separate tax, i.e. a special road tax. For vehicles registered in Delhi, the procedure for payment should be simple, perhaps only an additional row/column in the challan filled up for the payment of the basic road tax. As far as buses are concerned, we do not suggest the introduction of any distinction between stage carriages and contract carriages in the tax treatment in Delhi, although such a distinction is common in most States and Cities. The reason is that such use-based distinctions distort economic choices which should be based on non-tax considerations only. The lack of such differentiation also makes the administration of any tax on buses quite simple. Although it is customary to levy tax on commercial passenger vehicles according to seating capacity, we do not suggest such a structure for two reasons. First, such a tax would prompt bus-owners to reduce the number of seats in their buses only to reduce tax liability; any attempt by the transport department to counter this would necessitate use of discretion in their part, which is best avoided. Second, such a distinction is usually made under the incorrect belief that seating capacity determines income from passenger fares; we all know that at least in the buses running within the city, such a link does not exist due to the large number of standees.

¹¹ Apart from inter-State movement through National Permits, vehicles also run on inter-State routes under 'bilateral' reciprocal agreements between States. Appropriate documentary evidence should be collected before the concessional rate is allowed.

4.a.iv Estimate of Additional Revenue: Considering only the vehicles registered in Delhi and an average rate of the special road tax on goods vehicles of Rs. 1500, the additional revenue from this tax on goods vehicles should be approximately Rs. 17.1 crore (Rs. 1500 x 114000 goods vehicles). The suggested rate of passenger tax should fetch an additional revenue of about Rs. 36 crore from buses registered in Delhi only (Rs. 15,000 x 24,000 buses).

Although there seems to be a case for examining the taxation of private vehicles a little carefully (mainly to contain road congestion), we postpone this analysis to the appendix, as it does not relate to the main issue at hand, i. e., passenger and goods taxation. In this chapter, we are primarily concerned with the taxation of buses and goods vehicles, and other measures based on the rate comparison made in the preceding chapter. Thus, as far as private vehicles are concerned, we only suggest that the one-time road tax on two-wheelers may be raised to Rs. 700, which would bring it on par with the rate in Bombay, but would still leave it well below the rates applicable in other metropolitan cities. Although the rates in neighbouring States (except Uttar Pradesh) would be lower, we do not think that this would cause diversion of vehicle registration to other States, given the nature of the vehicle. The rate on mopeds (auto cycle) can be left unchanged. This measure should bring in an additional revenue of about Rs. 75 lakhs (increase of Rs. 75 x about 1,00,000 new registrations) per annum.

Both four-wheeler and three-wheeler taxicabs are already bearing tax rates in Delhi which are higher than in other metropolitan cities like Bombay and Madras; the rates in the neighbouring States are higher, but the need for these is felt much more in metropolitan cities, and thus the rates in the neighbouring States cannot be a guide in setting the tax rates in Delhi. As such, we do not recommend any change in the tax rates applicable to small commercial passenger vehicles.

The suggested measures should bring in a total of Rs. 53.85 crore (Rs. 0.75 crore + Rs. 17.10 crore + Rs. 36 crore) of additional revenue per annum. Allowing for the fact that all buses do not fall under the category of heavy vehicles, the additional revenue may be taken to be Rs. 45 crore. This estimate can be termed conservative for two reasons; first,

the number of vehicles used are as on November 30, 1993 -- they should be higher now. Second, we have not considered taxation of out-of-State vehicles at all so far. They would have to be taxed in some manner, because there should be symmetry in the way vehicles registered in the State and those registered outside the State are treated in Delhi and in the other States. Also, the user charge principle requires that out-of-State vehicles using Delhi roads and other facilities should pay for such use. Once the potential revenue from these vehicles are also considered, the additional revenue that can be expected would probably cross the Rs. 50 crore mark.

4.a.v. Other Measures: An additional measure that we would like to recommend, not for the sake of revenue but as a signal to influence the pattern of demand for vehicles, is a substantial increase in the vehicle transfer fees. These are quite low at present; a minimum fee of Rs. 1000 and proportionate increase for the specified rates above the minimum would send a strong signal discouraging purchase of old vehicles. If this fee gets capitalised into the price, then the cumulative burden of the fees would be substantial enough, for vehicles which are old and have changed hands a number of times, to discourage demand. These vehicles are not only fuel inefficient, but they are also responsible for adding to pollution to a great extent. Besides, they need to be discouraged from the point of view of road safety also.

4.b. Taxation of Vehicles Registered Outside Delhi

We now turn to the tax treatment of vehicles registered outside the State. A special road tax on heavy and medium passenger vehicles of Rs. 15,000 and Rs. 8000 per annum is recommended above. The special road tax on heavy and medium goods vehicles recommended is Rs. 2000 and Rs. 1000 per annum, respectively. These rates are to be applicable to vehicles registered in Delhi, and the question of taxing vehicles registered outside the State, and the issue of tax rates that should be applicable to them, has to be addressed now. Since the relevant considerations are different for various types of vehicles, we examine the issues by vehicle type. However, we leave out non-commercial vehicles (two-wheelers and private automobiles) as the tax proposed above does not envisage a levy on these types of vehicles.

4.b.i Stage Carriages: For stage carriages, complete information on the routes covered and the frequency of trips made per day are available, and if a pure passenger tax were to be levied, there would be no problem in calculating the passenger tax liability in Delhi. However, we had earlier noted that it will be difficult to administer such a levy; it will not be possible to keep track of the number and value of tickets sold by all the operators, which is a must to contain possible evasion of the tax. With a lump-sum levy under the special road tax suggested by us, therefore, the obvious method of computing tax liability has to be given up. The major issues that need to be settled then are:

- (a) should the tax on all out-of-State vehicles be the same? and,
- (b) should the applicable rate(s) be higher/ lower than, or the same as, that applicable to vehicles registered in Delhi?

On the first issue, we may recall that one of the important reasons for levying a tax on out-of-State vehicles is to introduce an element of the user charge principle into motor vehicle taxation. Out-of-State vehicles also use Delhi roads and other transport facilities, for which they do not pay at present. Extending this argument, vehicles that make greater use of Delhi roads ought to pay more. This leads to two variables which should in principle matter in the determination of the tax liability of out-of-State vehicles: the length of the inter-State route lying within Delhi, and the number of trips made. However, given the small size of Delhi, the first is not likely to vary much and can safely be ignored for the purpose of rate determination. Even the number of trips is not likely to vary too much (probably between one and three per day, depending on the total route length) in the case of vehicles plying on inter-State routes. The applicable rates can easily be structured to correspond to this variation, which would satisfy the requirements under the user charge principle.

The major consideration with respect to the second question relates to possible shifts in vehicle registration as a consequence of disturbing the present alignment of rates in Delhi *vis-à-vis* rates in neighbouring States. In fact, each of the neighbouring States levies the special road tax/ additional tax/ passenger tax on vehicles registered outside the State at rates higher than those applicable to vehicles registered in the State, the difference often

made unclear by using a different basis to calculate the tax payable. This could represent deliberate attempts to encourage the vehicles plying in the State to register within the State. At present, Delhi does not have any tax on motor vehicles other than the basic road tax at comparatively low rates. The differential taxation mentioned above is not sufficiently large to offset the advantage of these low rates and cause vehicles registered in Delhi and plying on inter-State routes to shift registration to other States. However, with the introduction of the suggested special road tax, there would be some adjustments at the margin, unless the tax burden of out-of-State vehicles plying on inter-State routes covering Delhi is increased correspondingly.

Putting these two considerations together, we suggest the following rate schedule for stage carriages registered outside Delhi but plying on routes that include parts of Delhi:

	Rs. per annum
For Total route length of:	
(a) less than 50 km.s	20,000
(b) between 50 and 99 km.s	15,000
(c) 100 km.s and above	8000.

Tax rates for periods shorter than a year can be calculated on the basis of the above rates, perhaps with some rebate for payments for longer periods to minimise paperwork. However, administratively it is best if the collection of the tax coincides with the renewal of the route permit, as such a system would be convenient for both transport authorities and the vehicle operators.

4.b.ii. Contract Carriages: The taxation of out-of State contract carriages has to be considered somewhat differently, as the information on route or frequency of the inter-State trips will not generally be available; even when available, such information would be almost impossible to verify. The only method that recommends itself, then, is taxation through a lump-sum levy. However, since contract carriages may or may not make regular trips to Delhi, simple fairness as well as the user-charge principle requires that the tax system distinguishes between vehicles making regular trips and those using Delhi roads only

once in a while. Full recognition of this difficulty would lead to a lump-sum tax per trip, indistinguishable from a toll, which has its own drawbacks including the major one of creating an inter-state barrier. A better method would be to allow payment of tax for varying lengths of time, so that the vehicle operator can choose the duration himself according to his own requirement. In our opinion, there should be provision to pay special road tax for the following durations at the rates suggested against them below:

	(Rs.)	
	Heavy Vehicles	Medium Vehicles
One week	400	250
One month	1,500	900
One quarter	4,000	2,500
One year	15,000	8,000

It will be noticed that the annual rate is kept at the same level as that applicable to vehicles registered in Delhi, the reason again being the cancelling out of any incentive given to vehicles registered in Delhi and plying on inter-state routes to shift their registration to another state. The collection of this tax, of necessity, has to be primarily at the border checkpoints. However, it should be possible for the taxpayer to pay the tax at the offices of the Transport department in Delhi also. For taxpayer convenience, it may be useful if the Transport department of Delhi can work out arrangements with their counterparts in the neighbouring States -- perhaps on a reciprocal basis -- for collection of taxes payable to Delhi by the vehicles registered in those States at the point of origin. Pre-payment of tax due would reduce the time needed at the border checkpoints and cause minimum disruption of traffic flows.

4.b.iii. Goods Vehicles: The considerations for goods vehicles are essentially the same as for contract carriages and need not be repeated. Taking the recommended rates on vehicles registered in Delhi as the basis, the following rate schedule is suggested for goods vehicles registered outside Delhi but plying in Delhi also:

	(Rs.)	
	Heavy Vehicles	Medium Vehicles
One week	75	40
One month	250	125
One quarter	600	300
One year	2000	1000

Finally, a general exception to the prescribed rates should be noted. The concept of National Permits for motor vehicles was evolved to facilitate vehicle movements throughout the country without hindrance, while recognising the Constitutional right of the States to levy taxes on motor vehicles within their jurisdictions. Besides, several States have reciprocal arrangements with other States with respect to motor vehicle taxation akin to double taxation avoidance treaties between countries. The introduction of a special road tax should not lead to a defeat of the very idea behind National Permits and the reciprocal arrangements in Delhi. It should be noted that all the States allow vehicles with National Permits to ply in their States without any further taxation¹², and Delhi should not be an exception to this arrangement.

Before concluding this chapter, we ought to point out that it is important to link the information on vehicle registration to the administration of motor vehicle taxation, as has been realised by the tax administrators in other cities. For this to be effective, computerisation of the database on registered vehicles, and that of payment of motor vehicle tax is essential. This would help in several ways including generating a list of defaulters and updation of the database (e. g., taking out those vehicles which do not pay any tax because they are not functional any more). It is not always the higher statutory tax rates that generate higher tax revenue; better administration does it more equitably and with less public resentment.

¹² To obtain a National Permit, a vehicle has to pay a compounded motor vehicle tax for the home State plus that of three other States of its choice to the Transport department of the home State. The dues of the chosen States are subsequently remitted to them by the home State.

CHAPTER V

SUMMARY AND CONCLUSIONS

Taxation of motor vehicles is a common way of raising resources in both developing and developed countries. It exploits a broad and growing tax base and is ideal for raising tax revenue for several reasons. Efficient use of public assets like roads require cost recovery (full or partial) through user charges, which appropriately designed motor vehicle taxes emulate. The tax also restricts fuel consumption, which is a global concern due to fast dwindling reserves and the direct link to environmental conservation efforts. Motor vehicle taxes are also advocated to control the social costs (externalities) imposed by the consumers of road transport services. Finally, they are relatively easy to administer. However, road transport is an input into almost all final consumption goods; it also uses a large number of goods and services as inputs. It is therefore not easy to ascertain who really bears the burden of the tax.

Any reform of the motor vehicle tax policy ought to be geared towards one or more of a desired set of objectives; for the present study, the objectives of revenue productivity and high elasticity, enhancement of economic efficiency, promotion of equity, internalisation of the externalities, and administrative feasibility with low compliance costs have been taken into account as desirable characteristics to be aimed at.

Taxes and non-tax charges on road transport sector can be broadly classified into the following categories: (i) taxes on the vehicle purchase, (ii) fuel taxes, (iii) taxes on motor parts including tyres and tubes, (iv) Registration and Transfer fees, and licence/permit fees, (v) periodical vehicle tax (also called road tax), (vi) tolls, (vii) parking fees, and (viii) passenger and goods tax. In India, the above taxes are largely levied either by the Central Government or the State Governments; only parking fees and tolls are resorted to by Local Governments, although tolls are levied by a few State governments also. Revenue from these two sources, however, is not significant.

A brief discussion of road transport taxation in India leads us to the observation that a comparison between localities should be undertaken for all the components of road transport taxation to avoid any misleading conclusions, as the taxes on the same base and serving the same set of objectives ought to be considered together. However, due to lack of requisite information on sales tax collection by commodities, the total tax burden on road transport sector in any State, let alone a city, is difficult to estimate. An examination of the nature of taxes levied on this sector also reveals that none of the taxes other than the fuel tax have specific objectives. Registration fees should at least serve the purpose of creating an information system on motor vehicles, but the available information systems are both inadequate and underutilised.

Besides the objectives noted above, the tax structure can be designed to tackle two important modern-day problems of vehicular pollution and road congestion to some extent. The general taxes levied at present cannot reduce congestion significantly as they do not distinguish between uncongested roads/areas and congested ones. Another noticeable feature of the existing tax structure is that each of the taxes operates on the supply side of transport services by raising the cost of transport; passenger and goods tax is the only exception (when explicitly added to the fares/freight charges).

Passenger tax is in principle a tax on passenger fares paid for commercial transport services. The tax is a percentage levied on bus fares and is collected from commercial road transport operators. Since passenger fares are essentially administered prices, levy of passenger tax in Delhi will not necessarily result in higher passenger fares, either for local transport or for inter-State transport. This is even more likely if the tax is not a pure passenger tax but a lump sum levy, the form we prefer due to the high probability of substantial evasion in the case of a pure passenger tax. Even if we assume full shifting of the tax, only small changes at the margin can be expected; demand for bus transport is likely to be only moderately price elastic in Delhi in view of the large difference in the price of public transport and other means of road transport. The relative prices are not likely to be altered by the tax in a way sufficient to cause a large shift of demand in favour of 3-wheelers, taxis or private vehicles. The supply side effects also are not expected to be very large, because the high demand for route permits from STA indicate producers'

surplus, which can be taxed away without affecting the supply of the service significantly. In fact, this provides a valid reason for the levy of a passenger tax in Delhi. In any case, the efficiency costs of the levy may not be large due to the minimal adjustments at the margin.

Apart from the above reason and the need to bring taxation of vehicles in Delhi in line with that in the neighbouring States, there could be two other reasons for the levy of passenger tax. The first is that the road damage caused by heavy vehicles is far higher than that caused by two-wheelers and automobiles, and the cost recovery principle warrants higher recovery from heavy vehicles through taxes. This argument, of course, cannot be stretched very far, because taxation in proportion to road damages caused leads to unrealistically high tax rates. The second reason relates to the differential taxation of goods and services in India, which leads to distortions and economic inefficiency. Services are almost tax-free at present, and taxes like passenger and goods tax, along with electricity duty and entertainment tax represent isolated, and clearly second-best, instances of necessary taxation of the services sector, a full-fledged VAT being the ideal single tax for both goods and services.

As an instrument for raising revenue, the pure passenger tax has the advantage of built-in elasticity, whereas the lump sum levy has smaller economic distortions at the margin as well as administrative ease in its favour. Serious misgivings regarding evasion and increasing scope for corruption in the administration of a pure passenger tax leads us to prefer the lump sum levy for Delhi, to be called special road tax.

A pure goods tax is levied as a percentage of the freight charged by the transport agency and paid by the consignor. The transport agency collects the tax and passes it on to the authorities. With unregulated freight charges, the imposition of goods tax can raise the general price level, as transport is an input for almost all final goods. Possible cascading of the tax can actually cause the final tax burden on the consumers to be heavier than the tax collections. Further, relative prices of goods are likely to change substantially, since the share of transport costs in total costs are not the same for all commodities. Due to these reasons, we do not favour taxation of goods vehicles strictly according to the user charge

principle. The tax burden on the basis of damage to roads would be unreasonably high, in any case.

Administrative difficulties related to checking of individual invoices and monitoring transmission of taxes collected by the transport agencies on behalf of the taxing authority lead us to a lump sum levy in preference over a pure goods tax.

A comparative evaluation of the motor vehicle tax structure shows significant variations among the four metropolitan cities and the four States examined. While all the neighbouring States, Bombay (Maharashtra), and Calcutta (West Bengal) levy either passenger and goods tax or a surrogate thereof, Madras (Tamil Nadu) does not levy such a tax. In Bombay, the passenger tax is confined to stage carriages, since collection of this tax from the public sector dominated passenger transport service does not pose administrative problems. There is no separate tax on contract carriages or goods vehicles, but the basic rates on contract carriages clearly indicate a notional merger of a lump sum passenger tax with the basic rate.

Delhi is unique in having a simple tax structure which does not distinguish between contract carriages and stage carriages. In fact, such a distinction appears quite unnecessary, and sometimes distorting, when only a lump sum passenger tax is in operation. The tax schedules present apt examples of classifying vehicles using multiple criteria, either without any apparent reason or in an attempt to serve too many objectives for which motor vehicle taxes are not suitable.

Uttar Pradesh and Haryana are the two States among the ones examined by us which still levy a passenger and goods tax; Punjab, Rajasthan, and West Bengal have shifted to a special road tax/ additional tax. Even in Uttar Pradesh and Haryana, most taxpayers except the road transport corporations are reported to be opting for the optional compounded levy. This shows the desirability of a lump sum levy even from the point of view of the taxpayer; however, the compounding system still leaves scope for disputes and litigation, which are avoided by the levy of a simple levy specified in rupee terms.

In some of the States, the passenger and goods tax (or its substitute) is collected by a department other than the Transport department. In Bombay, the taxation of vehicles is in the concurrent jurisdiction of the Bombay Municipal Corporation and the State government. A common feature across all these systems, however, is the dependence on the Transport department for effective administration of the tax, mainly because all records relating to motor vehicles are maintained by the Transport departments of individual States. Given this dependence, we do not see any strong reason why all the taxes on motor vehicles should not be administered by the Transport department itself, at least as far as Delhi is concerned.

The rate structure is not defined on an uniform basis, and therefore a straightforward comparison of rates is not possible. We have nonetheless carried out a comparison of the tax burden on vehicles with standard specifications and a reasonable set of assumptions. The comparison shows that the stage carriages bear the heaviest tax burdens in the States of Haryana, Punjab and Uttar Pradesh. Among the metropolitan cities, Bombay has the heaviest burden on stage carriages, while Calcutta has the lowest. On contract carriages, Delhi has the lowest rate among all the cities examined.

A comparison of the representative rate on goods vehicles in Delhi with similar rates in the selected States/Cities indicates that only Punjab has a rate lower than Delhi with a small difference, while the highest rate reported is applicable in Madras. The rate of tax on cars is the highest in Calcutta, followed by Madras and Bombay. Delhi has an one-time tax on cars. With regard to three wheeler autorickshaws, the highest rate is in Calcutta where it is a less common mode of transport. In Delhi, the rate is higher than in the other metropolitan cities considered. Taxicabs bear the highest tax rate in Punjab among all the States and cities reviewed. On two-wheelers, the highest rate is observed in Madras, followed by Calcutta and Bombay. On the other hand, Delhi has the lowest rate with the largest number of two wheelers registered. In fact, this could provide a good source of additional revenue in Delhi, with only a small increase in the tax rate.

Since the statutory rate structure is only one determinant of the effective tax rate, we also try to look at the relative degree of effective taxation of motor vehicles.

Comparison of revenue from motor vehicle taxation on the basis of per capita collections and as a proportion of State Domestic Product (SDP) do not give a dependable answer, mainly because of differing concentration of motor vehicles as well as the varying composition of motor vehicles, both of which can be expected to determine revenue from motor vehicle taxes to a great extent. To take care of this problem of comparison, we compute tax revenue per standardised vehicle, the total number of which in each State/city is essentially a weighted total of different types of vehicles, the weights provided by the tax rates on the respective category of motor vehicle. This comparison shows the effective rate in Bombay to be the highest, and the rate in Delhi to be quite low. This indicates a certain amount of scope to raise the tax burden in Delhi; but more importantly, it shows the importance of simplicity in the tax structure and effective administration. Uttar Pradesh, our exercise indicates, has fairly high statutory tax rates, but the effective tax rate there is low, probably because of the complicated tax structure and not too effective administration, while the simpler tax structure in Bombay allows them to administer the lower statutory rates more effectively.

The essential lessons drawn from the examination of the tax systems in other States thus prompts us to avoid classification of vehicles using multiple criteria and leads us to a simple rate structure which can be administered efficiently. Fortunately, both classification of vehicles and rate structure of road tax as it exists now in Delhi, are fairly simple and our concern is therefore not to unduly complicate it, while suggesting additional resource mobilisation through a passenger and goods tax, or any similar levy. Apart from the need for simplicity, apprehensions regarding possible evasion and corruption suggest a lump sum levy rather than the pure form of the tax, and we prefer to call it a special road tax. Keeping in view the relevant considerations, we suggest a rate of Rs. 15,000 per annum on heavy passenger vehicles (without any distinction between stage carriages and contract carriages), Rs. 8000 per annum on medium passenger vehicles and maxicabs, and nil on light passenger vehicles. The suggested rates of special road tax on goods vehicles are: Rs. 2000 per annum on heavy goods vehicles (excluding tractors) Rs. 1000 per annum on medium goods vehicles, with no additional tax on light goods vehicles. Vehicles plying on inter-State routes without a National Permit (under inter-State reciprocal agreements), we suggest, should be taxed at a concessional rate of 60 per cent of the otherwise applicable rate, to

eliminate possible bias against inter-State routes. The special road tax should be collected through the simple procedure of adding a row or column for it in the challan for the payment of the existing road tax. Other recommended measures include raising the one-time road tax on two-wheelers to Rs. 700 for the sake of additional resource mobilisation, and raising the minimum vehicle transfer fee to Rs. 1000 with proportionate increase above the minimum, to discourage purchase of very old vehicles and too many changes in ownership.

As regards taxation of vehicles registered outside Delhi, the routes of which include parts of Delhi, we favour changing the present system of free access; the user charge principle and the possibility of tax-induced shifts in vehicle registration require that such vehicles are taxed. Accordingly, for stage carriages, the annual rates recommended are Rs. 20,000, Rs. 15,000 and Rs. 8000 on vehicles with route length of less than 50 km.s, between 50 and 99 km.s and 100 km.s and above respectively. Similarly, for heavy and medium contract carriages, the suggested annual rates are Rs. 15,000 and Rs. 8000, with provision for payment of tax for shorter durations. On goods vehicles, the annual rates suggested are Rs. 2000 and Rs. 1000 for heavy and medium vehicles respectively, again with provision for payment for shorter durations and complete exemption for vehicles plying on National Permits.

A crude but conservative estimate of the potential for additional revenue from the suggested measures puts it at about Rs. 50 crore. To what extent the potential from these measures as well as the existing taxes are exploited in effect would, of course, depend upon the administrative efficiency of the Transport department; effective computerisation, from available accounts, seems to be an important way of enhancing it.

APPENDIX

ROAD CONGESTION, VEHICULAR POLLUTION AND TAXATION OF MOTOR VEHICLES

The issues of road congestion and vehicular pollution have assumed critical proportions in Delhi and no discussion of fiscal instruments affecting the road transport sector, we feel, can afford to ignore possible repercussions in these areas, particularly if there is an apprehension of aggravating these already urgent problems. Accordingly, although this discussion goes beyond the Terms of Reference for our study, in this Appendix, we take up the linked issues of road congestion and vehicular pollution.

The problems of road congestion and air pollution have already become acute in Delhi. While both these problems can be and are tackled from various angles, the tax policy should also contribute towards a solution of these related problems. Table A.1 shows the growth of estimated population, road length and vehicular population in Delhi between 1980-81 and 1990-91. It can be seen that the growth of vehicles has been much faster than the growth of both road length and population, although growth of road length has more than kept pace with the growth of population. As a result, the number of vehicles per km. of roads has grown phenomenally from 39 in 1980-81 to 85 in 1990-91. This gives a clear idea of the increasing road congestion in Delhi. Given that the increase in the number of vehicles is not evenly distributed over the entire road length of Delhi, the congestion problem in some parts of Delhi is even more serious than indicated by Table A.1.

The extent of vehicular pollution in Delhi is directly linked to the increase in vehicle population in two ways. First, every additional vehicle kilometre implies increasing fuel combustion leading to increasing pollution. Second, increasing number of vehicles without commensurate increase in road length means increasing road congestion leading to fuel wastage and air pollution. It should be mentioned in passing that although air

pollution is the major worry, the noise pollution problem also has become critical in Delhi. Table A.2 gives a comparative picture of the level of air pollution in Delhi during early eighties, while Table A.3 shows the increasing air pollution caused by motor vehicles in Delhi.

The effects of the increasing air pollution in Delhi are evident now. The incidence of respiratory diseases in Delhi is 12 times the national average (CRRI, 1991), making it the highest in India. Besides, the indirect effects through the destruction of crops and vegetation is also considerable. The longer term impact of the carcinogens released in the air by the motor vehicles are known, but their impact is extremely difficult to quantify. Given that "60 to 70 per cent of Delhi's pollution is caused by vehicles" (CRRI, 1991), road transport policies become extremely important.

Table A. 1: Number of Motor Vehicles, Road Length and Population in Delhi

Year	Road Length (Kms.)	No. of Motor Vehicles Regd.	Population	Density (3/2)
(1)	(2)	(3)	(4)	(5)
1970-71	8231	204078	4065698	25
1980-81	14316	561768	6220406	39
1985-86	17590	1075486	--	61
1990-91	21564	1843250	9370475	85
Growth Rates				
(1971-1981)	4.18	12.62	4.18	
(1981-1991)	5.69	10.66	4.34	
(1971-1991)	4.93	11.63	4.26	

Sources: 1. For Columns 2 and 3, Delhi Statistical Hand Book.
2. For Column 3, Census of India (1991).

Table A. 2: Ambient Pollution Levels in Selected Cities

Pollutants	Cities	Trend in 1973-1985	concentration level (1985)
SO _x a)	New York	-6	50.0
	London	-7	55.0
	Tokyo	-6	35.0
	Bangkok	..	18.0
	Kuala Lumpur	..	22.0
	New Delhi	+20	40.0
	Hong Kong	+8	45.0
	Manila	..	65.0 c)
	Beijing	..	75.0 c)
	Seoul	..	105.0 c)
Particulate Matter a)	New York	-3	61.0
	Tokyo	-1	60.0
	Kuala Lumpur	..	105.0 d)
	Bangkok	+13	110.0 d)
	Jakarta	-3	115.0 d)
	Beijing	..	130.0 d)
	New Delhi	-3	131.0 d)
NO _x a)	New York	+2.5	65.0
	London	+7	61.0
	New Delhi	+2	32.0
	Hong Kong	..	43.0
	Singapore	-4	46.0
CO b)	New York	..	12.0 e)
	Sao Paulo	..	19.0 e)
	Bangkok	..	5.0
Lead a)	Stockholm	..	1.1 f)
	Amsterdam	..	0.3
	Frankfurt	..	0.4
	Hong Kong	..	0.14
	Sao Paulo	..	0.22
	Bangkok	..	0.2
	Singapore	..	0.9

a) annual average concentration level in ug/cu. m for 1980-1984.

b) maximum 8 hourly concentration level in mg/cu. m for 1980-1984.

c) exceeds WHO guidelines of 40 to 60 ug/cu. m.

d) exceeds WHO guidelines of 60 to 90 ug/cu. m.

e) exceeds WHO guidelines of 10 mg/cu. m.

f) exceeds WHO guidelines of 0.5 to 1.0 ug/cu. m.

Source: Faiz, Sinha, Walsh and Varma (1990).

Table A. 3: Vehicle Emission Inventory for Delhi

Year	Vehicle Type	Pollutant (Tonnes/Year)					
		CO	HC	NO _x	SO _x	Pb	SPM
1981-82	2-Wheelers	17067	10651	-	NA	NA	-
	3-Wheelers	4371	2730	-	NA	NA	-
	Cars/Jeeps	25224	5282	1648	NA	NA	-
	Taxis	2756	491	180	NA	NA	-
	Gasoline Vehicles	49418	19154	1828	226	24.5	-
	Diesel Vehicles	8482	3285	16035	5580	-	528
	Total	57900	22439	17863	5806	24.5	528
1983-84	2-Wheelers	23704	14793	-	NA	NA	-
	3-Wheelers	5639	3522	-	NA	NA	-
	Cars/Jeeps	25402	5319	1660	NA	NA	-
	Taxis	2819	500	184	NA	NA	-
	Gasoline Vehicles	57564	24134	1844	274	30.1	637
	Diesel Vehicles	10225	3960	19333	6727	-	637
	Total	67789	28094	21177	7001	30.1	637
1991-92	2-Wheelers	57025	35588	-	NA	NA	-
	3-Wheelers	13464	8109	-	NA	NA	-
	Cars/Jeeps	29937	6269	1956	NA	NA	-
	Taxis	3485	615	228	NA	NA	-
	Gasoline Vehicles	103911	50881	2184	486	53.2	-
	Diesel Vehicles	16438	6351	31019	11306	-	1071
	Total	120349	57232	33203	11792	53.2	1071

Source: CRRI (1991), p. 18 and p. 21.

The major pollutants added to the air by motor vehicle emissions include carbon monoxide (CO), nitrogen oxides (NO_x), sulphur oxides (SO_x), hydrocarbons (HC) and other toxic organic compounds, lead (pb) and suspended particulate matter (SPM). CO combines fast with haemoglobin and forms carboxyhaemoglobin (COhb), blocking absorption of oxygen by red blood cells. This causes dizziness and slows down reflexes; extreme cases (more than 50 per cent) of haemoglobin transforming into COhb can cause death. NO_x and SO_x impair human respiration and cause acid rain, some HC are carcinogenic, lead affects circulation and nervous systems besides damaging vital organs like the brain and the kidney, and SPM can contain carcinogens and cause respiratory disorders. In combination, these pollutants are even more damaging; for example, NO_x and HC,

combined with sunlight, form ozone leading to coughing, choking, headaches and increased vulnerability to respiratory diseases.

Table A. 4: Emission from Different Modes of Transport (per vehicle km.)

Mode	Fuel type	Emission in grams					
		CO	HC	NO _x	SO _x	Aldehydes	SPM
Motor cycles							
2-Stroke Engines	Gasoline	17.00	9.90	0.075	0.024	0.068	0.21
4-Stroke Engines	Gasoline	20.00	2.39	0.150	0.014	0.029	0.029
Passenger Car							
Low Speed (30 km/hr)	Gasoline	33.66	2.63	1.05	0.21	..	0.33
High Speed (60 km/hr)		18.75	1.11	0.75	0.11	..	..
Light Duty Truck							
	Diesel	1.10	0.28	0.99	0.45	..	..
Large Bus							
Low Speed	Diesel	7.66	5.50	12.37	15.27	..	0.75
High Speed		6.77	4.76	11.61	11.55	..	..
Heavy Duty Vehicle							
	Diesel	12.70	2.10	21.00	1.50	0.20	0.75

Source: Faiz, Sinha, Walsh and Varma (1990).

If we look at the emission characteristics of different types of vehicles (Table A.4), it is apparent that CO and HC are primarily contributed by gasoline vehicles whereas SO_x and NO_x are contributed more by the diesel vehicles. These are confirmed by the statistics for Delhi given in Table A.3. Table A.3 also shows that lead pollution is exclusively a gasoline-related problem, while SPM can be attributed entirely to diesel vehicles. However, CRRRI (1991) quotes a Ministry of Surface Transport study to state that "of all the modes the emission rate of cars is very high..... Cars are followed by scooter/motor cycles, autorickshaws, buses and trucks. This is contrary to the normal belief that diesel driven vehicles are the problem vehicles." From this, it appears that goods vehicles are as yet not primary sources of vehicular pollution. Further, time restrictions on their movement have also ensured that they do not contribute significantly to road congestion. Finally, given the nature of the service, any curbs on goods transport is likely to have wider repercussions which is best avoided.

Table A.5: Comparison of Emissions, Energy Use, Space Use, and Cost of Different Modes of Transport

Mode of Transport	Persons per hour per Lane	Energy Consumption per Seat-km (kwh) ¹	Total Cost per Person-km (US cents)	Total Emission per passenger km (Grams) ²
Walking	1800	0.04	Negligible	None
Bicycling	1500	0.06	0.3	None
Motorcycle	1100	na	na	27.497
Car	440-800	0.29	8.6	18.965
Bus:				
Mixed Traffic	10000	0.12	1.4	1.02
Busway	19000	0.09	0.9	0.89

Notes: 1. Energy Consumption in kwh includes energy needed to construct guideways, manufacture vehicles and operate the system. Calculated values assume full occupancy of vehicles with no standees.

2. Total Emissions includes CO, HC, NO_x, SO_x, Aldehydes, and SPM.

Source: Birk and Zegras (1993).

The above discussion leads to the conclusion that the main effort to contain road congestion and vehicular pollution in Delhi must be directed towards passenger transport vehicles. Table A.5 gives an overall picture of important characteristics of different modes of travel in urban areas. It is obvious that walking and bicycling are the most preferable modes of transport. This points to some appropriate policies regarding urban transport like building and maintaining pavements properly for all important roads, and perhaps creation of bicycle lanes and modification of existing signalling facilities specially for bicycles. However, these two are hardly substitutes for motor vehicles except for short distances, while commuting distances in Delhi can be 25 Kms. or more. Thus, it is necessary to think of policies that would rationalise passenger transport by motor vehicles. Table A.6 gives the pollution characteristics of different types of passenger transport, standardised per passenger kilometre. It is clear from the table that buses are the most efficient modes of urban transport in terms of emissions, although SO_x emissions are higher in the case of buses. Table A.5 also points towards buses as the most preferable mode of passenger

transport in urban areas, among passenger motor vehicles. Thus, road transport policy should encourage use of buses.

Table A.6: Emission Characteristics of Different Modes of Urban Passenger Travel (per passenger-km)

Mode	Fuel type	Emission in Kilogram x 10 ³					
		CO	HC	NOx	SOx	Aldehydes	SPM
Motor cycles	Gasoline						
2-Stroke Engines		17.00	10.12	0.075	0.024	0.068	0.21
4-Stroke Engines		20.00	2.39	0.150	0.014	0.029	0.029
Automobile	Gasoline						
Low Speed		16.83	1.32	0.55	0.10	..	0.165
High Speed		9.38	0.55	0.38	0.05	..	..
Light Duty Vehicle	Diesel	0.26	0.07	0.25	0.10	..	..
Large Buses	Diesel						
Low Speed		0.19	0.14	0.31	0.38	..	..
High Speed		0.17	0.12	0.29	0.29	..	0.02

Notes: 1. Emission values based on emission factors.
 2. Average automobile occupancy assumed as 2.
 3. Average large bus occupancy assumed as 40.

Source: Faiz, Sinha, Walsh, and Varma (1990).

The special road tax on buses, however, can raise the relative cost of passenger transport by bus, or lower the profitability of the bus operators, or both. In any case, it is a signal which points in a direction exactly opposite of the desirable. In chapter IV, we have suggested a passenger tax on buses after considering various aspects of the problem including that of road congestion and pollution. The question of relative taxation of passenger transport can therefore be dealt with assuming the existence of a passenger tax. The main issue then would be to internalise the externalities in terms of pollution and congestion created by personalised motor vehicles, i.e. two wheelers and automobiles (cars, jeeps, station wagons etc.), which would also correct the relative burden of tax. Since these vehicles happen to be the ones contributing most to the air pollution in Delhi, there ought to be some charge on these vehicles on this count, either separately or within the basic

motor vehicle tax. We do not intend to make specific recommendations here as that would be beyond the scope of the present study, but only provide a non-exhaustive list of possible measure to tackle the problem of pollution and congestion, while correcting for the relatively heavier taxation of buses.

- (a) heavier taxation of gasoline (this can be easily effected through higher sales tax on gasoline, particularly the leaded variety);
- (b) reducing lead content in all available gasoline, revising prices according to the increased cost;
- (c) insistence on electronic fuel injection and ignition systems along with catalytic converters, with concomitant rise in initial and maintenance costs of gasoline-powered vehicles;
- (d) creation of separate lanes for the exclusive use of buses;
- (e) introduction of a special "congested area permit" for vehicles operating in particularly congested parts of Delhi and charging adequate fees for such permits; and
- (f) introducing publicly provided parking places at prices varying according to congestion characteristics of the area, simultaneously banning all road side and unauthorised parking.

It should be noted, however, that the discouragement of private vehicles must be accompanied by an increased supply of public transport facilities, both in terms of quality and quantity. Only then would the drive to substitute public transport for private motor transport materialise.

REFERENCES

- Bagade, M.V. (1991) "Rationale For Motor Vehicle Taxation: An Approach", *Journal of Transport Management*, Vol.15, No.7, pp 20-24.
- Bahl, Roy (1992) "The Administration of Road User Taxes in Developing Countries", Policy Research Working Papers (WPS 986), The World Bank.
- Bahl, Roy and J. F. Linn (1992) (eds.) *Urban Public Finance in Developing Economies*, The World Bank, Washington D. C.
- Baumol, W.J. and W.E. Oates (1988) *The Theory of Environmental Policy*, Prentice-Hall, Englewood Cliffs, New Jersey.
- Birk, Mia Layne and P. Christopher Zegras (1993), *Moving Towards Integrated Transport Planning: Energy, Environment, and Mobility in Four Asian Cities*, International Institute for Energy Conservation, Washington D. C.
- Button, Kenneth J. (1993) *Transport Economics (2nd Edition)*, Edward Elgar, Vermont.
- Central Road Research Institute (CRRI) (1991) "Effect of Environmental Pollution Due to Road Traffic on Health of Delhi Traffic Policemen" (Processed), Environment and Road Traffic Safety Division, New Delhi.
- _____ (1993) "Study on Axle Load Spectrum" (Processed), New Delhi.
- Churchill, Anthony (1972) *Road User Charges in Central America*, The World Bank, Washington D. C..

- Eskeland, Gunnar S. (1993) "A Presumptive Pigouvian Tax on Gasoline: Analysis of an Air Pollution Control Program for Mexico City", Policy Research Working Papers (WPS 1076), The World Bank.
- Faiz Asif, Kumares Sinha, Michael Walsh and Amiy Varma (1990), "Automotive Air Pollution : Issues and Options for Developing Countries", WPS 492, Infrastructure and Urban Development Department, The World Bank, Washington D. C.
- Guhan, S. (1992) "State Finances in Tamil Nadu, 1969-90", in Amresh Bagchi, J.L.Bajaj and William A Byrd (eds.), *State Finances in India*, Vikas, New Delhi.
- Hau, Timothy D. (1992a) "Economic Fundamentals of Road Pricing: A Diagrammatic Analysis", Policy Research Working Papers (WPS 1070), The World Bank.
- _____ (1992b) "Congestion Charging Mechanisms for Roads: An Evaluation of Current Practice", Policy Research Working Papers (WPS 1070), The World Bank.
- Nanjundappa, D.M. (1973a) *Road User Taxation and Road Finance in Indian Economy*, Jawahar Lal Memorial Institute of Development Studies, Bombay.
- _____ (1973b) "Pricing of Roads", in D.M.Nanjundappa (ed.), *Transport Planning and Finance*, Karnataka University, Dharwar, Economic Series No. 13.
- _____ (1973c) "Toll Financing", in D.M.Nanjundappa (ed.), *Transport Planning and Finance*, Karnataka University, Dharwar, Economic Series No. 13.
- Walters, A. A. (1968) *The Economics of Road User Charges*, Johns Hopkins Press, Baltimore.

ANNEXURE - I

Tax Rates on Different Types of Motor Vehicles
in Selected States/Cities

Bombay	
Rates of Motor Vehicle Tax in force from 1st September 1991 to date	
Part-I	
One Time Tax (Rs)	
I. Motor cycles and tricycles	
(a) cycles upto 50 kgs (unladen weight)	450
(b) cycles upto 100 kgs (unladen weight)	975
(c) cycles more than 100 kgs (unladen weight)	1350
(d) Tricycle	1350
(e) Above one used for drawing trailer or side car	450 in addition to the above rates
Annual Tax (Rs)	
II. Motor vehicles upto 250 kgs in weight unladen adapted and used for invalids.	5
III. Motor vehicles (including tricycles) used for the carriage of goods or materials:	
(a) Vehicles with registered laden weight upto 750 kgs	880
(b) laden weight 750 to 1500 kgs	1220
(c) laden weight 1500 to 3000 kgs	1730
(d) laden weight 3000 to 4500 kgs	2070
(e) laden weight 4500 to 6000 kgs	2910
(f) laden weight 6000 to 7500 kgs	3450
(g) laden weight 7500 to 9000 kgs	4180
(h) laden weight 9000 to 10500 kgs	4940
(i) laden weight 10500 to 12000 kgs	5960
(j) laden weight 12000 to 13500 kgs	6780
(k) laden weight 13500 to 15000 kgs	7650
(l) laden weight 15000 to 16500 kgs	8510
(m) laden weight exceeding 16500 kgs	Rs 8510 plus Rs 375 for every 500 kgs or part thereof in excess of 16500 kgs
IV. (1) Motor Vehicles (including tricycles) plying for hire and used for the carriage of passengers:	
(a) Vehicles licenced to carry two passengers	120
(b) Vehicles licenced to carry three passengers	180
(c) Vehicles licenced to carry four passengers	240
(d) Vehicles licenced to carry five passengers	295

(e) Vehicles licenced to carry six passengers	350
(2) Motor vehicles plying for hire and used as a stage carriage for the carriage of passengers, for every passenger permitted to carry:	71
(3) Motor vehicles plying for hire or reward used for transport of passengers where contract carriage permits have been issued to carry more than six passengers:	
(a) Ordinary omnibuses	750
(b) Tourist vehicles	3000
(c) Air-conditioned vehicles	4000
(4) The Motor vehicles other than those mentioned in item (3) plying for hire or reward and used for transport of passengers with special permits issued:	
(a) for ordinary omnibuses	3000
(b) for any other ordinary omnibuses not in (a)	2500
IV-A Private service vehicles :-	
(a) Air-conditioned private service vehicles, for every person it is permitted to carry	700
(b) Other than air-conditioned private service vehicles	
(i) for every person permitted to carry	400
(ii) for every person other than seated person	200
V. Breakdown vans used for towing disabled vehicles	330
VI. (1) Tractors, whether or not fitted with any equipment and any motor vehicle used for special services:	
(a) not exceeding 750 kgs in unladen weight	200
(b) 750 kgs to 1500 kgs in unladen weight	300
(c) 1500 kgs to 2250 kgs in unladen weight	400
(d) exceeding 2250 kgs in unladen weight	Rs 400 plus Rs 200 for every 500 kgs or part thereof in excess of 2250 kgs
VII. Motor vehicles other than those liable to tax under the foregoing provisions of the schedule or third schedule	
(a) vehicles not exceeding 750 kgs in weight unladen	360
(b) 750 to 1500 kgs in weight unladen	480
(c) 1500 to 2250 kgs in weight unladen	560
(d) exceeding 2250 kgs in weight unladen and permitted to carry six or less number of persons	600

(e) exceeding 2250 kgs in weight unladen	
(i) permitted to carry 6 to 12 persons, for every person	100
(ii) permitted to carry more than 12 persons, for every person	300
VIII. Trailers drawn by motor vehicles:	
(a) When trailer is used for the carriage of goods	
(i) Registered laden weight upto 750 kgs	860
(ii) 750 to 1500 kgs registered laden weight	1200
(iii) 1500 to 3000 kgs registered laden weight	1700
(iv) 3000 to 4500 kgs registered laden weight	2020
(v) 4500 to 6000 kgs registered laden weight	2850
(vi) 6000 to 7500 kgs registered laden weight	3360
(vii) 7500 to 9000 kgs registered laden weight	4070
(viii) 9000 to 10500 kgs registered laden weight	4780
(ix) 10500 to 12000 kgs registered laden weight	5760
(x) 12000 to 13500 kgs registered laden weight	6540
(xi) 13500 to 15000 kgs registered laden weight	7380
(xii) 15000 to 16500 kgs registered laden weight	8330
(xiii) Registered laden weight exceeding 16500 kgs	8330 plus Rs 375 for every 500 kgs or part thereof in excess of 16500 kgs
For all the above rates, provided that where tax on motor vehicles is levied by any local authority, the rates for motor vehicles registered for use solely within the limits of such local authority shall be two-thirds of the aforesaid annual rates.	

Calcutta		
The West Bengal Motor Vehicles Tax Act, 1979 (Revised schedule)		
Description of Motor Vehicles	Annual Rate of Tax (Rs)	
A. Vehicles for carrying passengers not plying for hire or reward:-		
I. Motor Vehicles other than omnibuses-	Owned by a company	Owned by a non-company
(a) Motor Cycle-		
(i) up to 100 cc engine capacity	150	80
(ii) 100 to 200 cc engine capacity	200	100
(iii) Above 200 cc engine capacity	300	150
(b) Motor Cycle Combinations-		
(i) up to 100 cc engine capacity	200	100
(ii) 100 to 200 cc engine capacity	300	150
(iii) Above 200 cc engine capacity	400	200
(c) Motor Cars		
(i) Up to 500 kgs laden weight	500	200
(ii) 501 to 800 kgs laden weight	900	300
(iii) 801 to 1000 kgs laden weight	1000	350
(iv) 1001 to 1200 kgs laden weight	1200	400
(v) 1201 to 2000 kgs laden weight	2500	1000
(vi) 2001 to 3000 kgs laden weight	4000	1500
(vii) for every 100 kgs laden weight or part thereof above 3000 kgs	4000 plus Rs 200 for every 100 kgs	1500 plus Rs 100 for every 100 kgs
II. Omnibuses including private service vehicles with seating capacity for:		
(a) Not more than 8 including that of driver	1000	
(b) More than 8 including that of driver	Rs 1100 for 9 plus Rs 100 for every additional seat beyond 9	
B. Vehicles for carrying passengers plying for hire or reward:		
I. Stage carriages with seating capacity for:		
(a) Not less than 8 but not more than 26 including that of driver	Rs 750 for 8 plus Rs 75 for every additional seat beyond 8 and up to 26	
(b) Not less than 27 but not more than 32 including that of driver	Rs 2155 for 27 plus Rs 55 for every additional seat beyond 27 and up to 32	
(c) 33 or more including that of driver	Rs 2475 for 33 plus Rs 40 for every additional seat beyond 33	

II. Vehicles other than stage carriages (including those owned by Motor Training Schools) with seating capacity for-	
(a) Not more than 4: 3 wheelers 4 wheelers (excluding metered taxis)	260 600
(b) More than 4 including that of driver	Rs 800 for 5 plus Rs 100 for every additional seat beyond 5
C. Goods carriages on rigid chassis (including those owned by Motor Training Schools):	
(a) Up to 2000 kgs gross vehicle weight	312.50
(b) 2000 - 4000 kgs gross vehicle weight	625.00
(c) 4000 - 6000 kgs gross vehicle weight	1365.00
(d) 6000 - 8000 kgs gross vehicle weight	1812.50
(e) 8000 - 10000 kgs gross vehicle weight	2625.00
(f) 10000 - 12000 kgs gross vehicle weight	3687.50
(g) 12000 - 13000 kgs gross vehicle weight	4437.50
(h) 13000 - 14000 kgs gross vehicle weight	5000.00
(i) 14000 - 15000 kgs gross vehicle weight	5500.00
(j) 15000 - 16250 kgs gross vehicle weight	Rs 5500 plus Rs 137.50 for every additional 250 kgs gross vehicle weight or part thereof above 15000
(k) Exceeding 16250 kgs gross vehicle weight	Rs 6500 plus Rs 250 for every additional 250 kgs gross vehicle weight or part thereof above 16250
D. Tractors and cranes/breakdown vans used for towing vehicles:	
(a) Up to 500 kgs unladen weight	400
(b) 500 to 2000 kgs unladen weight	Rs 400 plus Rs 70 for every additional 250 kgs or part thereof above 500 kgs
(c) 2000 to 4000 kgs unladen weight	Rs 820 plus Rs 100 for every additional 250 kgs or part thereof above 2000 kgs
(d) 4000 to 8000 kgs unladen weight	Rs 1620 plus Rs 350 for every additional 250 kgs or part thereof above 4000 kgs
(d) Exceeding 8000 kgs unladen weight	Rs 7220 plus Rs 400 for every additional 250 kgs or part thereof above 8000 kgs
Special tax for different categories of air-conditioned vehicles:	
(a) Non-transport vehicle	
(i) Unladen weight up to 1200 kgs	Rs 500 per annum
(ii) Unladen weight above 1200 kgs	Rs 1000 per annum
(b) Transport vehicle	
(i) Passenger transport vehicles: (A) Up to 35 seating capacity (B) Above 35 seating capacity	Rs 2000 Rs 5000
(ii) Goods vehicle	Rs 5000

The West Bengal Additional Tax and One-time Tax on Motor Vehicles Act, 1989	
Description of motor vehicles	Annual rate of additional tax
A. Motor vehicles for carrying passengers not plying for hire:	
(1) Motor cars kept for personal use and registered in personal name	50 per cent of the tax payable under West Bengal Motor Vehicles Tax Act, 1979
(2) Motor cars owned by any society, partnership firm, proprietorship firm, corporate body whether registered or not, educational institution, organisation and trust (excluding those owned by companies registered under the companies Act, 1956) for carrying employees or other passengers or used otherwise except for hire or reward	Rs 500
(3) Autorickshaw, Jeeps, Omnibuses including private service vehicles registered in the name of an individual.	50 per cent of the tax payable under West Bengal Motor Vehicles Tax Act, 1979
B. Motor vehicles for carrying passengers plying for hire:	
1. (a) Deluxe Bus	Rs 6000
(b) Tourist bus	Rs 6000
(c) Express bus	Rs 6000
(d) Bus of a company	
(i) Up to seating capacity of 35 including driver	Rs 2000
(ii) Up to seating capacity of above 35 including driver	Rs 5000
(e) Ambulance	
(i) Seating capacity (notional) up to 7 including driver	Rs 1000
(ii) Seating capacity (notional) above 7 including driver	Rs 2000
(f) Public service vehicle including contract carriages but excluding stage carriage	Rs 6000
Provided that the additional tax shall not be imposed on Autorickshaws, metered taxis and mini buses with contract carriage permit and plying as stage carriage.	
2(a) All omnibuses plying under permanent inter-State permits, stage carriage or contract carriage or tourist permit or under temporary stage carriage inter-State permits in special routes, and plying in West Bengal with the permits issued by Regional Transport Authority of other than West Bengal State	Rs 2000 per seat per annum or 1/52 part weekly
(b) All omnibuses plying under inter-State permits	Rs 30 per seat every entry
(c) Omnibuses registered in any State plying in West Bengal as express, tourist, de luxe or ordinary bus	Rs 5000 per annum or weekly 1/52 part thereof
Provided that no tax is payable on vehicles covered by a reciprocal agreement between West Bengal and any other State.	

C. Motor vehicles for transport of goods	
(1)(a) Goods carriage plying under inter-State permits, temporary or permanent, issued by the Regional Transport Authority, or the State Transport Authority of a State, other than the State of West Bengal, and plying in West Bengal, irrespective of whether they are registered in West Bengal or not:	
(i) Goods carriage with gross vehicle weight up to 6000 kgs	Rs 1000 per annum or 1/52nd part thereof every week
(ii) Goods carriage with gross vehicle weight 6000 to 12000 kgs	Rs 2000 per annum or 1/52nd part thereof every week
(iii) Goods carriage with gross vehicle weight 12000 to 15000 kgs	Rs 3000 per annum or 1/52nd part thereof every week
(iv) Goods carriage with gross vehicle weight 15000 to 16200 kgs	Rs 4000 per annum or 1/52nd part thereof every week
(v) Goods carriage with gross vehicle weight above 16200 kgs	Rs 4000 plus Rs 500 every 2500 kgs or part thereof per annum or 1/52nd part thereof every week
(b) Goods carriages registered in any State, other than the State of West Bengal, and plying within the State of West Bengal:	
(i) Goods carriage with gross vehicle weight up to 6000 kgs	Rs 500 per annum or 1/52nd part thereof every week
(ii) Goods carriage with gross vehicle weight of 6000 to 12000 kgs	Rs 1000 per annum or 1/52nd part thereof every week
(iii) Goods carriage with gross vehicle weight of 12000 to 15000 kgs	Rs 1500 per annum or 1/52nd part thereof every week
(iv) Goods carriage with gross vehicle weight of 15000 to 16200 kgs	Rs 2000 per annum or 1/52nd part thereof every week
(v) Goods carriage with gross vehicle weight above 16200 kgs	Rs 2000 plus Rs 500 for every 2500 kgs or part thereof per annum or 1/52nd part thereof every week
One-time tax on motor cycle and motor cycle combination (Rs)	
Below 100 cc:	
Motor Cycle	800
Motor Cycle combination	1250
100 cc and above up to 200 cc:	
Motor Cycle	1250
Motor Cycle combination	1800
Above 200 cc:	
Motor Cycle	1800
Motor Cycle combination	2400

Delhi	
1. Private Vehicles	
Type of Vehicle	One Time Tax (Rs)
Motor cycle/Scooter	625
Auto cycle	310
Motor cars upto 1000 kgs of unladen weight	1950
Motor cars upto 1500 kgs of unladen weight	2500
Motor cars upto 2000 kgs of unladen weight	3590
Exceeding 2000 kgs of unladen weight	3590 plus 2340 for each 1000 kgs or part thereof in excess of 2000 kg
2. Other Passenger Vehicles	
Seating Capacity	(Rs per annum)
Not more than 2 passengers	155
2 - 4 passengers	310
4 - 6 passengers	580
6-18 passengers	980
Above 18 passengers	Rs 980 plus Rs 145 per passenger seat above 18
3. Goods Vehicles	
Laden weight not exceeding	(Rs per annum)
1 Tonne	340
2 Tonnes	480
4 Tonnes	730
6 Tonnes	980
8 Tonnes	1215
9 Tonnes	1465
10 Tonnes	1700
Above 10 Tonnes	Rs 1700 plus Rs 240 for every one tonne or part thereof in excess of 10 tonnes.

Madras	
First and Second Schedule of The Tamil Nadu Motor Vehicle Taxation Act, 1974 First Schedule (see Section 3 and 6)	
	Quarterly Tax (Rs)
1. Goods vehicles plying for hire or reward and used for the transport of goods-	
(a) Vehicles not exceeding 3000 kgs in weight laden	520
(b) 3000 kgs to 5500 kgs laden weight	845
(c) 5500 to 7500 kgs laden weight	1290
(d) 9000 to 12000 kgs laden weight	1690
(e) 12000 to 13000 kgs laden weight	1840
(f) 13000 to 15000 kgs laden weight	2190
(g) Vehicles exceeding 15000 kgs in laden weight	2190 plus Rs 50 for every 250 kgs and part thereof in excess of 15000 kgs in weight laden
(h) Trailers used for carrying goods for hire or reward other than those falling under clauses 6 and 7 upto 1st April 1989 and under clauses 4,7,8 and 9-	
(i) for each trailer not exceeding 3000 kgs in weight laden	340
(ii) 3000 to 5500 kgs in weight laden	400
(iii) 5500 to 9000 kgs in weight laden	700
(iv) 9000 to 12000 kgs in weight laden	810
(v) 12000 to 13000 kgs in weight laden	1010
(vi) 13000 to 15000 kgs in weight laden	1220
(vii) for each trailer exceeding 15000 kgs in weight laden	1220 plus Rs 50 for every 250 kgs and part thereof in excess of 15000 kgs in weight laden
2. Motor Vehicles plying for the hire and used for the transport of passengers and in respect of which permits have been issued under the Motor Vehicles Act.	
I. Vehicles permitted to carry in all -	
a. Up to three persons including the driver	40
b. three to four persons including the driver	60
c. four to six persons including the driver	
(i) for tourist motor cab	150
(ii) in other cases	120
d. six to thirteen persons including the driver in respect of which tourist motor cab or tourist maxi-cab permit has been issued for every person other than the driver	125

II. Vehicles permitted to ply solely as contract carriage and to carry more than five persons (other than the driver)	
For every person (other than driver) which the vehicle is permitted to carry whether the contract carriage is classed as "Tourist vehicle" or not	2000
Motor Vehicle permitted to ply solely as contract carriage excluding the contract carriage belonging to the Tamil Nadu Tourism Development Corporation Limited and Indian Tourism Development Corporation Limited, and to carry more than five persons (other than driver)	1000 (Issued in the notification in G.O.MS. No.724, Home, dated 26.5.93)
Contract Carriages which are classified as 'tourist vehicle' excluding the tourist vehicles belonging to the TTDC Ltd., and all buses of ITDC Ltd.	500 (Issued in the notification in G.O.MS. No.724, Home, dated 26.5.93)
III. Vehicles permitted to ply as stage carriages and to carry more than six persons (other than the driver and the conductor)	
a. Plying exclusively within the Madras Metropolitan Area: For every passenger (other than the driver and the conductor) which the vehicle is permitted to carry	50
b. Plying exclusively within the city of Madurai or the city of Coimbatore or within the limits of one or more contiguous municipalities or on other town service routes: For every passenger (other than the driver and the conductor) which the vehicle is permitted to carry	260 (plus surcharge at 10 per cent of the basic tax with effect from 1-4-92)
c. Plying in routes or areas other than those falling under item (a) and (b) (i) For every passenger (other than the driver and the conductor) which the vehicle is permitted to carry the service classed as "Express Service"	300 (plus surcharge at 25 per cent of the basic tax with effect from 1-4-92)
(ii) For every passenger (other than the driver and the conductor) which the vehicle is permitted to carry in the case of services other than "Express Service"	325 (plus surcharge at 25 per cent of the basic tax with effect from 1-4-92)
The tax payable in respect of a reserve stage carriage or a spare bus shall be the maximum rate payable per passenger for any regular stage carriage of the permit holder.	(Reduced to three-fourth of the maximum rate payable by notification).
5. Motor Cycles (including tricycles scooters and cycles with attachment for propelling the same by mechanical power not exceeding 600 kgs in weight unladen)	
a. Bicycles 50 cc to 75 cc with or without drawing a trailer or side-car	125
b. Bicycles 75 cc to 170 cc with or without drawing a trailer or side-car	180
c. Bicycles exceeding 170 cc with or without drawing a trailer or side-car	210
6. Invalid carriages	32

7. Motor Vehicles other than those liable to tax under the foregoing provisions [categories (3) and (4) not reported above include special purpose vehicles like tankers, fire engines, breakdown vans etc. and their trailers and attachment] of this schedule:	Imported Vehicles	Indian Made Vehicles Owned by	
		Individual	Others
a. Weighing not more than 700 kgs unladen	1200	400	800
b. 700 to 1500 kgs unladen	1500	500	1000
c. 1500 to 2000 kgs unladen	1800	600	1200
d. 2000 to 3000 kgs unladen	1950	650	1300
e. Weighing more than 3000 kgs unladen in respect of which private transport vehicles permit is not required under the Motor Vehicles Act.	2250	750	1500
8. Motor Vehicles, other than those liable to tax under the foregoing provisions of this schedule, weighing more than 3000 kgs unladen and covered by private transport vehicles permit and those in respect of which private service vehicle permit is required under the Motor Vehicles Act., 1988 (Central Act 59 of 1988)			
(a) in respect of vehicles owned by educational institutions (educational institution bus)	110		
(b) in other cases- For every person (other than the driver) which the vehicle is permitted to carry whether or not drawing a trailer or side car	50		
One-time tax for two-wheelers			
1. Motor cycles exceeding 50 cc but not exceeding 75 cc	1200		
2. Motor cycles exceeding 75 cc but not exceeding 170 cc	1750		
3. Motor cycles exceeding 170 cc and tricycles	2050		

Haryana		
Schedule for Taxation of Motor Vehicles w.e.f. 1st April 1989		
Description of Motor Vehicles	Annual rate of tax (Rs)	
1. Motor cycles including motor scooter and cycles with attachment for propelling the same by mechanical power and exceeding 8 CWT in weight unladen -		
(a) Bicycle not exceeding 200 lbs in weight unladen	31.25	
(b) Bicycle exceeding 200 lbs in weight unladen	62.50	
(c) Bicycle in (a) or (b) above when used for drawing a trailer or side car (in addition to the tax payable therefore)	15.65	
(d) Tricycles	62.50	
2. Vehicles not exceeding 5 CWT in weight unladen adapted and used solely by or for a person suffering from any infirmity		
	6.25	
3. Vehicles used solely in the course of trade and industry for the transport of goods including tricycle weighing more than 8 CWT unladen-		
	Public Carrier Permits	Private Carrier Permits
(a) Electrically propelled but not exceeding 25 CWT	52.5	65.0
(b) Vehicles other than such electrically propelled vehicles aforesaid, not exceeding 12 CWT in weight laden	207.00	258.75
(c) Vehicles 12 CWT to one ton in weight laden	337.50	421.90
(d) Vehicles one to two tons in weight laden	660.00	656.25
(e) Vehicles two to three tons in weight laden	840.00	890.65
(f) Vehicles three to four tons in weight laden	1200.00	1312.50
(g) Vehicles exceeding four tons in weight laden	1500.00	1500.00
(h) Vehicles used for drawing a trailer (for each trailer), provided that two or more motor vehicles shall not be chargeable under this clause with respect to the same trailer	75.00	93.75
4. (i) Motor cabs with contract carriage permit plying for hire or reward and used for the transport of passengers		
	100 per seat (excluding driver)	
(ii) Tram cars	18.75 per seat	
5. (i) Stage carriage plying for hire and used for the transport of passengers (per seat excluding that of the driver)		
	550 subject to a maximum of Rs 35000	
(ii) contract carriage owned by any factory or religious institution and used by it exclusively for the carriage of its personnel or devotees as the case may be	200.00 per seat	

(iii) contract carriage owned by private companies or by an individual and used for carriage of parties or employees of the factories, as the case may be	200.00 per seat
6. Motor vehicles other than those liable to tax under the foregoing provision of the schedule having a seating capacity of -	
(a) One person	62.50
(b) More than one but not more than three persons	117.20
(c) Four persons	156.25
(d) More than four persons (for every additional seat)	39.05
7. Combined Harvester machine	300.00
8. Private Service vehicles	400.00 per seat
Provided further that on every vehicle not exempt under an inter-State agreement entered into under section 63 of the Motor Vehicle Act, 1939 entering the State of Haryana against a temporary permit issued for a period not exceeding fifteen days shall be levied equal to one twenty-fifth of the tax payable per vehicle for a period of one year.	
Punjab Passengers and Goods Taxation Rules, 1952 (As applicable to Haryana) 1993	
(i) Scooters Rickshaw (two seater)	272
(ii) Motor Cycle Rickshaw (four seater)	340
(iii) Tempo Rickshaw (six seater)	1000
(iv) Taxi cabs	408 or 25 per trip if the distance to be covered in Haryana does not exceed 40 kms
(v) Taxi station wagon	544
(vi) Goods Carriages are taxable at 60 per cent of the freight charged from the consignor. However, there is provision in the Act for compounding the levy at the option of the taxpayer, i.e., the transporter as under:-	
(vi)(a) Public carrier having a loading capacity not exceeding ten tonnes used for carrying goods in or through the State of Haryana	2400
(b) Public carrier having a loading capacity exceeding ten tonnes used for carrying goods in or through the State of Haryana	2750
(viii) (a) Private carrier having a loading capacity not exceeding ten tonnes used for carrying goods in or through the State of Haryana	2400
(b) Private carrier having a loading capacity exceeding ten tonnes used for carrying goods in or through the State of Haryana	2750
(x) Tractor with trolley holding public/private carrier permit	450
(xi) Tempo Rickshaw with public carrier permit (loading tempo)	610
(xii) Scooter Rickshaw (loading)	272

(xiii) Motor Cycle Rickshaw (loading)	374
(xiv) Public carrier operating under the National Permit Scheme, registered under the Motor Vehicles Act 1939, in any of the States other than Haryana or in any of the Union Territories within the Indian Union and carrying goods in the State of Haryana	1500
(xv) Stage carriages and Contract carriages	60 per cent of the passenger fare *
* A compounded levy per annum is leviable at the option of the owner of the vehicle, estimated on the basis of stipulated passenger fares per km, seating capacity, length of the route plying on, number of trips and assumed occupancy rate.	

Punjab	
Type of Motor Vehicle	Tax per annum (Rs.)
1. Motor Cycles (including motor scooters and cycles with attachment for propelling the same by mechanical power, not exceeding 8 CWT in weight unladen	
(a) Bicycles not exceeding 200 lbs in weight unladen	31.25 (Rs 150 one time tax)
(b) Bicycles exceeding 200 lbs in weight unladen	62.50 (Rs 500 one time tax)
(c) Bicycles as in (a) or (b) above when used for drawing a trailer or side car, in addition to the tax payable thereof	15.65
(d) Tricycles	62.50
2. Vehicles not exceeding 5 CWT in weight unladen, adapted and used solely by or for a person suffering from infirmity	7.00
3. Vehicles used solely in the course of trade and industry for the transport of goods (including tricycles weighing more than 8 CWT unladen -	
(a) Vehicles other than such electrically propelled vehicles as aforesaid but not exceeding 12 CWT in weight unladen	52.50
(b) Vehicles other than such electrically propelled vehicles as aforesaid but not exceeding 12 CWT in weight unladen	207.00
(c) Vehicles exceeding 12 CWT but not exceeding one ton in weight unladen	337.50
(d) Vehicles exceeding one ton but not exceeding two tons in weight unladen	660.00
(e) Vehicles exceeding two tons but not exceeding three tons in weight unladen	840.00
(f) Vehicles exceeding three tons but not exceeding four tons in weight unladen	1200.00
(g) Vehicles exceeding four tons	1500.00
(h) Vehicles if used for drawing a trailer, in addition for each trailer, provided that two or more vehicles shall not be chargeable under this clause with respect to the same trailer	75.00
4. (i) Motor cabs with contract carriage permits plying for hire and used for the transport of passengers (excluding driver and conductor)	150.00 per seat
(ii) Tram cars	18.75 per seat
(iii) Auto Rickshaw	150.00 per seat
5. (i) Stage carriages and contract carriages plying for hire and used for the transport of passengers	500.00 per seat (subject to maximum Rs 35000.00)
(ii) Mini Buses having a seating capacity of not more than 30 passengers, excluding driver and conductor plying for hire and used for the transport of passengers	3000.00

6. Motor Vehicles other than those liable to tax under the foregoing provisions of this schedule having a seating capacity of -	
(a) One person	62.60
(b) More than one person, but not more than three persons	117.20
(c) Four persons	156.25
(d) More than four persons, for every additional seat	39.05
Special Road Tax (w.e.f. 1-10-93)	
I. Stage Carriage	Special Road Tax Payable Rate per seat, per kilometer per day in paise
(a) Ordinary Buses	3.94
(b) Express buses	4.92
(c) Semi- deluxe buses	5.91
(d) Delux buses	7.88
(e) Air-conditioned buses	13.79
II. Goods carriages -	Rate per annum (Rs)
(i) Goods carriages having unladen weight -	
(a) not exceeding one ton	800.00
(b) of one ton to two tons	1000.00
(c) of two tons to three tons	1210.00
(d) of three tons to four tons	1410.00
(e) exceeding four tons	1500.00
(ii) Goods vehicles having multi-axle	1200.00
III. Other Passenger Vehicles	
1. Auto Rickshaw	
(a) having two seats	300.00
(b) for each additional seat	100.00
2. Taxi cabs upto 5 seats	500.00
3. Maxi cabs having 6 to 12 seats	4000.00
4. Mini buses having 1 to 15 seats	4400.00
5. Mini buses having 16 to 30 seats	6600.00
6. Buses plied on private service	
(i) Ordinary	10000.00
(ii) Deluxe buses	20000.00
(iii) air-conditioned buses	25000.00

7. Buses plied on contract carriage permits:	Rate of special Road Tax per day of operation (Rs.)		
Seating capacity	Ordinary	Deluxe	Air Cond.
(a) 1 to 15 seats	200.00	300.00	400.00
(b) 16 to 30 seats	300.00	400.00	500.00
(c) 31 to 54 seats	400.00	500.00	600.00
8. Vehicles plied on All India Tourist Permit:-	(Rs per annum)		
(i) Motor cab	500.00		
(ii) Tourist Buses -			
Ordinary	100000.00		
Delux	125000.00		
Air-conditioned	144000.00		

Rajasthan		
The Rajasthan Motor Vehicle Taxation Act, 1951		
Part I Vehicles other than transport vehicles	One Time Tax (Rs.)	
I. (a) Motor vehicles commonly known as moped (of cubic capacity upto 80 CC) and cycles with mechanical power	500	
(b) Motor cycles, motor scooters, motor tricycles and other motor two-wheelers not included in the class of vehicles at (a) above	600	
(c) Motor Vehicles used for drawing a trailer or a side car, in addition to the rates shown above, an extra amount of	50	
II. Motor vehicles adapted or used for invalids	60	
III.(a) Motor vehicles, excepting those shown in item I and II above, constructed and used solely for the conveyance of persons and light personal luggage with seating capacity of-		
(i) upto four including driver	3000	
(ii) five including driver	3500	
(iii) six including driver	4000	
(b) Trailers drawn by vehicles mentioned at (a) above.	325	
IV. Motor vehicles commonly known as pick-ups having a closed cabin for the driver with space whether covered or not in the rear which may be used for passengers or luggage or both -		
(i) with RLW upto 1000 kgs	3500	
(ii) with RLW exceeding 1000 kgs	4000	
V. (a) Tractors	900	
(b) Trailers drawn by tractors	1800	
	Maximum Tax (Rs)	
	Annual	Quarterly
VI. Motor vehicles, other than those covered by item NO. I to V above constructed and used solely for the conveyance of persons and light personal luggage shall be charged on the basis of total number of seats authorised (including seat of the driver)	50 per seat	13 per seat
Part II Transport Vehicles		
I. Motor Vehicles plying for hire or reward for the conveyance of passengers and light personal luggage of passengers -		
(a) Motor Vehicles with a seating capacity not exceeding 6 including driver	50 per seat	14 per seat
(b) Motor vehicles with seating capacity of 6 or 25 seats including driver and conductor	60 per seat	16.50 per seat
(c) Motor vehicles with seating capacity of 25 to 40 seats including driver and conductor	80 per seat	25 per seat

(d) Motor Vehicles with seating capacity of more than 40 including driver and conductor	100 per seat	30 per seat
II. Motor vehicles registered in Rajasthan State and intended for conveyance of passengers and luggage in special or temporary circumstances and for a limited period will be permitted to ply on payment of daily tax. Such tax will be for a calender day beginning and ending at midnight.	25 per day	
III. Goods vehicles:-		
(1) with RLW upto 1000 kgs	600	165
(2) with RLW 1000 kgs to 6500 kgs	2000	550
(3) with RLW 6500 kgs to 14375 kgs	3000	825
(4) with RLW 14375 kgs to 17075 kgs	3500	962
(5) with RLW 9000 kgs to 14375 kgs	3000	790
(6) with RLW 14375 kgs to 17075 kgs	3500	920
(7) with RLW above 17075 kgs	4000	1100

Rajasthan - Special Road Tax	
1. Stage carriages	Maximum rate of special road tax
(a) Ordinary services	Rs. 0.30 paise per seat per 10 kms for entire distance to be covered during the month.
(b) Express/Mail services	Rs. 0.40 paise per seat per 10 kms for entire distance to be covered during the month.
(c) Semi-delux services	Rs. 0.50 paise per seat per 10 kms for entire distance to be covered during the month.
(d) Delux services	Rs. 0.60 paise per seat per 10 kms for entire distance to be covered during the month.
2. Stage carriage plying exclusively in municipal or city limits:	
(i) First 20 seats	Rs 750 per seat per annum
(ii) Next 20 seats	Rs 450 per seat per annum
(iii) Next 20 seats	Rs 375 per seat per annum
4. Public and private goods vehicles	
(i) Load carrying capacity below 2 and 1/2 metric tonnes	Rs 750 per annum
(ii) Load carrying capacity between 2 and 1/2 tonnes to 5 metric tonnes	Rs 1500 per annum
(iii) Load carrying capacity between 5 metric tonnes to 9 metric tonnes	Rs 2200 per annum

(iv) Load carrying capacity of 9 metric tonnes and above	Rs 3000 per annum
5. Contract carriages	
(1) Three-wheeled contract carriages including motor cycle rickshaw, scooter or any other three-wheeled motor vehicles	
(a) With seating capacity upto 2 excluding driver	Rs 90 per annum
(b) With seating capacity of 2 to 4	Rs 300 per annum
(c) With seating capacity of 4 to 6	Rs 560 per annum
(d) With seating capacity of 6 to 8	Rs 750 per annum
(e) With seating capacity of 8 to 10	Rs 975 per annum
(e) With seating capacity of 10 to 12	Rs 1200 per annum
(2) Four wheeled contract carriages including motor cabs, station wagon and mini bus	
(a) With seating capacity not exceeding 5 excluding driver	Rs 250 per seat per annum
(b) With seating capacity exceeding 5 but not exceeding 20 excluding driver	Rs 350 per seat per annum
(c) With seating capacity exceeding 20 excluding driver	Rs 900 per seat per annum

Uttar Pradesh	
United Provinces Vehicles Taxation Act, 1935 (THE FIRST SCHEDULE) (See section 4)	
Description of vehicle	Annual rate of tax (Rs)
PART 'A'	
Vehicles other than Transport Vehicles	
I. Motor cycles (including scooters and auto-cycles) not exceeding 406 kgs in weight unladen:	
(a) Motor cycle	
(1) not exceeding 91 kgs in weight, unladen	35
(2) exceeding 91 kgs in weight, unladen	55
(b) Motor tricycles	55
(c) Motor cycles or tricycles used for drawing a trailer or a side car in addition to the rate above	7
II. Vehicles constructed and used solely for the conveyance of passengers and light personal luggage (including motor cycles) with seating accommodation for not more than six persons exclusive of the driver weighing more than 406 kgs unladen:	
(1) (a) not exceeding 1016 kgs in weight, unladen	138
(b) vehicles of 1016 to 1270 kgs in weight, unladen	182
(c) vehicles of 1270 to 1778 kgs in weight, unladen	228
(d) exceeding 1778 kgs	275
(2) Trailers drawn by vehicles covered by this article	31
III. Vehicles including motor cycles weighing more than 406 kgs unladen, constructed or adapted for use for the conveyance of more than six persons (exclusive of driver):	
(i) If fitted wholly with pneumatic tyres, and-	
(a) not exceeding 1016 kgs in weight, unladen	201
(b) vehicles with 1016 to 1778 kgs of unladen weight	344
(c) vehicles with 1778 to 2540 kgs of unladen weight	454
(d) vehicles with 2540 to 3556 kgs of unladen weight	663
(e) vehicles with 3556 to 5080 kgs of unladen weight	854
(f) exceeding 5080 kgs of unladen weight, for every 1016 kgs, or part thereof in excess of 5080 kgs	354
(g) Trailers drawn by vehicles covered by this Article:-	
(i) to carry load not exceeding 1016 kgs	237
(ii) to carry load exceeding 1016 kgs	454

PART 'B' Transport Vehicles	
IV. Vehicles plying for hire for the conveyance of passengers and light personal luggage of passengers:-	
(1) with seating capacity of not more than three persons exclusive of the driver	303
(2) with seating capacity for four persons exclusive of driver	605
(3) with seating capacity of more than four but not more than six persons exclusive of the driver	
(a) three wheelers	605
(b) others	757
(4) with seating capacity of more than six but not more than twenty persons exclusive of the driver, for the first six seats:- with an addition for every seat in excess six and up to twenty of -	622
(a) if intended for use on an A class route	56
(b) if intended for use on a B class route	33
(c) if intended for use on a C class route	28
(5) with seating capacity for more than 20, but not more than 32 persons exclusive of driver:-	
(a) if intended for use on an A class route, for the first 20 seats for every additional seat	1419 61
(b) if intended for use on a B class route, for the first 20 seats for every additional seat	1139 50
(c) if intended for use on a C class route, for the first 20 seats for every additional seat	974 33
(6) with seating capacity for more than 32 persons exclusive of the driver:- the tax payable under the last foregoing clause for the first 32 seats, with an addition for every seat in excess of 32 of -	
(a) if intended for use on an A class route	116
(b) if intended for use on a B class route	83
(c) if intended for use on a C class route	50
V. Vehicles plying for hire for the conveyance of limited number of passengers and the transport of a limited quantity of goods:- the tax payable under Article IV in respect of the authorised number of passenger seats, together with an additional tax for every 51 kgs of authorised load of goods:	
(a) if intended for use on an A class route	17
(b) if intended for use on a B class route	11
(c) if intended for use on a C class route	6
VI. Vehicles plying for transport of goods only and if fitted entirely with pneumatic tyres:	
(a) If intended for use on an A class route -	
(i) for the first 762 kgs of authorised load	385
(ii) for every additional 51 kgs of authorised load	14
(b) If intended for use on a B class route -	
(i) for the first 762 kgs of authorised load	347
(ii) for every additional 51 kgs of authorised load	11

(c) If intended for use on a C class route - (i) for the first 762 kgs of authorised load (ii) for every additional 51 kgs of authorised load	314 9
U.P. Motor Vehicles (Passenger Tax) Act, 1962	
Basic passenger tax	16 per cent of the passenger fare
Additional passenger tax (on fares above Re 1)	10 paise per ticket
Passenger insurance surcharge	5 per cent of the sum of the above two taxes
<p>The passenger tax (along with the additional passenger tax and the insurance surcharge) can be paid as a compounded levy at the option of the transport operator. For stage carriages, the payable amount is computed on an estimated tax base using seating capacity, fare charged per ticket and the number of trips approved by the appropriate authority. The concerned officer can modify the expected daily earnings on different routes within 75 and 100 per cent of the amount estimated as above. For contract carriages (excluding taxi cabs), the tax base is estimated on the basis of assumed minimum distance covered (presently 4000 kms per month) and the maximum approved chargeable rate per kilometre for the vehicle concerned. If the actual rate charged is claimed to be less than the latter, then the actual rate shall be applied instead of the maximum approved, subject to a minimum of 85 per cent of the maximum. UNDER THE COMPOUNDED LEVY SYSTEM, THE RATE OF BOTH ADDITIONAL PASSENGER TAX AND PASSENGER INSURANCE SURCHARGE IS 25 PER CENT INSTEAD OF THE RATES GIVEN ABOVE. The total compounded levy on some of the contract carriages are:</p>	
Maxi cabs	3855.60 per month
20 seats	3998.40 per month
35 seats	5997.60 per month
54 seats	7140.10 per month
U.P. Motor Vehicles (Goods Tax) Act, 1964	
Goods Tax on all goods vehicles	10 per cent of the freight charged
<p>The goods tax can be paid as a compounded levy at the option of the taxpayer. The rate for such a levy is:</p>	
per quintal (or part thereof) of payload	16.20 per quarter

Annexure - II Number of Registered Vehicles in Selected Cities/States (as on March 31 1991)

City/State		Two Wheelers	Three Wheelers	Cars & Jeeps	Taxi	Buses	Trucks & Others	Total Standardised vehicles
City								
1	Bombay	242008	39351	264951	34338	7967	34886	14810
2	Calcutta *	198846	5705	182161	19035	12599	33964	38278
3	Delhi	1220640	63005	398479	10157	18858	101828	154321
4	Madras	386634	12112	114969	697	7815	16373	18358
State								
1	Haryana	310184	10445	29983	271	6532	40197	8668
2	Punjab	877837	19486	76862	4034	11373	48475	12867
3	Rajasthan	613187	13300	87440	4508	10555	37074	14837
4	Uttar Pradesh	1331541	31944	127110	12579	24066	74849	30362

Relates to Calcutta(Beltala) office only.